Reliability Analysis Center

A DoD Information Analysis Center

ELECTROSTATIC DISCHARGE (ESD) SUSCEPTIBILITY OF ELECTRONIC DEVICES

Spring 1983

Prepared by:

William K. Denson
IIT Research Institute

DTIC
ELECTE
JUN 8 1983
S D
B

Under Contract to:

Rome Air Development Center
Griffiss AFB, NY 13441

Ordering No. VZAP-1

Approved for Public Release, Distribution Unlimited

The Reliability Analysis Center is a DoD Information Analysis Center, operated by IIT Research Institute under contract to the Rome Air Development Center, AFSC.

The Reliability Analysis Center (RAC) is a Department of Defense Information Analysis Center sponsored by the Defense Logistics Agency, managed by the Rome Air Development Center (RADC), and operated at RADC by IIT Research Institute (IITRI). RAC is charged with the collection, analysis and dissemination of reliability information pertaining to parts used in electronic systems. The present scope includes integrated circuits, hybrids, discrete transistors and diodes, microwave devices, optoelectronics, and selected nonelectronic parts employed in military, space and commercial applications.

In addition, a System/Equipment Reliability Corporate Memory (RCM) is also operating under the auspices of the RAC and serves as the focal point for the collection and analysis of all reliability-related information and data on operating and planned military systems and equipment.

Data are collected on a continuous basis from a broad range of sources including testing laboratories, device and equipment manufacturers, government laboratories, and equipment users, both government and nongovernment. Automatic distribution lists, voluntary data submittal, and field failure reporting systems supplement an intensive data solicitation program.

Reliability data documents covering most of the device types mentioned above are available annually from RAC. Also, RAC provides reliability consulting and technical and bibliographic inquiry services which are fully discussed at the end of this document.

REQUESTS FOR TECHNICAL ASSISTANCE AND INFORMATION ON AVAILABLE RAC SERVICES AND PUBLICATIONS MAY BE DIRECTED TO:

Harold A. Lauffenburger
Reliability Analysis Center
Rome Air Development Center (RAC)
Griffiss Air Force Base, NY 13441
Telephone: 315/330-4151
Autovon: 587-4151

ALL OTHER REQUESTS SHOULD BE DIRECTED TO:

Rome Air Development Center
RBE/Charles F. Bough
Griffiss Air Force Base, NY 13441
Telephone: 315/330-4920
Autovon: 587-4920

© 1983, IIT Research Institute
All Rights Reserved

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE

READ INSTRUCTIONS BEFORE COMPLETING FORM

1. REPORT NUMBER: VZAP-1

2. GOVT ACCESSION NO.: AD-A129151

3. RECIPIENT'S CATALOG NUMBER:

4. TITLE (and Subtitle): Electrostatic Discharge (ESD) Susceptibility of Electronic Devices

5. TYPE OF REPORT & PERIOD COVERED:

6. PERFORMING ORG. REPORT NUMBER: RAC-VZAP-1

7. AUTHOR(s): William K. Denson

8. CONTRACT OR GRANT NUMBER(s): F30602-81-C-0299

9. PERFORMING ORGANIZATION NAME AND ADDRESS:
Reliability Analysis Center
RADC/RAC
Griffiss AFB, NY 13441

10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS:

11. CONTROLLING OFFICE NAME AND ADDRESS:
Rome Air Development Center/RBE
Griffiss AFB, NY 13441

12. REPORT DATE: Spring 1983

13. NUMBER OF PAGES: 350

14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office):

15. SECURITY CLASS. (of this report): Unclassified

15a. DECLASSIFICATION/DOWNGRADING SCHEDULE: Unclassified

16. DISTRIBUTION STATEMENT (of this Report)

Approved for public release; distribution unlimited.

17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)

18. SUPPLEMENTARY NOTES

Available from the Reliability Analysis Center at $95 in the U.S. ($105 non-U.S.), prepaid. Also available from the National Technical Information Service (NTIS). No microfiche or microfiche-reproduced paper copies may be sold or otherwise distributed.

19. KEY WORDS (Continue on reverse side if necessary and identify by block number)

Electrostatic Discharge
Device Susceptibility
Integrated Circuits
Discrete Semiconductors
Film Resistors

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

This book contains data on the electrostatic discharge susceptibility (ESD) of electronic devices. Detailed susceptibility data is presented along with the ESD classification in accordance with DOD-HDBK-263 for approximately 700 microcircuits and 500 discrete semiconductor devices. A discussion of various discharge models and failure mechanisms of ESD are also presented.

DD FORM 1 JAN 73 1473 EDITION OF 1 NOV 65 IS OBSOLETE

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

PREFACE

The purpose of this document is to make available electrostatic discharge susceptibility test and classification data which has been accomplished over the past few years. It is the belief of RAC that this data is much needed by industry and government equipment designers to enable them to assess their equipments' vulnerability to the ESD threat.

This document was prepared as part of the Reliability Analysis Center's Technical Reliability Study series which provides the user community with new and needed information in the field of electronic device reliability.

Credit must be given to NASA (Code DR) and Naval Sea Systems Command (Code 06C31) for their continued support in identifying and funding ESD research studies, ultimately making documents such as this possible.

Accession For
NTIS GRA&I ☑
DTIC TAB ☐
Unannounced ☐
Justification
RAC $95.00 IN US
By $105.00 NON US
Distribution/
Availability Codes
Dist | Avail and/or Special
A | 21

TABLE OF CONTENTS

	Page
INTRODUCTION	1
SECTION 1 DEVICE SUSCEPTIBILITY AND SUSCEPTIBILITY TESTING	3
INTRODUCTION	4
FAILURE MECHANISMS	4
Dielectric Breakdown	5
Thermal Secondary Breakdown or Junction Burnout	5
Metallization Melt	6
Gaseous Arc Breakdown	7
Cautions Regarding Failure Mechanisms	7
ESD-INDUCED LATENT FAILURES	8
TESTING MODELS AND TECHNIQUES	11
Introduction	11
Human Body Model	14
Charged Device Model	18
Floating Device Model	21
Field Induced Model	23
TEST TECHNIQUES	24
Failure Criteria Selection	27
DATA CONVERSION METHODS	27
Conversion of Nonstandard Human Body Model Test Data	27
Conversion of EMP Overstress Test Data to the ESD Human Body Model	28
DOD-STD-1686 VS MIL-STD-883 CLASSIFICATION	31
SUMMARY AND CONCLUSIONS	33
SUMMARIZED DATA - VOLTAGE VS TECHNOLOGY	33

TABLE OF CONTENTS (Cont'd)

		Page
SECTION 2	DETAILED DEVICE SUSCEPTIBILITY TEST DATA	45
	DETAILED DEVICE SUSCEPTIBILITY TEST DATA	46
	NOTES FOR USE OF DETAILED SUSCEPTIBILITY DATA	47
SECTION 2A	DETAILED MICROCIRCUIT SUSCEPTIBILITY TEST DATA	49
SECTION 2B	DETAILED DISCRETE COMPONENT SUSCEPTIBILITY TEST DATA	193
SECTION 3	DETAILED DEVICE CLASSIFICATION DATA	261
	DETAILED DEVICE CLASSIFICATION DATA	262
	NOTES FOR USE OF CLASSIFICATION INFORMATION	263
SECTION 3A	MICROCIRCUITS IN GENERIC PART NUMBER ORDER	265
SECTION 3B	MICROCIRCUITS IN MILITARY PART NUMBER ORDER	275
SECITON 3C	DISCRETE COMPONENTS IN GENERIC PART NUMBER ORDER	283
SECTION 3D	DISCRETE COMPONENTS IN MILITARY PART NUMBER ORDER	291
SECTION 4	DATA SOURCES	297
SECTION 5	REFERENCES	315
APPENDIX A	DERIVATION OF DATA CONVERSION FORMULAE	321
APPENDIX B	MIL-M-38510 DETAIL SPECIFICATIONS MINIMUM VZAP REQUIREMENTS	327
APPENDIX C	ADDITIONAL RAC SERVICES	339

LIST OF TABLES

		Page
TABLE 1	DEVICE CAPACITANCE VS ORIENTATION	19
TABLE 2	DOD-HDBK-263 VS MIL-STD-883 CLASSIFICATION LEVELS	32

LIST OF FIGURES

		Page
FIGURE 1	FAILURE POWER AND ENERGY VS PULSE WIDTH	12
FIGURE 2	IDEAL RC WAVEFORM	14
FIGURE 3	HUMAN BODY MODEL TEST CIRCUIT	15
FIGURE 4	HUMAN BODY MODEL EQUIVALENT CIRCUIT	15
FIGURE 5	MIL-STD-883 METHOD 3015.1 SPECIFIED WAVEFORM	17
FIGURE 6	CHARGED DEVICE MODEL EQUIVALENT CIRCUIT	20
FIGURE 7	CHARGED DEVICE MODEL TEST FIXTURE	20
FIGURE 8	FLOATING DEVICE MODEL EQUIVALENT CIRCUIT	23
FIGURE 9	CHARGE INDUCED ON DEVICE LEAD FRAME DUE TO IMMOBILE CHARGE ON PACKAGE BODY	25
FIGURE 10	EMP VS ESD DATA COMPARISON	30
FIGURE 11	FAILURE VOLTAGE PLOT - ALL MICROCIRCUITS	35
FIGURE 12	FAILURE VOLTAGE PLOT - CMOS	35
FIGURE 13	FAILURE VOLTAGE PLOT - NMOS	36
FIGURE 14	FAILURE VOLTAGE PLOT - PMOS	36
FIGURE 15	FAILURE VOLTAGE PLOT - MOS (NOT OTHERWISE CLASSIFIED)	37
FIGURE 16	FAILURE VOLTAGE PLOT - MNOS	37
FIGURE 17	FAILURE VOLTAGE PLOT - JFET	38
FIGURE 18	FAILURE VOLTAGE PLOT - BIFET	38
FIGURE 19	FAILURE VOLTAGE PLOT - BIPOLAR (LINEAR AND INTERFACE)	39
FIGURE 20	FAILURE VOLTAGE PLOT - TTL	39
FIGURE 21	FAILURE VOLTAGE PLOT - STTL	40
FIGURE 22	FAILURE VOLTAGE PLOT - LSTTL	40
FIGURE 23	FAILURE VOLTAGE PLOT - ADVANCED STTL	41
FIGURE 24	FAILURE VOLTAGE PLOT - LTTL	41
FIGURE 25	FAILURE VOLTAGE PLOT - HTTL	42
FIGURE 26	FAILURE VOLTAGE PLOT - IIL	42
FIGURE 27	FAILURE VOLTAGE PLOT - DTL	43
FIGURE 28	FAILURE VOLTAGE PLOT - RTL	43
FIGURE 29	FAILURE VOLTAGE PLOT - ECL	44

INTRODUCTION

When trying to assess the real impact on reliability caused by electrostatic discharge (ESD), system analysts often wonder to what extent this failure mechanism manifests itself on the ultimate system reliability. This is very difficult to ascertain due to the nature of the failure mechanisms involved. Actual failures due to ESD are not easily identified and verified without costly and time-consuming failure analysis. Furthermore, there are many variables which play important roles in this potential danger to components and systems which are not fully understood. Potential ESD damage is indeed a reliability constraint and should be treated accordingly. It does, however, differ from traditional reliability limiting factors. For example, thermal stress in microcircuits is fairly well understood, i.e., the reliability impact on a component can be easily determined by knowing the thermal environment in which the component is to operate. However, ESD is not that predictable. It is considered a random occurrence and hence makes it difficult to correlate to physical parameters. In order to assess the likelihood of ESD damage to a component it is necessary to evaluate two relevant factors: first, what is the frequency and level of ESD pulses to which the part may be subjected during production, storage and use, and, second, what is the ESD susceptibility of the part, i.e., pulse voltage levels above which the part can be damaged?

This document is intended to make available to the reliability engineering community ESD susceptibility data which has already been documented. This will help the designer obtain some idea of actually how sensitive the components are which he is designing into his equipment. It will assist him in selecting those components and those component vendors whose parts are less susceptible to ESD. It will also help identify areas where additional board level protective circuitry may be necessary. Knowing the part's ESD susceptibility will allow him to make intelligent tradeoffs between different design approaches

relative to the required circuit functions and parameters. He will also be better able to evaluate total circuit costs and performance vs ultimate circuit ESD susceptibility. An additional benefit will be to help identify those production areas where additional controls are needed to combat the potential failures caused by ESD and to set up a continuing ESD control program.

SECTION 1

Device Susceptibility
and
Susceptibility Testing

INTRODUCTION

The intent of the following section is not to present an exhaustive treatment on the subject of electronic devices susceptibility to electrostatic discharge but rather to present the reader with an overview of various phenomena of ESD susceptibility and how it relates to the data and the limitations of the data which is contained in this book.

Various failure mechanisms normally associated with electrical overstress (EOS) and electrostatic discharge will be presented along with a discussion of ESD-induced latent failures, which has recently become an area of major concern. Also, various discharge models will be presented which simulate different situations in which a device can be damaged by ESD and how testing using these simulation techniques can be carried out.

FAILURE MECHANISMS

Various EOS/ESD-activated failure mechanisms can occur within microelectronic and semiconductor devices. These failure mechanisms include:

(a) Dielectric Breakdown
(b) Thermal Secondary Breakdown
(c) Metallization Melt
(d) Gaseous Arc Breakdown
(e) Surface Breakdown
(f) Bulk Breakdown

Some of these failure mechanisms are voltage-dependent and others are power or energy-dependent. The first four mechanisms are the predominant ones associated with ESD and usually are associated with

specific component types and constituent elements within these components. Therefore, we will examine these four more closely.

Dielectric Breakdown

Dielectric breakdown occurs in MOS components when the voltage across the oxide exceeds its dielectric breakdown strength. The single most important factor in this breakdown is the oxide thickness: the thinner the oxide the more susceptible the device is to damage. Permanent damage results when the oxide strength is exceeded. This results in a punch-through and leaves a low resistance short. The actual failure is usually precipitated by a pin hole or other weakness in the oxide where the actual punch-through takes place.

This failure mechanism can also manifest itself in those bipolar monolithic integrated circuits having metallization runs over active semiconductor regions separated by a field oxide. This field oxide creates a parasitic MOS transistor in the bipolar device and it can also be shorted as previously described.

For very short duration pulses (i.e., those with very small source resistance and/or capacitance) some lattice damage could occur in the dielectric, resulting in a lower breakdown threshold voltage for subsequent pulses.

This failure mechanism is voltage-dependent. The energy required to cause the plasma arc (or punch-through) is relatively small, but the voltage must be high enough to precipitate the initial breakdown.

Thermal Secondary Breakdown or Junction Burnout

Bipolar junctions are prone to damage via junction burnout. The semiconductor material in a PN junction normally has a positive

temperature coefficient at relatively low temperatures (i.e., the resistance increases as the temperature increases). As a pulse is applied (in the reversed bias direction) the junction dissipates heat in the very narrow depletion region of the junction and thus its temperature increases rapidly. (A junction in the forward biased direction is normally at least an order of magnitude less susceptible due to the fact that more energy can be dissipated in the bulk material.) If enough energy is applied, the temperature of the junction will reach a point at which the temperature coefficient of the silicon becomes negative (i.e., an increase in temperature results in a decrease in resistance) and in turn hot spots are formed since the entire area of the junction is not perfectly uniform. This is thermal second breakdown, a thermal runaway condition which eventually results in junction melting when the melting temperature of silicon (1415°C) is reached in the localized area. If additional energy is available after the initiation of the silicon melting, the hot spot can grow into a filament short. The longer the pulse the wider the filament short will be. After the occurrence of the transient, the silicon resolidifies. If a relatively short pulse is applied a hot spot can form but it does not grow completely across the junction. This condition may not manifest itself immediately as a junction short but may appear at a later time as a result of electromigration.

JFET and Schottky devices are particularly susceptible to this type of failure mechanism. In Schottky devices, the barrier metal is readily available to form the shorting filament.

Thermal secondary breakdown, or junction burnout, is a power-dependent failure mechanism rather than voltage-dependent.

Metallization Melt

Metallizations on substrates are susceptible to damage from EOS/ESD pulses. Their cross-sectional areas are small and thus they have

limited current-carrying capability. When a junction melt occurs and a filament short forms, joule heating occurs in the associated metallization runs. This can cause subsequent melting of the metal if enough energy is available during the pulse. This failure mechanism is more susceptible to short-duration, high-current pulses since the only available heat sink (the bonding pads) is nearby and the heat dissipated in the metallization does not have time to flow to the surrounding area. Metallization melt is also a power (or energy) dependent failure mechanism.

Gaseous Arc Breakdown

EOS/ESD-induced gaseous arc discharge inside the package can cause degradation of LSI and memory ICs with passivation/active junction interfaces. This is caused by surface inversion resulting from the positive ions deposited on the chip surface as a result of the gaseous discharge. Packages with nonconducting lids, which can become electrostatically charged, are especially susceptible to this phenomenon. A special case of this is ultraviolet EPROMs. Due to their transparent quartz lids such failures can be annealed by neutralizing these positive charges with ultraviolet light transmitted through the quartz lid.

The gaseous arc breakdown is a voltage-dependent failure mechanism.

Cautions Regarding Failure Mechanisms

Although given failure mechanisms are usually associated with specific technologies, it is erroneous to assume a given failure mechanism simply by knowing the technology of a given part. Thorough failure analysis of each failure is a prerequisite to a true understanding of EOS/ESD failures.

For example: an MOS microcircuit can be destroyed by dielectric breakdown of one of its transistors. However, for MOS microcircuits,

dielectric breakdown cannot automatically be assumed to be the failure mechanism. The device input protection circuit is actually bipolar in nature and is designed to limit the voltage which the MOS transistor sees to a level below its breakdown. Likewise, linear bipolar integrated circuits such as op amps often have internal MOS capacitors for frequency compensation. These MOS capacitors fail due to dielectric breakdown.

This makes it very difficult to assume a particular failure mechanism for a device based simply on its generic technology without extensive failure analysis. A discussion of ESD failure analysis procedures is beyond the scope of this document. However, if literature on this subject is required, it is suggested that reference 36 and 37 be consulted for an extensive treatment of this topic.

ESD-INDUCED LATENT FAILURES

ESD-induced latent failures are *subsequent* device failures which occur prematurely as a result of that device's previous exposure to an ESD transient. These types of failures have recently become of major concern since it has not been known to what extent the long-term reliability of a device is impacted by exposure to an electrostatic discharge. Some of the questions which arise when addressing the topic of latent failures are:

(1) What part types are susceptible to ESD-induced latent failures?

(2) What are the time-dependent failure mechanisms for these part types?

(3) How does cumulative pulsing at sub-threshold levels affect this susceptibility?

(4) Even if a device remains in spec after an ESD pulse but still experiences a parametric shift, what effect could this have on a higher assembly level of equipment?

There have been various studies addressing the subject of ESD-induced latent failures (Refs. 3, 4, 5, 6, 7, 8, 9, 12, 13 14). Most of these studies did not support the reality of ESD-induced latent failures. However, a recent study (Ref. 13) designed specifically to determine if ESD-induced latent failures are a reality has given valid indications of their existence. Much larger sample sizes were used to increase the chances of latency detection.

This study consisted of stressing a sampling of devices in varying degrees, selecting those devices which were marginally out of specification, observing the critical parameters of these devices during life test, and then comparing these samples with a control sample of unstressed devices. Two devices were tested: the 3N128 MOS FET and the 54L04 low power TTL hex inverter. The preliminary study of this effort indicated a higher propensity for subsequent failures to occur on a device with latent gate oxide damage. Samples of each device were stressed using single and multiple pulses over a range of voltages. Devices which were degraded severely, moderately, slightly, or not at all were then life tested and compared to the control sample.

In general, both the 3N128 and 54L04 device samples that were not degraded remained stable during subsequent life test. Some of the 3N128 devices which were marginally degraded, as indicated by a slight (in spec) upward shift in V_{GS} (off), after multiple (200) pulses saw this same parameter decrease again during subsequent life test. One of these devices resulted in a definite out-of-spec condition at 840 hours of operation at 75°C and another device appeared to be headed in the same direction. Those 3N128s which were marginally degraded after only a single pulse exhibited a fairly stable V_{GS} (off) during the subsequent

life test. The 3N128 transistors which were severely degraded, V_{GSS} (off) out-of-spec or exhibited a large shift in I_{GSSR} remained fairly stable during subsequent life tests.

Of the 54L04s which were degraded, the majority were out-of-spec by an order of magnitude, so that samples of devices only marginally degraded were not available. However, a number of devices which failed in a stuck-high condition exhibited additional degradation during the life test. This occurred with both single and multiple pulsed devices.

The results of these tests indicate that latent failures are indeed a reality. It concludes that latent failures can occur in both field effect devices and bipolar devices and that such defects are also dependent upon the number of pulses and the level of damage that the device sustained. It also indicates that the failure voltage susceptibility level of a device does not necessarily correlate with the latent damage susceptibility level of the device. For example, the 54L04 is a relatively insensitive device to catastrophic damage but seems to be quite susceptible to latent damage.

There are still many questions to be answered concerning ESD-induced latent failures such as:

(1) What factors or parameters of a device are latent degradation mechanisms dependent on?
(2) How can the long-term reliability be predicted where a part may experience an ESD pulse during usage?
(3) What effect does stressing a device with different models have on its propensity for latent failure?

There are at present no known methods for screening out potential latent ESD failures, and this indicates a need for further investigation and evaluation of this very subtle failure mode.

TESTING MODELS AND TECHNIQUES

Introduction

Various models exist which attempt to duplicate the type of discharge that can occur during actual handling and operational conditions. Each of the models presented here represents a different situation in which electronic devices can be damaged by static electricity.

Although all of these models duplicate a different discharge situation, it is still the high-amplitude, short-duration electrostatic discharge pulse which eventually can cause the destruction of electronic components. Along with the peak voltages and currents incurred in a device, it has been shown in the generalized Wunsch-Bell electrical overstress model (Reference 28) that the pulse duration (t) is of prime importance in determining the power to failure of a bipolar junction. The power to failure is in the following general form for different pulse widths (See Figure 1).

$t < 0.1\ \mu s$	$P = Kt^{-1}$
$0.1 < t < 100\ \mu s$	$P = Kt^{-\frac{1}{2}}$
$t > 100\ \mu s$	$P = Kt^{0} = K$

The $P = Kt^{-1}$ region corresponds to a situation in which the pulse is of a short enough duration such that an adiabatic condition exists. That is, the pulse duration is shorter than the time it takes the heat dissipated near the junction to spread to surrounding areas. The $P = Kt^{-\frac{1}{2}}$ region corresponds to a semiadiabatic situation in which the pulse width is long enough to allow some heat to diffuse into the surrounding areas. In the $P = Kt^{0}$ region, the pulse width is sufficiently long to allow the heat to dissipate to surrounding areas at a constant rate while the pulse is occurring. K in the above equations is a constant

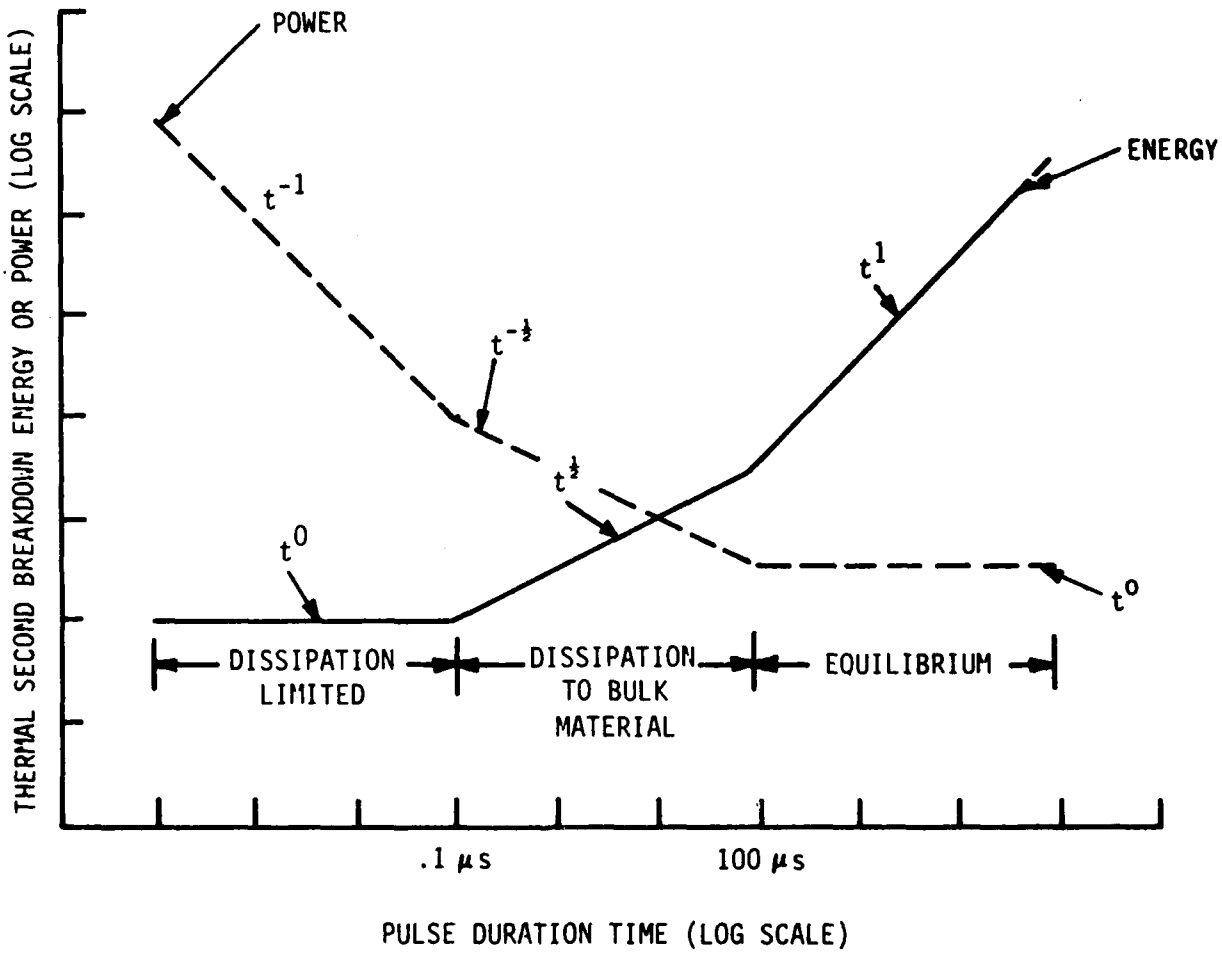


FIGURE 1: FAILURE POWER AND ENERGY VS. PULSE WIDTH

dependent on the following device parameters: thermal conductivity, density, specific heat, and the melting point of the semiconductor material.

Electrostatic discharge pulse widths are normally in the $P = Kt^{-\frac{1}{2}}$ region. This is evidenced by the 0.75 μs pulse width associated with the discharge from a 100 pF, 1500 ohm standard human body model. These values have been found to be reasonable for typical human bodies. However, if testing on a part is done with a very low series resistance (i.e., less than 200 ohm) and/or a low capacitance, the pulse width is sufficiently short to put the relationship of failure power and pulse width in the $P = Kt^{-1}$ region. It is also true that if very large resistances and/or capacitances are used, the failure power and pulse width relationship may be in the $P = Kt^{0}$ region. The plot of relative failure power as a function of pulse width is depicted approximately in Figure 1. Since the energy to failure is the integral of the power to failure, the pulse width and associated energy to failure is:

$t < .1\ \mu s$	$E = Kt^{0} = K$
$.1\ \mu s < t < 100\ \mu s$	$E = Kt^{\frac{1}{2}}$
$t > 100\ \mu s$	$E = Kt^{1}$

The failure mechanisms modeled by this kind of pulse width dependency are power or energy-related mechanisms, such as thermal secondary breakdown.

The theoretical waveform for all discharge models presented here is decaying exponential (Figure 2) with the pulse width (RC) and peak current depending on the source resistance and capacitance and on the capacitor voltage.

For a double exponential decay pulse (one time constant $\tau = RC$), ninety-nine percent of the energy will be dissipated in 5 time

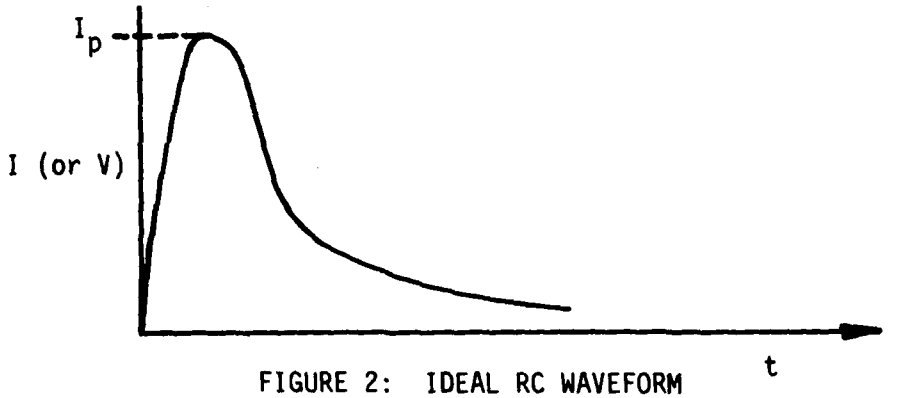


FIGURE 2: IDEAL RC WAVEFORM

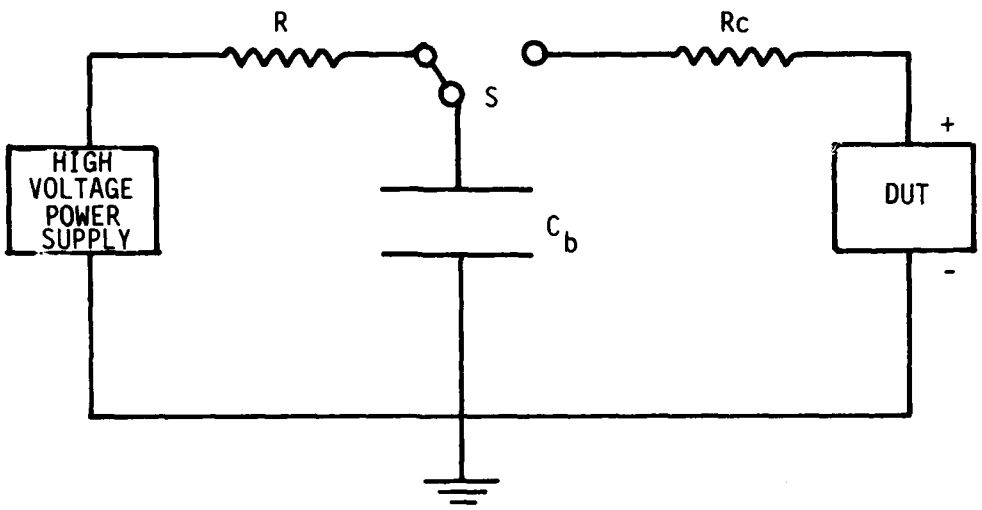
constants. Therefore, the pulse width for the Wunsch-Bell model is assumed to be 5τ (=t). Since the Wunsch-Bell model is based upon empirical square wave data utilized for EMP assessments, it is an approximation to convert to ESD levels using this model. This will be addressed in detail in the Data Conversion Methods section. However, since the relationship of power vs pulse width is also an approximation, the validity of the assumptions seems acceptable, certainly for the $P = t^{-\frac{1}{2}}$ time domain.

Human Body Model

The human body model had been the most widely used and standardized ESD susceptibility testing model to date. A schematic of the test fixture of this model is shown in Figure 3 and its equivalent circuit in Figure 4 (Reference 25).

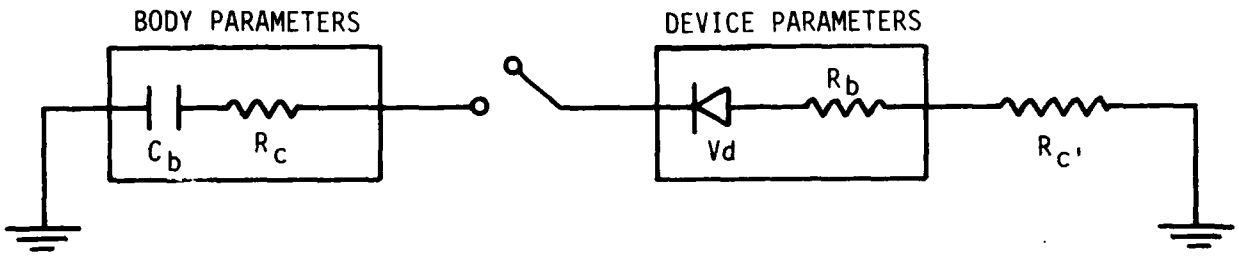
This model simulates a situation in which a charged person or object comes in contact with a device that has one or more connections tied directly or resistively tied to ground.

The current, voltage, power and energies are easily calculated by knowing the source capacitance (C_b) and source resistance (R_c). The waveform, as in all discharge models, is theoretically a decaying exponential (as in Figure 2) with the pulse width depending on the



R = Charging Resistor
S = High Voltage Switching Element
C_b = Source Body Capacitance
R_c = Source Contact Resistance
DUT = Device Under Test

FIGURE 3: HUMAN BODY MODEL TEST CIRCUIT



C_b = Body Capacitance
R_c = Contact Resistance
V_d = Voltage Drop Across Stressed Junction
R_b = Device Internal Resistance
$R_{c'}$ = Device Contact Resistance to Ground

FIGURE 4: HUMAN BODY MODEL EQUIVALENT CIRCUIT

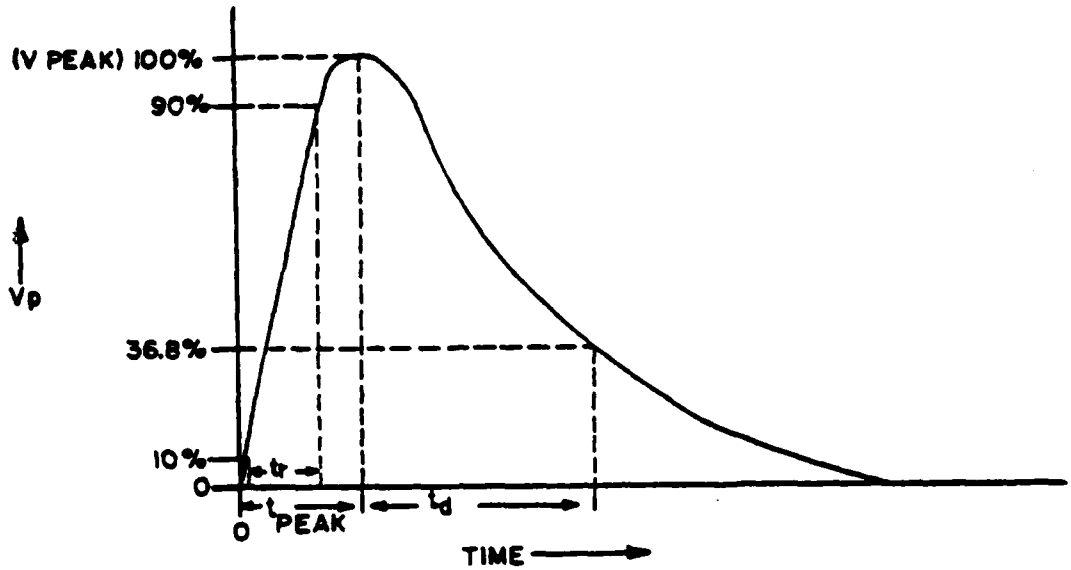
resistance and capacitance. Experimental evidence has shown that the range of capacitance of a human body is normally between 50 pF and 200 pF and the range of resistances is 1000 to 5000 ohms.

Since the failure voltage of electronic devices is highly dependent on the current and voltage and hence the resistance and capacitance, it is extremely important that the standard values be employed to establish a reference by which all test data can be adequately compared. Values of 100 pF and 1500 ohms are the ones which are the most common. These values are the ones which are called out in DOD-STD-1686, DOD-HDBK-263 and MIL-STD-883 Method 3015.1.

As we have already shown, the power and energy required for device failure are pulse-width dependent, and, since varying the values of R and C also varies the pulse width, it is imperative that values be chosen which adequately model the real-world situation. Specifically, it is known that a static discharge from a human body model (with a realistic R and C) is in the $P = Kt^{-\frac{1}{2}}$ region which agrees with the pulse width of the 100 pF, 1500 ohm model. Figure 5 depicts the specifications for the waveform as they appear in MIL-STD-883 Method 3015.1.

As will be seen in the discussion of other testing methods, the human body model is not necessarily the one which will best duplicate the failure sites in microcircuits in various stages of production, assembly, handling, field use and repair.

Recent studies have developed additional theories of discharge which simulate situations quite different than that portrayed by the human body model. The human body model simulates a situation where a charged person or object comes into contact with a pin or pins of a device while the other pin or pins are connected either directly or resistively to ground. However, it has been shown by several



1. The rise time, tr, of the pulse voltage, Vp, shall be measured from 10% to 90% of the peak amplitude, Vpeak, and shall not exceed 15 nanoseconds.

2. The pulse decay across R_2 to ground shall be a single exponential waveform whose decay time, t_d, when measured between Vpeak and 36.8% Vpeak, is $R_2 \times C_1 \pm 10\%$, or 150 ns.

3. For initial waveform test only the voltage waveform will have the following characteristics: $V_p = 50\% \pm 15\%$ the pulse decay time, t_d, will be $(R_2 + R_3) \times C_1$ or 300 ns.

FIGURE 5: MIL-STD-883 METHOD 3015.1 SPECIFIED WAVEFORM

investigators (References 30, 32) that the human body model discharge does not necessarily duplicate all failure modes.

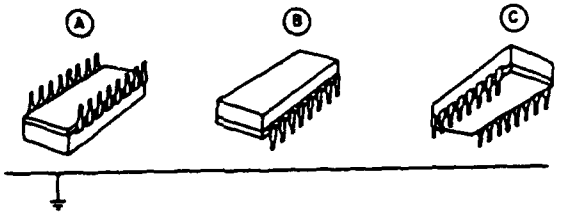
The human body model is effective in testing the input protection capability of a device. This is the model which is specified in the MIL-M-38510 slash sheet test procedures and in the past it has been the most widely used and understood. The majority of test data presented in this publication was originally recorded utilizing this model. However, the source resistance and capacitance values used did vary widely. Therefore, a formula was derived to correlate failure threshold voltages measured utilizing one value of R and C to failure threshold voltages anticipated utilizing different values of R and C. See Data Conversion Methods in this section for Nonstandard Test Data Conversion and Appendix A for derivation of the actual conversion formulae.

Charged Device Model

The charged device model assumes a charge can be placed on the lead frame of a device and then discharge to ground through one or more of its pins through a very low resistance. The means by which the device can accept a charge is through its capacitance. This capacitance can vary with the geometry of the device itself and on the device's relative orientation to ground as seen in Table I (from Reference 30). The device capacitance was measured for each orientation with the device separated from the ground plane by a thin insulator. Figure 7 illustrates the test set up as explained in Reference 30. The equivalent circuit is in Figure 6.

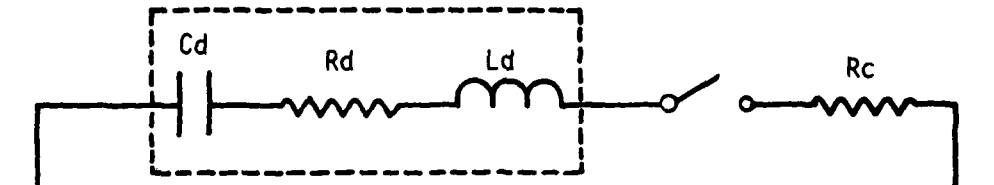
One way this charge could be placed on the device is by sliding it out of a shipping tube onto a grounded surface (Reference 31). This is not the only means by which the lead frame can become charged but may represent a very common occurrence. The sliding motion of the device on the plastic tube generates a triboelectric charging of the IC pins and

TABLE 1: DEVICE CAPACITANCE VS ORIENTATION



DEVICE CAPACITANCE (pF)

ORIENTATION	16 PIN DIP (PLASTIC)	18 PIN DIP (PLASTIC)	24 PIN DIP (PLASTIC)	24 PIN DIP (CERAMIC SIDE-BRAZED)	40 PIN DIP (CERAMIC SIDE-BRAZED)
A	2.9	3.6	7.1	28	52
B	2.0	2.3	3.9	3.6	6.6
C	1.4	1.6	2.0	2.0	2.8



C_d = device capacitance (as shown in Table 1)

R_d = device resistance

L_d = inductance of the leads

R_c = contact resistance to ground

FIGURE 6: CHARGED DEVICE MODEL EQUIVALENT CIRCUIT

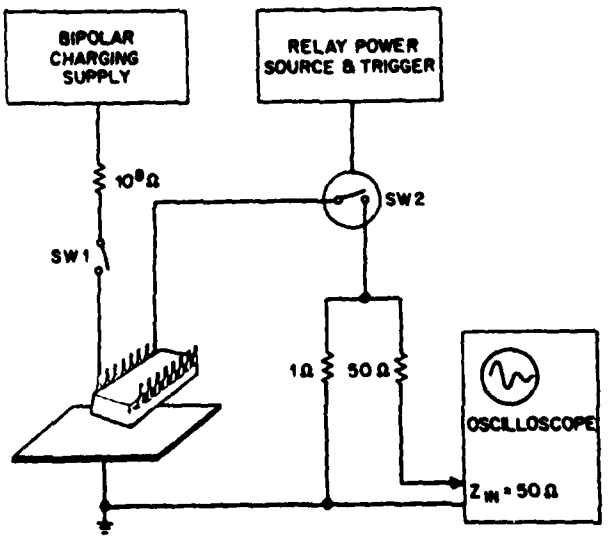


FIGURE 7: CHARGED DEVICE MODEL TEST FIXTURE

lead frame. Since the lead frame is conductive, a constant charge density results (an equipotential surface) due to the capacitance of the device. This capacitance coupled with the charge stored on the device is the cause of the potential ESD hazard. Damage from the charged device model assumes a very low resistance to ground upon device discharge. This results in a high-amplitude, short-duration pulse. In the situation where a device slides out of a tube and contacts a conducting surface, in reality the surface does not necessarily have to be grounded for device damage to occur since the capacitance of the surface may be much higher than that of the device and, hence, capable of accepting most or all of the charge on the device.

The capacitance of a device is relatively small compared to that normally used to model a human. This, along with the low resistance to ground upon discharge, causes a much shorter transient than is the case with the human body model. This can be a much worse case because the power versus pulse width may now be in the adiabatic region ($P = Kt^{-1}$).

This model was originally proposed by Speakman (Reference 25) and then further investigated by Bell Laboratories (References 21, 29, 30, 31).

See source codes 380-382 for 16K EPROM data (part number not reported (NR)) for data comparing charged device model to human body model.

Floating Device Model

This model simulates that situation where a device is contacted by a charged person or object while the device pins are not grounded. This model is similar to the charged device model in that the damage mechanism occurs because large voltage gradients have time to couple

into any or all areas of the chip. The significance of this model is that the damage occurs while the device is being charged rather than while being discharged. This is in contrast to the charged device model where the damage occurs from the rapid discharge of the device after it has been slowly charged up. In the floating device model as in the charged device model, the capacitance of the device to ground is the single most important variable in determining the device susceptibility. The capacitance is dependent upon the relative orientation of device and the ground plane (as shown in Table I). It should be pointed out that the circuit board in which a device is mounted may serve to increase the total capacitance of the system to ground and therefore make it possible to deposit more energy in a device during discharge. The significant difference between this model and the charged device model is that in the charged device model the damaging mechanism occurs during the device discharge to ground after it has been charged up while in the floating device model the damaging mechanism occurs as the device is being charged from an external object. Because of the strict dependence of ESD sensitivity on the orientation of the device, a device is more susceptible when it is closer to the ground plane and thus it has a larger capacitance.

It has been shown that devices are normally less susceptible to stressing with this model if a resistance and capacitance similar to the standard human body model are used (100 pF, 1500 ohm) (see Ref. 26). This model would indeed be similar to the charged device model if a very low resistance is used in the stressing circuit of Figure 8. In the floating device model the device sees a very fast transient as it is coupling to the applied voltage, whereas in the charged device model the device sees the very fast transient upon discharge (of opposite polarity) after it has been charged slowly.

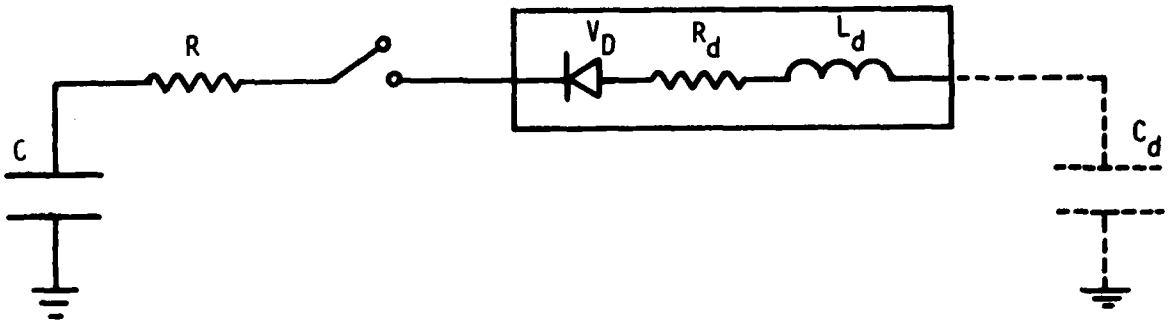


FIGURE 8: FLOATING DEVICE MODEL EQUIVALENT CIRCUIT

where

R = source resistance

C = source capacitance

V_D = voltage drop across the stressed junction

R_d = device internal resistance

L_d = device inductance

C_d = device capacitance to ground

See source codes 170-230 for the 74F04 and 74F175 and source code 004 in the detailed data section for comparison of the floating device model versus the human body model.

Field Induced Model

This model simulates a situation where a device is subjected to an electrostatic field without any hard contact being made. There are two basic ways in which a microcircuit could be damaged in this way.

First, if a MOS structure is in a shipping tube and a charged person or object comes near the outside of the tube, the inherent capacitor structure of the MOS gate forms a capacitive voltage divider between the MOS capacitor and the capacitance of the charged body to the device. If the voltage (V_D) exceeds the breakdown voltage of the oxide, device damage will occur.

Consider another example: If a device is subjected to an electrostatic field (from any source), the theoretical voltage across the gate oxide (for a leadless chip) perpendicular to the field lines is the voltage field gradient times the oxide thickness. But in a dip package, for instance, the voltage across the gate oxide will be the voltage field gradient times the lead separation distance. In this case the leads are conductors and act as antennae for the field.

Another way in which devices could fail due to an induced field is if a charge occurs either triboelectrically or otherwise on the nonconducting part of an IC (see Figure 9). Although there can be no damaging current from the nonconducting portion directly, that charge emits an electrostatic field and therefore induces a charge on the conducting leads of the device. There can be no net charge on the lead frame, but charge separation will occur when the device is grounded. This can cause a high-amplitude, short-duration damaging pulse.

Little data on this model is presently available, but it has been shown that it is a valid model for some device handling and storage situations.

TEST TECHNQIUES

Due to the complexity of modern integrated circuits (especially LSI devices) it is costly and time-consuming to evaluate and characterize every possible path an ESD pulse could take. It has been common practice in testing for ESD susceptibility to use a minimum number of parts to determine the most sensitive pin combination or path and then to do a characterization of that one pin combination. Although it can often be ascertained which pin combinations will be the most susceptible (i.e., unprotected MOS gates, poorly protected MOS gates, pinned-out MOS capacitors, thin oxide underpasses, inputs of technologies utilizing very small geometries, etc.), electrostatic discharges can be so subtle

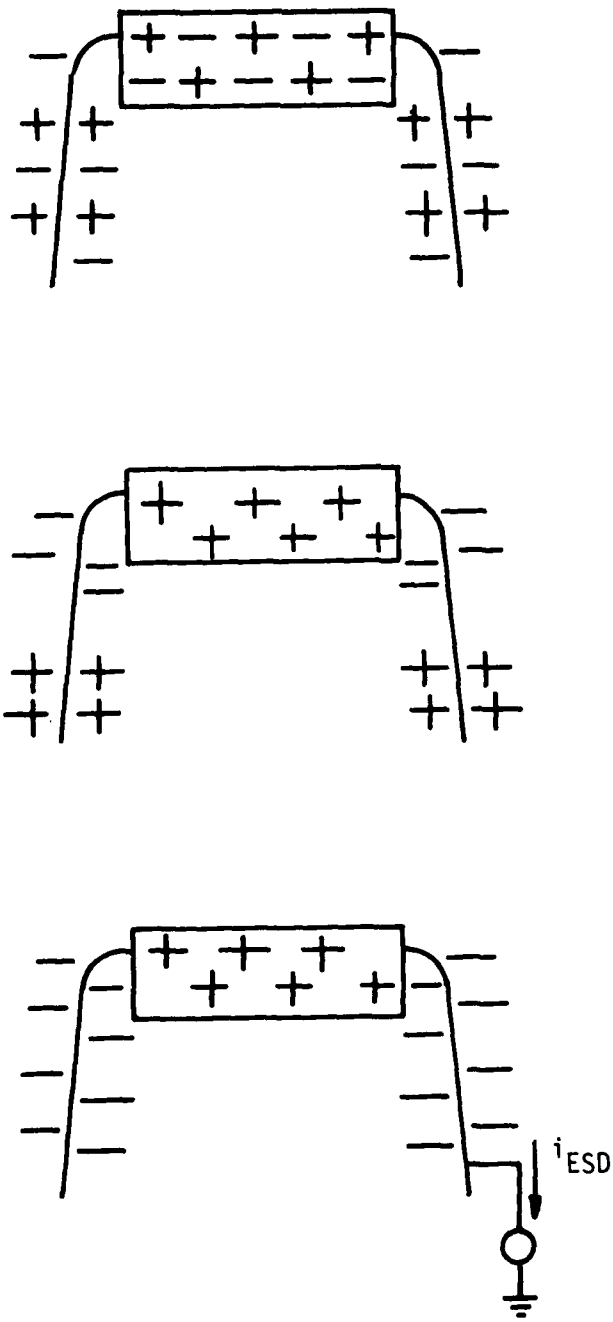


FIGURE 9: CHARGE INDUCED ON DEVICE LEAD FRAME DUE TO IMMOBILE CHARGE ON PACKAGE BODY

that pins not normally believed to be sensitive can be sensitive to models other than the standard human body model.

To obtain a very good ESD susceptibility characterization of a part, testing should be performed with the various models and test fixtures previously described. Since the failure site and mechanisms may not necessarily be the same for failures using the different models (Ref. 32), testing with only the human body model will yield only a partial characterization of a device.

For a detailed characterization of a device's susceptibility to ESD, a minimum critical energy or voltage must be found that will just damage the device. The simplest and most cost-effective way of obtaining this is to subject the device to a step-stress test, i.e., applying pulses of increasing magnitude until device failure is detected. This method, however, may yield a value for the voltage threshold of a device lower than the actual one-pulse threshold. This is possible if the particular device under test is prone to cumulative effects. It has been found by various investigators (Refs. 26, 33) that the relationship between the stressing voltage and the number of pulses to failure appears to be a kind of decaying exponential which tends to level out at about 30 pulses; that is, applying 30 pulses at a single voltage may give a worst-case condition.

Since the data presented in this book was collected from many different sources, the question arises as to what degree of correlation can be expected from different test labs. To address this question, in 1981 RAC supplied three independent test labs with a sampling of the same parts with the identical date codes and the same statement of work (Ref. 26). The results of this study indicated that in the overall analysis of the data no one test lab's results were significantly different from the others. It was noted, however, that although there was no significant difference in test labs there were large variations in the failure voltages recorded for any one given pin. This study

emphasized the fact that ESD susceptibility test results intrinsically have a high degree of variability.

Failure Criteria Selection

The failure criterion used in establishing an ESD failure is critical to the outcome of the testing. This may be illustrated by the use of two examples. In the first example, let us assume that the failure criterion for a bipolar device is defined as a certain percentage change in leakage current. This may be a difficult failure criterion to implement because the relationship of leakage current versus stress voltage itself is not well-defined. In the second example let us assume that the leakage current specification limits are used as the failure criterion for the same parts. The device which we are testing is relatively tolerant to ESD and remains within the specification limits when stressed with a pulse well below the damage threshold. Nevertheless, there is a measurable change in the leakage current, i.e., the device has been degraded; however, it does not exceed the specification until it is subsequently pulsed with a much higher energy pulse. In the case that we know some degradation has occurred, we can measure the degradation, but because of the failure criterion it is not considered susceptible to ESD damage at the lower level. For this reason, the criterion used to detect device failure must also be selected in accordance with the device operating characteristics and the manner in which the device is designed into a circuit, i.e., if a certain circuit configuration can tolerate a parameter shift or even an out of specification condition of this component.

DATA CONVERSION METHODS

Conversion of Nonstandard Human Body Model Test Data

ESD sensitivity classification (Section 3) in this document is presented as voltage sensitivities measured in accordance with the human

body model described in DOD-STD-1686 and DOD-HDBK-263. However, not all of the data collected was obtained under these exact test conditions. Therefore, it was necessary to establish a means for converting data recorded using R and C values other than 100 pF and 1500 ohm to the equivalent values with the standard 100 pF and 1500 ohm human body model. Using semiempirical methods, the RAC has established the following formula for the conversion:

$$V_1 = V_2 \ (3.87) \ \sqrt{\frac{C_2}{R_2}}$$

where

V_1 = standard human body model damage threshold
R_2 = nonstandard value of resistance used
C_2 = nonstandard value of capacitance used
V_2 = measured damage threshold using R_2 and C_2

The derivation of this equation may be found in Appendix A.

This method is only used so that a classification in accordance with DOD-STD-1686 and DOD-HDBK-263 can be obtained for inclusion into the classification listing of Section 3. The detailed data of Section 2 presents the data as it was obtained, i.e., the failure voltages of actual models used during testing.

Conversion of EMP Overstress Test Data to the ESD Human Body Model

A vast amount of electrical overstress data has been compiled from Electromagnetic Pulse (EMP) studies. It would be negligent to disregard this potential data source. By knowing certain parameters of a device, a theoretical ESD failure can be calculated using the Wunsch-Bell model as the starting point. The following equation has been established to convert EMP overstress data to the ESD human body model equivalent:

$$V = \left[\frac{-2V_D + \sqrt{4V_D^{\ 2} + 1200\ K_1\ (7.675 \times 10^{-7})^{-K_2}}}{60} \right] 1530 + V_D$$

where

V_D = measured overstress breakdown voltage
K_1 = failure constant 1
K_2 = failure constant 2

The derivation of this equation may be found in Appendix A.

To further verify the validity of the calculated ESD levels presented in this book, data was compared for specific devices which had both empirical ESD threshold data and ESD threshold levels calculated from EMP data. The log of the ratio of ESD to EMP failure voltages was plotted such that a given percentage of discrepancy (i.e., if the EMP level was the same percentage higher or lower than the ESD level) would be equidistant from the 0 line. If the datapoints were randomly distributed about the 0 line and the data did not show a shift in distribution against any parameter, it could be concluded that the failure levels obtained from EMP data were a fairly good indication of the actual susceptibility levels of the devices (not taking into account random variations and noise in the data for any given device).

Figure 10 was obtained by plotting the log of the ratio (EMP/ESD) against the ESD failure voltage. Although there is insufficient data to adequately define any trends in the data that may exist, it can be seen that devices with relatively low ESD threshold voltages (i.e., < 7000 volts) tend to be consistently high compared with their predicted level using EMP data. But at higher thresholds (i.e., > 7000 volts) the distribution seems to be random about the 0 line, indicating a fairly good estimate for the threshold using EMP data.

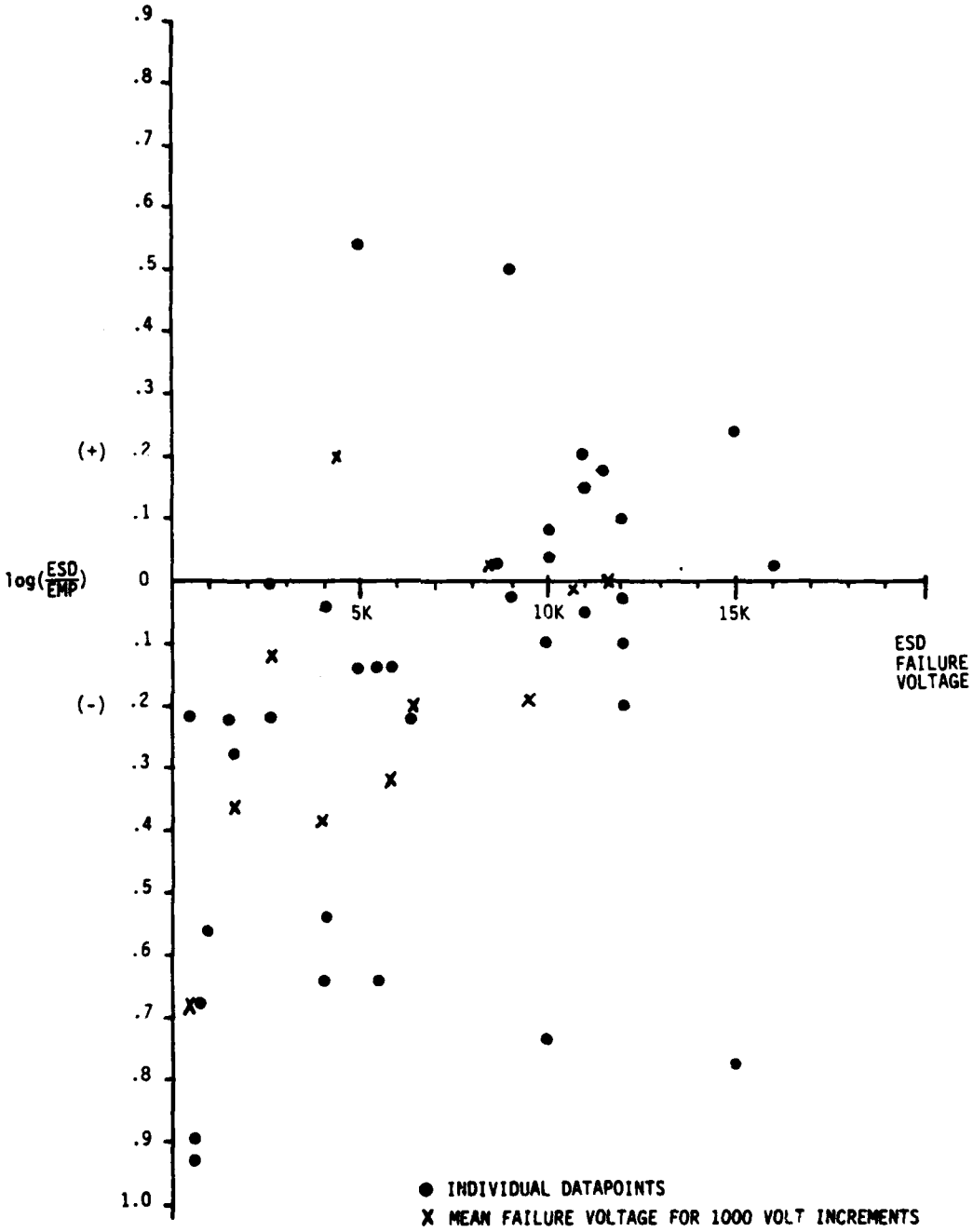


FIGURE 10: EMP VS. ESD DATA COMPARISON

Still, it should be emphasized that the susceptibility levels obtained from EMP data are necessarily only approximate values. It can be seen from Figure 10 that the EMP to ESD levels can differ by as much as a factor of 10. There are various sources of error in converting EMP data to ESD data. Two of these error sources are the uncertainty in the damage constants and the uncertainty in the device parameters (bulk resistance and breakdown voltage). These uncertainties can stem from: (1) the fact that manufacturers are changing their device geometrics (shrinking die sizes to increase yields); (2) normal lot to lot variations; and (3) differences between manufacturers. These variations can easily cause a factor of 10 difference in the susceptibility levels.

DOD-STD-1686 VS MIL-STD-883 CLASSIFICATION

At present, two different ESD susceptibility classification schemes exist, those portrayed by DOD-STD-1686/DOD-HDBK-263 and those portrayed by MIL-STD-883 (Method 3015.1)/MIL-M-38510. Fortunately they both utilize the same test circuit, the human body model and identical critical circuit elements, a 100 pF capacitor and a 1.5K ohm resistor. Table 2 compares the two classification methods. As can be seen, one-way conversion from DOD-STD-1686 classification to MIL-STD-883 classification is quite possible. This is fortunate since the majority of devices tested and classified to date were done in accordance with the older documentation, i.e., DOD-STD-1686. All items tested and classified per DOD-STD-1686 as Class 1 will also be Category A per MIL-STD-883, and all items tested and classified as Class 3 per DOD-HDBK-263 will be Category B per MIL-STD-883. The problem is those parts classified as Class 2 per DOD-STD-1686. These may fall into either category of MIL-STD-883. Referring to Figure 11 we find that of all devices tested to date and found to fall into Class 2 of DOD-STD-1686 approximately 63% failed in the range of 1000 to 2000V while only 37% failed in the range of 2000V to 4000V.

If classification according to MIL-STD-883 is required, it is suggested that the detailed data section be consulted to determine if the device would be Class A or B.

TABLE 2: DOD-HDBK-263 VS MIL-STD-883 CLASSIFICATION LEVELS

DOD-HDBK-263 DOD-STD-1686	MIL-STD-883 (Method 3015) MIL-M-38510
Class 1 0 to ≤1000 volts Class 2 >1000 to ≤4000 volts *Class 3 >4000 to ≤15,000 volts	Category A 20 to 2000V Category B 2001V and above

*Class 3 is addressed by the DOD-HDBK only. It is not in the DOD-STD.

Unfortunately, lacking actual test data, conversion in the opposite direction from MIL-STD-883 classification to DOD-STD-1686/DOD-HDBK-263 classification is impossible with testing only at the 2000 volts specified in MIL-STD-883.

VZAP testing has been a qualification test requirement on certain MIL-M-38510 slash sheets for a number of years. Specifically this includes all CMOS devices and certain LSI and memory devices. The maximum specified test voltage for these tests is 400 volts, and the devices must be capable of handling the specified VZAP voltage without failure. (See Appendix B for a detailed listing of devices and applicable test voltage levels.) Therefore, unfortunately this test in itself yields only a minimum of usable device ESD susceptibility information.

SUMMARY AND CONCLUSIONS

Certain conclusions can be drawn from analysis of the data and recommendations made regarding future directions of ESD studies.

(1) Testing with various discharge models, i.e., human body model, charged device model, should both be carried out to fully characterize a device's susceptibility to ESD.

(2) The results of ESD testing should be better documented and submitted to centralized databases such as RAC's so that duplicate testing of parts can be avoided when possible. An example of this kind of data exchange is the recent Data Item Description UDI-T-3741.

(3) For organizations conducting testing not in accordance with military procedures, the standard human body model test circuit (100 pF, 1500 ohms) should be used in order that the data may be more readily correlated to other data sources.

(4) More interfacing between the ESD and EMP communities should be made so that technology can be exchanged in these fields.

(5) More research should be conducted into the physics of ESD-induced latent failures for a better understanding of this phenomenon.

SUMMARIZED DATA - VOLTAGE VS TECHNOLOGY

The following graphs are histograms generated by taking the failure voltage for each entry in the Detailed Device Susceptibility Test Data Section 2 for each particular technology. Figure 11 is a composite summary including data from all of the technologies in Figures 12 through 29.

Where necessary the actual test voltages were converted to levels consistent with the widely recognized 100 pF, 1500 ohm human body model since mixing failure voltages of data obtained with different resistor-capacitor values and different discharge models would confound the data significantly (see Data Conversion Methods).

It should be noted that data was also included which represents an approximate upper bound of threshold voltages (i.e., one test at one voltage was carried out on a device and a failure resulted. Thus, although exact damage threshold voltage of the device could not be determined from that one data point, it is known that the threshold is equal to or less than the test voltage).

The data as presented in this section may be somewhat biased since all data entries from the detailed data section were used. This bias comes from the fact that where one data source may have included all of the data (on all pins, for example) another may have only presented the worst-case failures (i.e., the most sensitive pin).

It can be seen from the following histograms what the relative susceptibilities of various technologies are. For the individual histograms, the voltages where many devices have failed may be indicative of a particular data source or test method. For example, the peaks at 1000 volts for CMOS, 2500 volts for TTL, 1000 volts for STTL, 1500 volts for LSTTL, etc., were primarily from data contained in source code 030. However, when observing the histogram (Figure 1) for failure voltages of all microcircuits technologies combined, a much larger sample size was available and a fairly well-defined curve was obtained. This curve appears to be a lognormal distribution with the peak at approximately 1000 volts.

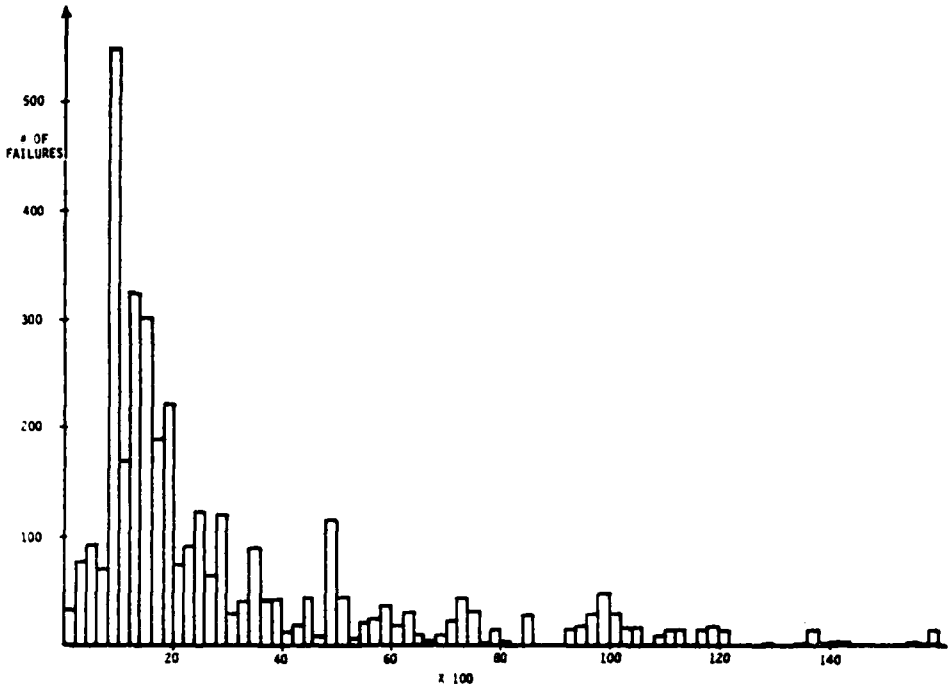


FIGURE 11: FAILURE VOLTAGE PLOT - ALL MICROCIRCUITS

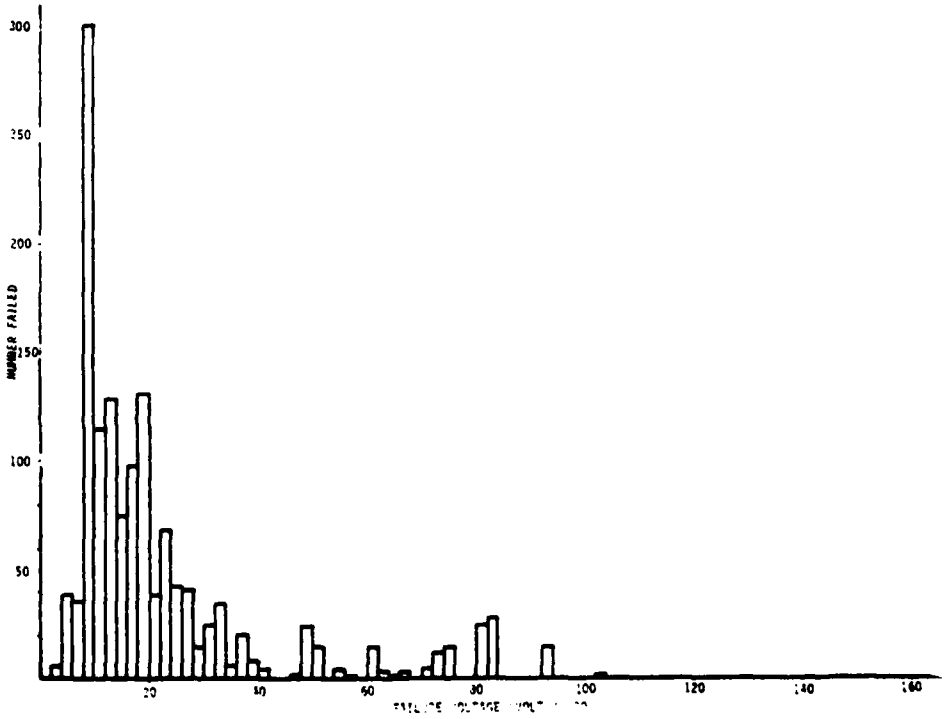


FIGURE 12: FAILURE VOLTAGE PLOT - CMOS

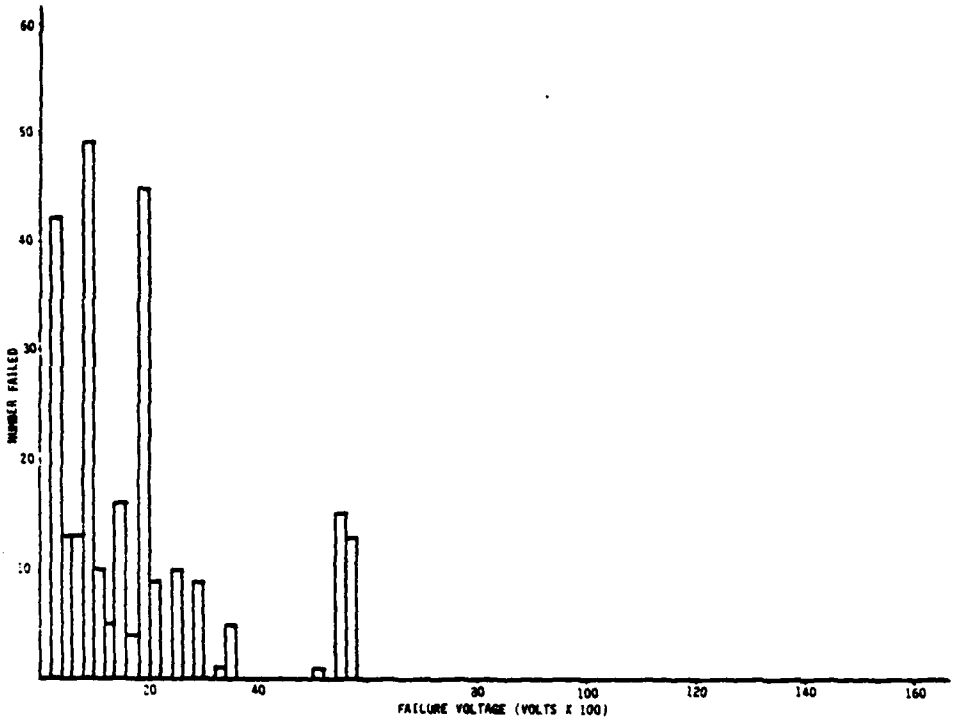


FIGURE 13: FAILURE VOLTAGE PLOT - NMOS

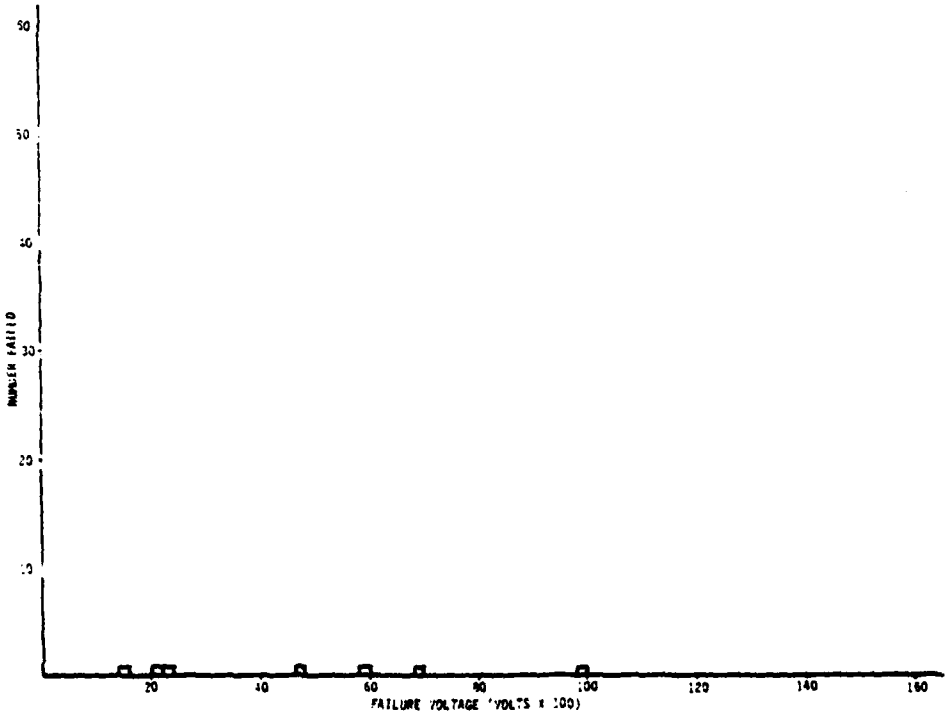


FIGURE 14: FAILURE VOLTAGE PLOT - PMOS

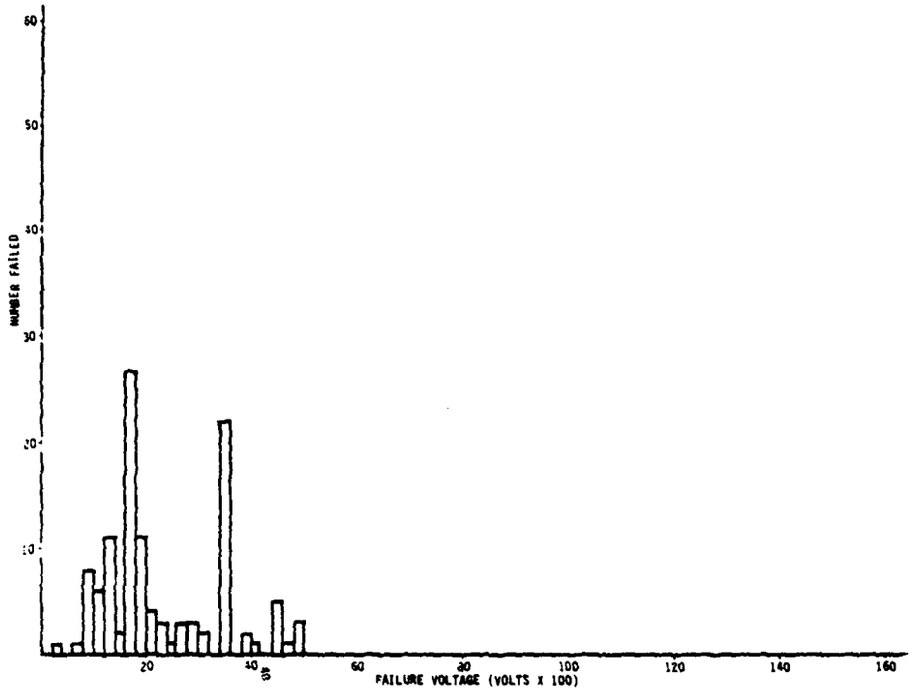


FIGURE 15: FAILURE VOLTAGE PLOT - MOS (NOT OTHERWISE CLASSIFIED)

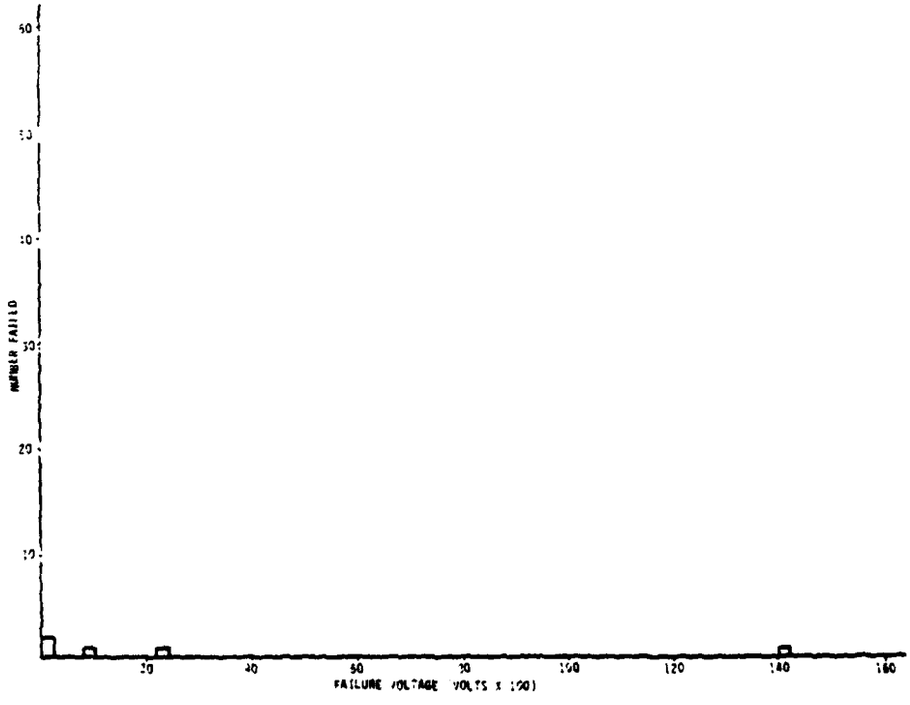


FIGURE 16: FAILURE VOLTAGE PLOT - MNOS

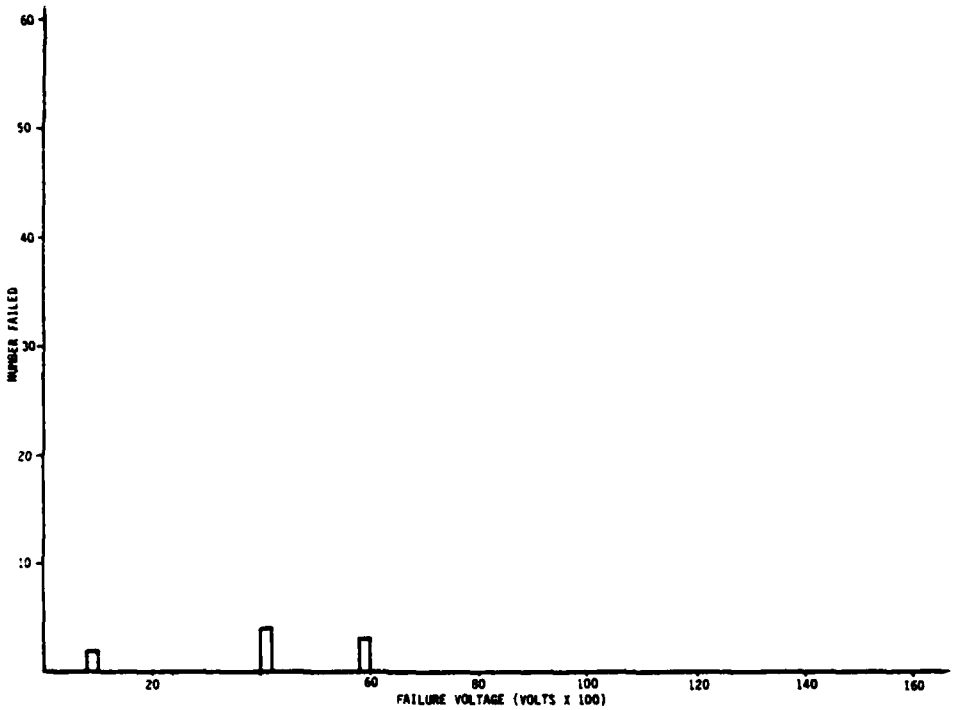


FIGURE 17: FAILURE VOLTAGE PLOT - JFET

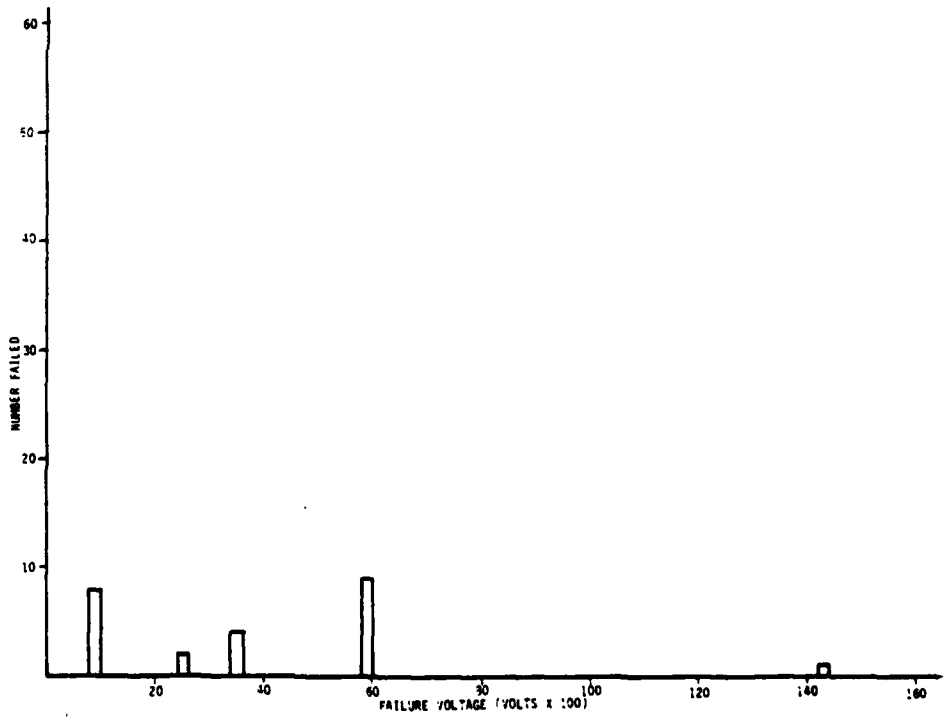


FIGURE 18: FAILURE VOLTAGE PLOT - BIFET

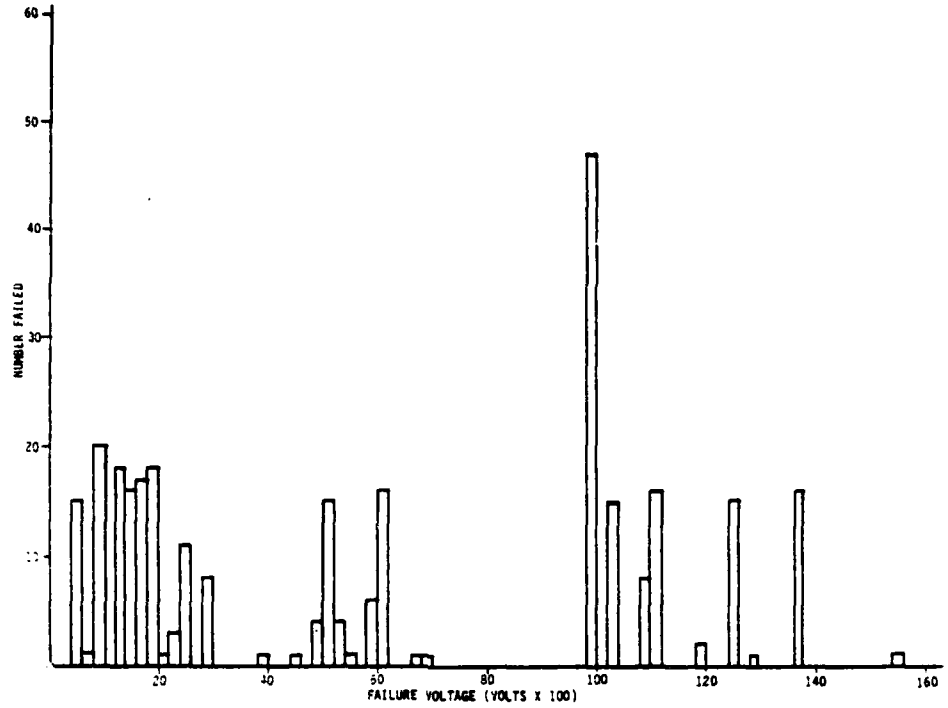


FIGURE 19: FAILURE VOLTAGE PLOT - BIPOLAR (LINEAR & INTERFACE)

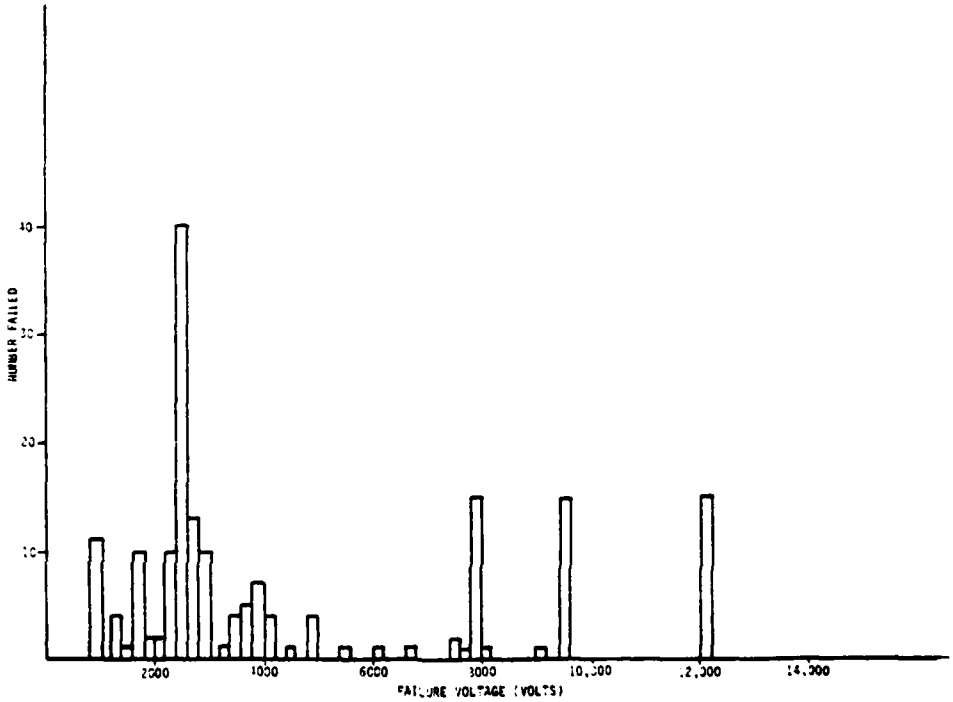


FIGURE 20: FAILURE VOLTAGE PLOT - TTL

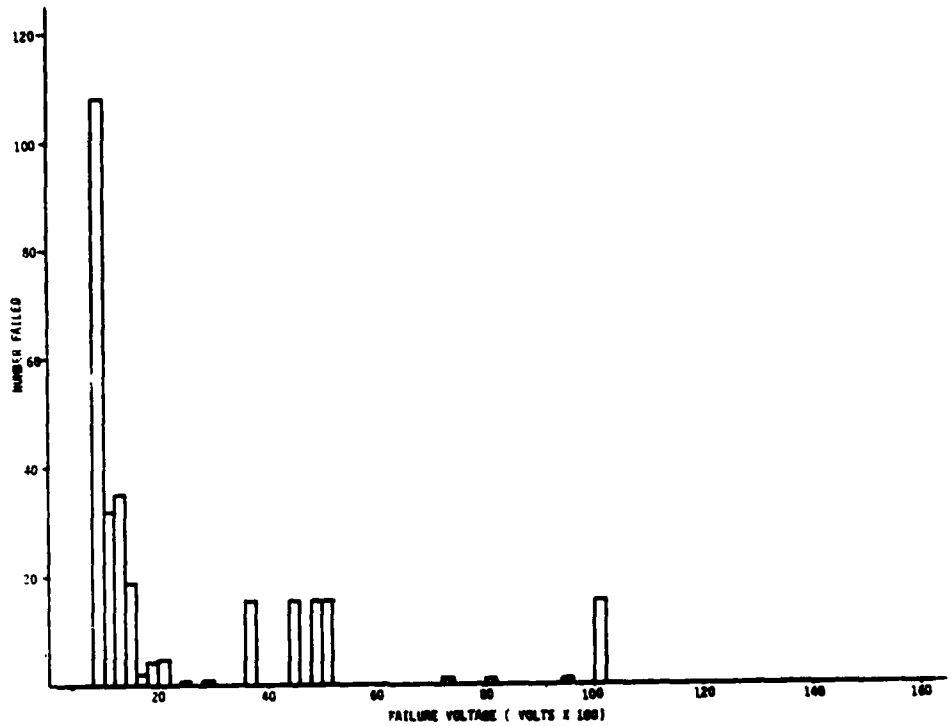


FIGURE 21: FAILURE VOLTAGE PLOT - STTL

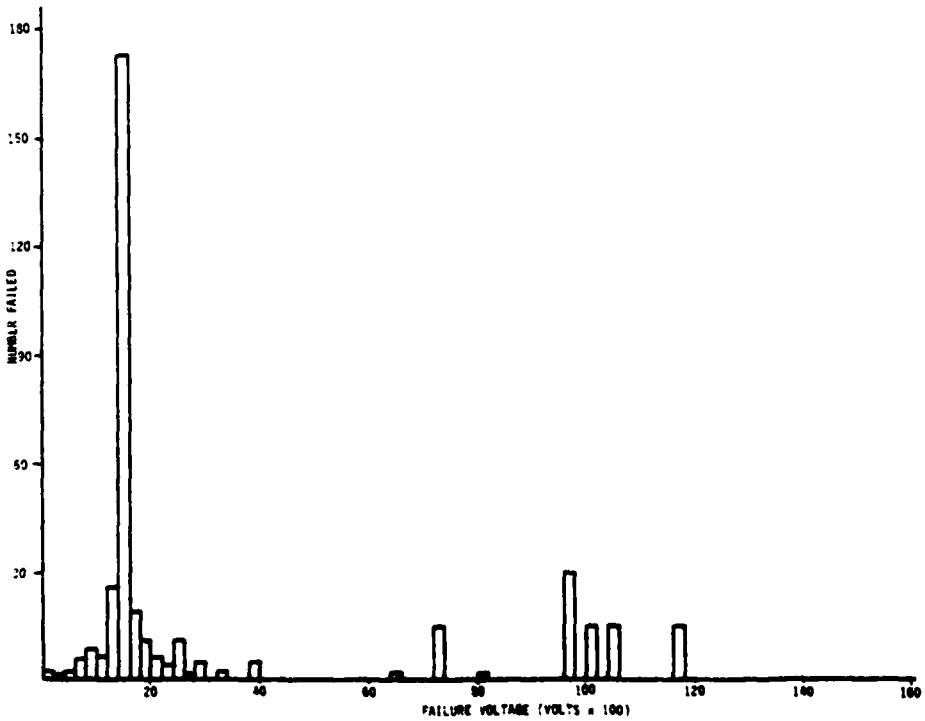


FIGURE 22: FAILURE VOLTAGE PLOT - LSTTL

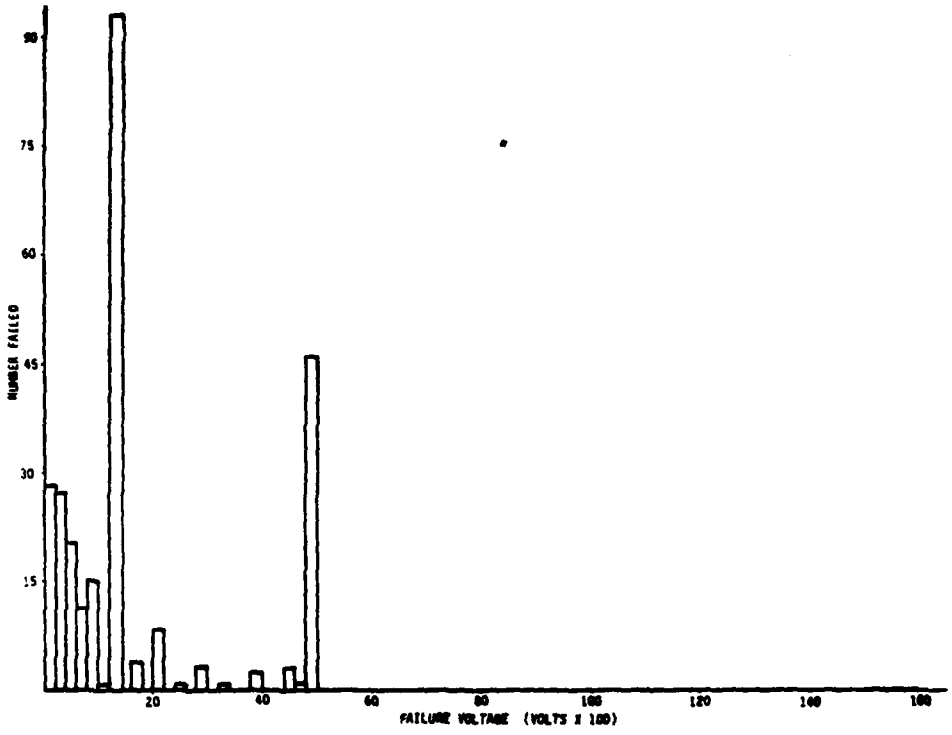


FIGURE 23: FAILURE VOLTAGE PLOT - ADVANCED STTL

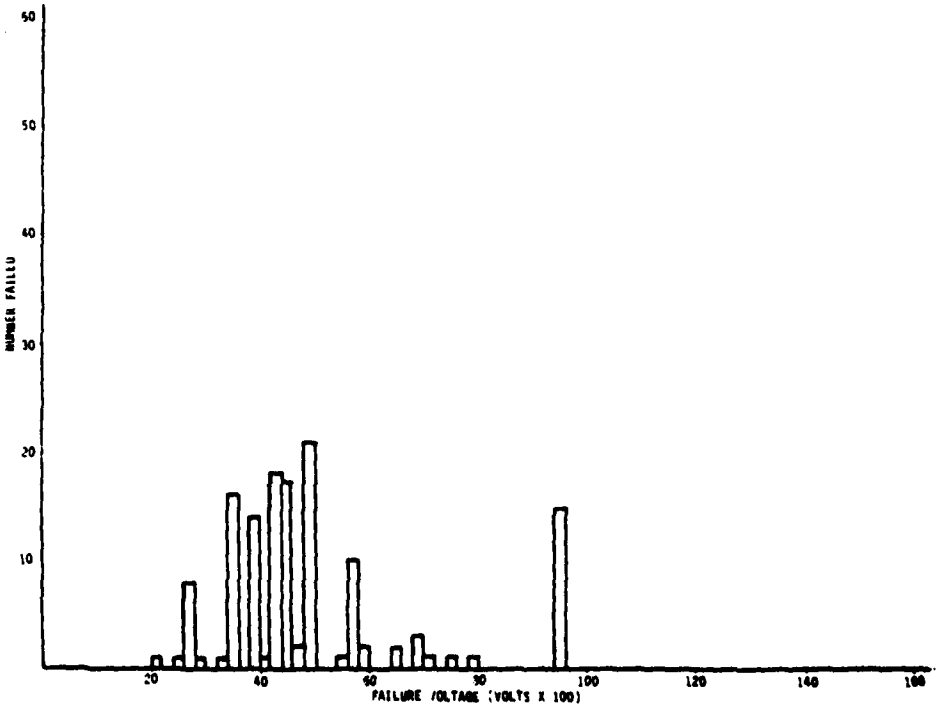


FIGURE 24: FAILURE VOLTAGE PLOT - LTTL

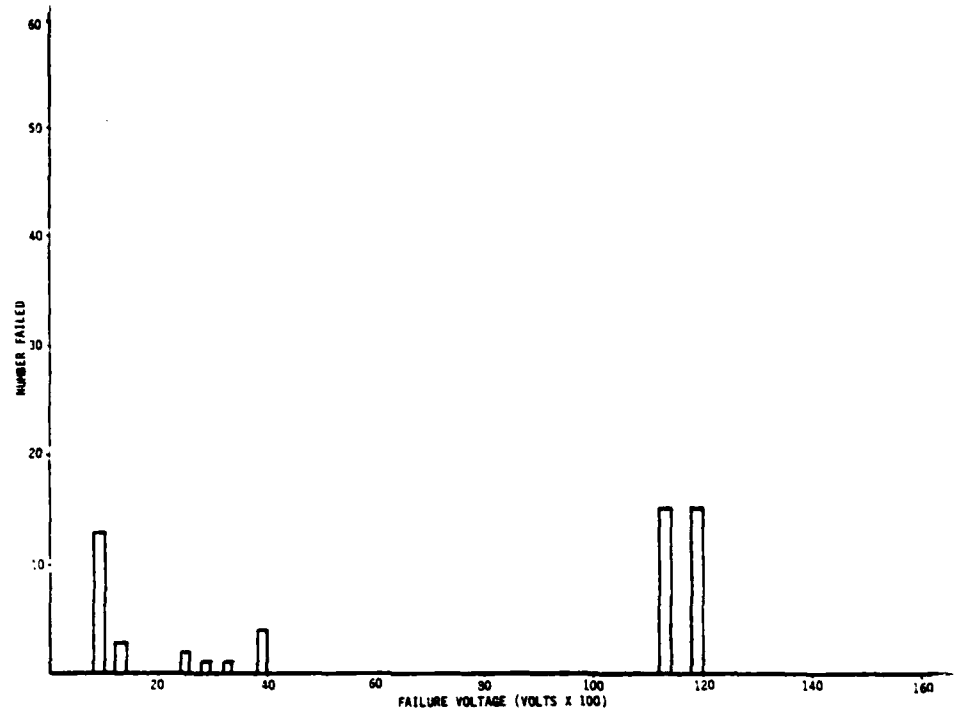


FIGURE 25: FAILURE VOLTAGE PLOT - HTTL

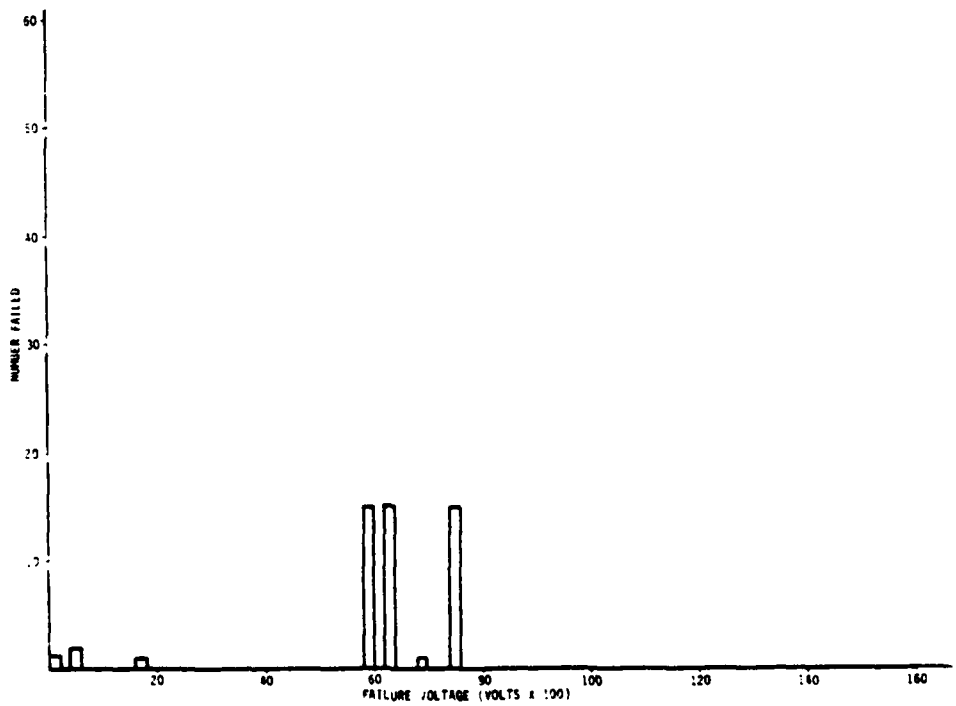


FIGURE 26: FAILURE VOLTAGE PLOT - IIL

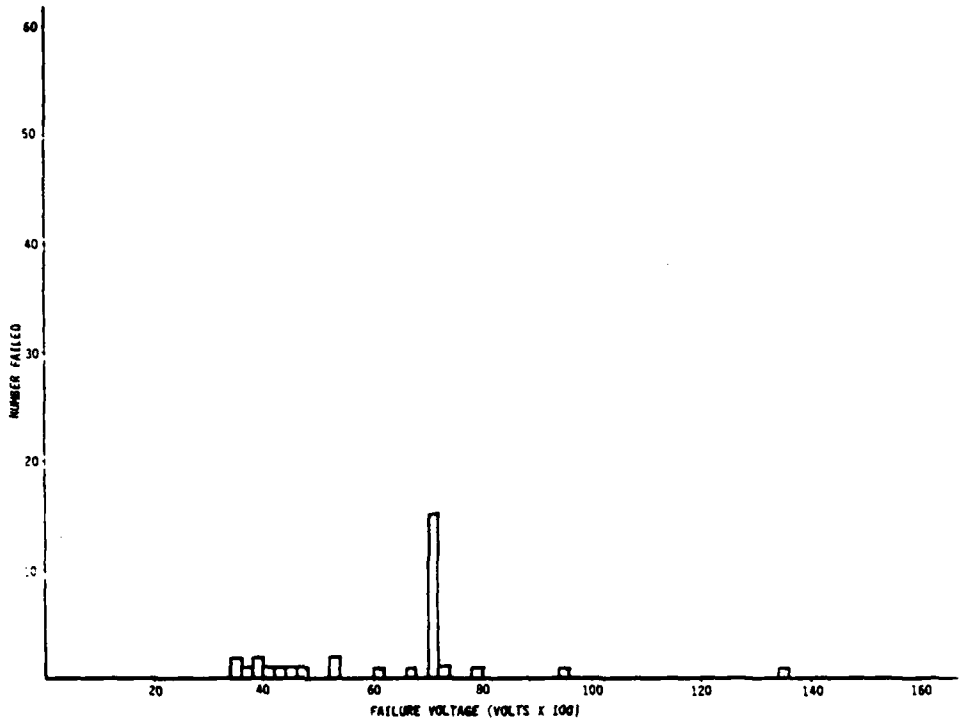


FIGURE 27: FAILURE VOLTAGE PLOT - DTL

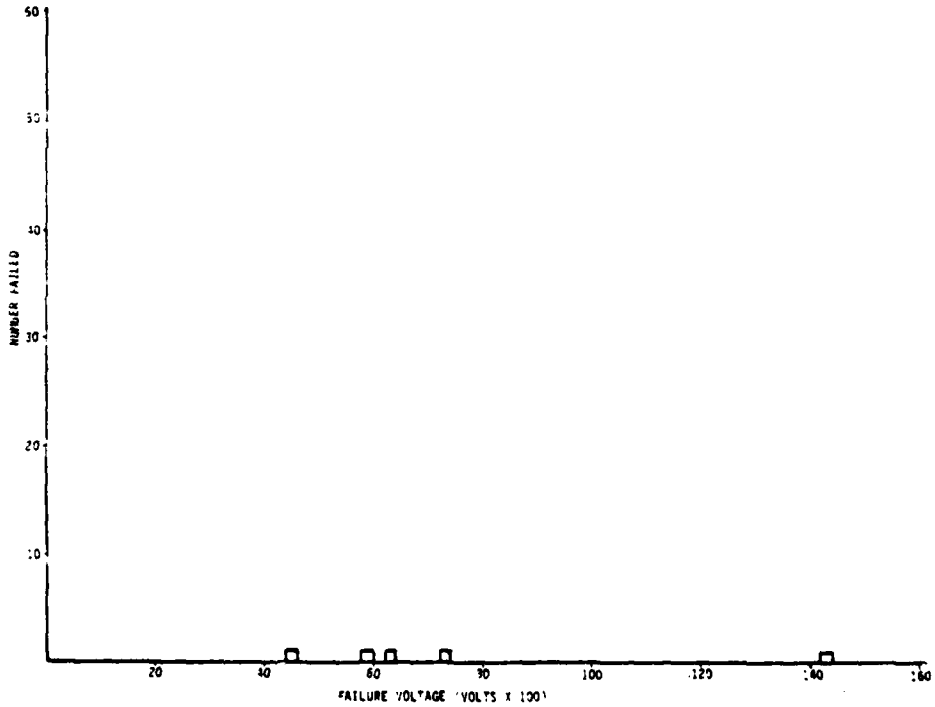


FIGURE 28: FAILURE VOLTAGE PLOT - RTL

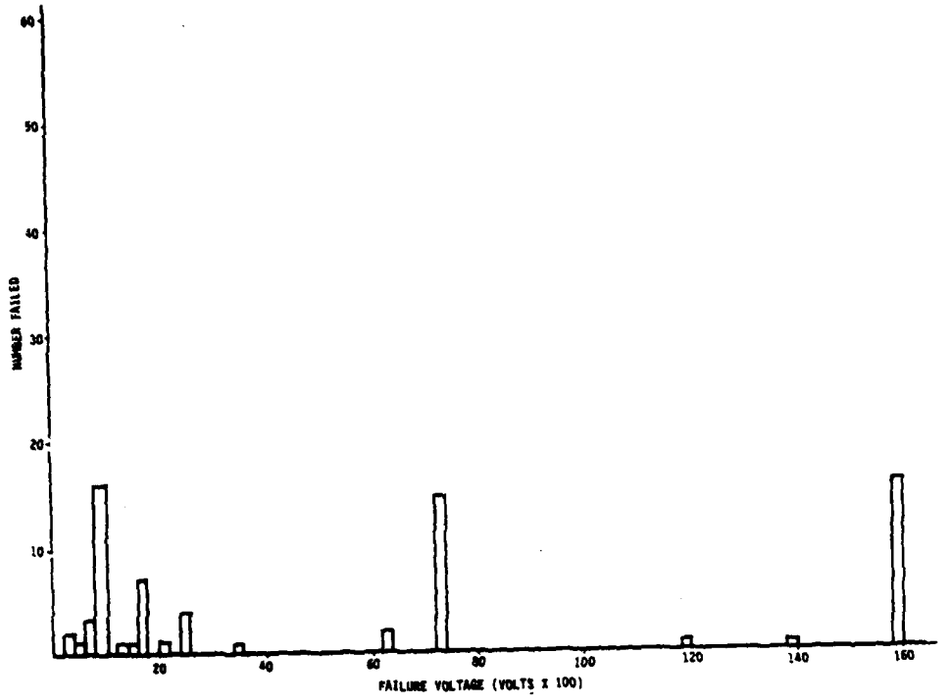


FIGURE 29: FAILURE VOLTAGE PLOT - ECL

SECTION 2

Detailed Device Susceptibility Test Data

DETAILED DEVICE SUSCEPTIBILITY TEST DATA

The data contained herein was collected from many different sources. A large portion was obtained from an extensive data collection effort in which IITRI/RAC personnel visited various facilities to actively solicit ESD susceptibility data on electronic devices. Also, a thorough literature search was conducted which turned up substantial amounts of data already published. In this publication, data exists on approximately 1170 unique electronic devices. A computerized database was designed and implemented by RAC to store and retrieve the data collected. All printouts in this book were produced directly from the database via software generated by the RAC staff.

It is the intent of this detailed data section to present the data in as raw a form as possible, given the fact that it must be fit into a structured system. Where the detailed entries do not adequately explain the test methods or results for a particular data source, an attempt was made to further clarify them in Section 4, Data Sources.

This printout is composed of two parts: Part A Microcircuits and Part B Discrete Electronic Components.

Part A, the Microcircuit section, is broken up by device technology. The ordering of these technologies is as follows:

CMOS
NMOS
PMOS
MOS (Not otherwise classified)
CCD
MNOS
JFET
BIFET

BIPOLAR (Linear and Interface)
TTL
STTL
LSTTL
Advanced STTL
LTTL
HTTL
IIL
DTL
RTL
ECL

Part B, the Discrete Electronic Components section, is ordered as follows:

DIODES
TRANSISTORS
THYRISTORS
OPTOELECTRONIC DEVICES
RESISTORS

A description of the fields in this output is given on the following page.

NOTES FOR USE OF DETAILED SUSCEPTIBILITY DATA:

(1) If you do not know the technology of a device to look up the detailed data, go to the classification listing, look up the part number and then the associated technology.
(2) There is an inherent bias in the data due to the fact that in many cases only very sensitive parts were tested and the results documented.
(3) N/R = Not reported

TECHNOLOGY:

① BASIC PART NUMBER	② DESCRIPTION														
SRC. CODE ③	SEQ. NUM. ④	MANUFACTURER ⑤	FULL PART NUM. ⑥	DATE CODE ⑦	TEST DATE ⑧	RES. (OHMS) ⑨	CAP. ⑩	NUMBER PULSES ⑪	TEST TYPE ⑫	RESULT ⑬	VOLTAGE ⑭	NUM. DEV. ⑮	PIN COMBINATION ⑯

① BASIC PART NUMBER. The part number of the device minus prefix and suffix.

② DESCRIPTION. Basic function of the device.

③ SRC. CODE. Source code - identifies the data source (see Section 4).

④ SEQ. NUM. Sequence number - number to identify a particular data entry for a certain source code.

⑤ MANUFACTURER. Manufacturer of the device.

⑥ FULL PART NUM. Full part number of the device including prefix and suffix.

⑦ DATE CODE. Date code as it appeared on the device.

⑧ TEST DATE. Date (month and year) the test was performed.

⑨ RES. Resistance (in ohms) used in the discharge circuit.

⑩ CAP. Capacitance used in the discharge circuit (UF = microfarads, PF = picofarads).

⑪ NUMBER PULSES. The total number of pulses applied to the device at the voltage (field no. 14) before failure (if result = fail) or before testing for failure (if result = pass).

⑫ TEST TYPE. SS = Step Stress, i.e., the device was stressed in incremental voltages and tested for failure between each one. GN = Go/No-Go, i.e., one voltage level only applied to the device and then tested for failure.

⑬ RESULT. Whether the device passed or failed testing at the given test conditions.

⑭ VOLTAGE. The voltage for which the result describes (if the device was step-stressed and it failed during stepping, the failure voltage is given).

⑮ NUM. DEV. The number of devices which were tested to the same results (i.e., all other fields would have been the same).

⑯ PIN COMBINATION. The pin combination tested: function, pin number, and polarity (if known).

REMARK. Any comment which clarifies the test procedures or results.

FAILURE CRITERIA. Criteria used to detect device failure.

SECTION 2A

DETAILED MICROCIRCUIT SUSCEPTIBILITY TEST DATA

TECHNOLOGY: CMOS

BASIC PART NUMBER	DESCRIPTION															
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
100	CONVERTER (D/A A/D)												
030	669	N/R	DAC100	N/R	N/R	1500	100 PF	1	N/R	FAIL	3000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
14000	GATE , DUAL 3 INPUT NOR												
029	271	MOTOROLA SEMI	MC14000CL	N/R	N/R	1500	100 PF	1	N/R	FAIL	3301	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
029	272	MOTOROLA SEMI	MC14000CP	N/R	N/R	1500	100 PF	1	N/R	FAIL	2856	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
14001A	GATE , QUAD 2 INPUT NOR												
111	1	MOTOROLA SEMI	MC14001A	N/R	APR 78	1500	150 PF	1	SS	FAIL	850	3	INPUT A(+) INPUT B(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
111	2	MOTOROLA SEMI	MC14001A	N/R	APR 78	1500	150 PF	1	SS	FAIL	1450	10	INPUT A(+) INPUT B(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
111	3	MOTOROLA SEMI	MC14001A	N/R	APR 78	1500	150 PF	1	SS	FAIL	2060	10	INPUT A(+) INPUT B(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
111	4	MOTOROLA SEMI	MC14001A	N/R	APR 78	1500	150 PF	1	SS	PASS	2060	2	INPUT A(+) INPUT B(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
14001B	GATE , QUAD 2 INPUT NOR												
112	1	MOTOROLA SEMI	MC14001B	N/R	APR 78	1500	150 PF	1	SS	FAIL	1630	3	INPUT A(+) INPUT B(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
112	2	MOTOROLA SEMI	MC14001B	N/R	APR 78	1500	150 PF	1	SS	FAIL	2400	10	INPUT A(+) INPUT B(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
112	3	MOTOROLA SEMI	MC14001B	N/R	APR 78	1500	150 PF	1	SS	FAIL	3100	10	INPUT A(+) INPUT B(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
112	4	MOTOROLA SEMI	MC14001B	N/R	APR 78	1500	150 PF	1	SS	PASS	3100	2	INPUT A(+) INPUT B(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
14013A	FLIP-FLOP , DUAL D												
113	1	MOTOROLA SEMI	MC14013A	N/R	APR 78	1500	150 PF	1	SS	FAIL	1200	3	RESET(+) CLOCK(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
113	2	MOTOROLA SEMI	MC14013A	N/R	APR 78	1500	150 PF	1	SS	FAIL	1560	10	RESET(+) CLOCK(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
113	3	MOTOROLA SEMI	MC14013A	N/R	APR 78	1500	150 PF	1	SS	FAIL	2150	10	RESET(+) CLOCK(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
113	4	MOTOROLA SEMI	MC14013A	N/R	APR 78	1500	150 PF	1	SS	PASS	2150	2	RESET(+) CLOCK(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
14013B	FLIP-FLOP , DUAL D												
114	1	MOTOROLA SEMI	MC14013B	N/R	APR 78	1500	150 PF	1	SS	FAIL	1550	3	DATA(+) RESET(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
114	2	MOTOROLA SEMI	MC14013B	N/R	APR 78	1500	150 PF	1	SS	FAIL	2100	10	DATA(+) RESET(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												

TECHNOLOGY: CMOS
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION														
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
14013B	FLIP-FLOP , DUAL "D" (CONTINUED)												
114	3	MOTOROLA SEMI	MC14013B	N/R	APR 78	1500	150 PF	1	SS	FAIL	2500	10	DATA(+) RESET(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
114	4	MOTOROLA SEMI	MC14013B	N/R	APR 78	1500	150 PF	1	SS	PASS	2500	2	DATA(+) RESET(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
14018	COUNTER , PRESETTABLE DIVIDE												
007	5	MOTOROLA SEMI	N/R	N/R	N/R	1500	100 PF	1	GN	PASS	400	2	N/R
	FAILURE CRITERIA: IIH,IIL,ISS OUT OF SPEC												
008	5	MOTOROLA SEMI	N/R	N/R	N/R	1500	100 PF	1	GN	PASS	600	2	N/R
	FAILURE CRITERIA: IIH,IIL,ISS OUT OF SPEC												
009	6	MOTOROLA SEMI	N/R	N/R	N/R	1500	100 PF	1	GN	PASS	800	2	N/R
	FAILURE CRITERIA: IIH,IIL,ISS OUT OF SPEC												
010	5	MOTOROLA SEMI	N/R	N/R	N/R	1500	100 PF	1	GN	PASS	1000	2	N/R
	FAILURE CRITERIA: IIH,IIL,ISS OUT OF SPEC												
14046	PHASE LOCK LOOP												
007	4	MOTOROLA SEMI	N/R	N/R	N/R	1500	100 PF	1	GN	FAIL	400	2	N/R
	FAILURE CRITERIA: IIH,IIL,ISS OUT OF SPEC AT 25C												
008	4	MOTOROLA SEMI	N/R	N/R	N/R	1500	100 PF	1	GN	FAIL	600	2	N/R
	FAILURE CRITERIA: IIH,IIL,ISS OUT OF SPEC AT 25C												
009	5	MOTOROLA SEMI	N/R	N/R	N/R	1500	100 PF	1	GN	FAIL	800	2	N/R
	FAILURE CRITERIA: IIH,IIL,ISS OUT OF SPEC AT 25C												
010	4	MOTOROLA SEMI	N/R	N/R	N/R	1500	100 PF	1	GN	FAIL	1000	2	N/R
	FAILURE CRITERIA: IIH,IIL,ISS OUT OF SPEC AT 25C												
14049	BUFFER/INVERTER , HEX BUFFER/CONVERTER												
098	1	MOTOROLA SEMI	N/R	N/R	FEB 78	1500	150 PF	15	GN	FAIL	4500	1	ALL LEADS(+) GATE(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
098	2	MOTOROLA SEMI	N/R	N/R	FEB 78	1500	150 PF	40	GN	PASS	4500	29	ALL LEADS(+) GATE(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
099	1	MOTOROLA SEMI	N/R	N/R	FEB 78	1500	150 PF	5	GN	FAIL	6000	2	ALL LEADS(+) GATE(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
099	2	MOTOROLA SEMI	N/R	N/R	FEB 78	1500	150 PF	15	GN	FAIL	6000	4	ALL LEADS(+) GATE(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
099	3	MOTOROLA SEMI	N/R	N/R	FEB 78	1500	150 PF	25	GN	FAIL	6000	1	ALL LEADS(+) GATE(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
099	4	MOTOROLA SEMI	N/R	N/R	FEB 78	1500	150 PF	40	GN	FAIL	6000	3	ALL LEADS(+) GATE(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
099	5	MOTOROLA SEMI	N/R	N/R	FEB 78	1500	150 PF	40	GN	PASS	6000	15	ALL LEADS(+) GATE(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
100	1	MOTOROLA SEMI	N/R	N/R	FEB 78	1500	150 PF	5	GN	FAIL	7000	4	ALL LEADS(+) GATE(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
100	2	MOTOROLA SEMI	N/R	N/R	FEB 78	1500	150 PF	15	GN	FAIL	7000	10	ALL LEADS(+) GATE(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
100	3	MOTOROLA SEMI	N/R	N/R	FEB 78	1500	150 PF	25	GN	FAIL	7000	5	ALL LEADS(+) GATE(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												

TECHNOLOGY: CMOS
(CONTINUED)

BASIC PART NUMBER	SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
14049	BUFFER/INVERTER , HEX BUFFER/CONVERTER (CONTINUED)													
	100	4	MOTOROLA SEMI	N/R	N/R	FEB 78	1500	150 PF	40	GN	FAIL	7000	9	ALL LEADS(+) GATE(-)
			FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC											
	100	5	MOTOROLA SEMI	N/R	N/R	FEB 78	1500	150 PF	40	GN	PASS	7000	2	ALL LEADS(+) GATE(-)
			FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC											
	101	1	MOTOROLA SEMI	N/R	N/R	FEB 78	1500	150 PF	15	GN	FAIL	700	2	GATE(+) ALL LEADS(-)
			FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC											
	101	2	MOTOROLA SEMI	N/R	N/R	FEB 78	1500	150 PF	40	GN	PASS	700	10	GATE(+) ALL LEADS(-)
			FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC											
	102	1	MOTOROLA SEMI	N/R	N/R	FEB 78	1500	150 PF	5	GN	FAIL	900	5	GATE(+) ALL LEADS(-)
			FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC											
	102	2	MOTOROLA SEMI	N/R	N/R	FEB 78	1500	150 PF	40	GN	FAIL	900	2	GATE(+) ALL LEADS(-)
			FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC											
	102	3	MOTOROLA SEMI	N/R	N/R	FEB 78	1500	150 PF	40	GN	PASS	900	5	GATE(+) ALL LEADS(-)
			FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC											
	103	1	MOTOROLA SEMI	N/R	N/R	FEB 78	1500	150 PF	5	GN	FAIL	1100	10	GATE(+) ALL LEADS(-)
			FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC											
	103	2	MOTOROLA SEMI	N/R	N/R	FEB 78	1500	150 PF	25	GN	FAIL	1100	1	GATE(+) ALL LEADS(-)
			FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC											
	103	3	MOTOROLA SEMI	N/R	N/R	FEB 78	1500	150 PF	40	GN	PASS	1100	1	GATE(+) ALL LEADS(-)
			FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC											
	007	1	MOTOROLA SEMI	N/R	N/R	N/R	1500	100 PF	1	GN	PASS	400	2	N/R
			FAILURE CRITERIA: IIH,IIL,ISS OUT OF SPEC											
	008	1	MOTOROLA SEMI	N/R	N/R	N/R	1500	100 PF	1	GN	PASS	600	2	N/R
			FAILURE CRITERIA: IIH,IIL,ISS OUT OF SPEC											
	009	1	MOTOROLA SEMI	N/R	N/R	N/R	1500	100 PF	1	GN	PASS	800	2	N/R
			FAILURE CRITERIA: IIH,IIL,ISS OUT OF SPEC											
	010	1	MOTOROLA SEMI	N/R	N/R	N/R	1500	100 PF	1	GN	FAIL	1000	2	N/R
			FAILURE CRITERIA: IIH,IIL,ISS OUT OF SPEC AT 25C											
14049A	BUFFER/INVERTER , HEX BUFFER/CONVERTER													
	115	1	MOTOROLA SEMI	MC14049A	N/R	APR 78	1500	150 PF	1	SS	FAIL	790	3	INPUT(+) VCC(-)
			FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC											
	115	2	MOTOROLA SEMI	MC14049A	N/R	APR 78	1500	150 PF	1	SS	FAIL	900	10	INPUT(+) VCC(-)
			FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC											
	115	3	MOTOROLA SEMI	MC14049A	N/R	APR 78	1500	150 PF	1	SS	FAIL	980	10	INPUT(+) VCC(-)
			FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC											
	115	4	MOTOROLA SEMI	MC14049A	N/R	APR 78	1500	150 PF	1	SS	PASS	980	2	INPUT(+) VCC(-)
			FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC											
14049B	BUFFER/INVERTER , HEX BUFFER/CONVERTER													
	093	1	MOTOROLA SEMI	N/R	N/R	FEB 78	1500	150 PF	1	SS	FAIL	860	3	GATE(+) VSS(-)
			FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC											
	093	2	MOTOROLA SEMI	N/R	N/R	FEB 78	1500	150 PF	1	SS	FAIL	1030	10	GATE(+) VSS(-)
			FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC											
	093	4	MOTOROLA SEMI	N/R	N/R	FEB 78	1500	150 PF	1	SS	PASS	1150	2	GATE(+) VSS(-)
			FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC											

TECHNOLOGY: CMOS
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION															
SEC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
14049B	BUFFER/INVERTER , HEX BUFFER/CONVERTER (CONTINUED)												
116	1	MOTOROLA SEMI	MC14049B	N/R	APR 78	1500	150 PF	1	SS	FAIL	730	3	INPUT(+) VCC(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
116	2	MOTOROLA SEMI	MC14049B	N/R	APR 78	1500	150 PF	1	SS	FAIL	920	10	INPUT(+) VCC(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
116	3	MOTOROLA SEMI	MC14049B	N/R	APR 78	1500	150 PF	1	SS	FAIL	1070	10	INPUT(+) VCC(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
116	4	MOTOROLA SEMI	MC14049B	N/R	APR 78	1500	150 PF	1	SS	PASS	1070	2	INPUT(+) VCC(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
140	3	MOTOROLA SEMI	N/R	N/R	FEB 78	1300	100 PF	1	SS	FAIL	1150	10	GATE(+) VSS(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
14050	BUFFER/INVERTER , HEX BUFFER/CONVERTER												
007	2	MOTOROLA SEMI	N/R	N/R	N/R	1500	100 PF	1	GN	PASS	400	2	N/R
	FAILURE CRITERIA: IIH,IIL,ISS OUT OF SPEC												
008	2	MOTOROLA SEMI	N/R	N/R	N/R	1500	100 PF	1	GN	PASS	600	2	N/R
	FAILURE CRITERIA: IIH,IIL,ISS OUT OF SPEC												
009	2	MOTOROLA SEMI	N/R	N/R	N/R	1500	100 PF	1	GN	FAIL	800	1	N/R
	FAILURE CRITERIA: IIH,IIL,ISS OUT OF SPEC AT 25C												
009	3	MOTOROLA SEMI	N/R	N/R	N/R	1500	100 PF	1	GN	PASS	800	1	N/R
	FAILURE CRITERIA: IIH,IIL,ISS OUT OF SPEC												
010	2	MOTOROLA SEMI	N/R	N/R	N/R	1500	100 PF	1	GN	FAIL	1000	2	N/R
	FAILURE CRITERIA: IIH,IIL,ISS OUT OF SPEC AT 25C												
14053B	SWITCH , 3XSPDT												
117	1	MOTOROLA SEMI	MC14053B	N/R	APR 78	1500	150 PF	1	SS	FAIL	1360	3	VEE(+) SELECT A(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
117	2	MOTOROLA SEMI	MC14053B	N/R	APR 78	1500	150 PF	1	SS	FAIL	2000	10	VEE(+) SELECT A(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
117	3	MOTOROLA SEMI	MC14053B	N/R	APR 78	1500	150 PF	1	SS	FAIL	2510	10	VEE(+) SELECT A(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
117	4	MOTOROLA SEMI	MC14053B	N/R	APR 78	1500	150 PF	1	SS	PASS	2510	2	VEE(+) SELECT A(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
14069B	BUFFER/INVERTER , HEX INVERTER												
087	1	MOTOROLA SEMI	MC14069B	N/R	FEB 78	1500	150 PF	1	SS	FAIL	700	3	VDD(+) GATE(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
087	2	MOTOROLA SEMI	MC14069B	N/R	FEB 78	1500	150 PF	1	SS	FAIL	1370	10	VDD(+) GATE(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
087	3	MOTOROLA SEMI	MC14069B	N/R	FEB 78	1500	150 PF	1	SS	FAIL	1720	10	VDD(+) GATE(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
087	4	MOTOROLA SEMI	MC14069B	N/R	FEB 78	1500	150 PF	1	SS	PASS	1720	2	VDD(+) GATE(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
091	3	MOTOROLA SEMI	N/R	N/R	FEB 78	1500	150 PF	1	GN	FAIL	1125	18	VDD(+) GATE(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
091	4	MOTOROLA SEMI	N/R	N/R	FEB 78	1500	150 PF	1	GN	PASS	1125	7	VDD(+) GATE(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												

TECHNOLOGY: CMOS
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION															
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
14069B	BUFFER/INVERTER , HEX INVERTER (CONTINUED)												
094	1	MOTOROLA SEMI	N/R	N/R	FEB 78	1500	150 PF	1	SS	FAIL	760	3	VDD(+) GATE(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
094	2	MOTOROLA SEMI	N/R	N/R	FEB 78	1500	150 PF	1	SS	FAIL	1380	10	VDD(+) GATE(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
094	3	MOTOROLA SEMI	N/R	N/R	FEB 78	1500	150 PF	1	SS	FAIL	1800	10	VDD(+) GATE(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
094	4	MOTOROLA SEMI	N/R	N/R	FEB 78	1500	150 PF	1	SS	PASS	1800	2	VDD(+) GATE(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
095	1	MOTOROLA SEMI	N/R	N/R	FEB 78	1500	150 PF	1	GN	PASS	600	25	VDD(+) GATE (-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
096	1	MOTOROLA SEMI	N/R	N/R	FEB 78	1500	150 PF	1	GN	FAIL	740	7	VDD(+) GATE(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
096	2	MOTOROLA SEMI	N/R	N/R	FEB 78	1500	150 PF	1	GN	PASS	740	18	VDD(+) GATE(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
097	1	MOTOROLA SEMI	N/R	N/R	FEB 78	1500	150 PF	1	GN	FAIL	920	14	VDD(+) GATE(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
097	2	MOTOROLA SEMI	N/R	N/R	FEB 78	1500	150 PF	1	GN	PASS	920	11	VDD(+) GATE(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
14511	DECODER , LATCH/DECODER/DRIVER												
006	18	MOTOROLA SEMI	MC14511	N/R	AUG 78	1500	100 PF	1	SS	FAIL	3000	1	INPUT(1)(+) OUT(15)(-)
	REMARK: DIFFERENT PIN COMB. TESTED AT EACH VOLTAGE STEP FAILURE CRITERIA: IIH, IIL, OR ISS OUT OF SPEC AT VDD=15V												
006	19	MOTOROLA SEMI	MC14511	N/R	AUG 78	1500	100 PF	1	SS	FAIL	3500	1	INPUT(3)(+) OUT(13)(-)
	REMARK: DIFFERENT PIN COMB. TESTED AT EACH VOLTAGE STEP FAILURE CRITERIA: IIH, IIL, OR ISS OUT OF SPEC AT VDD=15V												
006	20	MOTOROLA SEMI	MC14511	N/R	AUG 78	1500	100 PF	1	SS	FAIL	2500	1	INPUT(1)(+) OUT(15)(-)
	REMARK: DIFFERENT PIN COMB. TESTED AT EACH VOLTAGE STEP FAILURE CRITERIA: IIH, IIL, OR ISS OUT OF SPEC AT VDD=15V												
14519	GATE , QUAD AND/OR SELECT												
007	3	MOTOROLA SEMI	N/R	N/R	N/R	1500	100 PF	1	GN	PASS	400	2	N/R
	FAILURE CRITERIA: IIH,IIL,ISS OUT OF SPEC												
008	3	MOTOROLA SEMI	N/R	N/R	N/R	1500	100 PF	1	GN	PASS	600	2	N/R
	FAILURE CRITERIA: IIH,IIL,ISS OUT OF SPEC												
009	4	MOTOROLA SEMI	N/R	N/R	N/R	1500	100 PF	1	GN	PASS	800	2	N/R
	FAILURE CRITERIA: IIH,IIL,ISS OUT OF SPEC												
010	3	MOTOROLA SEMI	N/R	N/R	N/R	1500	100 PF	1	GN	PASS	1000	2	N/R
	FAILURE CRITERIA: IIH,IIL,ISS OUT OF SPEC AT 25C												
1802	MICROPROCESSOR , CPU												
030	348	N/R	1802C	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
1822	RAM , 1KX1 BIT												
383	1	RCA	CDP1822SD	N/R	N/R	1500	100 PF	1	SS	FAIL	2018	1	OUT.(8)(+) APTT(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL. FAILURE CRITERIA: DEGRADATION OF V-I CURVE OR FUNCTIONAL FAILURE.												

TECHNOLOGY: CMOS
(CONTINUED)

BASIC PART NUMBER	SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
1852			SSI/MSI , 8 BIT I/O PORT											
	030	349	N/R	1852C	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
		FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
	030	350	N/R	1852D	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
		FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
201			SWITCH , QUAD SPST											
	030	664	HARRIS SEMI	HI201	N/R	N/R	1500	100 PF	1	N/R	FAIL	2000	1	N/R
		FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
	030	670	N/R	DG201	N/R	N/R	1500	100 PF	1	N/R	FAIL	1100	1	N/R
		FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
2255			GATE											
	029	276	MOTOROLA SEMI	MC2255LM	N/R	N/R	1500	100 PF	1	N/R	FAIL	268	1	N/R
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
331			CONVERTER (D/A A/D) , 10 BIT MULT. DAC											
	005	25	HYBRID SYSTEMS	DAC331B	N/R	SEP 80	1500	100 PF	1	SS	FAIL	500	1	INPUT(6)(+) VSS(3)(-)
		REMARK: ALSO FAILED 4,5,7-13 TO VDD AT 500 VOLTS FAILURE CRITERIA: PARAMETER SHIFT OF GREATER THAN 10%												
	005	26	HYBRID SYSTEMS	DAC331B	N/R	SEP 80	1500	100 PF	1	SS	FAIL	800	1	INPUT(4)(+) VSS(3)(-)
		REMARK: ALSO FAILED PINS 5-13 TO VSS AT 800 VOLTS FAILURE CRITERIA: PARAMETER SHIFT OF GREATER THAN 10%												
	005	27	HYBRID SYSTEMS	DAC331B	N/R	SEP 80	1500	100 PF	1	SS	FAIL	500	1	INPUT(8)(+) VSS(3)(-)
		REMARK: ALSO FAILED PIN 4 TO VDD, 5-7,9-13 TO OUTPUT AT 500 VOLTS FAILURE CRITERIA: PARAMETER SHIFT OF GREATER THAN 10%												
	005	28	HYBRID SYSTEMS	DAC331B	N/R	SEP 80	1500	100 PF	1	SS	FAIL	300	1	INPUT(7)(+) VSS(3)(-)
		REMARK: ALSO FAILED PINS 8-13 TO VSS AT 300V AND PINS 4,6 TO OUTPUT AT 500 VOLTS FAILURE CRITERIA: PARAMETER SHIFT OF GREATER THAN 10%												
	005	29	HYBRID SYSTEMS	DAC331B	N/R	SEP 80	1500	100 PF	1	SS	FAIL	500	1	INPUT(4)(+) OUTPUT(-)
		REMARK: ALSO FAILED PINS 5-13 TO OUTPUT AT 500 VOLTS FAILURE CRITERIA: PARAMETER SHIFT OF GREATER THAN 10%												
	005	30	HYBRID SYSTEMS	DAC331B	N/R	SEP 80	1500	100 PF	1	SS	FAIL	800	1	INPUT(4)(+) VSS(3)(-)
		REMARK: ALSO FAILED PINS 5-13 TO VSS AT 800 VOLTS FAILURE CRITERIA: PARAMETER SHIFT OF GREATER THAN 10%												
34001			GATE , QUAD 2 INPUT NOR											
	123	1	FAIRCHILD SEMI	N/R	N/R	APR 78	1500	150 PF	1	SS	FAIL	1800	10	INPUT B(+) INPUT A(-)
		FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
	123	2	FAIRCHILD SEMI	N/R	N/R	APR 78	1500	150 PF	1	SS	FAIL	1450	10	INPUT B(+) INPUT A(-)
		FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
	123	3	FAIRCHILD SEMI	N/R	N/R	APR 78	1500	150 PF	1	SS	FAIL	1150	3	INPUT B(+) INPUT A(-)
		FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
	123	4	FAIRCHILD SEMI	N/R	N/R	APR 78	1500	150 PF	1	SS	PASS	1800	2	INPUT B(+) INPUT A(-)
		FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
34049B			BUFFER/INVERTER , HEX BUFFER/CONVERTER											
	125	1	FAIRCHILD SEMI	N/R	N/R	APR 78	1500	150 PF	1	SS	FAIL	1100	3	INPUT(+) OUTPUT(-)
		FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
	125	2	FAIRCHILD SEMI	N/R	N/R	APR 78	1500	150 PF	1	SS	FAIL	1280	10	INPUT(+) OUTPUT(-)
		FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												

TECHNOLOGY: CMOS
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION														
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
34049B	BUFFER/INVERTER , HEX BUFFER/CONVERTER (CONTINUED)												
125	3	FAIRCHILD SEMI	N/R	N/R	APR 78	1500	150 PF	1	SS	FAIL	1480	10	INPUT(+) OUTPUT(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
125	4	FAIRCHILD SEMI	N/R	N/R	APR 78	1500	150 PF	1	SS	PASS	1480	2	INPUT(+) OUTPUT(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
4000	GATE , DUAL 3 INPUT NOR												
029	257	RCA	CD4000AC	N/R	N/R	1500	100 PF	1	N/R	FAIL	6985	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
029	258	RCA	CD4000AD	N/R	N/R	1500	100 PF	1	N/R	FAIL	8010	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
029	259	RCA	CD4000AE	N/R	N/R	1500	100 PF	1	N/R	FAIL	10533	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
029	268	HARRIS SEMI	D4000DIH	N/R	N/R	1500	100 PF	1	N/R	FAIL	7119	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
028	3	N/R	TP4000	N/R	N/R	1500	117 PF	30	SS	FAIL	1000	5	INPUT VCC
	FAILURE CRITERIA: INPUT SHORTED TO VCC												
4001	GATE , QUAD 2 INPUT NOR												
030	365	N/R	4001UB	N/R	N/R	1500	100 PF	1	N/R	FAIL	1300	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	366	N/R	4001UBC	N/R	N/R	1500	100 PF	1	N/R	FAIL	1300	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
048	21	RCA	CD4001	N/R	N/R	100	218 PF	1	SS	FAIL	250	1	N/R
	FAILURE CRITERIA: GREATER THAN .5UA INPUT AT 10V												
118	1	NATIONAL SEMI	CD4001CN	N/R	APR 78	1500	150 PF	1	SS	FAIL	1220	3	VSS(+) INPUT A(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
118	2	NATIONAL SEMI	CD4001CN	N/R	APR 78	1500	150 PF	1	SS	FAIL	1530	10	VSS(+) INPUT A(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
118	3	NATIONAL SEMI	CD4001CN	N/R	APR 78	1500	150 PF	1	SS	FAIL	1750	10	VSS(+) INPUT A(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
118	4	NATIONAL SEMI	CD4001CN	N/R	APR 78	1500	150 PF	1	SS	PASS	1750	2	VSS(+) INPUT A(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
244	1	N/R	N/R	7630	N/R	1500	100 PF	1	SS	FAIL	950	1	INPUT(+) OUTPUT(-)
	FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.												
244	2	N/R	N/R	7630	N/R	1500	100 PF	1	SS	PASS	1000	13	INPUT(+) OUTPUT(-)
	FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.												
245	24	N/R	N/R	7630	N/R	100	.1 UF	1	SS	FAIL	66	15	VSS(+) INPUT(-)
	REMARK: FAILURE VOLTAGE IS AN AVERAGE OF 15 DEVICES. FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.												
4001A	GATE , QUAD 2 INPUT NOR												
104	1	RCA	CD4001AE	N/R	APR 78	1500	150 PF	1	SS	FAIL	580	3	INPUT B(+) INPUT A(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
104	2	RCA	CD4001AE	N/R	APR 78	1500	150 PF	1	SS	FAIL	780	10	INPUT B(+) INPUT A(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
104	3	RCA	CD4001AE	N/R	APR 78	1500	150 PF	1	SS	FAIL	980	10	INPUT B(+) INPUT A(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												

TECHNOLOGY: CMOS
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION														
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
4001A	GATE , QUAD 2 INPUT NOR						(CONTINUED)						
104	4	RCA	CD4001AE	N/R	APR 78	1500	150 PF	1	SS	PASS	980	2	INPUT B(+) INPUT A(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
143	1	N/R	N/R	N/R	N/R	100	250 PF	1	SS	FAIL	300	1	N/R
	REMARK: FAILURE VOLTAGE GIVEN IS APPROXIMATE VALUE ONLY.												
143	2	N/R	N/R	N/R	N/R	100	250 PF	1	SS	FAIL	400	1	N/R
	REMARK: FAILURE VOLTAGE GIVEN IS APPROXIMATE VALUE ONLY.												
144	1	N/R	N/R	N/R	N/R	250	250 PF	1	SS	FAIL	300	1	N/R
	REMARK: FAILURE VOLTAGE GIVEN IS APPROXIMATE VALUE ONLY.												
144	2	N/R	N/R	N/R	N/R	250	250 PF	1	SS	FAIL	600	1	N/R
	REMARK: FAILURE VOLTAGE GIVEN IS APPROXIMATE VALUE ONLY.												
145	1	N/R	N/R	N/R	N/R	500	250 PF	1	SS	FAIL	400	1	N/R
	REMARK: FAILURE VOLTAGE GIVEN IS APPROXIMATE VALUE ONLY.												
145	2	N/R	N/R	N/R	N/R	500	250 PF	1	SS	FAIL	800	1	N/R
	REMARK: FAILURE VOLTAGE GIVEN IS APPROXIMATE VALUE ONLY.												
146	1	N/R	N/R	N/R	N/R	1000	250 PF	1	SS	FAIL	600	1	N/R
	REMARK: FAILURE VOLTAGE GIVEN IS APPROXIMATE VALUE ONLY.												
146	2	N/R	N/R	N/R	N/R	1000	250 PF	1	SS	FAIL	1000	1	N/R
	REMARK: FAILURE VOLTAGE GIVEN IS APPROXIMATE VALUE ONLY.												
147	1	N/R	N/R	N/R	N/R	2000	250 PF	1	SS	FAIL	1200	1	N/R
	REMARK: FAILURE VOLTAGE GIVEN IS APPROXIMATE VALUE ONLY.												
148	1	N/R	N/R	N/R	N/R	3000	250 PF	1	SS	FAIL	2000	1	N/R
	REMARK: FAILURE VOLTAGE GIVEN IS APPROXIMATE VALUE ONLY.												
148	2	N/R	N/R	N/R	N/R	3000	250 PF	1	SS	FAIL	2500	1	N/R
	REMARK: FAILURE VOLTAGE GIVEN IS APPROXIMATE VALUE ONLY.												
149	1	N/R	N/R	N/R	N/R	5000	250 PF	1	SS	FAIL	3000	1	N/R
	REMARK: FAILURE VOLTAGE GIVEN IS APPROXIMATE VALUE ONLY.												
149	2	N/R	N/R	N/R	N/R	5000	250 PF	1	SS	FAIL	4000	1	N/R
	REMARK: FAILURE VOLTAGE GIVEN IS APPROXIMATE VALUE ONLY.												
150	1	N/R	N/R	N/R	N/R	500	10 PF	1	SS	FAIL	2000	1	N/R
	REMARK: FAILURE VOLTAGE GIVEN IS APPROXIMATE VALUE ONLY.												
150	2	N/R	N/R	N/R	N/R	500	10 PF	1	SS	FAIL	2500	1	N/R
	REMARK: FAILURE VOLTAGE GIVEN IS APPROXIMATE VALUE ONLY.												
151	1	N/R	N/R	N/R	N/R	500	20 PF	1	SS	FAIL	1750	1	N/R
	REMARK: FAILURE VOLTAGE GIVEN IS APPROXIMATE VALUE ONLY.												
151	2	N/R	N/R	N/R	N/R	500	20 PF	1	SS	FAIL	2000	1	N/R
	REMARK: FAILURE VOLTAGE GIVEN IS APPROXIMATE VALUE ONLY.												
152	1	N/R	N/R	N/R	N/R	500	50 PF	1	SS	FAIL	1000	1	N/R
	REMARK: FAILURE VOLTAGE GIVEN IS APPROXIMATE VALUE ONLY.												
152	2	N/R	N/R	N/R	N/R	500	50 PF	1	SS	FAIL	1500	1	N/R
	REMARK: FAILURE VOLTAGE GIVEN IS APPROXIMATE VALUE ONLY.												
153	1	N/R	N/R	N/R	N/R	500	100 PF	1	SS	FAIL	700	1	N/R
	REMARK: FAILURE VOLTAGE GIVEN IS APPROXIMATE VALUE ONLY.												
153	2	N/R	N/R	N/R	N/R	500	100 PF	1	SS	FAIL	950	1	N/R
	REMARK: FAILURE VOLTAGE GIVEN IS APPROXIMATE VALUE ONLY.												
154	1	N/R	N/R	N/R	N/R	500	250 PF	1	SS	FAIL	600	1	N/R
	REMARK: FAILURE VOLTAGE GIVEN IS APPROXIMATE VALUE ONLY.												
154	2	N/R	N/R	N/R	N/R	500	250 PF	1	SS	FAIL	700	1	N/R
	REMARK: FAILURE VOLTAGE GIVEN IS APPROXIMATE VALUE ONLY.												

TECHNOLOGY: CMOS
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
4001A	GATE , QUAD 2 INPUT NOR					(CONTINUED)							
155	1	N/R	N/R	N/R	N/R	500	500 PF	1	SS	FAIL	300	1	N/R
REMARK: FAILURE VOLTAGE GIVEN IS APPROXIMATE VALUE ONLY.													
155	2	N/R	N/R	N/R	N/R	500	500 PF	1	SS	FAIL	400	1	N/R
REMARK: FAILURE VOLTAGE GIVEN IS APPROXIMATE VALUE ONLY.													
293	1	RCA	CD4001A	N/R	N/R	1500	100 PF	200	GN	PASS	750	1	VDD(14)(+) IN.(1)(-)
FAILURE CRITERIA: IIL OUT OF SPEC.													
294	1	RCA	CD4001A	N/R	N/R	1500	100 PF	200	GN	PASS	775	1	VDD(14)(+) IN.(1)(-)
FAILURE CRITERIA: IIL OUT OF SPEC.													
295	1	RCA	CD4001A	N/R	N/R	1500	100 PF	200	GN	PASS	790	2	VDD(14)(+) IN.(1)(-)
FAILURE CRITERIA: IIL OUT OF SPEC.													
296	1	RCA	CD4001A	N/R	N/R	1500	100 PF	200	GN	PASS	795	1	VDD(14)(+) IN.(1)(-)
FAILURE CRITERIA: IIL OUT OF SPEC.													
297	1	RCA	CD4001A	N/R	N/R	1500	100 PF	1	GN	FAIL	800	2	VDD(14)(+) IN.(1)(-)
FAILURE CRITERIA: IIL OUT OF SPEC.													
297	2	RCA	CD4001A	N/R	N/R	1500	100 PF	500	GN	PASS	800	5	VDD(14)(+) IN.(1)(-)
FAILURE CRITERIA: IIL OUT OF SPEC.													
297	3	RCA	CD4001A	N/R	N/R	1500	100 PF	300	GN	FAIL	800	1	VDD(14)(+) IN.(1)(-)
FAILURE CRITERIA: IIL OUT OF SPEC.													
297	4	RCA	CD4001A	N/R	N/R	1500	100 PF	10	GN	FAIL	800	1	VDD(14)(+) IN.(1)(-)
FAILURE CRITERIA: IIL OUT OF SPEC.													
297	5	RCA	CD4001A	N/R	N/R	1500	100 PF	80	GN	FAIL	800	1	VDD(14)(+) IN.(1)(-)
FAILURE CRITERIA: IIL OUT OF SPEC.													
297	6	RCA	CD4001A	N/R	N/R	1500	100 PF	200	GN	PASS	800	1	VDD(14)(+) IN.(1)(-)
FAILURE CRITERIA: IIL OUT OF SPEC.													
297	7	RCA	CD4001A	N/R	N/R	1500	100 PF	1	GN	FAIL	800	2	VDD(14)(+) IN.(1)(-)
FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.													
299	1	RCA	CD4001A	N/R	N/R	1500	100 PF	1	GN	FAIL	805	1	VDD(14)(+) IN.(1)(-)
FAILURE CRITERIA: IIL OUT OF SPEC.													
300	1	RCA	CD4001A	N/R	N/R	1500	100 PF	1	GN	FAIL	810	1	VDD(14)(+) IN.(1)(-)
FAILURE CRITERIA: IIL OUT OF SPEC.													
301	1	RCA	CD4001A	N/R	N/R	1500	100 PF	200	GN	PASS	815	1	VDD(14)(+) IN.(1)(-)
FAILURE CRITERIA: IIL OUT OF SPEC.													
302	1	RCA	CD4001A	N/R	N/R	1500	100 PF	200	GN	PASS	825	1	VDD(14)(+) IN.(1)(-)
FAILURE CRITERIA: IIL OUT OF SPEC.													
303	1	RCA	CD4001A	N/R	N/R	1500	100 PF	200	GN	PASS	830	1	VDD(14)(+) IN.(1)(-)
FAILURE CRITERIA: IIL OUT OF SPEC.													
304	1	RCA	CD4001A	N/R	N/R	1500	100 PF	500	GN	PASS	833	3	VDD(14)(+) IN.(1)(-)
FAILURE CRITERIA: IIL OUT OF SPEC.													
304	2	RCA	CD4001A	N/R	N/R	1500	100 PF	1	GN	FAIL	833	5	VDD(14)(+) IN.(1)(-)
FAILURE CRITERIA: IIL OUT OF SPEC.													
304	3	RCA	CD4001A	N/R	N/R	1500	100 PF	2	GN	FAIL	833	1	VDD(14)(+) IN.(1)(-)
FAILURE CRITERIA: IIL OUT OF SPEC.													
304	4	RCA	CD4001A	N/R	N/R	1500	100 PF	4	GN	FAIL	833	1	VDD(14)(+) IN.(1)(-)
FAILURE CRITERIA: IIL OUT OF SPEC.													
305	1	RCA	CD4001A	N/R	N/R	1500	100 PF	200	GN	PASS	840	1	VDD(14)(+) IN.(1)(-)
FAILURE CRITERIA: IIL OUT OF SPEC.													
306	1	RCA	CD4001A	N/R	N/R	1500	100 PF	200	GN	PASS	845	1	VDD(14)(+) IN.(1)(-)
FAILURE CRITERIA: IIL OUT OF SPEC.													

TECHNOLOGY: CMOS
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SEC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
4001A		GATE , QUAD 2 INPUT NOR				(CONTINUED)							
307	1	RCA	CD4001A	N/R	N/R	1500	100 PF	1	GN	FAIL	850	2	VDD(14)(+) IN.(1)(-)
		FAILURE CRITERIA: IIL OUT OF SPEC.											
307	2	RCA	CD4001A	N/R	N/R	1500	100 PF	200	GN	PASS	850	3	VDD(14)(+) IN.(1)(-)
		FAILURE CRITERIA: IIL OUT OF SPEC.											
307	3	RCA	CD4001A	N/R	N/R	1500	100 PF	2	GN	FAIL	850	1	VDD(14)(+) IN.(1)(-)
		FAILURE CRITERIA: IIL OUT OF SPEC.											
307	4	RCA	CD4001A	N/R	N/R	1500	100 PF	200	GN	PASS	850	1	VDD(14)(+) IN.(1)(-)
		FAILURE CRITERIA: IIL OUT OF SPEC.											
308	1	RCA	CD4001A	N/R	N/R	1500	100 PF	1	GN	FAIL	865	6	VDD(14)(+) IN.(1)(-)
		FAILURE CRITERIA: IIL OUT OF SPEC.											
308	2	RCA	CD4001A	N/R	N/R	1500	100 PF	200	GN	PASS	865	3	VDD(14)(+) IN.(1)(-)
		FAILURE CRITERIA: IIL OUT OF SPEC.											
308	4	RCA	CD4001A	N/R	N/R	1500	100 PF	1	GN	FAIL	865	2	VDD(14)(+) IN.(1)(-)
		FAILURE CRITERIA: IIL OUT OF SPEC.											
308	5	RCA	CD4001A	N/R	N/R	1500	100 PF	1	GN	PASS	865	8	VDD(14)(+) IN.(1)(-)
		FAILURE CRITERIA: IIL OUT OF SPEC.											
309	1	RCA	CD4001A	N/R	N/R	1500	100 PF	1	GN	FAIL	870	1	VDD(14)(+) IN.(1)(-)
		FAILURE CRITERIA: IIL OUT OF SPEC.											
310	1	RCA	CD4001A	N/R	N/R	1500	100 PF	4	GN	FAIL	875	1	VDD(14)(+) IN.(1)(-)
		FAILURE CRITERIA: IIL OUT OF SPEC.											
310	2	RCA	CD4001A	N/R	N/R	1500	100 PF	200	GN	PASS	875	1	VDD(14)(+) IN.(1)(-)
		FAILURE CRITERIA: IIL OUT OF SPEC.											
311	1	RCA	CD4001A	N/R	N/R	1500	100 PF	25	GN	FAIL	880	1	VDD(14)(+) IN.(1)(-)
		FAILURE CRITERIA: IIL OUT OF SPEC.											
312	1	RCA	CD4001A	N/R	N/R	1500	100 PF	200	GN	PASS	890	1	VDD(14)(+) IN.(1)(-)
		FAILURE CRITERIA: IIL OUT OF SPEC.											
313	1	RCA	CD4001A	N/R	N/R	1500	100 PF	1	GN	FAIL	898	7	VDD(14)(+) IN.(1)(-)
		FAILURE CRITERIA: IIL OUT OF SPEC.											
313	2	RCA	CD4001A	N/R	N/R	1500	100 PF	2	GN	FAIL	898	1	VDD(14)(+) IN.(1)(-)
		FAILURE CRITERIA: IIL OUT OF SPEC.											
313	3	RCA	CD4001A	N/R	N/R	1500	100 PF	200	GN	PASS	898	2	VDD(14)(+) IN.(1)(-)
		FAILURE CRITERIA: IIL OUT OF SPEC.											
313	4	RCA	CD4001A	N/R	N/R	1500	100 PF	1	GN	FAIL	898	6	VDD(14)(+) IN.(1)(-)
		FAILURE CRITERIA: IIL OUT OF SPEC.											
313	5	RCA	CD4001A	N/R	N/R	1500	100 PF	1	GN	PASS	898	4	VDD(14)(+) IN.(1)(-)
		FAILURE CRITERIA: IIL OUT OF SPEC.											
314	1	RCA	CD4001A	N/R	N/R	1500	100 PF	1	GN	FAIL	900	1	VDD(14)(+) IN.(1)(-)
		FAILURE CRITERIA: IIL OUT OF SPEC.											
314	2	RCA	CD4001A	N/R	N/R	1500	100 PF	200	GN	PASS	900	1	VDD(14)(+) IN.(1)(-)
		FAILURE CRITERIA: IIL OUT OF SPEC.											
315	1	RCA	CD4001A	N/R	N/R	1500	100 PF	200	GN	PASS	910	1	VDD(14)(+) IN.(1)(-)
		FAILURE CRITERIA: IIL OUT OF SPEC.											
316	1	RCA	CD4001A	N/R	N/R	1500	100 PF	3	GN	FAIL	915	1	VDD(14)(+) IN.(1)(-)
		FAILURE CRITERIA: IIL OUT OF SPEC.											
316	2	RCA	CD4001A	N/R	N/R	1500	100 PF	10	GN	FAIL	915	1	VDD(14)(+) IN.(1)(-)
		FAILURE CRITERIA: IIL OUT OF SPEC.											
316	3	RCA	CD4001A	N/R	N/R	1500	100 PF	200	GN	PASS	915	3	VDD(14)(+) IN.(1)(-)
		FAILURE CRITERIA: IIL OUT OF SPEC.											

TECHNOLOGY: CMOS
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION													
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
4001A	GATE , QUAD 2 INPUT NOR					(CONTINUED)							
317	1	RCA	CD4001A	N/R	N/R	1500	100 PF	1	GN	FAIL	920	3	VDD(14)(+) IN.(1)(-)
	FAILURE CRITERIA: IIL OUT OF SPEC.												
317	2	RCA	CD4001A	N/R	N/R	1500	100 PF	200	GN	PASS	920	1	VDD(14)(+) IN.(1)(-)
	FAILURE CRITERIA: IIL OUT OF SPEC.												
318	1	RCA	CD4001A	N/R	N/R	1500	100 PF	1	GN	FAIL	930	13	VDD(14)(+) IN.(1)(-)
	FAILURE CRITERIA: IIL OUT OF SPEC.												
318	2	RCA	CD4001A	N/R	N/R	1500	100 PF	200	GN	PASS	930	1	VDD(14)(+) IN.(1)(-)
	FAILURE CRITERIA: IIL OUT OF SPEC.												
326	1	RCA	CD4001A	N/R	N/R	1500	100 PF	1	GN	FAIL	1250	1	VDD(14)(+) IN.(1)(-)
	FAILURE CRITERIA: IIL OUT OF SPEC.												
330	1	RCA	CD4001A	N/R	N/R	1500	100 PF	5	GN	FAIL	1500	1	VDD(14)(+) IN.(1)(-)
	FAILURE CRITERIA: IIL OUT OF SPEC.												
330	2	RCA	CD4001A	N/R	N/R	1500	100 PF	200	GN	PASS	1500	1	VDD(14)(+) IN.(1)(-)
	FAILURE CRITERIA: IIL OUT OF SPEC.												
346	1	RCA	CD4001A	N/R	N/R	1500	100 PF	1	GN	FAIL	2000	2	VDD(14)(+) IN.(1)(-)
	FAILURE CRITERIA: IIL OUT OF SPEC.												
028	3	RCA	CD4001A	N/R	N/R	1500	117 PF	500	SS	PASS	2500	1	VDD(14)(+) IN.(1)(-)
	FAILURE CRITERIA: IIL OUT OF SPEC.												
4001B	GATE , QUAD 2 INPUT NOR												
030	363	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1300	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	364	N/R	4001BC	N/R	N/R	1500	100 PF	1	N/R	FAIL	1300	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
105	1	RCA	CD4001BE	N/R	APR 78	1500	150 PF	1	SS	FAIL	1300	3	INPUT B(+) INPUT A(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
105	2	RCA	CD4001BE	N/R	APR 78	1500	150 PF	1	SS	FAIL	3100	10	INPUT B(+) INPUT A(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
105	3	RCA	CD4001BE	N/R	APR 78	1500	150 PF	1	SS	FAIL	4050	10	INPUT B(+) INPUT A(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
105	4	RCA	CD4001BE	N/R	APR 78	1500	150 PF	1	SS	PASS	4050	2	INPUT B(+) INPUT A(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
119	1	NATIONAL SEMI	CD4001BCN	N/R	APR 78	1500	150 PF	1	SS	FAIL	1220	3	VSS(+) INPUT A(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
119	2	NATIONAL SEMI	CD4001BCN	N/R	APR 78	1500	150 PF	1	SS	FAIL	1570	10	VSS(+) INPUT A(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
119	3	NATIONAL SEMI	CD4001BCN	N/R	APR 78	1500	150 PF	1	SS	FAIL	1830	10	VSS(+) INPUT A(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
119	4	NATIONAL SEMI	CD4001BCN	N/R	APR 78	1500	150 PF	1	SS	PASS	1830	2	VSS(+) INPUT A(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
4001A	SSI/MSI , HEX SCHMITT TRIGGER												
384	22	N/R	N/R	8009	N/R	1000	200 PF	1	SS	FAIL	900	1	EACH PIN(+)
	REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 1060V.												
	FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.												

TECHNOLOGY: CMOS
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION															
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
4002B	GATE , DUAL 4 INPUT NOR												
030	367	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	368	N/R	4002BC	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
4006B	SHIFT REGISTER , 18 BIT STATIC												
030	369	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	370	N/R	4006BC	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
4007	BUFFER/INVERTER , DUAL COMP. PAIR												
030	373	N/R	4007UB	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
4007B	BUFFER/INVERTER , DUAL COMP. PAIR												
030	371	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	372	N/R	4007BC	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
4008B	SSI/MSI , 4 BIT FULL ADDER												
030	374	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	375	N/R	4008BC	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
40101B	SSI/MSI , 9-BIT PARITY GENERAT												
030	545	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	546	N/R	40101BC	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
4011	GATE , QUAD 2 INPUT NAND												
030	378	N/R	4011UB	N/R	N/R	1500	100 PF	1	N/R	FAIL	1300	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	379	N/R	4011UBC	N/R	N/R	1500	100 PF	1	N/R	FAIL	1300	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
141	1	RCA	N/R	N/R	MAY 75	560	100 PF	1	SS	FAIL	3500	1	VDD(+) INPUT(-)
141	2	RCA	N/R	N/R	MAY 75	560	100 PF	1	SS	FAIL	5000	1	INPUT(+) VDD(-)
141	3	RCA	N/R	N/R	MAY 75	560	100 PF	1	SS	FAIL	2500	1	VSS(+) INPUT(-)
141	4	RCA	N/R	N/R	MAY 75	560	100 PF	1	SS	FAIL	3000	1	INPUT(+) VSS(-)

TECHNOLOGY: CMOS
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SEC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
4011		GATE , QUAD 2 INPUT NAND				(CONTINUED)							
141	5	RCA	N/R	N/R	MAY 75	560	100 PF	1	SS	FAIL	3000	1	INPUT(+) OUTPUT(-)
141	6	RCA	N/R	N/R	MAY 75	560	100 PF	1	SS	FAIL	1000	1	OUTPUT(+) INPUT(-)
141	7	RCA	N/R	N/R	MAY 75	560	100 PF	1	SS	FAIL	1500	1	VDD(+) OUTPUT(-)
141	8	RCA	N/R	N/R	MAY 75	560	100 PF	1	SS	FAIL	2500	1	OUTPUT(+) VDD(-)
141	9	RCA	N/R	N/R	MAY 75	560	100 PF	1	SS	FAIL	2000	1	VSS(+) OUTPUT(-)
141	10	RCA	N/R	N/R	MAY 75	560	100 PF	1	SS	FAIL	2000	1	OUTPUT(+) VSS(-)
141	11	RCA	N/R	N/R	MAY 75	560	100 PF	1	SS	FAIL	2000	1	VDD(+) VSS(-)
141	12	RCA	N/R	N/R	MAY 75	560	100 PF	1	SS	FAIL	5000	1	VSS(+) VDD(-)
141	13	MOTOROLA SEMI	N/R	N/R	MAY 75	560	100 PF	1	SS	FAIL	1000	1	VDD(+) INPUT(-)
141	14	MOTOROLA SEMI	N/R	N/R	MAY 75	560	100 PF	1	SS	FAIL	4000	1	INPUT(+) VDD(-)
141	15	MOTOROLA SEMI	N/R	N/R	MAY 75	560	100 PF	1	SS	FAIL	1000	1	VSS(+) INPUT(-)
141	16	MOTOROLA SEMI	N/R	N/R	MAY 75	560	100 PF	1	SS	FAIL	2000	1	INPUT(+) VSS(-)
141	17	MOTOROLA SEMI	N/R	N/R	MAY 75	560	100 PF	1	SS	FAIL	2000	1	INPUT(+) OUTPUT(-)
141	18	MOTOROLA SEMI	N/R	N/R	MAY 75	560	100 PF	1	SS	FAIL	500	1	OUTPUT(+) INPUT(-)
141	19	MOTOROLA SEMI	N/R	N/R	MAY 75	560	100 PF	1	SS	FAIL	2000	1	VDD(+) OUTPUT(-)
141	20	MOTOROLA SEMI	N/R	N/R	MAY 75	560	100 PF	1	SS	FAIL	5000	1	OUTPUT(+) VDD(-)
141	21	MOTOROLA SEMI	N/R	N/R	MAY 75	560	100 PF	1	SS	FAIL	4500	1	VSS(+) OUTPUT(-)
141	22	MOTOROLA SEMI	N/R	N/R	MAY 75	560	100 PF	1	SS	FAIL	3000	1	OUTPUT(+) VSS(-)
141	23	MOTOROLA SEMI	N/R	N/R	MAY 75	560	100 PF	1	SS	FAIL	4000	1	VDD(+) VSS(-)
141	24	MOTOROLA SEMI	N/R	N/R	MAY 75	560	100 PF	1	SS	FAIL	5000	1	VSS(+) VDD(-)
141	25	NATIONAL SEMI	N/R	N/R	MAY 75	560	100 PF	1	SS	FAIL	500	1	VDD(+) INPUT(-)
141	26	NATIONAL SEMI	N/R	N/R	MAY 75	560	100 PF	1	SS	FAIL	5000	1	INPUT(+) VDD(-)
141	27	NATIONAL SEMI	N/R	N/R	MAY 75	560	100 PF	1	SS	FAIL	500	1	VSS(+) INPUT(-)
141	28	NATIONAL SEMI	N/R	N/R	MAY 75	560	100 PF	1	SS	FAIL	2500	1	INPUT(+) VSS(-)
141	29	NATIONAL SEMI	N/R	N/R	MAY 75	560	100 PF	1	SS	FAIL	2500	1	INPUT(+) OUTPUT(-)
141	30	NATIONAL SEMI	N/R	N/R	MAY 75	560	100 PF	1	SS	FAIL	500	1	OUTPUT(+) INPUT(-)
141	31	NATIONAL SEMI	N/R	N/R	MAY 75	560	100 PF	1	SS	FAIL	3000	1	VDD(+) OUTPUT(-)
141	32	NATIONAL SEMI	N/R	N/R	MAY 75	560	100 PF	1	SS	FAIL	1500	1	OUTPUT(+) VDD(-)
141	33	NATIONAL SEMI	N/R	N/R	MAY 75	560	100 PF	1	SS	FAIL	5000	1	VSS(+) OUTPUT(-)
141	34	NATIONAL SEMI	N/R	N/R	MAY 75	560	100 PF	1	SS	FAIL	2000	1	OUTPUT(+) VSS(-)
141	35	NATIONAL SEMI	N/R	N/R	MAY 75	560	100 PF	1	SS	FAIL	1000	1	VDD(+) VSS(-)
141	36	NATIONAL SEMI	N/R	N/R	MAY 75	560	100 PF	1	SS	FAIL	5000	1	VSS(+) VDD(-)
142	1	N/R	N/R	N/R	MAY 75	560	100 PF	1	SS	FAIL	500	1	VDD(+) INPUT(-)
142	2	N/R	N/R	N/R	MAY 75	560	100 PF	1	SS	FAIL	1000	1	INPUT(+) VDD(-)
142	3	N/R	N/R	N/R	MAY 75	560	100 PF	1	SS	FAIL	1000	1	VSS(+) INPUT(-)
142	4	N/R	N/R	N/R	MAY 75	560	100 PF	1	SS	FAIL	1000	1	INPUT(+) VSS(-)
142	5	N/R	N/R	N/R	MAY 75	560	100 PF	1	SS	FAIL	1000	1	INPUT(+) OUTPUT(-)
142	6	N/R	N/R	N/R	MAY 75	560	100 PF	1	SS	FAIL	1000	1	OUTPUT(+) INPUT(-)
142	7	N/R	N/R	N/R	MAY 75	560	100 PF	1	SS	FAIL	4000	1	VDD(+) OUTPUT(-)
142	8	N/R	N/R	N/R	MAY 75	560	100 PF	1	SS	FAIL	4500	1	OUTPUT(+) VDD(-)
142	9	N/R	N/R	N/R	MAY 75	560	100 PF	1	SS	FAIL	5000	1	VSS(+) OUTPUT(-)
142	10	N/R	N/R	N/R	MAY 75	560	100 PF	1	SS	FAIL	2000	1	OUTPUT(+) VSS(-)
142	11	N/R	N/R	N/R	MAY 75	560	100 PF	1	SS	FAIL	4000	1	VDD(+) VSS(-)
142	12	N/R	N/R	N/R	MAY 75	560	100 PF	1	SS	FAIL	5000	1	VSS(+) VDD(-)
384	21	N/R	N/R	7714	N/R	1000	200 PF	1	SS	FAIL	500	1	EACH PIN(+)
	REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 1070V.												
	FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.												
384	23	N/R	N/R	7815	N/R	1000	200 PF	1	SS	FAIL	500	1	EACH PIN(+)
	REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 800V.												
	FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.												

TECHNOLOGY: CMOS
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION														
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
4011	GATE , QUAD 2 INPUT NAND												(CONTINUED)
384	24	N/R	N/R	7715	N/R	1000	200 PF	1	SS	FAIL	800	1	EACH PIN(+)
	REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 3760V.												
	FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.												
384	25	N/R	N/R	7605	N/R	1000	200 PF	1	SS	FAIL	2300	1	EACH PIN(+)
	REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 3444V.												
	FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.												
384	26	N/R	N/R	7727	N/R	1000	200 PF	1	SS	FAIL	2900	1	EACH PIN(+)
	REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 5200V.												
	FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.												
384	27	N/R	N/R	7828	N/R	1000	200 PF	1	SS	FAIL	500	1	EACH PIN(+)
	REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 2450V.												
	FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.												
003	3	SOLID STATE SCIENTIFIC	N/R	7511	NOV 75	0	100 PF	1	SS	FAIL	600	1	INPUT(+) PR. SUPPLY(-)
004	1	SOLID STATE SCIENTIFIC	N/R	7511	NOV 75	0	125 PF	1	SS	FAIL	4000	1	INPUT
	REMARK: INPUTS STRESSED WITH NO PINS GROUNDED. CAPACITANCE OF PACKAGE TO GND. IS 3.5PF												
4011A	GATE , QUAD 2 INPUT NAND												
163	1	RCA	CD4011A	N/R	N/R	610	100 PF	1	SS	PASS	4000	1	VSS(7)(+)
	FAILURE CRITERIA: FUNCTIONAL FAILURE												
163	2	RCA	CD4011A	N/R	N/R	610	100 PF	1	SS	FAIL	2500	1	VSS(7)(-)
	REMARK: DEGRADATION OCCURRED AT 2000V. FAILURE CRITERIA: FUNCTIONAL FAILURE												
163	3	RCA	CD4011A	N/R	N/R	610	100 PF	1	SS	FAIL	2000	1	INPUT(1)(+)
	REMARK: DEGRADATION OCCURRED AT 1500V. FAILURE CRITERIA: FUNCTIONAL FAILURE												
163	4	RCA	CD4011A	N/R	N/R	610	100 PF	1	SS	FAIL	4000	1	INPUT(1)(-)
	REMARK: DEGRADATION OCCURRED AT 1500V. FAILURE CRITERIA: FUNCTIONAL FAILURE												
163	5	RCA	CD4011A	N/R	N/R	610	100 PF	1	SS	FAIL	4000	1	OUTPUT(4)(+)
	FAILURE CRITERIA: FUNCTIONAL FAILURE												
163	6	RCA	CD4011A	N/R	N/R	610	100 PF	1	SS	FAIL	3500	1	OUTPUT(4)(-)
	FAILURE CRITERIA: FUNCTIONAL FAILURE												
163	7	RCA	CD4011A	N/R	N/R	610	100 PF	1	SS	FAIL	1500	1	VDD(14)(+)
	FAILURE CRITERIA: FUNCTIONAL FAILURE												
163	8	RCA	CD4011A	N/R	N/R	610	100 PF	1	SS	PASS	4000	1	VDD(14)(-)
	FAILURE CRITERIA: FUNCTIONAL FAILURE												
4011B	GATE , QUAD 2 INPUT NAND												
030	376	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1300	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	377	N/R	4011BC	N/R	N/R	1500	100 PF	1	N/R	FAIL	1300	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
4012	GATE , QUAD 4 INPUT NAND												
029	269	INSELEK	INS4012SI	N/R	N/R	1500	100 PF	1	N/R	FAIL	2428	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												

TECHNOLOGY: CMOS
(CONTINUED)

BASIC PART NUMBER	SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
4012B	GATE , QUAD 4 INPUT NAND													
	030	380	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%													
	030	381	N/R	4012BC	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%													
4013	FLIP-FLOP , DUAL D													
	124	1	FAIRCHILD SEMI	N/R	N/R	APR 78	1500	150 PF	1	SS	FAIL	1240	3	VDD(+) SET(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC													
	124	2	FAIRCHILD SEMI	N/R	N/R	APR 78	1500	150 PF	1	SS	FAIL	1570	10	VDD(+) SET(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC													
	124	3	FAIRCHILD SEMI	N/R	N/R	APR 78	1500	150 PF	1	SS	FAIL	1830	10	VDD(+) SET(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC													
	124	4	FAIRCHILD SEMI	N/R	N/R	APR 78	1500	150 PF	1	SS	PASS	1830	2	VDD(+) SET(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC													
	165	1	FAIRCHILD SEMI	N/R	7548	JUN 76	1500	100 PF	1	GN	PASS	400	2	N/R
	REMARK: BREAKDOWN VOLTAGE CHARACTERISTICS WERE DEGRADED. FAILURE CRITERIA: FUNCTIONAL FAILURE													
4013A	FLIP-FLOP , DUAL "D"													
	106	1	RCA	CD4013AE	N/R	APR 78	1500	150 PF	1	SS	FAIL	710	3	RESET(+) CLOCK(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC													
	106	2	RCA	CD4013AE	N/R	APR 78	1500	150 PF	1	SS	FAIL	900	10	RESET(+) CLOCK(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC													
	106	3	RCA	CD4013AE	N/R	APR 78	1500	150 PF	1	SS	FAIL	1000	10	RESET(+) CLOCK(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC													
	106	4	RCA	CD4013AE	N/R	APR 78	1500	150 PF	1	SS	PASS	1000	2	RESET(+) CLOCK(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC													
	164	1	RCA	CD4013A	N/R	N/R	610	100 PF	1	SS	FAIL	3500	1	OUTPUT(1)(+)
	FAILURE CRITERIA: FUNCTIONAL FAILURE													
	164	2	RCA	CD4013A	N/R	N/R	610	100 PF	1	SS	FAIL	3000	1	OUTPUT(1)(+)
	FAILURE CRITERIA: FUNCTIONAL FAILURE													
	164	3	RCA	CD4013A	N/R	N/R	610	100 PF	1	SS	FAIL	3500	1	INPUT(5)(+)
	REMARK: DEGRADATION OCCURRED AT 1000V. FAILURE CRITERIA: FUNCTIONAL FAILURE													
	164	4	RCA	CD4013A	N/R	N/R	610	100 PF	1	SS	FAIL	2500	1	INPUT(5)(-)
	FAILURE CRITERIA: FUNCTIONAL FAILURE													
	164	5	RCA	CD4013A	N/R	N/R	610	100 PF	1	SS	PASS	4000	1	VSS(7)(+)
	FAILURE CRITERIA: FUNCTIONAL FAILURE													
	164	6	RCA	CD4013A	N/R	N/R	610	100 PF	1	SS	FAIL	3000	1	VSS(7)(+)
	REMARK: DEGRADATION OCCURRED AT 2000V FAILURE CRITERIA: FUNCTIONAL FAILURE													
	164	7	RCA	CD4013A	N/R	N/R	610	100 PF	1	SS	FAIL	2500	1	VDD(14)(+)
	FAILURE CRITERIA: FUNCTIONAL FAILURE													
	164	8	RCA	CD4013A	N/R	N/R	610	100 PF	1	SS	PASS	4000	1	VDD(14)(-)
	FAILURE CRITERIA: FUNCTIONAL FAILURE													
	026	5	RCA	CD4013A	N/R	JAN 78	100	200 PF	1	SS	FAIL	373	4	INPUT(5)(+) VSS(7)(-)
	REMARK: VOLTAGE IS AN AVERAGE OF 4 DEVICES FAILURE CRITERIA: 10% PARAMETER CHANGE													
	026	35	RCA	CD4013A	N/R	FEB 81	100	200 PF	1	SS	FAIL	205	4	VDD(14)(+) INPUT(3)(-)
	REMARK: VOLTAGE IS AN AVERAGE OF 4 DEVICES FAILURE CRITERIA: CHANGE IN IL OF +500% AT VIN = 1V													

TECHNOLOGY: CMOS
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION														
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
4013B	FLIP-FLOP , DUAL D												
030	382	N/R	4013B	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	383	N/R	4013BC	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
107	1	RCA	CD4013BE	N/R	APR 78	1500	150 PF	1	SS	FAIL	860	3	SET(+) DATA(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
107	2	RCA	CD4013BE	N/R	APR 78	1500	150 PF	1	SS	FAIL	2200	10	SET(+) DATA(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
107	3	RCA	CD4013BE	N/R	APR 78	1500	150 PF	1	SS	FAIL	4000	10	SET(+) DATA(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
107	4	RCA	CD4013BE	N/R	APR 78	1500	150 PF	1	SS	PASS	4000	2	SET(+) DATA(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
120	1	NATIONAL SEMI	CD4013BCN	N/R	APR 78	1500	150 PF	1	SS	FAIL	980	3	DATA(+) CLOCK(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
120	2	NATIONAL SEMI	CD4013BCN	N/R	APR 78	1500	150 PF	1	SS	FAIL	1350	10	DATA(+) CLOCK(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
120	3	NATIONAL SEMI	CD4013BCN	N/R	APR 78	1500	150 PF	1	SS	FAIL	1620	10	DATA(+) CLOCK(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
120	4	NATIONAL SEMI	CD4013BCN	N/R	APR 78	1500	150 PF	1	SS	PASS	1620	2	DATA(+) CLOCK(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
4014B	SHIFT REGISTER , 8 BIT SYNCHRONOUS												
030	384	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
4015B	SHIFT REGISTER , DUAL 4 BIT SERIAL												
030	385	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	386	N/R	4015BC	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
40160B	COUNTER , DECADE												
030	547	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	548	N/R	40160BC	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
40161B	COUNTER , BINARY												
030	549	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
40161BC	COUNTER , BINARY												
030	550	N/R	40161BC	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												

TECHNOLOGY: CMOS
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION	SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
40162B	COUNTER , DECADE														
		030	551	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%														
		030	552	N/R	40162BC	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%														
40163B	COUNTER , BINARY														
		030	553	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%														
		030	554	N/R	40163BC	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%														
4017B	COUNTER , DECADE CNTR/DIVIDER														
		030	387	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%														
		030	388	N/R	4017BC	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%														
40174B	FLIP-FLOP , HEX D														
		030	555	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%														
		030	556	N/R	40174BC	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%														
4018	COUNTER , PRESETTABLE DIVIDE														
		007	9	FAIRCHILD SEMI	N/R	N/R	N/R	1500	100 PF	1	GN	PASS	400	2	N/R
	FAILURE CRITERIA: IIH,IIL,ISS OUT OF SPEC														
		008	9	FAIRCHILD SEMI	N/R	N/R	N/R	1500	100 PF	1	GN	PASS	600	2	N/R
	FAILURE CRITERIA: IIH,IIL,ISS OUT OF SPEC														
		009	11	FAIRCHILD SEMI	N/R	N/R	N/R	1500	100 PF	1	GN	PASS	800	2	N/R
	FAILURE CRITERIA: IIH,IIL,ISS OUT OF SPEC														
		010	11	FAIRCHILD SEMI	N/R	N/R	N/R	1500	100 PF	1	GN	PASS	1000	2	N/R
	FAILURE CRITERIA: IIH,IIL,ISS OUT OF SPEC AT 25C														
4019	GATE , QUAD AND/OR SELECT														
		165	5	FAIRCHILD SEMI	N/R	7521	JUN 76	1500	100 PF	1	GN	PASS	400	2	
	REMARK: BREAKDOWN VOLTAGE CHARACTERISTICS WERE DEGRADED. FAILURE CRITERIA: FUNCTIONAL FAILURE														
		006	8	FAIRCHILD SEMI	N/R	N/R	AUG 78	1500	100 PF	1	SS	FAIL	2000	1	INPUT(3)(+, [illegible](12)(-)
	REMARK: DIFFERENT PIN COMB. TESTED AT EACH VOLTAGE STEP FAILURE CRITERIA: IIH, IIL, OR ISS OUT OF SPEC AT VDD=15V														
		006	9	FAIRCHILD SEMI	N/R	N/R	AUG 78	1500	100 PF	1	SS	FAIL	2500	4	INPUT(5)(+) OUT(11)(-)
	REMARK: DIFFERENT PIN COMB. TESTED AT EACH VOLTAGE STEP FAILURE CRITERIA: IIH, IIL, OR ISS OUT OF SPEC AT VDD=15V														
		006	10	NATIONAL SEMI	CD4019	N/R	AUG 78	1500	100 PF	1	SS	FAIL	2000	4	INPUT(3)(+) OUT(12)(-)
	REMARK: DIFFERENT PIN COMB. TESTED AT EACH VOLTAGE STEP FAILURE CRITERIA: IIH, IIL, OR ISS OUT OF SPEC AT VDD=15V														
		007	8	FAIRCHILD SEMI	N/R	N/R	N/R	1500	100 PF	1	GN	PASS	400	2	N/R
	FAILURE CRITERIA: IIH,IIL,ISS OUT OF SPEC														

TECHNOLOGY: CMOS
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION	SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
4019	GATE , QUAD AND/OR SELECT (CONTINUED)														
		008	8	FAIRCHILD SEMI	N/R	N/R	N/R	1500	100 PF	1	GN	PASS	600	2	N/R
	FAILURE CRITERIA: IIH,IIL,ISS OUT OF SPEC														
		009	10	FAIRCHILD SEMI	N/R	N/R	N/R	1500	100 PF	1	GN	PASS	800	2	N/R
	FAILURE CRITERIA: IIH,IIL,ISS OUT OF SPEC														
		010	9	FAIRCHILD SEMI	N/R	N/R	N/R	1500	100 PF	1	GN	PASS	1000	1	N/R
	FAILURE CRITERIA: IIH,IIL,ISS OUT OF SPEC														
		010	10	FAIRCHILD SEMI	N/R	N/R	N/R	1500	100 PF	1	GN	FAIL	1000	1	N/R
	FAILURE CRITERIA: IIH,IIL,ISS OUT OF SPEC AT 25C														
		011	1	SOLID STATE SCIENTIFIC	N/R	N/R	AUG 78	1500	100 PF	1	GN	PASS	200	5	N/R
	FAILURE CRITERIA: IIH,IIL,OR ISS OUT OF SPEC														
		012	1	NATIONAL SEMI	N/R	N/R	AUG 78	1500	100 PF	1	GN	PASS	400	5	N/R
	FAILURE CRITERIA: IIH,IIL,OR ISS OUT OF SPEC														
		012	2	SOLID STATE SCIENTIFIC	N/R	N/R	AUG 78	1500	100 PF	1	GN	PASS	400	5	N/R
	FAILURE CRITERIA: IIH,IIL,OR ISS OUT OF SPEC														
		013	1	NATIONAL SEMI	N/R	N/R	AUG 78	1500	100 PF	1	GN	PASS	600	5	N/R
	FAILURE CRITERIA: IIH,IIL,OR ISS OUT OF SPEC														
		013	2	SOLID STATE SCIENTIFIC	N/R	N/R	AUG 78	1500	100 PF	1	GN	FAIL	600	5	N/R
	FAILURE CRITERIA: IIH,IIL,OR ISS OUT OF SPEC														
4019B	GATE , QUAD AND/OR SELECT														
		030	389	N/R	4019B	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%														
		030	390	N/R	4019BC	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%														
40194B	SHIFT REGISTER , 4-BIT BIDIRECTIONAL														
		030	557	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%														
		030	558	N/R	40194BC	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%														
40195B	SHIFT REGISTER , 4-BIT PARALLEL														
		030	559	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%														
		030	560	N/R	40195BC	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%														
4020	COUNTER , 14 STAGE BINARY														
		003	4	SOLID STATE SCIENTIFIC	N/R	7508	NOV 75	0	100 PF	1	SS	FAIL	900	1	INPUT(+) PR. SUPPLY(-)
4020B	COUNTER , 14 STAGE BINARY														
		030	391	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%														

TECHNOLOGY: CMOS
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION														
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
4020B	COUNTER , 14 STAGE BINARY (CONTINUED)												
030	392	N/R	4020BC	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
4021	SHIFT REGISTER , 8 STAGE STATIC												
006	3	NATIONAL SEMI	N/R	N/R	AUG 78	1500	100 PF	1	SS	FAIL	2000	3	INPUT(13)(+) OUT(12)
	REMARK: DIFFERENT PIN COMB. TESTED AT EACH VOLTAGE STEP FAILURE CRITERIA: IIH, IIL, OR ISS OUT OF SPEC AT VDD=15V												
006	4	NATIONAL SEMI	N/R	N/R	AUG 78	1500	100 PF	1	SS	FAIL	800	1	INPUT(11)(+) OUT(12)
	REMARK: DIFFERENT PIN COMB. TESTED AT EACH VOLTAGE STEP FAILURE CRITERIA: IIH, IIL, OR ISS OUT OF SPEC AT VDD=15V												
4021A	SHIFT REGISTER , 8 STAGE STATIC												
156	1	RCA	CD4021A	7537	N/R	610	100 PF	1	SS	PASS	1500	2	OUTPUT(3)(+)
	FAILURE CRITERIA: FUNCTIONAL FAILURE												
156	2	RCA	CD4021A	7537	N/R	610	100 PF	1	SS	FAIL	1500	1	OUTPUT(3)(-)
	FAILURE CRITERIA: FUNCTIONAL FAILURE												
156	3	RCA	CD4021A	7537	N/R	610	100 PF	1	SS	PASS	1500	1	OUTPUT(3)(-)
	FAILURE CRITERIA: FUNCTIONAL FAILURE												
156	4	RCA	CD4021A	7537	N/R	610	100 PF	1	SS	PASS	1500	2	VSS(8)(+)
	FAILURE CRITERIA: FUNCTIONAL FAILURE												
156	5	RCA	CD4021A	7537	N/R	610	100 PF	1	SS	PASS	1500	2	PSC(9)(+)
	FAILURE CRITERIA: FUNCTIONAL FAILURE												
156	6	RCA	CD4021A	7537	N/R	610	100 PF	1	SS	PASS	1500	2	PI7(15)(+)
	FAILURE CRITERIA: FUNCTIONAL FAILURE												
156	7	RCA	CD4021A	7537	N/R	610	100 PF	1	SS	PASS	1500	1	PI7(15)(-)
	REMARK: DEGRADATION OCCURRED AT 1500V. FAILURE CRITERIA: FUNCTIONAL FAILURE												
156	8	RCA	CD4021A	7537	N/R	610	100 PF	1	SS	PASS	1500	1	VDD(16)(+)
	REMARK: DEGRADATION OCCURRED AT 1500V. FAILURE CRITERIA: FUNCTIONAL FAILURE												
156	9	RCA	CD4021A	7537	N/R	610	100 PF	1	SS	PASS	1500	1	VDD(16)(+)
	FAILURE CRITERIA: FUNCTIONAL FAILURE												
156	10	RCA	CD4021A	7537	N/R	610	100 PF	1	SS	PASS	1500	2	VDD(16)(-)
	FAILURE CRITERIA: FUNCTIONAL FAILURE												
157	1	RCA	CD4021A	7537	N/R	610	100 PF	1	GN	PASS	1000	6	VSS(8)(-)
	REMARK: DEGRADATION OCCURRED AT THE APPLIED VOLTAGE. FAILURE CRITERIA: FUNCTIONAL FAILURE												
158	1	RCA	CD4021A	7537	N/R	610	100 PF	1	GN	PASS	1200	1	OUTPUT(3)(-)
	FAILURE CRITERIA: FUNCTIONAL FAILURE												
158	2	RCA	CD4021A	7537	N/R	610	100 PF	1	GN	PASS	1200	2	OUTPUT(3)(-)
	REMARK: DEGRADATION OCCURRED AT THE APPLIED VOLTAGE. FAILURE CRITERIA: FUNCTIONAL FAILURE												
158	3	RCA	CD4021A	7537	N/R	610	100 PF	1	GN	FAIL	1200	1	OUTPUT(3)(-)
	FAILURE CRITERIA: FUNCTIONAL FAILURE												
159	1	RCA	CD4021A	7537	N/R	610	100 PF	1	GN	PASS	1500	2	VSS(8)(-)
	REMARK: DEGRADATION OCCURRED AT THE APPLIED VOLTAGE. FAILURE CRITERIA: FUNCTIONAL FAILURE												
159	2	RCA	CD4021A	7537	N/R	610	100 PF	1	GN	PASS	1500	2	PSC(9)(-)
	FAILURE CRITERIA: FUNCTIONAL FAILURE												
159	3	RCA	CD4021A	7537	N/R	610	100 PF	1	GN	PASS	1500	1	PI7(15)(-)
	REMARK: DEGRADATION OCCURRED AT THE APPLIED VOLTAGE. FAILURE CRITERIA: FUNCTIONAL FAILURE												
159	4	RCA	CD4021A	7537	N/R	610	100 PF	1	GN	PASS	1500	4	VDD(16)(+)
	REMARK: DEGRADATION OCCURRED AT THE APPLIED VOLTAGE. FAILURE CRITERIA: FUNCTIONAL FAILURE												

TECHNOLOGY: CMOS
(CONTINUED)

BASIC PART NUMBER	SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
4021A SHIFT REGISTER , 8 STAGE STATIC (CONTINUED)														
	159	5	RCA	CD4021A	7537	N/R	610	100 PF	1	GN	PASS	1500	2	OUTPUT(3)(-)
FAILURE CRITERIA: FUNCTIONAL FAILURE														
	159	6	RCA	CD4021A	7537	N/R	610	100 PF	1	GN	PASS	1500	2	OUTPUT(3)(-)
REMARK: DEGRADATION OCCURRED AT THE APPLIED VOLTAGE. FAILURE CRITERIA: FUNCTIONAL FAILURE														
	159	7	RCA	CD4021A	7537	N/R	610	100 PF	1	GN	FAIL	1500	1	OUTPUT(3)(-)
FAILURE CRITERIA: FUNCTIONAL FAILURE														
	159	8	RCA	CD4021A	7537	N/R	610	100 PF	1	GN	PASS	1500	4	PI7(15)(-)
REMARK: DEGRADATION OCCURRED AT THE APPLIED VOLTAGE. FAILURE CRITERIA: FUNCTIONAL FAILURE														
	159	9	RCA	CD4021A	7537	N/R	610	100 PF	1	GN	PASS	1500	3	VSS(8)(-)
REMARK: DEGRADATION OCCURRED AT THE APPLIED VOLTAGE. FAILURE CRITERIA: FUNCTIONAL FAILURE														
	159	10	RCA	CD4021A	7537	N/R	610	100 PF	1	GN	FAIL	1500	1	VSS(8)(-)
FAILURE CRITERIA: FUNCTIONAL FAILURE														
	160	1	RCA	CD4021A	7537	N/R	610	100 PF	1	SS	FAIL	3208	6	VDD(16)(+)
REMARK: FAILURE VOLTAGE IS AN AVERAGE. FAILURE CRITERIA: FUNCTIONAL FAILURE														
	160	2	RCA	CD4021A	7537	N/R	610	100 PF	1	SS	FAIL	3250	2	VDD(16)(-)
REMARK: FAILURE VOLTAGE IS AN AVERAGE. FAILURE CRITERIA: FUNCTIONAL FAILURE														
	160	3	RCA	CD4021A	7537	N/R	610	100 PF	1	SS	FAIL	3250	2	OUTPUT(3)(+)
REMARK: FAILURE VOLTAGE IS AN AVERAGE. FAILURE CRITERIA: FUNCTIONAL FAILURE														
	160	4	RCA	CD4021A	7537	N/R	610	100 PF	1	SS	FAIL	2104	14	OUTPUT(3)(-)
REMARK: FAILURE VOLTAGE IS AN AVERAGE. FAILURE CRITERIA: FUNCTIONAL FAILURE														
	160	5	RCA	CD4021A	7537	N/R	610	100 PF	1	SS	FAIL	3250	2	VSS(8)(+)
REMARK: FAILURE VOLTAGE IS AN AVERAGE. FAILURE CRITERIA: FUNCTIONAL FAILURE														
	160	6	RCA	CD4021A	7537	N/R	610	100 PF	1	SS	FAIL	2063	12	VSS(8)(-)
REMARK: FAILURE VOLTAGE IS AN AVERAGE. FAILURE CRITERIA: FUNCTIONAL FAILURE														
	160	7	RCA	CD4021A	7537	N/R	610	100 PF	1	SS	FAIL	3250	2	PSC(9)(+)
REMARK: FAILURE VOLTAGE IS AN AVERAGE. FAILURE CRITERIA: FUNCTIONAL FAILURE														
	160	8	RCA	CD4021A	7537	N/R	610	100 PF	1	SS	FAIL	4000	2	PSC(9)(-)
REMARK: FAILURE VOLTAGE IS AN AVERAGE. FAILURE CRITERIA: FUNCTIONAL FAILURE														
	160	9	RCA	CD4021A	7537	N/R	610	100 PF	1	SS	PASS	5500	2	PI7(15)(+)
REMARK: FAILURE VOLTAGE IS AN AVERAGE. FAILURE CRITERIA: FUNCTIONAL FAILURE														
	160	10	RCA	CD4021A	7537	N/R	610	100 PF	1	SS	FAIL	4000	5	PI7(15)(-)
REMARK: FAILURE VOLTAGE IS AN AVERAGE. FAILURE CRITERIA: FUNCTIONAL FAILURE														
	233	1	RCA	CD4021A	7537	N/R	610	100 PF	1	SS	PASS	1000	2	VSS(8)(-)
REMARK: DEGRADATION OCCURRED AT 1000V. FAILURE CRITERIA: FUNCTIONAL FAILURE														
	233	2	RCA	CD4021A	7537	N/R	610	100 PF	1	SS	PASS	1000	2	PSC(9)(-)
REMARK: DEGRADATION OCCURRED AT 1000V. FAILURE CRITERIA: FUNCTIONAL FAILURE														
	233	3	RCA	CD4021A	7537	N/R	610	100 PF	1	SS	PASS	1000	1	PI7(15)(-)
REMARK: DEGRADATION OCCURRED AT 1000V. FAILURE CRITERIA: FUNCTIONAL FAILURE														
4021B SHIFT REGISTER , 8 STAGE STATIC														
	030	393	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%														
	030	394	N/R	4021BC	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%														
	161	1	FAIRCHILD SEMI	F4021BC	N/R	N/R	610	100 PF	1	SS	PASS	4000	2	VSS(+)
FAILURE CRITERIA: FUNCTIONAL FAILURE														
	161	2	FAIRCHILD SEMI	F4021BC	N/R	N/R	610	100 PF	1	SS	PASS	4000	3	VSS(-)
REMARK: DEGRADATION OCCURRED AT 3500V. FAILURE CRITERIA: FUNCTIONAL FAILURE														

TECHNOLOGY: CMOS
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION														
SEC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
4021B	SHIFT REGISTER , 8 STAGE STATIC (CONTINUED)												
161	3	FAIRCHILD SEMI	F4021BC	N/R	N/R	610	100 PF	1	SS	FAIL	4000	1	VSS(-)
	REMARK: DEGRADATION OCCURRED AT 2000V. FAILURE CRITERIA: FUNCTIONAL FAILURE												
161	4	FAIRCHILD SEMI	F4021BC	N/R	N/R	610	100 PF	1	SS	FAIL	2000	1	VSS(-)
	FAILURE CRITERIA: FUNCTIONAL FAILURE												
161	5	FAIRCHILD SEMI	F4021BC	N/R	N/R	610	100 PF	1	SS	FAIL	4000	1	PSC(+)
	REMARK: DEGRADATION OCCURRED AT 3000V. FAILURE CRITERIA: FUNCTIONAL FAILURE												
161	6	FAIRCHILD SEMI	F4021BC	N/R	N/R	610	100 PF	1	SS	FAIL	2500	1	PSC(+)
	REMARK: DEGRADATION OCCURRED AT 1500V. FAILURE CRITERIA: FUNCTIONAL FAILURE												
161	7	FAIRCHILD SEMI	F4021BC	N/R	N/R	610	100 PF	1	SS	FAIL	3500	1	PSC(-)
	REMARK: DEGRADATION OCCURRED AT 1500V. FAILURE CRITERIA: FUNCTIONAL FAILURE												
161	8	FAIRCHILD SEMI	F4021BC	N/R	N/R	610	100 PF	1	SS	FAIL	2000	1	PSC(-)
	FAILURE CRITERIA: FUNCTIONAL FAILURE												
161	9	FAIRCHILD SEMI	F4021BC	N/R	N/R	610	100 PF	1	SS	FAIL	4000	2	VDD(+)
	FAILURE CRITERIA: FUNCTIONAL FAILURE												
161	10	FAIRCHILD SEMI	F4021BC	N/R	N/R	610	100 PF	1	SS	PASS	4000	2	VDD(-)
	FAILURE CRITERIA: FUNCTIONAL FAILURE												
161	11	FAIRCHILD SEMI	F4021BC	N/R	N/R	610	100 PF	1	SS	FAIL	2000	1	PI7(+)
	FAILURE CRITERIA: FUNCTIONAL FAILURE												
161	12	FAIRCHILD SEMI	F4021BC	N/R	N/R	610	100 PF	1	SS	FAIL	2000	1	PI7(+)
	REMARK: DEGRADATION OCCURRED AT 1500V. FAILURE CRITERIA: FUNCTIONAL FAILURE												
161	13	FAIRCHILD SEMI	F4021BC	N/R	N/R	610	100 PF	1	SS	FAIL	2500	2	PI7(-)
	FAILURE CRITERIA: FUNCTIONAL FAILURE												
161	14	FAIRCHILD SEMI	F4021BC	N/R	N/R	610	100 PF	1	SS	FAIL	2500	1	OUTPUT(+)
	FAILURE CRITERIA: FUNCTIONAL FAILURE												
161	15	FAIRCHILD SEMI	F4021BC	N/R	N/R	610	100 PF	1	SS	PASS	4000	1	OUTPUT(+)
	FAILURE CRITERIA: FUNCTIONAL FAILURE												
161	16	FAIRCHILD SEMI	F4021BC	N/R	N/R	610	100 PF	1	SS	PASS	4000	5	OUTPUT(-)
	FAILURE CRITERIA: FUNCTIONAL FAILURE												
4023A	GATE , TRIPLE 3-INPUT NAND												
244	3	N/R	N/R	7614	N/R	1500	100 PF	1	SS	FAIL	975	1	OUTPUT(+) INPUT(-)
	FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.												
244	4	N/R	N/R	7614	N/R	1500	100 PF	1	SS	FAIL	1000	1	OUTPUT(+) INPUT(-)
	FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.												
244	5	N/R	N/R	7614	N/R	1500	100 PF	1	SS	PASS	1000	12	OUTPUT(+) INPUT(-)
	FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.												
245	26	N/R	N/R	614	N/R	100	.1 UF	1	SS	FAIL	203	15	VSS(+) INPUT(-)
	REMARK: FAILURE VOLTAGE IS AN AVERAGE OF 15 DEVICES. FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.												
4023B	GATE , TRIPLE 3 INPUT NAND												
030	395	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	396	N/R	4023BC	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
245	27	N/R	N/R	705	N/R	100	.1 UF	1	SS	FAIL	232	15	VSS(+) INPUT(-)
	REMARK: FAILURE VOLTAGE IS AN AVERAGE OF 15 DEVICES. FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.												

TECHNOLOGY: CMOS
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION														
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
4023D	GATE , TRIPLE 3-INPUT NAND												
244	6	N/R	N/R	7618	N/R	1500	100 PF	1	SS	FAIL	1000	3	VSS(+) INPUT(-)
	FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.												
244	7	N/R	N/R	7618	N/R	1500	100 PF	1	SS	PASS	1000	11	VSS(+) INPUT(-)
	FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.												
244	8	N/R	N/R	7618	N/R	1500	100 PF	1	SS	FAIL	950	1	OUTPUT(+) INPUT(-)
	FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.												
244	9	N/R	N/R	7618	N/R	1500	100 PF	1	SS	FAIL	1000	1	OUTPUT(+) INPUT(-)
	FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.												
244	10	N/R	N/R	7618	N/R	1500	100 PF	1	SS	PASS	1000	12	OUTPUT(+) INPUT(-)
	FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.												
245	28	N/R	N/R	7618	N/R	100	.1 UF	1	SS	FAIL	61	15	VSS(+) INPUT(-)
	REMARK: FAILURE VOLTAGE IS AN AVERAGE OF 15 DEVICES. FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.												
4024	COUNTER , 7 STAGE BINARY												
029	260	RCA	CD4024C	N/R	N/R	1500	100 PF	1	N/R	FAIL	36281	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
003	2	SOLID STATE SCIENTIFIC	N/R	7508	NOV 75	0	100 PF	1	SS	FAIL	400	1	INPUT(+) PR. SUPPLY(-)
4024B	COUNTER , 7 STAGE BINARY												
030	397	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	398	N/R	4024BC	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
4025B	GATE , TRIPLE 3 INPUT NOR												
030	399	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	400	N/R	4025BC	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
4027B	FLIP-FLOP , DUAL JK												
030	401	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	2100	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	402	N/R	4027BC	N/R	N/R	1500	100 PF	1	N/R	FAIL	2100	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
4028B	DECODER , BCD TO DECIMAL												
030	403	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	404	N/R	4028BC	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												

TECHNOLOGY: CMOS
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION	SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
4029	COUNTER , PRESETTABLE UP/DOWN														
		165	6	FAIRCHILD SEMI	N/R	7546	JUN 76	1500	100 PF	1	GN	PASS	400	2	N/R
	REMARK: BREAKDOWN VOLTAGE CHARACTERISTICS WERE DEGRADED. FAILURE CRITERIA: FUNCTIONAL FAILURE														
4029B	COUNTER , PRESETT. UP/DOWN BIN														
		030	405	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%														
		030	406	N/R	4029BC	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%														
4030B	GATE , QUAD EXCLUSIVE OR														
		030	407	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%														
		030	408	N/R	4030BC	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%														
4031B	SHIFT REGISTER , 64 BIT STATIC														
		030	409	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%														
4033B	COUNTER , DECADE														
		030	410	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%														
		030	411	N/R	4033BC	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%														
4034B	SHIFT REGISTER , 8 BIT														
		030	412	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%														
		030	413	N/R	4034BC	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%														
4035	SHIFT REGISTER , 4 BIT														
		006	23	SOLID STATE SCIENTIFIC	N/R	N/R	AUG 78	1500	100 PF	1	SS	FAIL	1200	2	INPUT(2)(+) OUT(1)(-)
	REMARK: DIFFERENT PIN COMB. TESTED AT EACH VOLTAGE STEP FAILURE CRITERIA: IIH, IIL, OR ISS OUT OF SPEC AT VDD=15V														
		006	24	SOLID STATE SCIENTIFIC	N/R	N/R	AUG 78	1500	100 PF	1	SS	FAIL	1000	1	IN(10)(+) OUT(15)(-)
	REMARK: DIFFERENT PIN COMB. TESTED AT EACH VOLTAGE STEP FAILURE CRITERIA: IIH, IIL, OR ISS OUT OF SPEC AT VDD=15V														
		006	25	NATIONAL SEMI	N/R	N/R	AUG 78	1500	100 PF	1	SS	FAIL	1200	2	INPUT(2)(+) OUT(1)(-)
	REMARK: DIFFERENT PIN COMB. TESTED AT EACH VOLTAGE STEP FAILURE CRITERIA: IIH, IIL, OR ISS OUT OF SPEC AT VDD=15V														
		006	26	NATIONAL SEMI	N/R	N/R	AUG 78	1500	100 PF	1	SS	FAIL	2000	1	INPUT(3)(+) OUT(13)(-)
	REMARK: DIFFERENT PIN COMB. TESTED AT EACH VOLTAGE STEP FAILURE CRITERIA: IIH, IIL, OR ISS OUT OF SPEC AT VDD=15V														

TECHNOLOGY: CMOS
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION													
SEC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
4035B	SHIFT REGISTER , 4 BIT												
030	414	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	415	N/R	4035BC	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
4040	COUNTER , 12 STAGE BINARY												
165	7	FAIRCHILD SEMI	N/R	7503	JUN 76	1500	100 PF	1	GN	PASS	400	2	N/R
	REMARK: BREAKDOWN VOLTAGE CHARACTERISTICS WERE DEGRADED. FAILURE CRITERIA: FUNCTIONAL FAILURE												
4040B	COUNTER , 12 STAGE BINARY												
030	416	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	417	N/R	4040BC	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
4042B	LATCH , QUAD CLOCKED D TYPE												
030	418	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	419	N/R	4042BC	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
4043B	LATCH , QUAD NOR R/S												
030	420	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
4044	LATCH , QUAD NAND R/S												
006	14	NATIONAL SEMI	CD4044	N/R	AUG 78	1500	100 PF	1	SS	FAIL	1000	3	INPUT(14)(+) OUT(1)(-)
	REMARK: DIFFERENT PIN COMB. TESTED AT EACH VOLTAGE STEP FAILURE CRITERIA: IIH, IIL, OR ISS OUT OF SPEC AT VDD=15V												
006	15	SOLID STATE SCIENTIFIC	CD4044	N/R	AUG 78	1500	100 PF	1	SS	FAIL	1200	1	INPUT(3)(+) OUT(13)(-)
	REMARK: DIFFERENT PIN COMB. TESTED AT EACH VOLTAGE STEP FAILURE CRITERIA: IIH, IIL, OR ISS OUT OF SPEC AT VDD=15V												
006	16	SOLID STATE SCIENTIFIC	N/R	N/R	AUG 78	1500	100 PF	1	SS	FAIL	2000	1	INPUT(7)(+) OUT(9)(-)
	REMARK: DIFFERENT PIN COMB. TESTED AT EACH VOLTAGE STEP FAILURE CRITERIA: IIH, IIL, OR ISS OUT OF SPEC AT VDD=15V												
006	17	SOLID STATE SCIENTIFIC	N/R	N/R	AUG 78	1500	100 PF	1	SS	FAIL	600	1	INPUT(6)(+) OUT(9)(-)
	REMARK: DIFFERENT PIN COMB. TESTED AT EACH VOLTAGE STEP FAILURE CRITERIA: IIH, IIL, OR ISS OUT OF SPEC AT VDD=15V												
4046B	PHASE LOCK LOOP												
030	421	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	422	N/R	4046BC	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												

TECHNOLOGY: CMOS
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION														
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
4049	BUFFER/INVERTER , HEX BUFFER/CONVERTER (CONTINUED)												
011	2	NATIONAL SEMI	N/R	N/R	AUG 78	1500	100 PF	1	GN	PASS	200	5	N/R
	FAILURE CRITERIA: IIH,IIL,OR ISS OUT OF SPEC												
011	3	SOLID STATE SCIENTIFIC	N/R	N/R	AUG 78	1500	100 PF	1	GN	PASS	200	5	N/R
	FAILURE CRITERIA: IIH,IIL,OR ISS OUT OF SPEC												
012	3	NATIONAL SEMI	N/R	N/R	AUG 78	1500	100 PF	1	GN	PASS	400	5	N/R
	FAILURE CRITERIA: IIH,IIL,OR ISS OUT OF SPEC												
012	4	SOLID STATE SCIENTIFIC	N/R	N/R	AUG 78	1500	100 PF	1	GN	PASS	400	5	N/R
	FAILURE CRITERIA: IIH,IIL,OR ISS OUT OF SPEC												
013	3	NATIONAL SEMI	N/R	N/R	AUG 78	1500	100 PF	1	GN	PASS	600	5	N/R
	FAILURE CRITERIA: IIH,IIL,OR ISS OUT OF SPEC												
013	4	SOLID STATE SCIENTIFIC	N/R	N/R	AUG 78	1500	100 PF	1	GN	PASS	600	5	N/R
	FAILURE CRITERIA: IIH,IIL,OR ISS OUT OF SPEC												
4049A	BUFFER/INVERTER , HEX BUFFER/CONVERTER												
108	1	RCA	CD4049AE	N/R	APR 78	1500	150 PF	1	SS	FAIL	1200	3	INPUT(+) VCC(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
108	2	RCA	CD4049AE	N/R	APR 78	1500	150 PF	1	SS	FAIL	1750	10	INPUT(+) VCC(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
108	3	RCA	CD4049AE	N/R	APR 78	1500	150 PF	1	SS	FAIL	2200	10	INPUT(+) VCC(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
108	4	RCA	CD4049AE	N/R	APR 78	1500	150 PF	1	SS	PASS	2200	2	INPUT(+) VCC(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
4049UB	BUFFER/INVERTER , HEX BUFFER/CONVERTER												
109	1	RCA	CD4049UBE	N/R	APR 78	1500	150 PF	1	SS	FAIL	980	3	INPUT(+) VCC(-)
	FAILURE CRITERIA. FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
109	2	RCA	CD4049UBE	N/R	APR 78	1500	150 PF	1	SS	FAIL	1460	10	INPUT(+) VCC(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
109	3	RCA	CD4049UBE	N/R	APR 78	1500	150 PF	1	SS	FAIL	1950	10	INPUT(+) VCC(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
109	4	RCA	CD4049UBE	N/R	APR 78	1500	150 PF	1	SS	PASS	1950	2	INPUT(+) VCC(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
4050	BUFFER/INVERTER , HEX BUFFER/CONVERTER												
165	2	FAIRCHILD SEMI	N/R	7552	JUN 76	1500	100 PF	1	GN	PASS	400	2	N/R
	REMARK: BREAKDOWN VOLTAGE CHARACTERISTICS WERE DEGRADED. FAILURE CRITERIA: FUNCTIONAL FAILURE												
165	9	SOLID STATE SCIENTIFIC	N/R	7540	JUN 76	1500	100 PF	1	GN	PASS	400	2	N/R
	REMARK: BREAKDOWN VOLTAGE CHARACTERISTICS WERE DEGRADED. FAILURE CRITERIA: FUNCTIONAL FAILURE												
384	28	A/A	N/R	7801	N/R	1000	200 PF	1	SS	FAIL	500	1	EACH PIN(+)
	REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 1020V.												
	FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.												
006	11	SOLID STATE SCIENTIFIC	N/R	N/R	AUG 78	1500	100 PF	1	SS	FAIL	1200	1	INPUT(11)(+) OUT(12)
	REMARK: DIFFERENT PIN COMB. TESTED AT EACH VOLTAGE STEP FAILURE CRITERIA: IIH, IIL, OR ISS OUT OF SPEC AT VDD=15V												
006	12	SOLID STATE SCIENTIFIC	N/R	N/R	AUG 78	1500	100 PF	1	SS	FAIL	1500	2	INPUT(14)(+) OUT(15)
	REMARK: DIFFERENT PIN COMB. TESTED AT EACH VOLTAGE STEP FAILURE CRITERIA: IIH, IIL, OR ISS OUT OF SPEC AT VDD=15V												

TECHNOLOGY: CMOS
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION														
SEC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
4050	BUFFER/INVERTER , HEX BUFFER/CONVERTER (CONTINUED)												
006	13	SOLID STATE SCIENTIFIC	N/R	N/R	AUG 78	1500	100 PF	1	SS	FAIL	2000	1	INPUT(14)(+) OUT(15)
	REMARK: DIFFERENT PIN COMB. TESTED AT EACH VOLTAGE STEP FAILURE CRITERIA: IIH, IIL, OR ISS OUT OF SPEC AT VDD=15V												
007	7	FAIRCHILD SEMI	N/R	N/R	N/R	1500	100 PF	1	GN	PASS	400	2	N/R
	FAILURE CRITERIA: IIH,IIL,ISS OUT OF SPEC												
008	7	FAIRCHILD SEMI	N/R	N/R	N/R	1500	100 PF	1	GN	PASS	600	2	N/R
	FAILURE CRITERIA: IIH,IIL,ISS OUT OF SPEC												
009	9	FAIRCHILD SEMI	N/R	N/R	N/R	1500	100 PF	1	GN	FAIL	800	2	N/R
	FAILURE CRITERIA: IIH,IIL,ISS OUT OF SPEC AT 25C												
010	7	FAIRCHILD SEMI	N/R	N/R	N/R	1500	100 PF	1	GN	FAIL	1000	1	N/R
	FAILURE CRITERIA: IIH,IIL,ISS OUT OF SPEC AT 25C												
010	8	FAIRCHILD SEMI	N/R	N/R	N/R	1500	100 PF	1	GN	PASS	1000	1	N/R
	FAILURE CRITERIA: IIH,IIL,ISS OUT OF SPEC												
011	4	NATIONAL SEMI	N/R	N/R	AUG 78	1500	100 PF	1	GN	PASS	200	5	N/R
	FAILURE CRITERIA: IIH,IIL,OR ISS OUT OF SPEC												
011	5	SOLID STATE SCIENTIFIC	N/R	N/R	AUG 78	1500	100 PF	1	GN	PASS	200	5	N/R
	FAILURE CRITERIA: IIH,IIL,OR ISS OUT OF SPEC												
012	5	NATIONAL SEMI	N/R	N/R	AUG 78	1500	100 PF	1	GN	PASS	400	5	N/R
	FAILURE CRITERIA: IIH,IIL,OR ISS OUT OF SPEC												
012	6	SOLID STATE SCIENTIFIC	N/R	N/R	AUG 78	1500	100 PF	1	GN	PASS	400	5	N/R
	FAILURE CRITERIA: IIH,IIL,OR ISS OUT OF SPEC												
013	5	NATIONAL SEMI	N/R	N/R	AUG 78	1500	100 PF	1	GN	PASS	600	5	N/R
	FAILURE CRITERIA: IIH,IIL,OR ISS OUT OF SPEC												
013	6	SOLID STATE SCIENTIFIC	N/R	N/R	AUG 78	1500	100 PF	1	GN	FAIL	600	5	N/R
	FAILURE CRITERIA: IIH,IIL,OR ISS OUT OF SPEC												
4050B	BUFFER/INVERTER , HEX BUFFER/CONVERTER												
030	426	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	427	N/R	4050BC	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
4051B	LINEAR MULTIPLEXER , 8 CHANNEL												
030	428	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	429	N/R	4051BC	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
4052B	LINEAR MULTIPLEXER , 4 CHANNEL												
030	430	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	431	N/R	4052BC	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												

TECHNOLOGY: CMOS
(CONTINUED)

BASIC PART NUMBER	SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
4047			MULTIVIBRATOR , MONOSTABLE/ASTABLE											
	030	423	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
			FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%											
4049			BUFFER/INVERTER , HEX BUFFER/CONVERTER											
	030	424	N/R	4049UB	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
			FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%											
	030	425	N/R	4049UBC	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
			FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%											
	090	1	NATIONAL SEMI	N/R	N/R	FEB 78	1500	150 PF	1	SS	FAIL	900	3	GATE(+) VSS(-)
			FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC											
	090	2	NATIONAL SEMI	N/R	N/R	FEB 78	1500	150 PF	1	SS	FAIL	1250	10	GATE(+) VSS(-)
			FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC											
	090	3	NATIONAL SEMI	N/R	N/R	FEB 78	1500	150 PF	1	SS	FAIL	1520	10	GATE(+) VSS(-)
			FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC											
	090	4	NATIONAL SEMI	N/R	N/R	FEB 78	1500	150 PF	1	SS	PASS	1520	2	GATE(+) VSS(-)
			FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC											
	091	1	NATIONAL SEMI	N/R	N/R	FEB 78	1500	150 PF	1	GN	FAIL	1125	7	GATE(+) VSS(-)
			FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC											
	091	2	NATIONAL SEMI	N/R	N/R	FEB 78	1500	150 PF	1	GN	PASS	1125	18	GATE(+) VSS(-)
			FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC											
	092	1	NATIONAL SEMI	N/R	N/R	FEB 78	1500	150 PF	1	GN	FAIL	1350	16	GATE(+) VSS(-)
			FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC											
	092	2	NATIONAL SEMI	N/R	N/R	FEB 78	1500	150 PF	1	GN	PASS	1350	9	GATE(+) VSS(-)
			FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC											
	121	1	NATIONAL SEMI	CD4049CN	N/R	APR 78	1500	150 PF	1	SS	FAIL	900	3	INPUT(+) VSS(-)
			FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC											
	121	2	NATIONAL SEMI	CD4049CN	N/R	APR 78	1500	150 PF	1	SS	FAIL	1250	10	INPUT(+) VSS(-)
			FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC											
	121	3	NATIONAL SEMI	CD4049CN	N/R	APR 78	1500	150 PF	1	SS	FAIL	1520	10	INPUT(+) VSS(-)
			FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC											
	121	4	NATIONAL SEMI	CD4049CN	N/R	APR 78	1500	150 PF	1	SS	PASS	1520	2	INPUT(+) VSS(-)
			FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC											
	003	1	SOLID STATE SCIENTIFIC	N/R	N/R	NOV 75	0	100 PF	1	SS	FAIL	200	1	INPUT(+) PR. SUPPLY(-)
	006	1	SOLID STATE SCIENTIFIC	N/R	N/R	AUG 78	1500	100 PF	1	SS	FAIL	1000	3	INPUT(9)(+) OUT(10)(-)
			REMARK: DIFFERENT PIN COMB. TESTED AT EACH VOLTAGE STEP FAILURE CRITERIA: IIH, IIL, OR ISS OUT OF SPEC AT VDD=15V											
	006	2	SOLID STATE SCIENTIFIC	N/R	N/R	AUG 78	1500	100 PF	1	SS	FAIL	600	1	INPUT(5)(+) OUT(4)(-)
			REMARK: DIFFERENT PIN COMB. TESTED AT EACH VOLTAGE STEP FAILURE CRITERIA: IIH, IIL, OR ISS OUT OF SPEC AT VDD=15V											
	007	6	FAIRCHILD SEMI	N/R	N/R	N/R	1500	100 PF	1	GN	PASS	400	2	N/R
			FAILURE CRITERIA: IIH,IIL,ISS OUT OF SPEC											
	008	6	FAIRCHILD SEMI	N/R	N/R	N/R	1500	100 PF	1	GN	PASS	600	2	N/R
			FAILURE CRITERIA: IIH,IIL,ISS OUT OF SPEC											
	009	7	FAIRCHILD SEMI	N/R	N/R	N/R	1500	100 PF	1	GN	FAIL	800	1	N/R
			FAILURE CRITERIA: IIH,IIL,ISS OUT OF SPEC AT 25C											
	009	8	FAIRCHILD SEMI	N/R	N/R	N/R	1500	100 PF	1	GN	PASS	800	1	N/R
			FAILURE CRITERIA: IIH,IIL,ISS OUT OF SPEC											
	010	6	FAIRCHILD SEMI	N/R	N/R	N/R	1500	100 PF	1	GN	FAIL	1000	2	N/R
			FAILURE CRITERIA: IIH,IIL,ISS OUT OF SPEC AT 25C											

TECHNOLOGY: CMOS
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION															
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
4053	SWITCH , 3XSPDT												
122	1	NATIONAL SEMI	CD4053BCN	N/R	APR 78	1500	150 PF	1	SS	FAIL	720	3	VEE(+) SELECT A(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
122	2	NATIONAL SEMI	CD4053BCN	N/R	APR 78	1500	150 PF	1	SS	FAIL	1070	10	VEE(+) SELECT A(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
122	3	NATIONAL SEMI	CD4053BCN	N/R	APR 78	1500	150 PF	1	SS	FAIL	1400	10	VEE(+) SELECT A(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
122	4	NATIONAL SEMI	CD4053BCN	N/R	APR 78	1500	150 PF	1	SS	PASS	1400	2	VEE(+) SELECT A(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
4053B	SWITCH , 3XSPDT												
030	432	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	433	N/R	4053BC	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
110	1	RCA	CD4053B	N/R	APR 78	1500	150 PF	1	SS	FAIL	435	3	VEE(+) SELECT A(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
110	2	RCA	CD4053B	N/R	APR 78	1500	150 PF	1	SS	FAIL	740	10	VEE(+) SELECT A(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
110	3	RCA	CD4053B	N/R	APR 78	1500	150 PF	1	SS	FAIL	1020	10	VEE(+) SELECT A(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
110	4	RCA	CD4053B	N/R	APR 78	1500	150 PF	1	SS	PASS	1020	2	VEE(+) SELECT A(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
126	1	FAIRCHILD SEMI	N/R	N/R	APR 78	1500	150 PF	1	SS	FAIL	1610	3	VEE(+) SELECT A(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
126	2	FAIRCHILD SEMI	N/R	N/R	APR 78	1500	150 PF	1	SS	FAIL	1950	10	VEE(+) SELECT A(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
126	3	FAIRCHILD SEMI	N/R	N/R	APR 78	1500	150 PF	1	SS	FAIL	2200	10	VEE(+) SELECT A(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
126	4	FAIRCHILD SEMI	N/R	N/R	APR 78	1500	150 PF	1	SS	PASS	2200	2	VEE(+) SELECT A(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
4066	SWITCH , QUAD BILATERAL												
245	25	N/R	N/R	7727	N/R	100	.1 UF	1	SS	FAIL	● 76	15	VSS(+) INPUT(-)
	REMARK: FAILURE VOLTAGE IS AN AVERAGE OF 15 DEVICES. FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.												
4066B	SWITCH , 4XSPST												
030	434	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	435	N/R	4066BC	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
4067B	LINEAR MULTIPLEXER , 16 CHANNEL												
030	436	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												

TECHNOLOGY: CMOS
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION														
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
4067B	LINEAR MULTIPLEXER , 16 CHANNEL (CONTINUED)												
030	437	N/R	4067BC	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
4068B	GATE , 8 INPUT NAND												
030	438	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	2	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	439	N/R	4068BC	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
4069	BUFFER/INVERTER , HEX INVERTER												
030	442	N/R	4069UB	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
165	3	FAIRCHILD SEMI	N/R	7523	JUN 76	1500	100 PF	1	GN	PASS	400	2	N/R
	REMARK: BREAKDOWN VOLTAGE CHARACTERISTICS WERE DEGRADED. FAILURE CRITERIA: FUNCTIONAL FAILURE												
165	10	SOLID STATE SCIENTIFIC	N/R	7530	JUN 76	1500	100 PF	1	GN	PASS	400	2	N/R
	REMARK: BREAKDOWN VOLTAGE CHARACTERISTICS WERE DEGRADED. FAILURE CRITERIA: FUNCTIONAL FAILURE												
4069B	BUFFER/INVERTER , HEX INVERTER												
030	440	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	441	N/R	4069BC	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
089	1	NATIONAL SEMI	CD4069B	N/R	FEB 78	1500	150 PF	1	SS	FAIL	960	3	VDD(+) GATE(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
089	2	NATIONAL SEMI	CD4069B	N/R	FEB 78	1500	150 PF	1	SS	FAIL	1300	10	VDD(+) GATE(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
089	3	NATIONAL SEMI	CD4069B	N/R	FEB 78	1500	150 PF	1	SS	FAIL	1600	10	VDD(+) GATE(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
089	4	NATIONAL SEMI	CD4069B	N/R	FEB 78	1500	150 PF	1	SS	PASS	1600	2	VDD(+) GATE(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
4069UB	BUFFER/INVERTER , HEX INVERTER												
088	1	RCA	CD4069UB	N/R	FEB 78	1500	150 PF	1	SS	FAIL	730	3	VDD(+) GATE(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
088	2	RCA	CD4069UB	N/R	FEB 78	1500	150 PF	1	SS	FAIL	1080	10	VDD(+) GATE(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
088	3	RCA	CD4069UB	N/R	FEB 78	1500	150 PF	1	SS	FAIL	1510	10	VDD(+) GATE(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
088	4	RCA	CD4069UB	N/R	FEB 78	1500	150 PF	1	SS	PASS	1510	2	VDD(+) GATE(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC												
4070	GATE , QUAD EXCLUSIVE OR												
165	4	FAIRCHILD SEMI	N/R	7602	JUN 76	1500	100 PF	1	GN	PASS	400	2	N/R
	REMARK: BREAKDOWN VOLTAGE CHARACTERISTICS WERE DEGRADED. FAILURE CRITERIA: FUNCTIONAL FAILURE												

TECHNOLOGY: CMOS
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION														
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
4071B	GATE , QUAD 2 INPUT OR												
030	443	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	444	N/R	4071BC	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
4073B	GATE , TRIPLE 3 INPUT AND												
030	445	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	446	N/R	4073BC	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
4076B	FLIP-FLOP , QUAD D												
030	447	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	448	N/R	4076BC	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
4077B	GATE , QUAD EXCLUSIVE NOR												
030	449	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	450	N/R	4077BC	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
4081B	GATE , QUAD 2 INPUT AND												
030	451	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	452	N/R	4081BC	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
162	1	RCA	CD4081B	N/R	N/R	610	100 PF	1	SS	PASS	4500	2	INPUT(1)(+)
	FAILURE CRITERIA: FUNCTIONAL FAILURE												
162	2	RCA	CD4081B	N/R	N/R	610	100 PF	1	SS	FAIL	4500	2	INPUT(1)(-)
	FAILURE CRITERIA: FUNCTIONAL FAILURE												
162	3	RCA	CD4081B	N/R	N/R	610	100 PF	1	SS	FAIL	4500	2	OUTPUT(4)(+)
	FAILURE CRITERIA: FUNCTIONAL FAILURE												
162	4	RCA	CD4081B	N/R	N/R	610	100 PF	1	SS	PASS	4500	1	OUTPUT(4)(-)
	REMARK: DEGRADATION OCCURRED AT 4500V. FAILURE CRITERIA: FUNCTIONAL FAILURE												
162	5	RCA	CD4081B	N/R	N/R	610	100 PF	1	SS	PASS	4500	1	OUTPUT(4)(-)
	FAILURE CRITERIA: FUNCTIONAL FAILURE												
162	6	RCA	CD4081B	N/R	N/R	610	100 PF	1	SS	PASS	4500	2	VSS(7)(+)
	FAILURE CRITERIA: FUNCTIONAL FAILURE												
162	7	RCA	CD4081B	N/R	N/R	610	100 PF	1	SS	FAIL	4000	1	VSS(7)(-)
	FAILURE CRITERIA: FUNCTIONAL FAILURE												
162	8	RCA	CD4081B	N/R	N/R	610	100 PF	1	SS	PASS	4500	1	VSS(7)(-)
	REMARK: DEGRADATION OCCURRED AT 3500V. FAILURE CRITERIA: FUNCTIONAL FAILURE												

TECHNOLOGY: CMOS
(CONTINUED)

BASIC PART NUMBER	SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
4081B GATE , QUAD 2 INPUT AND (CONTINUED)														
	162	9	RCA	CD4081B	N/R	N/R	610	100 PF	1	SS	PASS	4500	2	VDD(14)(+)
FAILURE CRITERIA: FUNCTIONAL FAILURE														
	162	10	RCA	CD4081B	N/R	N/R	610	100 PF	1	SS	PASS	4500	2	VDD(14)(-)
FAILURE CRITERIA: FUNCTIONAL FAILURE														
4082B GATE , DUAL 4 INPUT AND														
	030	453	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%														
	030	454	N/R	4082BC	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%														
4085B GATE , DUAL AND/OR INVERT														
	030	455	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%														
	030	456	N/R	4085BC	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%														
4086B GATE , AND/OR INVERT														
	030	457	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%														
	030	458	N/R	4086BC	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%														
4093 GATE , QUAD 2 INPUT NAND														
	006	5	NATIONAL SEMI	CD4093	N/R	AUG 78	1500	100 PF	1	SS	FAIL	2000	1	INPUT(9)(+) OUT(10)(-)
REMARK: DIFFERENT PIN COMB. TESTED AT EACH VOLTAGE STEP FAILURE CRITERIA: IIH, IIL, OR ISS OUT OF SPEC AT VDD=15V														
	006	6	NATIONAL SEMI	CD4093	N/R	AUG 78	1500	100 PF	1	SS	FAIL	2500	2	INPUT(13)(+) OUT(11)
REMARK: DIFFERENT PIN COMB. TESTED AT EACH VOLTAGE STEP FAILURE CRITERIA: IIH, IIL, OR ISS OUT OF SPEC AT VDD=15V														
	006	7	NATIONAL SEMI	CD4093	N/R	AUG 78	1500	100 PF	1	SS	FAIL	1500	1	INPUT(5)(+) OUT(4)(-)
REMARK: DIFFERENT PIN COMB. TESTED AT EACH VOLTAGE STEP FAILURE CRITERIA: IIH, IIL, OR ISS OUT OF SPEC AT VDD=15V														
4093B GATE , QUAD 2 INPUT NAND														
	030	459	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%														
	030	460	N/R	4093BC	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%														
4099B LATCH , 8-BIT ADDRESSABLE														
	030	461	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%														

TECHNOLOGY: CMOS
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION														
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
4502B	BUFFER/INVERTER , HEX INVERTER												
030	462	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	463	N/R	4502BC	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
4503B	BUFFER/INVERTER , HEX BUFFER, 3-STATE												
030	464	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	465	N/R	4503BC	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
4508B	LATCH , DUAL 4-BIT												
030	466	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	467	N/R	4508BC	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
4511	DECODER , LATCH/DECODER/DRIVER												
006	21	RCA	CD4511	N/R	AUG 78	1500	100 PF	1	SS	FAIL	1500	2	INPUT(6)(+) OUT(10)(-)
	REMARK: DIFFERENT PIN COMB. TESTED AT EACH VOLTAGE STEP FAILURE CRITERIA: IIH, IIL, OR ISS OUT OF SPEC AT VDD=15V												
006	22	RCA	CD4511	N/R	AUG 78	1500	100 PF	1	SS	FAIL	2000	1	INPUT(7)(+) OUT(9)(-)
	REMARK: DIFFERENT PIN COMB. TESTED AT EACH VOLTAGE STEP FAILURE CRITERIA: IIH, IIL, OR ISS OUT OF SPEC AT VDD=15V												
4511B	DECODER , LATCH/DECODER/DRIVER												
030	468	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	469	N/R	4511BC	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
4512B	MULTIPLEXER , 8-CHANNEL												
030	470	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	471	N/R	4512BC	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
4514B	DECODER , 4 TO 16 LINE												
030	472	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	473	N/R	4514BC	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												

TECHNOLOGY: CMOS
(CONTINUED)

BASIC PART NUMBER	SMC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
4515B	DECODER , 4 TO 16 LINE													
	030	474	N/R	4515BC	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%													
4516B	COUNTER , BINARY UP/DOWN													
	030	475	N/R	4516BC	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%													
4518B	COUNTER , DUAL SYNCHRONOUS													
	030	476	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%													
	030	477	N/R	4518BC	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%													
4519B	GATE , QUAD AND-OR SELECT													
	030	478	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%													
	030	479	N/R	4519BC	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%													
4520B	COUNTER , DUAL SYNCHRONOUS													
	030	480	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%													
	030	481	N/R	4520BC	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%													
4528B	MULTIVIBRATOR , DUAL MONOSTABLE													
	030	482	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%													
	030	483	N/R	4528BC	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%													
4539B	MULTIPLEXER , DUAL 4-CHANNEL													
	030	484	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%													
	030	485	N/R	4539BC	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%													
4581B	SSI/MSI , 4-BIT ALU													
	030	488	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%													
	030	489	N/R	4581BC	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%													

TECHNOLOGY: CMOS
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION														
SEC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
4585B	COMPARATOR , 4-BIT												
030	490	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	491	N/R	4585BC	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
4724	LATCH , 8 BIT ADDRESSABLE												
165	8	FAIRCHILD SEMI	N/R	7603	JUN 76	1500	100 PF	1	GN	PASS	400	2	N/R
	REMARK: BREAKDOWN VOLTAGE CHARACTERISTICS WERE DEGRADED. FAILURE CRITERIA: FUNCTIONAL FAILURE												
506	LINEAR MULTIPLEXER , 16 CHANNEL												
030	314	N/R	506C	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
508	LINEAR MULTIPLEXER , 8 CHANNEL												
030	315	N/R	508C	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
6514	STATIC RAM , 1024X1 BIT												
055	1	NATIONAL SEMI	N/R	N/R	JUN 81	1000	200 PF	5	GN	PASS	250	2	LID TO ALL PINS
	REMARK: 5 PULSES PER POLARITY. DEVICES HAD METAL LID FAILURE CRITERIA: FUNCTIONAL FAILURE												
056	1	NATIONAL SEMI	N/R	N/R	JUN 81	1000	200 PF	5	GN	PASS	500	2	LID TO ALL PINS
	REMARK: 5 PULSES PER POLARITY. DEVICES HAD METAL LID FAILURE CRITERIA: FUNCTIONAL FAILURE												
057	1	NATIONAL SEMI	N/R	N/R	JUN 81	1000	200 PF	5	GN	PASS	1000	2	LID TO ALL PINS
	REMARK: 5 PULSES PER POLARITY. DEVICES HAD METAL LID FAILURE CRITERIA: FUNCTIONAL FAILURE												
058	1	NATIONAL SEMI	N/R	N/R	JUN 81	1000	200 PF	5	GN	FAIL	2000	2	LID TO ALL PINS
	REMARK: 5 PULSES PER POLARITY. DEVICES HAD METAL LID FAILURE CRITERIA: FUNCTIONAL FAILURE												
059	1	NATIONAL SEMI	N/R	N/R	JUN 81	1000	200 PF	5	GN	FAIL	4000	2	LID TO ALL PINS
	REMARK: 5 PULSES PER POLARITY. DEVICES HAD METAL LID FAILURE CRITERIA. FUNCTIONAL FAILURE												
002	1	MONOLITHIC MEMORIES	N/R	N/R	JUN 79	1500	100 PF	1	SS	FAIL	1500	1	N/R
	FAILURE CRITERIA: DAMAGE TO INPUT DIODE												
002	2	RCA	N/R	N/R	JUN 79	1500	100 PF	1	SS	FAIL	1400	1	N/R
	FAILURE CRITERIA: DAMAGE TO INPUT DIODE												
6518	RAM , 1K												
028	11	N/R	N/R	N/R	N/R	1500	117 PF	30	SS	FAIL	750	5	N/R
	FAILURE CRITERIA. INPUTS SHORTED TO GROUND												
7520	CONVERTER (D/A A/D) , 10 BIT MULT. DAC												
030	519	N/R	7520C	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	520	N/R	7520JN	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												

TECHNOLOGY: CMOS
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION													
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
7520	CONVERTER (D/A A/D) , 10 BIT MULT. DAC (CONTINUED)												
030	668	N/R	AD7520	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
005	7	MICRO POWER SYSTEMS	7520TA	8008	SEP 80	1500	100 PF	1	SS	FAIL	800	1	INPUT(+) VSS(-)
	REMARK: ALL 10 INPUTS FAILED TO VSS AT 800 VOLTS FAILURE CRITERIA: PARAMETER SHIFT OF GREATER THAN 10%												
005	8	MICRO POWER SYSTEMS	7520TA	8008	SEP 80	1500	100 PF	1	SS	FAIL	800	1	INPUT(4)(+) VSS(3)(-)
	REMARK: ALL 10 INPUTS FAILED TO VSS AT 800 VOLTS FAILURE CRITERIA: PARAMETER SHIFT OF GREATER THAN 10%												
005	9	MICRO POWER SYSTEMS	7520TA	8008	SEP 80	1500	100 PF	1	SS	FAIL	500	1	INPUT(9)(+) VSS(3)(-)
	REMARK: ALSO FAILED FROM ALL OTHER INPUTS TO VSS AT 800 VOLTS. FAILURE CRITERIA: PARAMETER SHIFT OF GREATER THAN 10%												
005	10	MICRO POWER SYSTEMS	7520TA	8008	SEP 80	1500	100 PF	1	SS	FAIL	800	1	INPUT(4)(+) VSS(3)(-)
	REMARK: ALSO FAILED FROM INPUT PINS 5,6,8-13 TO VSS AT 800 VOLTS FAILURE CRITERIA: PARAMETER SHIFT OF GREATER THAN 10%												
005	11	MICRO POWER SYSTEMS	7520TA	8008	SEP 80	1500	100 PF	1	SS	FAIL	500	1	INPUT(9)(+) VSS(3)(-)
	REMARK: ALSO FAILED FROM PINS 4-8 AND 11-13 TO VSS AT 800 VOLTS FAILURE CRITERIA: PARAMETER SHIFT OF GREATER THAN 10%												
005	12	MICRO POWER SYSTEMS	7520TA	8008	SEP 80	1500	100 PF	1	SS	FAIL	800	1	INPUT(6)(+) VSS(3)(-)
	REMARK: ALSO FAILED FROM PINS 8-13 TO VSS AT 800 VOLTS FAILURE CRITERIA: PARAMETER SHIFT OF GREATER THAN 10%												
005	13	ANALOG DEVICES	AD7520	7947	SEP 80	1500	100 PF	1	SS	FAIL	500	1	INPUT(4)(+) VSS(3)(-)
	REMARK: ALSO FAILED FROM PINS 5-8 AND 10-13 TO VSS AND PIN 9 TO VDD AT 500 VOLTS FAILURE CRITERIA: PARAMETER SHIFT OF GREATER THAN 10%												
005	14	ANALOG DEVICES	AD7520	7947	SEP 80	1500	100 PF	1	SS	FAIL	500	1	INPUT(4)(+) VSS(3)(-)
	REMARK: ALSO FAILED PINS 5-7,9,11 TO VSS,8,10,12 TO VDD AT 500VOLTS AND 13 TO VSS AT800												
	FAILURE CRITERIA: PARAMETER SHIFT OF GREATER THAN 10%												
005	15	ANALOG DEVICES	AD7520	7947	SEP 80	1500	100 PF	1	SS	FAIL	500	1	INPUT(4)(+) VDD(14)(-)
	REMARK: ALSO FAILED FROM PINS 5-13 TO VSS AT 800 VOLTS FAILURE CRITERIA: PARAMETER SHIFT OF GREATER THAN 10%												
005	16	ANALOG DEVICES	AD7520	7947	SEP 80	150[illegible]	100 PF	1	SS	FAIL	800	1	INPUT(4)(+) VSS(3)(-)
	REMARK: ALSO FAILED FROM 5,6 & 7 TO VSS AT 800 VOLTS FAILURE CR[illegible]ERIA: PARAMETER SHIFT OF GREATER THAN 10%												
005	17	ANALOG DEVICES	AD7520	7947	SEP 80	1[illegible]0	100 PF	1	SS	FAIL	500	1	INPUT(4)(+) VSS(3)(-)
	REMARK: ALSO FAILED PINS5-6 & 11-13 TO VSS,PIN 7 TO VDD AND PINS 8-10 TO OUTPUT AT 500V												
	FAILURE CRITERIA: PARAMETER SHIFT OF GREATER THAN 10%												
005	18	ANALOG DEVICES	AD7520	7947	SEP 80	1500	100 PF	1	SS	FAIL	500	1	INPUT(4)(+) VSS(3)(-)
	REMARK: ALSO FAILED PINS5-8,10-13 TO VSS AT 500 VOLTS AND PIN 9 TO VSS AT 800VOLTS FAILURE CRITERIA: PARAMETER SHIFT OF GREATER THAN 10%												
005	19	INTERSIL	AD7520	8006	SEP 80	1500	100 PF	1	SS	FAIL	800	1	RREF(15)(+) VSS(3)(-)
	REMARK: ALSO FAILED PINS 5 AND 10 TO VDD AT 800 VOLTS FAILURE CRITERIA: PARAMETER SHIFT OF GREATER THAN 10%												
005	20	INTERSIL	AD7520	8006	SEP 80	1500	100 PF	1	SS	FAIL	500	1	INPUT(8)(+) VDD(14)(-)
	REMARK: ALSO FAILED PIN 16 TO VDD AT 500 VOLTS AND PIN 5 TO VSS AT 800 VOLTS FAILURE CRITERIA: PARAMETER SHIFT OF GREATER THAN 10%												
005	21	INTERSIL	AD7520	8006	SEP 80	1500	100 PF	1	SS	FAIL	500	1	RFB(16)(+) VDD(14)(-)
	REMARK: ALSO FAILED PINS 4,5 & 9 TO VSS AT 800 VOLTS FAILURE CRITERIA: PARAMETER SHIFT OF GREATER THAN 10%												
005	22	INTERSIL	AD7520	8006	SEP 80	1500	100 PF	1	SS	FAIL	500	1	RFB(16)(+) VSS(3)(-)
	REMARK: ALSO FAILED FROM PINS 4,8,13 TO VDD AND 10 TO OUTPUT AT 500 VOLTS FAILURE CRITERIA: PARAMETER SHIFT OF GREATER THAN 10%												
005	23	INTERSIL	AD7520	8006	SEP 80	1500	100 PF	1	SS	FAIL	800	1	INPUT(4)(-) VSS(3)(-)
	REMARK: ALSO FAILED PINS 8,13 TO VSS, 15 TO VSS AND 6 TO VDD, ALL AT 800 VOLTS FAILURE CRITERIA: PARAMETER SHIFT OF GREATER THAN 10%												
005	24	INTERSIL	AD7520	8006	SEP 80	1500	100 PF	1	SS	FAIL	500	1	RFB(16)(+) VSS(3)(-)
	REMARK: ALSO FAILED PIN 13 TO VDD AT 500 VOLTS, 8 TO VSS, 6 TO VDD AT 800 VOLTS FAILURE CRITERIA: PARAMETER SHIFT OF GREATER THAN 10%												
7521	CONVERTER (D/A A/D) , 12 BIT MULT. DAC												
030	521	N/R	7521LN	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
005	31	RAYTHEON	RM7521TD	8006	SEP 80	1500	100 PF	1	SS	FAIL	500	1	RFB(818)(+) VSS(-)
	REMARK: ALSO FAILED PIN 12 TO VDD AT 500 VOLTS FAILURE CRITERIA: PARAMETER SHIFT OF GREATER THAN 10%												
005	32	RAYTHEON	RM7521TD	8006	SEP 80	1500	100 PF	1	SS	FAIL	500	1	INPUT(7)(+) VSS(-)
	REMARK: FAILED PINS 8-15 TO VSS AT 500V, PIN 11 TO OUTPUT AT 500V & 15 TO VSS AT 800V FAILURE CRITERIA: PARAMETER SHIFT OF GREATER THAN 10%												

BASIC PART NUMBER	SEC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
7521			CONVERTER (D/A A/D) , 12 BIT MULT. DAC (CONTINUED)											
	005	33	RAYTHEON	RM7521	8006	SEP 80	1500	100 PF	1	SS	FAIL	500	1	RREF(17)(+) VSS(-)
			REMARK: ALSO FAILED PIN 9 TO VSS AT 800 VOLTS FAILURE CRITERIA: PARAMETER SHIFT OF GREATER THAN 10%											
	005	34	RAYTHEON	RM7521TD	8006	SEP 80	1500	100 PF	1	SS	FAIL	500	1	RFB(18)(+) VSS(-)
			FAILURE CRITERIA: PARAMETER SHIFT OF GREATER THAN 10%											
	005	35	RAYTHEON	RM7521TD	8006	SEP 80	1500	100 PF	1	SS	FAIL	500	1	RREF(17)(+) VSS(-)
			FAILURE CRITERIA: PARAMETER SHIFT OF GREATER THAN 10%											
	005	36	NATIONAL SEMI	AD7521SD	8018	SEP 80	1500	100 PF	1	SS	FAIL	800	1	INPUT(6)(+) VSS(-)
			REMARK: FAILED PINS 11-14 TO VSS,15 TO VDD AT 800V,PIN 10 TO VDD,8,13 TO OUT. AT 1000 FAILURE CRITERIA: PARAMETER SHIFT OF GREATER THAN 10%											
	005	37	NATIONAL SEMI	AD7521SD	8018	SEP 80	1500	100 PF	1	SS	FAIL	800	1	INPUT(6)(+) VSS(-)
			REMARK: FAILED PINS 13 TO VSS,PIN 9 TO VSS AT 1000V, AND PIN 8 TO VDD AT 1000V FAILURE CRITERIA: PARAMETER SHIFT OF GREATER THAN 10%											
	005	38	NATIONAL SEMI	AD7521SD	8018	SEP 80	1500	100 PF	1	SS	FAIL	800	1	INPUT(6)(+) VDD(-)
			REMARK: FAILED PINS 13 TO VDD AND PIN 4 TO OUTPUT AT 800 VOLTS FAILURE CRITERIA: PARAMETER SHIFT OF GREATER THAN 10%											
	005	39	NATIONAL SEMI	AD7521SD	8018	SEP 80	1500	100 PF	1	SS	FAIL	800	1	RFB(18)(+) OUTPUT(-)
			REMARK: ALSO FAILED PIN 9 TO VDD AND 8 TO OUTPUT AT 1000 VOLTS FAILURE CRITERIA: PARAMETER SHIFT OF GREATER THAN 10%											
	005	40	NATIONAL SEMI	AD7521SD	8018	SEP 80	1500	100 PF	1	SS	FAIL	800	1	INPUT(7)(+) OUTPUT(-)
			FAILURE CRITERIA: PARAMETER SHIFT OF GREATER THAN 10%											
	005	41	NATIONAL SEMI	AD7521SD	8018	SEP 80	1500	100 PF	1	SS	FAIL	800	1	INPUT(4)(+) VDD(-)
			REMARK: ALSO FAILED PIN 9 TO OUTPUT AT 800 VOLTS FAILURE CRITERIA: PARAMETER SHIFT OF GREATER THAN 10%											
7522			CONVERTER (D/A A/D) , 10 BIT MULT. DAC											
	030	522	N/R	7522C	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
			FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%											
	030	523	N/R	7522JD	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
			FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%											
7533			CONVERTER (D/A A/D) , 10 BIT MULT. DAC											
	005	1	ANALOG DEVICES	AD7533TD	7911	SEP 80	1500	100 PF	1	SS	FAIL	1000	1	INPUT(4)(+) VDD(14)(-)
			FAILURE CRITERIA: PARAMETER SHIFT OF GREATER THAN 10%											
	005	2	ANALOG DEVICES	AD7533TD	7911	SEP 80	1500	100 PF	1	SS	FAIL	1000	1	INPUT(7)(+) VDD(14)(-)
			FAILURE CRITERIA: PARAMETER SHIFT OF GREATER THAN 10%											
	005	3	ANALOG DEVICES	AD7533TD	7911	SEP 80	1500	100 PF	1	SS	PASS	1000	1	N/R
			FAILURE CRITERIA: PARAMETER SHIFT OF GREATER THAN 10%											
	005	4	ANALOG DEVICES	AD7533TD	7911	SEP 80	1500	100 PF	1	SS	FAIL	800	1	INPUT(10)(+) OUTPUT(-)
			REMARK: ALSO FAILED FROM PIN 7 TO OUTPUT AT 1000 VOLTS FAILURE CRITERIA: PARAMETER SHIFT OF GREATER THAN 10%											
	005	5	ANALOG DEVICES	AD7533TD	7911	SEP 80	1500	100 PF	1	SS	FAIL	1000	1	INPUT(6)(+) VDD(14)(-)
			FAILURE CRITERIA: PARAMETER SHIFT OF GREATER THAN 10%											
	005	6	ANALOG DEVICES	AD7533TD	7911	SEP 80	1500	100 PF	1	SS	FAIL	1000	1	INPUT(4)(+) VSS(-)
			REMARK: ALSO FAILED FROM PINS 5,6,7,11 TO VDD AT 1000 VOLTS FAILURE CRITERIA: PARAMETER SHIFT OF GREATER THAN 10%											
N/R			BUFFER/INVERTER , HEX BUFFER											
	041	33	MOTOROLA SEMI	N/R	N/R	N/R	1000	200 PF	1	SS	FAIL	500	1	N/R
			FAILURE CRITERIA: 1 UA LEAKAGE AT 10V											
	041	34	MOTOROLA SEMI	N/R	N/R	N/R	1000	200 PF	1	SS	FAIL	800	1	N/R
			FAILURE CRITERIA: 1 UA LEAKAGE AT 10V											
N/R			BUFFER/INVERTER , HEX INVERTER											
	014	1	N/R	N/R	N/R	N/R	100	100 PF	1	SS	FAIL	320	N/R	INPUT(+) VDD(-)
			REMARK: 320 VOLTS IS AN AVERAGE FROM AN UNKNOWN NUMBER OF DEVICES. FAILURE CRITERIA: GREATER THAN 10NA INPUT LEAKAGE AT VDD											

TECHNOLOGY: CMOS
(CONTINUED)

```
BASIC PART NUMBER     DESCRIPTION

     SRC. : SEQ.:                        :                  : DATE :  TEST  : RES. :          : NUMBER : TEST :       :         : NUM. :
     CODE : NUM.:     MANUFACTURER       : FULL PART NUM. : CODE :  DATE  :(OHMS):   CAP.  : PULSES : TYPE :RESULT: VOLTAGE: DEV. :     PIN COMBINATION

N/R          BUFFER/INVERTER , HEX INVERTER                          (CONTINUED)

     015  :  1 :          N/R          :       N/R       : N/R :  N/R   : 1000 :  100 PF :     1  :  SS  : FAIL :    550 : N/R  : INPUT(+) VDD(-)
          REMARK: 550 VOLTS IS AN AVERAGE OF AN UNKNWON NUMBER OF DEVICES.     FAILURE CRITERIA: GREATER THAN 10 NA INPUT LEAKAGE AT VDD
     016  :  1 :          N/R          :       N/R       : N/R :  N/R   : 10K  :  100 PF :     1  :  SS  : FAIL :   2100 : N/R  : INPUT(+)VDD(-)
          REMARK: 2100 VOLTS IS AN AVERAGE OF AN UNKNOWN NUMBER OF DEVICES.     FAILURE CRITERIA: GREATER THAN 10NA INPUT LEAKAGE AT VDD
     017  :  1 :          N/R          :       N/R       : N/R :  N/R   : 100  :  250 PF :     1  :  SS  : FAIL :    250 : N/R  : INPUT
          REMARK: 250 VOLTS IS AN AVERAGE OF AN UNKNOWN NUMBER OF DEVICES.     FAILURE CRITERIA: GREATER THAN 10 NA INPUT LEAKAGE AT VDD
     018  :  1 :          N/R          :       N/R       : N/R :  N/R   : 1000 :  250 PF :     1  :  SS  : FAIL :    450 : N/R  : INPUT
          REMARK: 450 VOLTS IS AN AVERAGE OF AN UNKNOWN NUMBER OF DEVICES.     FAILURE CRITERIA: GREATER THAN 10 NA INPUT LEAKAGE AT VDD
     019  :  1 :          N/R          :       N/R       : N/R :  N/R   : 10K  :  250 PF :     1  :  SS  : FAIL :   2000 : N/R  : INPUT
          REMARK: 2000 VOLTS IS AN AVERAGE OF AN UNKNOWN NUMBER OF DEVICES.     FAILURE CRITERIA: GREATER THAN 10 NA INPUT LEAKAGE AT VDD
     020  :  1 :          N/R          :       N/R       : N/R :  N/R   : 100  :  500 PF :     1  :  SS  : FAIL :    210 : N/R  : INPUT
          REMARK: 210 VOLTS IS AN AVERAGE OF AN UNKNOWN NUMBER OF DEVICES.     FAILURE CRITERIA: GREATER THAN 10 NA INPUT LEAKAGE AT VDD
     021  :  1 :          N/R          :       N/R       : N/R :  N/R   : 1000 :  500 PF :     1  :  SS  : FAIL :    425 : N/R  : INPUT
          REMARK: 425 VOLTS IS AN AVERAGE OF AN UNKNOWN NUMBER OF DEVICES.     FAILURE CRITERIA: GREATER THAN 10 NA INPUT LEAKAGE AT VDD.
     022  :  1 :          N/R          :       N/R       : N/R :  N/R   : 10K  :  500 PF :     1  :  SS  : FAIL :   4050 : N/R  : INPUT
          REMARK: 4050 VOLTS IS AN AVERAGE OF AN UNKNOWN NUMBER OF DEVICES.     FAILURE CRITERIA: GREATER THAN 10 NA INPUT LEAKAGE AT VDD.

N/R          RAM , 1K
     385  :  1 :          N/R          :       N/R       : 7830 :  N/R   : 1000 :  200 PF :     1  :  SS  : FAIL :   3900 :   1  : EACH PIN(+)
          REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 4800V
          FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.
     385  :  2 :          N/R          :       N/R       : 7830 :  N/R   : 1000 :  200 PF :     1  :  SS  : FAIL :   1300 :   1  : EACH PIN(+)
          REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 2300V.
          FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.
     385  :  3 :          N/R          :       N/R       : 7823 :  N/R   : 1000 :  200 PF :     1  :  SS  : FAIL :   1000 :   1  : EACH PIN(+)
          REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 1400V.
          FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.
     385  :  4 :          N/R          :       N/R       : 7823 :  N/R   : 1000 :  200 PF :     1  :  SS  : FAIL :    300 :   1  : EACH PIN(+)
          REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 1000V.
          FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.
     385  :  5 :          N/R          :       N/R       : 7843 :  N/R   : 1000 :  200 PF :     1  :  SS  : FAIL :   1000 :   1  : EACH PIN(+)
          REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 1000V.
          FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.
     385  :  6 :          N/R          :       N/R       : 7843 :  N/R   : 1000 :  200 PF :     1  :  SS  : FAIL :    800 :   1  : EACH PIN(+)
          REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 900V.
          FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.
     385  :  7 :          N/R          :       N/R       : 7926 :  N/R   : 1000 :  200 PF :     1  :  SS  : FAIL :    300 :   1  : EACH PIN(+)
          REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 1400V.
          FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.
     385  :  8 :          N/R          :       N/R       : 7917 :  N/R   : 1000 :  200 PF :     1  :  SS  : FAIL :    900 :   1  : EACH PIN(+)
          REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 1800V.
          FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.

N/R          TRANSCEIVER
     385  :  9 :          N/R          :       N/R       : 7949 :  N/R   : 1000 :  200 PF :     1  :  SS  : FAIL :    200 :   1  : EACH PIN(+)
          REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 820V.
          FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.
```

TECHNOLOGY: NMOS

BASIC PART NUMBER	SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
2102			STATIC RAM , 1KX1 BIT											
	041	11	INTEL	2102A-2	N/R	N/R	1000	200 PF	1	SS	FAIL	700	1	N/R
			FAILURE CRITERIA: 1 UA LEAKAGE AT 10V											
	041	12	INTEL	2102A-2	N/R	N/R	1000	200 PF	1	SS	FAIL	2000	1	N/R
			FAILURE CRITERIA: 1 UA LEAKAGE AT 10V											
	045	1	INTEL	2102A-2	N/R	N/R	1000	200 PF	4	SS	FAIL	1400	3	N/R
			REMARK: 1400 VOLTS IS AN AVERAGE OF 3 DEVICES		FAILURE CRITERIA: 1 UA LEAKAGE AT 10V									
	046	4	INTEL	2102A-2	N/R	N/R	1000	200 PF	200	GN	PASS	500	1	N/R
			FAILURE CRITERIA: 1 UA LEAKAGE AT 10V											
	046	5	SIGNETICS	N/R	N/R	N/R	1000	200 PF	20	GN	FAIL	500	1	N/R
			FAILURE CRITERIA: 1 UA LEAKAGE AT 10V											
	047	4	INTEL	2102A-2	N/R	N/R	1000	200 PF	25	GN	FAIL	1000	1	N/R
			FAILURE CRITERIA: 1 UA LEAKAGE AT 10V											
	245	29	N/R	N/R	7645	N/R	100	.1 UF	1	SS	FAIL	45	15	INPUT(+) GND(-)
			REMARK: FAILURE VOLTAGE IS AN AVERAGE OF 15 DEVICES.		FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.									
	001	1	FAIRCHILD SEMI	2102L1	N/R	SEP 80	1500	100 PF	3	SS	FAIL	300	2	N/R
			FAILURE CRITERIA: DAMAGE TO INPUT DIODE											
	001	2	FAIRCHILD SEMI	2102L1	N/R	SEP 80	1500	100 PF	3	SS	FAIL	400	1	N/R
			FAILURE CRITERIA: DAMAGE TO INPUT DIODE											
	026	30	INTEL	MD2102A-4	N/R	FEB 81	100	200 PF	1	SS	FAIL	535	4	INPUT(1)(+) GND(9)(-)
			REMARK: VOLTAGE IS AN AVERAGE OF 4 DEVICES		FAILURE CRITERIA: CHANGE IN IIL OF 500% AT VIN = 5V									
2111			STATIC RAM , 256X4 BIT											
	030	352	N/R	2111A-4C	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
			FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%											
2141			STATIC RAM , 4096X1 BIT											
	030	354	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
			FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%											
2401			ROM , ELEC. ALTERABLE											
	028	12	N/R	N/R	N/R	N/R	1500	117 PF	30	SS	FAIL	750	5	N/R
			FAILURE CRITERIA: INPUT BREAKDOWN OF 5MV											
2516			EPROM , 2048X8 BIT											
	030	356	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
			FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%											
	304	53	N/R	N/R	N/R	N/R	1000	200 PF	1	SS	FAIL	300	1	EACH PIN(+)
			REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 800V.											
			FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.											
	304	54	N/R	N/R	N/R	N/R	1000	200 PF	1	SS	FAIL	700	1	EACH PIN(+)
			REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 2300V.											
			FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.											

TECHNOLOGY: NMOS
(CONTINUED)

BASIC PART NUMBER SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
2708	EPROM , 1024X8 BIT												
030	358	N/R	2708C	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
384	43	N/R	N/R	N/R	N/R	1000	200 PF	1	SS	FAIL	800	1	EACH PIN(+)
	REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 2600V.												
	FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.												
384	44	N/R	N/R	N/R	N/R	1000	200 PF	1	SS	FAIL	400	1	EACH PIN(+)
	REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 550V.												
	FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.												
384	45	N/R	N/R	N/R	N/R	1000	200 PF	1	SS	FAIL	1500	1	EACH PIN(+)
	REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 2600V.												
	FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.												
384	46	N/R	N/R	N/R	N/R	1000	200 PF	1	SS	FAIL	500	1	EACH PIN(+)
	REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 600V.												
	FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.												
2716	EPROM , 2048X8 BIT												
030	359	N/R	2716C	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
384	47	N/R	N/R	N/R	N/R	1000	200 PF	1	SS	FAIL	600	1	EACH PIN(+)
	REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 2300V.												
	FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.												
384	48	N/R	N/R	N/R	N/R	1000	200 PF	1	SS	FAIL	3000	1	EACH PIN(+)
	REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 3900V.												
	FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.												
2732	EPROM , 4096X8 BIT												
384	49	N/R	N/R	N/R	N/R	1000	200 PF	1	SS	FAIL	1500	1	EACH PIN(+)
	REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 2700V.												
	FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.												
384	50	N/R	N/R	N/R	N/R	1000	200 PF	1	SS	FAIL	500	1	EACH PIN(+)
	REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 1000V.												
	FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.												
3870	MICROCOMPUTER , 8-BIT												
134	1	MOSTEK	MK3870/10	N/R	N/R	1500	100 PF	1	GN	FAIL	1000	1	PIN(23)(+) APTT(-)
134	2	MOSTEK	MK3870/10	N/R	N/R	1500	100 PF	1	GN	PASS	1000	4	EACH PIN(+) APTT(-)
138	1	MOSTEK	MK3870/10	N/R	N/R	1500	100 PF	1	GN	FAIL	2000	5	EACH PIN(+) APTT(-)
139	1	MOSTEK	MK3870	N/R	N/R	1500	100 PF	1	GN	FAIL	3500	4	EACH PIN(+) APTT(-)
3873	MICROCOMPUTER , 8-BIT												
140	1	MOSTEK	MK3873	N/R	JUL 80	1300	100 PF	1	SS	FAIL	300	24	EACH PIN(+) APTT(-)
	REMARK: 2.6% OF TOTAL NUMBER OF PINS FAILED.												
140	2	MOSTEK	MK3873	N/R	JUL 80	1300	100 PF	3	SS	FAIL	300	15	EACH PIN(+) APTT(-)
	REMARK: 4.7% OF TOTAL NUMBER OF PINS FAILED.												

TECHNOLOGY: NMOS
(CONTINUED)

BASIC PART NUMBER	SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
3873	MICROCOMPUTER , 8-BIT (CONTINUED)													
	140	3	MOSTEK	MK3873	N/R	JUL 80	1300	100 PF	1	SS	FAIL	1000	1	EACH PIN(+) APTT(-)
			REMARK: 27.2% OF TOTAL NUMBER OF PINS FAILED.											
4116	DYNAMIC RAM , 16384X1 BIT													
	061	4	TEXAS INSTRUMENTS	N/R	N/R	SEP 78	1000	220 PF	1	SS	FAIL	1000	5	N/R
			FAILURE CRITERIA: 1 UA LEAKAGE AT 20V											
	061	5	MOSTEK	MK4116	N/R	SEP 78	1000	220 PF	1	SS	FAIL	500	1	N/R
			FAILURE CRITERIA: 1 UA LEAKAGE AT 20V											
	061	6	MOSTEK	MK4116	N/R	SEP 78	1000	220 PF	1	SS	FAIL	1000	8	N/R
			FAILURE CRITERIA: 1 UA LEAKAGE AT 20V											
	061	7	MOSTEK	MK4116	N/R	SEP 78	1000	220 PF	1	SS	PASS	1000	1	N/R
			FAILURE CRITERIA: 1 UA LEAKAGE AT 20V											
	062	1	MOSTEK	MK4116H	N/R	OCT 79	1000	220 PF	1	GN	FAIL	1000	6	VCC(+) VBB,VDD(-)
	062	2	MOSTEK	MK4116H	N/R	OCT 79	1000	220 PF	1	GN	PASS	1000	4	VCC(+) VBB,VDD(-)
	062	3	MOSTEK	MK4116H	N/R	OCT 79	1000	220 PF	5	GN	FAIL	1000	3	VCC(+) VDD,VSS(-)
	062	4	MOSTEK	MK4116H	N/R	OCT 79	1000	220 PF	5	GN	PASS	1000	2	VCC(+) VDD,VSS(-)
	063	1	MOSTEK	MK4116H	N/R	OCT 79	1000	220 PF	1	SS	FAIL	800	4	VCC(+) VBB,VDD(-)
	063	2	MOSTEK	MK4116H	N/R	OCT 79	1000	220 PF	1	SS	FAIL	1000	4	VCC(+) VBB,VDD(-)
	063	3	MOSTEK	MK4116H	N/R	OCT 79	1000	220 PF	1	SS	PASS	1000	2	VCC(+) VBB,VDD(-)
	063	1	MOSTEK	MK4116H	N/R	OCT 79	1000	220 PF	1	SS	FAIL	1000	1	VCC(+) VBB,VDD(-)
	063	2	MOSTEK	MK4116H	N/R	OCT 79	1000	220 PF	1	SS	FAIL	1200	4	VCC(+) VBB,VDD(-)
	065	1	MOSTEK	MK4116H	N/R	OCT 79	100	220 PF	1	GN	FAIL	1000	2	VCC(+) VBB,VDD(-)
	065	2	MOSTEK	MK4116H	N/R	OCT 79	100	220 PF	2	GN	FAIL	1000	7	VCC(+) VBB,VDD(-)
	065	3	MOSTEK	MK4116H	N/R	OCT 79	100	220 PF	2	GN	PASS	1000	1	VCC(+) VBB,VDD(-)
	065	4	MOSTEK	MK4116H	N/R	OCT 79	100	220 PF	1	GN	FAIL	1000	4	VCC(+) VDD,VSS(-)
	065	5	MOSTEK	MK4116H	N/R	OCT 79	100	220 PF	1	GN	PASS	1000	1	VCC(+) VDD,VSS(-)
	066	1	MOSTEK	MK4116H	N/R	OCT 79	1000	220 PF	1	GN	FAIL	1200	2	VCC(+) VDD,VSS(-)
	066	2	MOSTEK	MK4116H	N/R	OCT 79	1000	220 PF	1	GN	PASS	1200	3	VCC(+) VDD,VSS(-)
	129	1	MOSTEK	MK4116	N/R	JUL 80	1500	100 PF	1	GN	PASS	500	5	EACH PIN(+) APTT(-)
	131	1	MOSTEK	MK4116	N/R	JUL 80	1500	100 PF	1	GN	PASS	700	5	EACH PIN(+) APTT(-)
	133	1	MOSTEK	MK4116	N/R	JUL 80	1500	100 PF	1	GN	FAIL	800	1	EACH PIN(+) APTT(-)
	133	2	MOSTEK	MK4116	N/R	JUL 80	1500	100 PF	1	GN	PASS	800	4	EACH PIN(+) APTT(-)
	135	1	MOSTEK	MK4116	N/R	JUL 80	1500	100 PF	1	GN	FAIL	1000	5	EACH PIN(+) APTT(-)&
	137	1	MOSTEK	MK4116	N/R	JUL 80	1500	100 PF	1	GN	FAIL	1500	5	EACH PIN(+) APTT(-)
416	DYNAMIC RAM , 16384X1 BIT													
	061	2	NEC MICROCOMPUTERS	N/R	N/R	SEP 78	1000	220 PF	1	SS	FAIL	500	4	N/R
			FAILURE CRITERIA: 1 UA LEAKAGE AT 20V											
	061	3	NEC MICROCOMPUTERS	N/R	N/R	SEP 78	1000	220 PF	1	SS	FAIL	1000	1	N/R
			FAILURE CRITERIA: 1 UA LEAKAGE AT 20V											
	130	3	NEC MICROCOMPUTERS	D416C	N/R	AUG 80	1500	100 PF	1	GN	PASS	500	5	EACH PIN(+) APTT(-)
	132	1	NEC MICROCOMPUTERS	D416C	N/R	AUG 80	1500	100 PF	1	GN	FAIL	700	3	EACH PIN(+) APTT(-)
	132	2	NEC MICROCOMPUTERS	D416C	N/R	AUG 80	1500	100 PF	1	GN	PASS	700	2	EACH PIN(+) APTT(-)
	136	1	NEC MICROCOMPUTERS	D416C	N/R	AUG 80	1500	100 PF	1	GN	FAIL	1000	5	EACH PIN(+) APTT(-)

TECHNOLOGY: NMOS
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION															
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
4716	DYNAMIC RAM , 16384X1 BIT												
130	1	HITACHI	4716AP	N/R	JUL 80	1500	100 PF	1	GN	FAIL	500	4	EACH PIN(+) APTT(-)
130	2	HITACHI	4716AP	N/R	JUL 80	1500	100 PF	1	GN	PASS	500	1	EACH PIN(+) APTT(-)
132	3	HITACHI	4716AP	N/R	JUL 80	1500	100 PF	1	GN	FAIL	700	5	EACH PIN(+) APTT(-)
6800	MICROPROCESSOR , CPU												
030	500	N/R	6800C	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	501	N/R	6800L	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	502	N/R	6800P	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
6802	MICROPROCESSOR , CPU INTERNAL CLOCK												
030	503	N/R	6802P	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
6821	MICROPROCESSOR , PIA												
030	504	N/R	6821C	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	505	N/R	6821P	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
6828	MICROPROCESSOR , PRIORITY INTERRUPT												
030	506	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
6844	MICROPROCESSOR , DMA CONTROLLER												
030	507	N/R	6844L	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
6845	MICROPROCESSOR , CRT CONTROLLER												
030	508	N/R	6845L	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
6850	MICROPROCESSOR , ACIA												
030	509	N/R	6850C	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
6875	MICROPROCESSOR , CLOCK GEN. 2 PHASE												
030	510	N/R	6875C	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												

TECHNOLOGY: NMOS
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION															
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
8039	MICROCOMPUTER , 8 BIT												
384	33	N/R	N/R	N/R	N/R	1000	200 PF	1	SS	FAIL	1700	1	EACH PIN(+)
	REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 1750V.												
	FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.												
384	34	N/R	N/R	N/R	N/R	1000	200 PF	1	SS	FAIL	900	1	EACH PIN(+)
	REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 3550V.												
	FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.												
384	35	N/R	N/R	N/R	N/R	1000	200 PF	1	SS	FAIL	1400	1	EACH PIN(+)
	REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 3800V.												
	FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.												
384	36	N/R	N/R	N/R	N/R	1000	200 PF	1	SS	FAIL	400	1	EACH PIN(+)
	REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 1170V.												
	FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.												
8048	MICROCOMPUTER , 8 BIT												
384	29	N/R	N/R	N/R	N/R	1000	200 PF	1	SS	FAIL	1200	1	EACH PIN(+)
	REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 3000V.												
	FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.												
384	30	N/R	N/R	N/R	N/R	1000	200 PF	1	SS	FAIL	1000	1	EACH PIN(+)
	REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 3500V.												
	FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.												
384	31	N/R	N/R	N/R	N/R	1000	200 PF	1	SS	FAIL	600	1	EACH PIN(+)
	REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 2400V.												
	FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.												
384	32	N/R	N/R	N/R	N/R	1000	200 PF	1	SS	FAIL	600	1	EACH PIN(+)
	REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 1700V.												
	FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.												
8080	MICROPROCESSOR , CPU												
030	536	N/R	8080AC	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
8085	MICROPROCESSOR , CPU												
030	537	N/R	8085A	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
8155	STATIC RAM , 256X8 BIT,I/O,TIMER												
384	39	N/R	N/R	N/R	N/R	1000	200 PF	1	SS	FAIL	700	1	EACH PIN(+)
	REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 2900V.												
	FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.												
384	40	N/R	N/R	N/R	N/R	1000	200 PF	1	SS	FAIL	900	1	EACH PIN(+)
	REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 2900V.												
	FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.												
384	41	N/R	N/R	N/R	N/R	1000	200 PF	1	SS	FAIL	600	1	EACH PIN(+)
	REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 2500V.												
	FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.												

TECHNOLOGY: NMOS
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION															
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
8155	STATIC RAM , 256X8 BIT,I/O,TIMER (CONTINUED)												
384	42	N/R	N/R	N/R	N/R	1000	200 PF	1	SS	FAIL	500	1	EACH PIN(+)
	REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 1200V.												
	FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.												
8253	LSI , PROG. INTERVAL TIMER												
384	37	N/R	N/R	N/R	N/R	1000	200 PF	1	SS	FAIL	1400	1	EACH PIN(+)
	REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 2600V.												
	FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.												
384	38	N/R	N/R	N/R	N/R	1000	200 PF	1	SS	FAIL	800	1	EACH PIN(+)
	REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 3700V.												
	FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.												
8755	EPROM , 2048X8 BIT												
384	51	N/R	N/R	N/R	N/R	1000	200 PF	1	SS	FAIL	1900	1	EACH PIN(+)
	REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 3200V.												
	FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.												
384	52	N/R	N/R	N/R	N/R	1000	200 PF	1	SS	FAIL	500	1	EACH PIN(+)
	REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 1600V.												
	FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.												
9102	STATIC RAM , 1024 BIT												
003	6	ADVANCED MICRO DEVICES	N/R	N/R	NOV 75	0	100 PF	1	SS	FAIL	300	1	INPUT(+) PR. SUPPLY(-)
N/R	DYNAMIC RAM , 16384X1 BIT												
061	1	INTEL	N/R	N/R	SEP 78	1000	220 PF	1	SS	FAIL	1000	5	N/R
	FAILURE CRITERIA: 1 UA LEAKAGE AT 20V												
N/R	EPROM , 16K BIT												
380	1	N/R	N/R	N/R	N/R	1500	100 PF	10	SS	FAIL	2000	1	EACH PIN(+)
	REMARK: AMERICAN MANUFACTURER		FAILURE CRITERIA: IR > 400 UA										
380	2	N/R	N/R	N/R	N/R	1500	100 PF	5	SS	FAIL	2500	1	EACH PIN(+)
	REMARK: AMERICAN MANUFACTURER		FAILURE CRITERIA: IR > 400 UA										
380	3	N/R	N/R	N/R	N/R	1500	100 PF	1	SS	FAIL	3000	1	EACH PIN(+)
	REMARK: AMERICAN MANUFACTURER		FAILURE CRITERIA: IR > 400 UA										
380	4	N/R	N/R	N/R	N/R	1500	100 PF	10	SS	PASS	3000	1	EACH PIN(-)
	REMARK: AMERICAN MANUFACTURER		FAILURE CRITERIA: IR > 400 UA										
380	5	N/R	N/R	N/R	N/R	1500	100 PF	5	SS	PASS	3000	1	EACH PIN(-)
	REMARK: AMERICAN MANUFACTURER		FAILURE CRITERIA: IR > 400 UA										
380	6	N/R	N/R	N/R	N/R	1500	100 PF	1	SS	PASS	3000	1	EACH PIN(-)
	REMARK: AMERICAN MANUFACTURER		FAILURE CRITERIA: IR > 400 UA										
380	7	N/R	N/R	N/R	N/R	1500	100 PF	10	SS	FAIL	800	1	EACH PIN(+)
	REMARK: AMERICAN MANUFACTURER		FAILURE CRITERIA: IR > 400 UA										
380	8	N/R	N/R	N/R	N/R	1500	100 PF	5	SS	FAIL	1000	1	EACH PIN(+)
	REMARK: AMERICAN MANUFACTURER		FAILURE CRITERIA: IR > 400 UA										

TECHNOLOGY: NMOS
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
N/R		EPROM , 16K BIT				(CONTINUED)							
380	9	N/R	N/R	N/R	N/R	1500	100 PF	1	SS	FAIL	1000	1	EACH PIN(+)
	REMARK: AMERICAN MANUFACTURER		FAILURE CRITERIA: IR > 400 UA										
380	10	N/R	N/R	N/R	N/R	1500	100 PF	10	SS	FAIL	2000	1	EACH PIN(-)
	REMARK: AMERICAN MANUFACTURER		FAILURE CRITERIA: IR > 400 UA										
380	11	N/R	N/R	N/R	N/R	1500	100 PF	5	SS	FAIL	1500	1	EACH PIN(-)
	REMARK: AMERICAN MANUFACTURER		FAILURE CRITERIA: IR > 400 UA										
380	12	N/R	N/R	N/R	N/R	1500	100 PF	1	SS	FAIL	2000	1	EACH PIN(-)
	REMARK: AMERICAN MANUFACTURER		FAILURE CRITERIA: IR > 400 UA										
380	13	N/R	N/R	N/R	N/R	1500	100 PF	10	SS	FAIL	500	1	EACH PIN(+)
	REMARK: AMERICAN MANUFACTURER		FAILURE CRITERIA: IR > 400 UA										
380	14	N/R	N/R	N/R	N/R	1500	100 PF	5	SS	FAIL	500	1	EACH PIN(+)
	REMARK: AMERICAN MANUFACTURER		FAILURE CRITERIA: IR > 400 UA										
380	15	N/R	N/R	N/R	N/R	1500	100 PF	1	SS	FAIL	600	1	EACH PIN(+)
	REMARK: AMERICAN MANUFACTURER		FAILURE CRITERIA: IR > 400 UA										
380	16	N/R	N/R	N/R	N/R	1500	100 PF	10	SS	FAIL	700	1	EACH PIN(-)
	REMARK: AMERICAN MANUFACTURER		FAILURE CRITERIA: IR > 400 UA										
380	17	N/R	N/R	N/R	N/R	1500	100 PF	5	SS	FAIL	900	1	EACH PIN(-)
	REMARK: AMERICAN MANUFACTURER		FAILURE CRITERIA: IR > 400 UA										
380	18	N/R	N/R	N/R	N/R	1500	100 PF	1	SS	FAIL	900	1	EACH PIN(-)
	REMARK: AMERICAN MANUFACTURER		FAILURE CRITERIA: IR > 400 UA										
380	19	N/R	N/R	N/R	N/R	1500	100 PF	10	SS	FAIL	1000	1	EACH PIN(+)
	REMARK: JAPANESE MANUFACTURER		FAILURE CRITERIA: IR > 400 UA										
380	20	N/R	N/R	N/R	N/R	1500	100 PF	5	SS	FAIL	2000	1	EACH PIN(+)
	REMARK: JAPANESE MANUFACTURER		FAILURE CRITERIA: IR > 400 UA										
380	21	N/R	N/R	N/R	N/R	1500	100 PF	1	SS	FAIL	2500	1	EACH PIN(+)
	REMARK: JAPANESE MANUFACTURER		FAILURE CRITERIA: IR > 400 UA										
380	22	N/R	N/R	N/R	N/R	1500	100 PF	10	SS	FAIL	2500	1	EACH PIN(-)
	REMARK: JAPANESE MANUFACTURER		FAILURE CRITERIA: IR > 400 UA										
380	23	N/R	N/R	N/R	N/R	1500	100 PF	5	SS	PASS	3000	1	EACH PIN(-)
	REMARK: JAPANESE MANUFACTURER		FAILURE CRITERIA: IR > 400 UA										
380	24	N/R	N/R	N/R	N/R	1500	100 PF	1	SS	PASS	3000	1	EACH PIN(-)
	REMARK: JAPANESE MANUFACTURER		FAILURE CRITERIA: IR > 400 UA										
380	25	N/R	N/R	N/R	N/R	1500	100 PF	10	SS	FAIL	1500	1	EACH PIN(+)
	REMARK: JAPANESE MANUFACTURER		FAILURE CRITERIA: IR > 400 UA										
380	26	N/R	N/R	N/R	N/R	1500	100 PF	5	SS	FAIL	3000	1	EACH PIN(+)
	REMARK: JAPANESE MANUFACTURER		FAILURE CRITERIA: IR > 400 UA										
380	27	N/R	N/R	N/R	N/R	1500	100 PF	1	SS	FAIL	3000	1	EACH PIN(+)
	REMARK: JAPANESE MANUFACTURER		FAILURE CRITERIA: IR > 400 UA										
380	28	N/R	N/R	N/R	N/R	1500	100 PF	10	SS	FAIL	2000	1	EACH PIN(-)
	REMARK: JAPANESE MANUFACTURER		FAILURE CRITERIA: IR > 400 UA										
380	29	N/R	N/R	N/R	N/R	1500	100 PF	5	SS	FAIL	1500	1	EACH PIN(-)
	REMARK: JAPANESE MANUFACTURER		FAILURE CRITERIA: IR > 400 UA										
380	30	N/R	N/R	N/R	N/R	1500	100 PF	1	SS	FAIL	3000	1	EACH PIN(-)
	REMARK: JAPANESE MANUFACTURER		FAILURE CRITERIA: IR > 400 UA										
380	31	N/R	N/R	N/R	N/R	1500	100 PF	10	SS	FAIL	500	1	EACH PIN(+)
	REMARK: JAPANESE MANUFACTURER		FAILURE CRITERIA: IR > 400 UA										
380	32	N/R	N/R	N/R	N/R	1500	100 PF	5	SS	FAIL	600	1	EACH PIN(+)
	REMARK: JAPANESE MANUFACTURER		FAILURE CRITERIA: IR > 400 UA										

TECHNOLOGY: NMOS
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SEC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
N/R	EPROM , 16K BIT				(CONTINUED)								
380	33	N/R	N/R	N/R	N/R	1500	100 PF	1	SS	FAIL	2000	1	EACH PIN(+)
	REMARK: JAPANESE MANUFACTURER		FAILURE CRITERIA: IR > 400 UA										
380	34	N/R	N/R	N/R	N/R	1500	100 PF	10	SS	FAIL	1500	1	EACH PIN(-)
	REMARK JAPANESE MANUFACTURER		FAILURE CRITERIA: IR > 400 UA										
380	35	N/R	N/R	N/R	N/R	1500	100 PF	5	SS	FAIL	1500	1	EACH PIN(-)
	REMARK: JAPANESE MANUFACTURER		FAILURE CRITERIA: IR > 400 UA										
380	36	N/R	N/R	N/R	N/R	1500	100 PF	1	SS	FAIL	2000	1	EACH PIN(-)
	REMARK: JAPANESE MANUFACTURER		FAILURE CRITERIA: IR > 400 UA										
381	1	N/R	N/R	N/R	N/R	0	200 PF	10	SS	FAIL	300	1	EACH PIN(+)
	REMARK: AMERICAN MANUFACTURER		FAILURE CRITERIA: IR > 400 UA										
381	2	N/R	N/R	N/R	N/R	0	200 PF	10	SS	PASS	500	1	EACH PIN(-)
	REMARK: AMERICAN MANUFACTURER		FAILURE CRITERIA: IR > 400 UA										
381	3	N/R	N/R	N/R	N/R	0	200 PF	10	SS	FAIL	100	1	EACH PIN(+)
	REMARK: AMERICAN MANUFACTURER		FAILURE CRITERIA: IR > 400 UA										
381	4	N/R	N/R	N/R	N/R	0	200 PF	10	SS	FAIL	400	1	EACH PIN(-)
	REMARK: AMERICAN MANUFACTURER		FAILURE CRITERIA: IR > 400 UA										
381	5	N/R	N/R	N/R	N/R	0	200 PF	10	SS	FAIL	200	1	EACH PIN(+)
	REMARK: AMERICAN MANUFACTURER		FAILURE CRITERIA: IR > 400 UA										
381	6	N/R	N/R	N/R	N/R	0	200 PF	10	SS	FAIL	100	1	EACH PIN(-)
	REMARK: AMERICAN MANUFACTURER		FAILURE CRITERIA: IR > 400 UA										
381	7	N/R	N/R	N/R	N/R	0	200 PF	10	SS	FAIL	200	1	EACH PIN(+)
	REMARK: JAPANESE MANUFACTURER		FAILURE CRITERIA: IR > 400 UA										
381	8	N/R	N/R	N/R	N/R	0	200 PF	10	SS	FAIL	200	1	EACH PIN(-)
	REMARK: JAPANESE MANUFACTURER		FAILURE CRITERIA: IR > 400 UA										
381	9	N/R	N/R	N/R	N/R	0	200 PF	10	SS	FAIL	300	1	EACH PIN(+)
	REMARK: JAPANESE MANUFACTURER		FAILURE CRITERIA: IR > 400 UA										
381	10	N/R	N/R	N/R	N/R	0	200 PF	10	SS	FAIL	400	1	EACH PIN(-)
	REMARK: JAPANESE MANUFACTURER		FAILURE CRITERIA: IR > 400 UA										
381	11	N/R	N/R	N/R	N/R	0	200 PF	10	SS	FAIL	100	1	EACH PIN(+)
	REMARK: JAPANESE MANUFACTURER		FAILURE CRITERIA: IR > 400 UA										
381	12	N/R	N/R	N/R	N/R	0	200 PF	10	SS	FAIL	200	1	EACH PIN(-)
	REMARK: JAPANESE MANUFACTURER		FAILURE CRITERIA: IR > 400 UA										
382	1	N/R	N/R	N/R	N/R			1	N/R	FAIL	400	1	ALL PINS(+)
	REMARK: DEVICE CAPACITANCE WAS 11.1 PF. TO GND. THE CHARGED DEVICE MODEL WAS USED.							FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT AT ANY PIN.					
382	2	N/R	N/R	N/R	N/R			1	N/R	FAIL	2000	1	ALL PINS(-)
	REMARK: DEVICE CAPACITANCE WAS 11.1 PF. TO GND. THE CHARGED DEVICE MODEL WAS USED.							FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT AT ANY PIN.					
382	3	N/R	N/R	N/R	N/R			1	N/R	FAIL	400	1	ALL PINS(+)
	REMARK: DEVICE CAPACITANCE WAS 9.0 PF. TO GND. THE CHARGED DEVICE MODEL WAS USED.							FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT AT ANY PIN.					
382	4	N/R	N/R	N/R	N/R			1	N/R	FAIL	400	1	ALL PINS(-)
	REMARK: DEVICE CAPACITANCE WAS 9.0 PF. TO GND. THE CHARGED DEVICE MODEL WAS USED.							FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT AT ANY PIN.					
382	5	N/R	N/R	N/R	N/R			1	N/R	FAIL	350	1	ALL PINS(+)
	REMARK: DEVICE CAPACITANCE WAS 6.8 PF. TO GND. THE CHARGED DEVICE MODEL WAS USED.							FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT AT ANY PIN.					
382	6	N/R	N/R	N/R	N/R			1	N/R	FAIL	400	1	ALL PINS(-)
	REMARK: DEVICE CAPACITANCE WAS 6.8 PF. TO GND. THE CHARGED DEVICE MODEL WAS USED.							FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT AT ANY PIN.					
382	7	N/R	N/R	N/R	N/R			1	N/R	FAIL	2000	1	ALL PINS(+)
	REMARK: DEVICE CAPACITANCE WAS 9.6 PF. TO GND. THE CHARGED DEVICE MODEL WAS USED.							FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT AT ANY PIN.					
382	8	N/R	N/R	N/R	N/R			1	N/R	FAIL	2000	1	ALL PINS(-)
	REMARK: DEVICE CAPACITANCE WAS 9.6 PF. TO GND. THE CHARGED DEVICE MODEL WAS USED.							FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT AT ANY PIN.					

TECHNOLOGY: NMOS
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
N/R		EPROM , 16K BIT					(CONTINUED)						
382	9	N/R	N/R	N/R	N/R			1	N/R	FAIL	600	1	ALL PINS(+)
	REMARK: DEVICE CAPACITANCE WAS 11.8 PF. TO GND. THE CHARGED DEVICE MODEL WAS USED.							FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT AT ANY PIN.					
382	10	N/R	N/R	N/R	N/R			1	N/R	FAIL	1500	1	ALL PINS(-)
	REMARK: DEVICE CAPACITANCE WAS 11.8 PF. TO GND. THE CHARGED DEVICE MODEL WAS USED.							FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT AT ANY PIN.					
382	11	N/R	N/R	N/R	N/R			1	N/R	FAIL	2000	1	ALL PINS(+)
	REMARK: DEVICE CAPACITANCE WAS 7.11 PF. TO GND THE CHARGED DEVICE MODEL WAS USED.							FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT AT ANY PIN.					
382	12	N/R	N/R	N/R	N/R			1	N/R	FAIL	1500	1	ALL PINS(-)
	REMARK: DEVICE CAPACITANCE WAS 7.11 PF. TO GND THE CHARGED DEVICE MODEL WAS USED.							FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT AT ANY PIN.					

TECHNOLOGY: PMOS

BASIC PART NUMBER	DESCRIPTION														
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
04580	SSI/MSI , ADDER												
029	307	RCA	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	5968	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
11011	STATIC RAM , 256X1 BIT												
029	308	INTEL	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	2109	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
14021	SHIFT REGISTER , STATIC												
029	309	INTEL	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	4733	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
N/R	LSI												
166	1	SYLVANIA	755090A0091	7544	N/R	1500	100 PF	1	SS	PASS	4000	1	N/R
	FAILURE CRITERIA: CHANGE IN IDD AND/OR FUNCTIONAL FAILURE.												
167	1	SYLVANIA	755090A0091	7544	N/R	1500	100 PF	1	SS	FAIL	7000	1	N/R
	FAILURE CRITERIA: CHANGE IN IDD AND/OR FUNCTIONAL FAILURE.												
168	1	SYLVANIA	755090A0091	7544	N/R	1500	100 PF	1	SS	FAIL	10000	1	N/R
	REMARK: DAMAGE CAUSED BY TEST CIRCUIT MALFUNCTIONS. FAILURE CRITERIA: CHANGE IN IDD AND/OR FUNCTIONAL FAILURE.												
169	1	SYLVANIA	755090A0091	7544	N/R	1500	100 PF	1	SS	PASS	10000	1	N/R
	FAILURE CRITERIA: CHANGE IN IDD AND/OR FUNCTIONAL FAILURE.												
N/R	CUSTOM , LSI PHONE CONVERTER												
231	1	N/R	N/R	N/R	N/R	0	100 PF	1	N/R	FAIL	570	1	INPUT(+) GND(-)
	REMARK: 570 VOLTS IS AN AVERAGE OF 8 INPUTS TESTED.												
231	2	N/R	N/R	N/R	N/R	0	100 PF	1	N/R	FAIL	400	1	INPUT(-) GND(+)
	REMARK: 400 VOLTS IS AN AVERAGE OF 8 INPUTS TESTED.												

TECHNOLOGY: MOS

BASIC PART NUMBER	SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
2114			STATIC RAM , 1024X4 BIT											
	030	353	N/R	2114-P30	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
			FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%											
2147			STATIC RAM , 4096X1 BIT											
	030	355	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
			FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%											
520			CONSUMER , CHROMA CIRCUITS,TV											
	048	20	GENERAL INSTRUMENTS	MEM520	N/R	N/R	100	218 PF	1	SS	FAIL	58	1	N/R
			FAILURE CRITERIA: GATE CURRENT GREATER THAN 5UA AT A GATE/SOURCE VOLTAGE OF 22V											
7552			STATIC RAM , 1024 BIT											
	003	5	INTERSIL	N/R	N/R	NOV 75	0	100 PF	1	SS	FAIL	400	1	INPUT(+) PR. SUPPLY(-)
N/R			MICROCOMPUTER , LCC											
	042	1	N/R	N/R	N/R	N/R	270	450 PF	1	SS	FAIL	1000	3	N/R
			REMARK: 1000 VOLTS IS AN AVERAGE OF 3 DEVICES FAILURE CRITERIA: 1 UA LEAKAGE AT 10V											
	042	2	TEXAS INSTRUMENTS	N/R	N/R	N/R	270	450 PF	1	SS	FAIL	900	3	N/R
			REMARK: 90(VOLTS IS AN AVERAGE OF 3 DEVICES FAILURE CRITERIA: 1 UA LEAKAGE AT 10V											
	046	8	N/R	N/R	N/R	N/R	1000	200 PF	1000	GN	PASS	500	1	N/R
			FAILURE CRITERIA: 1 UA LEAKAGE AT 10V											
	046	9	TEXAS INSTRUMENTS	N/R	N/R	N/R	1000	200 PF	1000	GN	PASS	500	1	N/R
			FAILURE CRITERIA: 1 UA LEAKAGE AT 10V											
	046	10	MOTOROLA SEMI	N/R	N/R	N/R	1000	200 PF	1000	GN	PASS	500	1	N/R
			FAILURE CRITERIA: 1 UA LEAKAGE AT 10V											
	047	5	N/R	N/R	N/R	N/R	1000	200 PF	10	GN	FAIL	1000	1	N/R
			FAILURE CRITERIA: 1 UA LEAKAGE AT 10V											
	047	6	TEXAS INSTRUMENTS	N/R	N/R	N/R	1000	200 PF	10	GN	FAIL	1000	1	N/R
			FAILURE CRITERIA: 1 UA LEAKAGE AT 10V											
	047	7	MOTOROLA SEMI	N/R	N/R	N/R	1000	200 PF	10	GN	FAIL	1000	1	N/R
			FAILURE CRITERIA: 1 UA LEAKAGE AT 10V											
N/R			MICROCOMPUTER , LCC UC											
	041	22	TEXAS INSTRUMENTS	N/R	N/R	N/R	1000	200 PF	1	SS	FAIL	1600	1	N/R
			FAILURE CRITERIA: 1 UA LEAKAGE AT 10V											
N/R			MICROCOMPUTER , LCC UC											
	041	17	N/R	N/R	N/R	N/R	1000	200 PF	1	SS	FAIL	700	1	N/R
			FAILURE CRITERIA: 1 UA LEAKAGE AT 10V											
	041	18	N/R	N/R	N/R	N/R	1000	200 PF	1	SS	FAIL	2000	1	N/R
			FAILURE CRITERIA: 1 UA LEAKAGE AT 10V											
	041	19	MOTOROLA SEMI	N/R	N/R	N/R	1000	200 PF	1	SS	FAIL	700	1	N/R
			FAILURE CRITERIA: 1 UA LEAKAGE AT 10V											
	041	20	MOTOROLA SEMI	N/R	N/R	N/R	1000	200 PF	1	SS	FAIL	2000	1	N/R
			FAILURE CRITERIA: 1 UA LEAKAGE AT 10V											

TECHNOLOGY: MOS
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION														
	SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
N/R			MICROCOMPUTER , LCC UC					(CONTINUED)							
	041	21	TEXAS INSTRUMENTS	N/R	N/R	N/R	1000	200 PF	1	SS	FAIL	900	1	N/R
			FAILURE CRITERIA: 1 UA LEAKAGE AT 10V											
N/R			MEMORY , 2KX8 BIT											
	042	6	INTEL	N/R	N/R	N/R	270	450 PF	1	SS	FAIL	700	3	N/R
			REMARK: 700 VOLTS IS AN AVERAGE OF 3 DEVICES		FAILURE CRITERIA: 1 UA LEAKAGE AT 10V									
N/R			RAM											
	041	13	010	N/R	N/R	N/R	1000	200 PF	1	SS	FAIL	800	1	N/R
			FAILURE CRITERIA: 1 UA LEAKAGE AT 10V											
	041	14	10	N/R	N/R	N/R	1000	200 PF	1	SS	FAIL	1000	1	N/R
			FAILURE CRITERIA: 1 UA LEAKAGE AT 10V											
	041	15	SIGNETICS	N/R	N/R	N/R	1000	200 PF	1	SS	FAIL	500	1	N/R
			FAILURE CRITERIA: 1 UA LEAKAGE AT 10V											
	041	16	SIGNETICS	N/R	N/R	N/R	1000	200 PF	1	SS	FAIL	700	1	N/R
			FAILURE CRITERIA: 1 UA LEAKAGE AT 10V											
N/R			RAM , 1KX1 BIT											
	041	7	TEXAS INSTRUMENTS	N/R	N/R	N/R	1000	200 PF	1	SS	FAIL	400	1	N/R
			FAILURE CRITERIA: 1 UA LEAKAGE AT 10V											
	041	8	TEXAS INSTRUMENTS	N/R	N/R	N/R	1000	200 PF	1	SS	FAIL	1100	1	N/R
			FAILURE CRITERIA: 1 UA LEAKAGE AT 10V											
	041	9	NATIONAL SEMI	N/R	N/R	N/R	1000	200 PF	1	SS	FAIL	1000	1	N/R
			FAILURE CRITERIA: 1 UA LEAKAGE AT 10V											
	041	10	NATIONAL SEMI	N/R	N/R	N/R	1000	200 PF	1	SS	FAIL	2000	1	N/R
			FAILURE CRITERIA: 1 UA LEAKAGE AT 10V											
	045	2	10	N/R	N/R	N/R	1000	200 PF	4	SS	FAIL	1000	3	N/R
			REMARK: 1000 VOLTS IS AN AVERAGE OF 3 DEVICES		FAILURE CRITERIA: 1 UA LEAKAGE AT 10V									
	045	3	NATIONAL SEMI	N/R	N/R	N/R	1000	200 PF	4	SS	FAIL	1200	3	N/R
			REMARK: 1200 VOLTS IS AN AVERAGE OF 3 DEVICES		FAILURE CRITERIA: 1 UA LEAKAGE AT 10V									
	045	4	SIGNETICS	N/R	N/R	N/R	1000	200 PF	4	SS	FAIL	600	3	N/R
			REMARK: 600 VOLTS IS AN AVERAGE OF 3 DEVICES		FAILURE CRITERIA: 1 UA LEAKAGE AT 10V									
	045	5	TEXAS INSTRUMENTS	N/R	N/R	N/R	1000	200 PF	4	SS	FAIL	700	3	N/R
			REMARK: 700 VOLTS IS AN AVERAGE OF 3 DEVICES		FAILURE CRITERIA: 1 UA LEAKAGE AT 10V									
	046	6	MOSTEK	N/R	N/R	N/R	1000	200 PF	40	GN	FAIL	500	1	N/R
			FAILURE CRITERIA: 1 UA LEAKAGE AT 10V											
	046	7	10	N/R	N/R	N/R	1000	200 PF	20	GN	FAIL	500	1	N/R
			FAILURE CRITERIA: 1 UA LEAKAGE AT 10V											
N/R			RAM , 4K BIT											
	042	3	INTEL	N/R	N/R	N/R	270	450 PF	1	SS	FAIL	700	3	N/R
			REMARK: 700 VOLTS IS AN AVERAGE OF 3 DEVICES		FAILURE CRITERIA: 1 UA LEAKAGE AT 10V									
	042	4	MOSTEK	N/R	N/R	N/R	270	450 PF	1	SS	FAIL	400	3	N/R
			REMARK: 400 VOLTS IS AN AVERAGE OF 3 DEVICES		FAILURE CRITERIA: 1 UA LEAKAGE AT 10V									
	042	5	MOTOROLA SEMI	N/R	N/R	N/R	270	450 PF	1	SS	FAIL	600	3	N/R
			REMARK: 600 VOLTS IS AN AVERAGE OF 3 DEVICES		FAILURE CRITERIA: 1 UA LEAKAGE AT 10V									
	046	11	MOSTEK	N/R	N/R	N/R	1000	200 PF	60	GN	FAIL	500	1	N/R
			FAILURE CRITERIA: 1 UA LEAKAGE AT 10V											

TECHNOLOGY: MOS
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION	SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
N/R	RAM , 4K BIT (CONTINUED)														
		046	12	TEXAS INSTRUMENTS	N/R	N/R	N/R	1000	200 PF	50	GN	FAIL	500	1	N/R
				FAILURE CRITERIA: 1 UA LEAKAGE AT 10V											
		046	13	MOTOROLA SEMI	N/R	N/R	N/R	1000	200 PF	300	GN	PASS	500	1	N/R
				FAILURE CRITERIA: 1 UA LEAKAGE AT 10V											
		046	14	INTEL	N/R	N/R	N/R	1000	200 PF	1000	GN	PASS	500	1	N/R
				FAILURE CRITERIA: 1 UA LEAKAGE AT 10V											
		046	15	1	N/R	N/R	N/R	1000	200 PF	1000	GN	PASS	500	1	N/R
				FAILURE CRITERIA: 1 UA LEAKAGE AT 10V											
		047	8	MOSTEK	N/R	N/R	N/R	1000	200 PF	1	GN	FAIL	1000	1	N/R
				FAILURE CRITERIA: 1 UA LEAKAGE AT 10V											
		047	9	TEXAS INSTRUMENTS	N/R	N/R	N/R	1000	200 PF	5	GN	FAIL	1000	1	N/R
				FAILURE CRITERIA: 1 UA LEAKAGE AT 10V											
		047	10	MOTOROLA SEMI	N/R	N/R	N/R	1000	200 PF	5	GN	FAIL	1000	1	N/R
				FAILURE CRITERIA: 1 UA LEAKAGE AT 10V											
		047	11	INTEL	N/R	N/R	N/R	1000	200 PF	40	GN	FAIL	1000	1	N/R
				FAILURE CRITERIA: 1 UA LEAKAGE AT 10V											
		047	12	1	N/R	N/R	N/R	1000	200 PF	20	GN	FAIL	1000	1	N/R
				FAILURE CRITERIA: 1 UA LEAKAGE AT 10V											
N/R	RAM , 4KX1 BIT														
		041	23	MOSTEK	N/R	N/R	N/R	1000	200 PF	1	SS	FAIL	600	1	N/R
				FAILURE CRITERIA: 1 UA LEAKAGE AT 10V											
		041	24	MOSTEK	N/R	N/R	N/R	1000	200 PF	1	SS	FAIL	2000	1	N/R
				FAILURE CRITERIA: 1 UA LEAKAGE AT 10V											
		041	25	TEXAS INSTRUMENTS	N/R	N/R	N/R	1000	200 PF	1	SS	FAIL	1300	1	N/R
				FAILURE CRITERIA: 1 UA LEAKAGE AT 10V											
		041	26	TEXAS INSTRUMENTS	N/R	N/R	N/R	1000	200 PF	1	SS	FAIL	2000	1	N/R
				FAILURE CRITERIA: 1 UA LEAKAGE AT 10V											
		041	27	MOTOROLA SEMI	N/R	N/R	N/R	1000	200 PF	1	SS	FAIL	1300	1	N/R
				FAILURE CRITERIA: 1 UA LEAKAGE AT 10V											
		041	28	MOTOROLA SEMI	N/R	N/R	N/R	1000	200 PF	1	SS	FAIL	2000	1	N/R
				FAILURE CRITERIA: 1 UA LEAKAGE AT 10V											
		041	29	1	N/R	N/R	N/R	1000	200 PF	1	SS	FAIL	800	1	N/R
				FAILURE CRITERIA: 1 UA LEAKAGE AT 10V											
		041	30	1	N/R	N/R	N/R	1000	200 PF	1	SS	FAIL	2000	1	N/R
				FAILURE CRITERIA: 1 UA LEAKAGE AT 10V											
		041	31	INTEL	N/R	N/R	N/R	1000	200 PF	1	SS	FAIL	600	1	N/R
				FAILURE CRITERIA: 1 UA LEAKAGE AT 10V											
		041	32	INTEL	N/R	N/R	N/R	1000	200 PF	1	SS	FAIL	2000	1	N/R
				FAILURE CRITERIA: 1 UA LEAKAGE AT 10V											
N/R	ROM														
		031	1	MOSTEK	N/R	N/R	N/R	100	200 PF	1	N/R	FAIL	500	1	N/R
				FAILURE CRITERIA: 1 UA LEAKAGE AT 10V											
		031	2	INTEL	N/R	N/R	N/R	100	200 PF	1	N/R	FAIL	700	1	N/R
				FAILURE CRITERIA: 1 UA LEAKAGE AT 10V											
		032	1	MOSTEK	N/R	N/R	N/R	250	200 PF	1	N/R	FAIL	720	1	N/R
				FAILURE CRITERIA: 1 UA LEAKAGE AT 10V											

TECHNOLOGY: MOS
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
N/R		ROM				(CONTINUED)							
032	2	INTEL	N/R	N/R	N/R	250	200 PF	1	N/R	FAIL	1000	1	N/R
		FAILURE CRITERIA: 1 UA LEAKAGE AT 10V											
033	1	MOSTEK	N/R	N/R	N/R	500	200 PF	1	N/R	FAIL	875	1	N/R
		FAILURE CRITERIA: 1 UA LEAKAGE AT 10V											
033	2	INTEL	N/R	N/R	N/R	500	200 PF	1	N/R	FAIL	1400	1	N/R
		FAILURE CRITERIA: 1 UA LEAKAGE AT 10V											
034	1	MOSTEK	N/R	N/R	N/R	1000	200 PF	1	N/R	FAIL	1000	1	N/R
		FAILURE CRITERIA: 1 UA LEAKAGE AT 10V											
034	2	INTEL	N/R	N/R	N/R	1000	200 PF	1	N/R	FAIL	2000	1	N/R
		FAILURE CRITERIA: 1 UA LEAKAGE AT 10V											
035	1	MOSTEK	N/R	N/R	N/R	1500	200 PF	1	N/R	FAIL	1250	1	N/R
		FAILURE CRITERIA: 1 UA LEAKAGE AT 10V											
035	2	INTEL	N/R	N/R	N/R	1500	200 PF	1	N/R	FAIL	2250	1	N/R
		FAILURE CRITERIA: 1 UA LEAKAGE AT 10V											
036	1	MOSTEK	N/R	N/R	N/R	100	450 PF	1	N/R	FAIL	375	1	N/R
		FAILURE CRITERIA: 1 UA LEAKAGE AT 10V											
036	2	INTEL	N/R	N/R	N/R	100	450 PF	1	N/R	FAIL	500	1	N/R
		FAILURE CRITERIA: 1 UA LEAKAGE AT 10V											
037	1	MOSTEK	N/R	N/R	N/R	250	450 PF	1	N/R	FAIL	375	1	N/R
		FAILURE CRITERIA: 1 UA LEAKAGE AT 10V											
037	2	INTEL	N/R	N/R	N/R	250	450 PF	1	N/R	FAIL	750	1	N/R
		FAILURE CRITERIA: 1 UA LEAKAGE AT 10V											
038	1	MOSTEK	N/R	N/R	N/R	500	450 PF	1	N/R	FAIL	375	1	N/R
		FAILURE CRITERIA: 1 UA LEAKAGE AT 10V											
038	2	INTEL	N/R	N/R	N/R	500	450 PF	1	N/R	FAIL	1250	1	N/R
		FAILURE CRITERIA: 1 UA LEAKAGE AT 10V											
039	1	MOSTEK	N/R	N/R	N/R	1000	450 PF	1	N/R	FAIL	625	1	N/R
		FAILURE CRITERIA: 1 UA LEAKAGE AT 10V											
039	2	INTEL	N/R	N/R	N/R	1000	450 PF	1	N/R	FAIL	1750	1	N/R
		FAILURE CRITERIA: 1 UA LEAKAGE AT 10V											
040	1	MOSTEK	N/R	N/R	N/R	1500	450 PF	1	N/R	FAIL	625	1	N/R
		FAILURE CRITERIA: 1 UA LEAKAGE AT 10V											
040	2	INTEL	N/R	N/R	N/R	1500	450 PF	1	N/R	FAIL	2250	1	N/R
		FAILURE CRITERIA: 1 UA LEAKAGE AT 10V											
042	7	MOSTEK	N/R	N/R	N/R	270	450 PF	1	SS	FAIL	400	3	N/R
		REMARK: 400 VOLTS IS AN AVERAGE OF 3 DEVICES FAILURE CRITERIA: 1 UA LEAKAGE AT 10V											
042	8	GENERAL INSTRUMENTS	N/R	N/R	N/R	270	450 PF	1	SS	FAIL	700	3	N/R
		REMARK: 700 VOLTS IS AN AVERAGE OF 3 DEVICES FAILURE CRITERIA: 1 UA LEAKAGE AT 10V											
043	1	INTEL	N/R	N/R	N/R	270	100 PF	1	SS	FAIL	800	3	N/R
		REMARK: 800 VOLTS IS AN AVERAGE OF 3 DEVICES FAILURE CRITERIA: 1 UA LEAKAGE AT 10V											
043	2	MOSTEK	N/R	N/R	N/R	270	100 PF	1	SS	FAIL	700	3	N/R
		REMARK: 700 VOLTS IS AN AVERAGE OF 3 DEVICES FAILURE CRITERIA: 1 UA LEAKAGE AT 10V											
043	3	GENERAL INSTRUMENTS	N/R	N/R	N/R	270	100 PF	1	SS	FAIL	700	3	N/R
		REMARK: 700 VOLTS IS AN AVERAGE OF 3 DEVICES FAILURE CRITERIA: 1 UA LEAKAGE AT 10V											
044	1	INTEL	N/R	N/R	N/R	270	50 PF	1	SS	FAIL	1000	3	N/R
		REMARK: 1000 VOLTS IS AN AVERAGE OF 3 DEVICES FAILURE CRITERIA: 1 UA LEAKAGE AT 10V											
N/R		ROM , 2KX8 BIT											
041	1	INTEL	N/R	N/R	N/R	1000	200 PF	1	SS	FAIL	1300	1	N/R
		FAILURE CRITERIA: 1 UA LEAKAGE AT 10V											

TECHNOLOGY: MOS
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION													
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
N/R	ROM , 2KX8 BIT				(CONTINUED)								
041	2	INTEL	N/R	N/R	N/R	1000	200 PF	1	SS	FAIL	2000	1	N/R
	FAILURE CRITERIA: 1 UA LEAKAGE AT 10V												
041	3	MOSTEK	N/R	N/R	N/R	1000	200 PF	1	SS	FAIL	700	1	N/R
	FAILURE CRITERIA: 1 UA LEAKAGE AT 10V												
041	4	MOSTEK	N/R	N/R	N/R	1000	200 PF	1	SS	FAIL	1600	1	N/R
	FAILURE CRITERIA: 1 UA LEAKAGE AT 10V												
041	5	010	N/R	N/R	N/R	1000	200 PF	1	SS	FAIL	600	1	N/R
	FAILURE CRITERIA: 1 UA LEAKAGE AT 10V												
041	6	010	N/R	N/R	N/R	1000	200 PF	1	SS	FAIL	2000	1	N/R
	FAILURE CRITERIA: 1 UA LEAKAGE AT 10V												
046	1	INTEL	N/R	N/R	N/R	1000	200 PF	1000	GN	PASS	500	1	N/R
	FAILURE CRITERIA: 1 UA LEAKAGE AT 10V												
046	2	MOSTEK	N/R	N/R	N/R	1000	200 PF	200	GN	PASS	500	1	N/R
	FAILURE CRITERIA: 1 UA LEAKAGE AT 10V												
046	3	10	N/R	N/R	N/R	1000	200 PF	40	GN	FAIL	500	1	N/R
	FAILURE CRITERIA: 1 UA LEAKAGE AT 10V												
047	1	INTEL	N/R	N/R	N/R	1000	200 PF	300	GN	PASS	1000	1	N/R
	FAILURE CRITERIA: 1 UA LEAKAGE AT 10V												
047	2	MOSTEK	N/R	N/R	N/R	1000	200 PF	6	GN	FAIL	1000	1	N/R
	FAILURE CRITERIA: 1 UA LEAKAGE AT 10V												
047	3	10	N/R	N/R	N/R	1000	200 PF	2	GN	FAIL	1000	1	N/R
	FAILURE CRITERIA: 1 UA LEAKAGE AT 10V												

TECHNOLOGY: CCD

BASIC PART NUMBER	DESCRIPTION													
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
311	SHIFT REGISTER , ANALOG												
383	14	FAIRCHILD SEMI	CCD311	N/R	N/R	1500	100 PF	1	SS	FAIL	295	1	IN.(+) APTT(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL. FAILURE CRITERIA: DEGRADATION OF V-I CURVE OR FUNCTIONAL FAILURE.												
383	15	FAIRCHILD SEMI	CCD311	N/R	N/R	1500	100 PF	1	SS	FAIL	23485	1	CLOCK(+) APTT(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL. FAILURE CRITERIA: DEGRADATION OF V-I CURVE OR FUNCTIONAL FAILURE.												

TECHNOLOGY: MNOS

BASIC PART NUMBER	DESCRIPTION															
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
2051	EAPROM , 32X16 BIT												
030	351	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
3400	EAPROM , 1024X4 BIT												
383	2	GENERAL INSTRUMENTS	ER3400	N/R	N/R	1500	100 PF	1	SS	FAIL	81	1	VCC(+) APTT(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.								FAILURE CRITERIA: DEGRADATION OF V-I CURVE OR FUNCTIONAL FAILURE.				
383	3	GENERAL INSTRUMENTS	ER3400	N/R	N/R	1500	100 PF	1	SS	FAIL	144	1	VDD(+) APTT(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.								FAILURE CRITERIA: DEGRADATION OF V-I CURVE OR FUNCTIONAL FAILURE.				
383	4	GENERAL INSTRUMENTS	ER3400	N/R	N/R	1500	100 PF	1	SS	FAIL	14024	1	A5(9)(+) APTT(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.								FAILURE CRITERIA: DEGRADATION OF V-I CURVE OR FUNCTIONAL FAILURE.				
7040	EAPROM , 1024X4 BIT												
383	5	NITRON	NC7040	N/R	N/R	1500	100 PF	1	SS	FAIL	2308	1	D04(10)(+) APTT(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.								FAILURE CRITERIA: DEGRADATION OF V-I CURVE OR FUNCTIONAL FAILURE.				
383	6	NITRON	NC7040	N/R	N/R	1500	100 PF	1	SS	FAIL	128398	1	A0(-) APTT(+)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.								FAILURE CRITERIA: DEGRADATION OF V-I CURVE OR FUNCTIONAL FAILURE.				
383	7	NITRON	NC7040	N/R	N/R	1500	100 PF	1	SS	FAIL	27769	1	VSS(-) APTT(+)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.								FAILURE CRITERIA: DEGRADATION OF V-I CURVE OR FUNCTIONAL FAILURE.				

TECHNOLOGY: JFET

BASIC PART NUMBER	DESCRIPTION	SEC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
11201	SWITCH , 4XSPST	030	542	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	6000	1	N/R
		FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%													
11331	SWITCH , 4XSPST	030	543	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	6000	1	N/R
		FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%													
13201	SWITCH , 4XSPST	030	544	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	6000	1	N/R
		FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%													
190	SWITCH , DRIVER AND JFET SW.	026	29	SILICONIX	DG190AP	N/R	FEB 81	100	200 PF	1	SS	FAIL	750	4	V(-)(14)(+) INPUT(-)
		REMARK: VOLTAGE IS AN AVERAGE OF 4 DEVICES				FAILURE CRITERIA: CHANGE IN IS OF 500% AT VS=-10V									
4555B	DECODER , DUAL BINARY	030	486	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
		FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%													
		030	487	N/R	4555BC	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
		FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%													

TECHNOLOGY: BIFET

BASIC PART NUMBER	DESCRIPTION														
	SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
LF156	OP AMP													
	245	30	N/R	N/R	719	N/R	100	.1 UF	1	SS	FAIL	169	15	INPUT(+) INPUT(-)
	REMARK: FAILURE VOLTAGE IS AN AVERAGE OF 15 DEVICES. FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.													
155	OP AMP , QUAD													
	030	280	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	6000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%													
	030	673	N/R	LF155	N/R	N/R	1500	100 PF	1	N/R	FAIL	6000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%													
156	OP AMP													
	030	281	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	6000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%													
	030	282	N/R	156A	N/R	N/R	1500	100 PF	1	N/R	FAIL	6000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%													
	026	28	ADVANCED MICRO DEVICES	LF156AH	N/R	FEB 81	100	200 PF	1	SS	FAIL	636	4	INPUT(2)(+) V(-)(4)(-)
	REMARK: VOLTAGE IS AN AVERAGE OF 4 DEVICES FAILURE CRITERIA: CHANGE IN IIO OF 500%													
157	OP AMP													
	030	283	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	6000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%													
198	LINEAR , SAMPLE AND HOLD													
	030	284	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	2500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%													
34001	OP AMP , PRECISION BIFET													
	027	3	MOTOROLA SEMI	N/R	N/R	N/R	1500	100 PF	1	GN	FAIL	1000	8	N/R
	FAILURE CRITERIA: DC PARAMETER OUT OF SPEC													
	027	4	MOTOROLA SEMI	N/R	N/R	N/R	1500	100 PF	1	GN	PASS	1000	7	N/R
	FAILURE CRITERIA: DC PARAMETER OUT OF SPEC													
355	OP AMP , QUAD													
	030	309	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	6000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%													
356	OP AMP													
	030	310	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	6000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%													
	030	311	N/R	356A	N/R	N/R	1500	100 PF	1	N/R	FAIL	6000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%													

TECHNOLOGY: BIFET
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION													
SEC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
357	OP AMP												
030	312	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	6000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
398	LINEAR , SAMPE AND HOLD												
030	313	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	2500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
740	OP AMP												
029	340	FAIRCHILD SEMI	UA740	N/R	N/R	1500	100 PF	1	N/R	FAIL	14270	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												

TECHNOLOGY: BIPOLAR

BASIC PART NUMBER	DESCRIPTION														
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
101	OP AMP												
030	259	N/R	101A	N/R	N/R	1500	100 PF	1	N/R	FAIL	1250	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	674	N/R	LM101	N/R	N/R	1500	100 PF	1	N/R	FAIL	2500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
028	7	N/R	LM101	N/R	N/R	1500	117 PF	30	SS	FAIL	750	5	N/R
	FAILURE CRITERIA: 110-4UA												
101A	OP AMP												
026	11	FAIRCHILD SEMI	UA101A	N/R	JAN 78	100	200 PF	1	SS	FAIL	293	4	OFF NULL(5)(+) V(-)(4)
	REMARK: VOLTAGE IS AN AVERAGE OF 4 DEVICES FAILURE CRITERIA: CHANGE IN IIO OF 500%												
103	VOLTAGE REGULATOR , REFERENCE DIODE,1.8V												
029	328	NATIONAL SEMI	LM103	N/R	N/R	1500	100 PF	1	N/R	FAIL	6152	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
029	329	NATIONAL SEMI	LM103	N/R	N/R	1500	100 PF	1	N/R	FAIL	11040	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
105	VOLTAGE REGULATOR , ADJUSTABLE, POSITIVE												
030	675	N/R	LM105	N/R	N/R	1500	100 PF	1	N/R	FAIL	4000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
029	330	NATIONAL SEMI	LM105H	N/R	N/R	1500	100 PF	1	N/R	FAIL	6767	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
108	OP AMP												
030	260	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1250	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	261	N/R	108A	N/R	N/R	1500	100 PF	1	N/R	FAIL	1250	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	676	N/R	LM108	N/R	N/R	1500	100 PF	1	N/R	FAIL	1250	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
245	31	N/R	LM108	N/R	N/R	100	.1 UF	1	SS	FAIL	214	15	INPUT(+) INPUT(-)
	REMARK: FAILURE VOLTAGE IS AN AVERAGE OF 15 DEVICES. FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.												
109	VOLTAGE REGULATOR , FIXED,POSITIVE,1A												
030	263	N/R	109K	N/R	N/R	1500	100 PF	1	N/R	FAIL	10000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	262	N/R	109H	N/R	N/R	1500	100 PF	1	N/R	FAIL	10000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
111	COMPARATOR												
029	256	10	AM111	N/R	N/R	1500	100 PF	1	N/R	FAIL	611	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												

TECHNOLOGY: BIPOLAR
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION														
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
111	COMPARATOR (CONTINUED)												
030	264	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	11000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	265	N/R	111H	N/R	N/R	1500	100 PF	1	N/R	FAIL	11000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	677	N/R	LM111	N/R	N/R	1500	100 PF	1	N/R	FAIL	11000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
117	VOLTAGE REGULATOR , ADJUSTABLE,POS.,1.5A												
030	266	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	10000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	678	N/R	LM117	N/R	N/R	1500	100 PF	1	N/R	FAIL	10000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
118	OP AMP , HIGH SPEED												
030	267	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	11000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
119	COMPARATOR												
030	268	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	679	N/R	LM119	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
120	VOLTAGE REGULATOR , FIXED,NEGATIVE,1.5A												
030	269	N/R	120K-05	N/R	N/R	1500	100 PF	1	N/R	FAIL	10000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	270	N/R	120K-12	N/R	N/R	1500	100 PF	1	N/R	FAIL	10000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	271	N/R	120K-15	N/R	N/R	1500	100 PF	1	N/R	FAIL	10000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	272	N/R	120K-24	N/R	N/R	1500	100 PF	1	N/R	FAIL	10000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
124	OP AMP , SINGLE SUPPLY												
030	273	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	680	N/R	LM124	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
245	32	N/R	LM124	721	N/R	100	.1 UF	1	SS	FAIL	164	15	INPUT(+) GND(-)
	REMARK: FAILURE VOLTAGE IS AN AVERAGE OF 15 DEVICES. FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.												

TECHNOLOGY: BIPOLAR
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION														
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
139	COMPARATOR , QUAD												
030	274	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	2000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	681	N/R	LM139	N/R	N/R	1500	100 PF	1	N/R	FAIL	2000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
245	33	N/R	LM139	729	N/R	100	.1 UF	1	SS	FAIL	102	15	V+(+) INPUT(-)
	REMARK: FAILURE VOLTAGE IS AN AVERAGE OF 15 DEVICES. FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.												
140	VOLTAGE REGULATOR , FIXED.POSITIVE, 1.5A												
030	275	N/R	140H-05	N/R	N/R	1500	100 PF	1	N/R	FAIL	10000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	278	N/R	140K-24	N/R	N/R	1500	100 PF	1	N/R	FAIL	10000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	114	N/R	140K-15	N/R	N/R	1500	100 PF	1	N/R	FAIL	10000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	276	N/R	140K-05	N/R	N/R	1500	100 PF	1	N/R	FAIL	10000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	277	N/R	140K-12	N/R	N/R	1500	100 PF	1	N/R	FAIL	10000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
1408	CONVERTER (D/A A/D) , 8 BIT D/A												
030	327	N/R	1408L	N/R	N/R	1500	100 PF	1	N/R	FAIL	5000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	328	N/R	1408L7	N/R	N/R	1500	100 PF	1	N/R	FAIL	5000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	329	N/R	1408L8	N/R	N/R	1500	100 PF	1	N/R	FAIL	5000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
1458	OP AMP , DUAL												
030	330	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	2500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	331	N/R	1458H	N/R	N/R	1500	100 PF	1	N/R	FAIL	2500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
1463	VOLTAGE REGULATOR , ADJUSTABLE,NEGATIVE												
030	332	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	10000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	333	N/R	1463G	N/R	N/R	1500	100 PF	1	N/R	FAIL	10000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
148	OP AMP , QUAD												
030	279	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	2500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												

TECHNOLOGY: BIPOLAR
(CONTINUED)

BASIC PART NUMBER	SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
1488	DRIVER , SINGLE ENDED LINE													
	029	273	MOTOROLA SEMI	MC1488L	N/R	N/R	1500	100 PF	1	N/R	FAIL	5546	1	N/R
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
	030	334	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	6000	1	N/R
		FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
	030	335	N/R	1488L	N/R	N/R	1500	100 PF	1	N/R	FAIL	6000	1	N/R
		FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
1489	RECEIVER , SINGLE ENDED LINE													
	029	274	MOTOROLA SEMI	MC1489L	N/R	N/R	1500	100 PF	1	N/R	FAIL	4491	1	N/R
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
	030	336	N/R	1489A	N/R	N/R	1500	100 PF	1	N/R	FAIL	6000	1	N/R
		FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
	030	337	N/R	1489L	N/R	N/R	1500	100 PF	1	N/R	FAIL	6000	1	N/R
		FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
1494	LINEAR , MULTIPLIER													
	030	339	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	2000	1	N/R
		FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
	030	340	N/R	1494L	N/R	N/R	1500	100 PF	1	N/R	FAIL	2000	1	N/R
		FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
1496	LINEAR , MOD./DEMOD.													
	030	341	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	3000	1	N/R
		FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
1506	CONVERTER (D/A A/D) , 6 BIT DAC													
	026	32	MOTOROLA SEMI	MC1506L	N/R	FEB 81	100	200 PF	1	SS	FAIL	520	4	INPUT(5)(+)GND(2)(-)
		REMARK: FAILED ALL INPUTS TO GROUND. VOLTAGE IS AVE. OF 4 DEV. MEAN ENGY=16UJ FAILURE CRITERIA: CHANGE IN IR OF 500% AT VBR = 10V												
1508	CONVERTER (D/A A/D) , M DAC													
	030	3	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	5000	1	N/R
		FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
	030	342	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	5000	1	N/R
		FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
1530	OP AMP													
	029	332	MOTOROLA SEMI	MC1530	N/R	N/R	1500	100 PF	1	N/R	FAIL	2159	1	N/R
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
	029	333	MOTOROLA SEMI	MC1530G	N/R	N/R	1500	100 PF	1	N/R	FAIL	1887	1	N/R
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												

TECHNOLOGY: BIPOLAR
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION															
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
1533	OP AMP												
029	334	MOTOROLA SEMI	MC1533	N/R	N/R	1500	100 PF	1	N/R	FAIL	1413	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
1558	OP AMP , DUAL												
030	343	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	2500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
1563	VOLTAGE REGULATOR , ADJUSTABLE,POSITIVE												
030	344	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	3000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
1590	OP AMP , DIFFERENTIAL IN/OUT												
030	345	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	7000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
1594	LINEAR , MULTIPLIER												
030	346	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	2000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
1596	LINEAR , MOD./DEMOD.												
030	347	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	3000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
211	COMPARATOR												
030	285	N/R	211H	N/R	N/R	1500	100 PF	1	N/R	FAIL	11000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
2622	OP AMP												
030	662	HARRIS SEMI	HA2622	N/R	N/R	1500	100 PF	1	N/R	FAIL	2000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	663	INTERSIL	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	2000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	671	N/R	HA2622	N/R	N/R	1500	100 PF	1	N/R	FAIL	3000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
2650	OP AMP , DUAL HIGH SPEED												
030	672	N/R	HA2650	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												

TECHNOLOGY: BIPOLAR
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION															
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
2702	VOLTAGE REFERENCE , +10V												
030	357	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
301	OP AMP												
030	286	N/R	301A	N/R	N/R	1500	100 PF	1	N/R	FAIL	1250	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
3015	OP AMP , WIDE BAND												
029	327	RCA	CA3015A	N/R	N/R	1500	100 PF	1	N/R	FAIL	1958	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
302	OP AMP , VOLTAGE FOLLOWER												
029	331	NATIONAL SEMI	LM302	N/R	N/R	1500	100 PF	1	N/R	FAIL	10899	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
308	OP AMP												
030	287	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1250	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	288	N/R	308A	N/R	N/R	1500	100 PF	1	N/R	FAIL	1250	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
309	VOLTAGE REGULATOR , FIXED,POSITIVE												
030	289	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	10000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	290	N/R	309H	N/R	N/R	1500	100 PF	1	N/R	FAIL	10000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	291	N/R	309K	N/R	N/R	1500	100 PF	1	N/R	FAIL	10000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
311	COMPARATOR												
030	292	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	11000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	293	N/R	311H	N/R	N/R	1500	100 PF	1	N/R	FAIL	10000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
317	VOLTAGE REGULATOR , ADJUSTABLE,POSITIVE												
030	294	N/R	317K	N/R	N/R	1500	100 PF	1	N/R	FAIL	10000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												

TECHNOLOGY: BIPOLAR
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION														
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
318	OP AMP , HIGH SPEED												
030	295	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	11000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
319	COMPARATOR												
030	296	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
320	VOLTAGE REGULATOR , FIXED,NEGATIVE												
030	297	N/R	320K-05	N/R	N/R	1500	100 PF	1	N/R	FAIL	10000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	298	N/R	320K-12	N/R	N/R	1500	100 PF	1	N/R	FAIL	10000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	299	N/R	320K-15	N/R	N/R	1500	100 PF	1	N/R	FAIL	10000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	300	N/R	320K-24	N/R	N/R	1500	100 PF	1	N/R	FAIL	10000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
324	OP AMP , SINGLE SUPPLY												
030	301	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
339	COMPARATOR , QUAD												
030	302	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	2000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
340	VOLTAGE REGULATOR , FIXED,POSITIVE												
030	303	N/R	340H-05	N/R	N/R	1500	100 PF	1	N/R	FAIL	10000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	304	N/R	340K-05	N/R	N/R	1500	100 PF	1	N/R	FAIL	10000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	305	N/R	340K-12	N/R	N/R	1500	100 PF	1	N/R	FAIL	10000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	306	N/R	340K-15	N/R	N/R	1500	100 PF	1	N/R	FAIL	10000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	307	N/R	340K-24	N/R	N/R	1500	100 PF	1	N/R	FAIL	10000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
3403	OP AMP , SINGLE SUPPLY												
027	5	MOTOROLA SEMI	N/R	N/R	N/R	1500	100 PF	1	GN	FAIL	1000	6	N/R
	FAILURE CRITERIA: DC PARAMETER OUT OF SPEC												
027	6	MOTOROLA SEMI	N/R	N/R	N/R	1500	100 PF	1	GN	PASS	1000	9	N/R
	FAILURE CRITERIA: DC PARAMETER OUT OF SPEC												

TECHNOLOGY: BIPOLAR
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION															
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
344	OP AMP , HIGH VOLTAGE												
052	1	NATIONAL SEMI	LM344H	N/R	JUN 81	0	100 PF	1	SS	FAIL	400	1	EACH PIN
	REMARK: EACH PIN TESTED TO ALL OTHERS TIED TOGETHER				FAILURE CRITERIA: ELECTRICAL PARAMETER OUT OF SPEC								
052	2	NATIONAL SEMI	LM344H	N/R	JUN 81	0	100 PF	1	SS	FAIL	500	1	EACH PIN
	REMARK: EACH PIN TESTED TO ALL OTHERS TIED TOGETHER				FAILURE CRITERIA: ELECTRICAL PARAMETER OUT OF SPEC								
052	3	NATIONAL SEMI	N/R	N/R	JUN 81	0	100 PF	1	SS	FAIL	600	3	EACH PIN
	REMARK: EACH PIN TESTED TO ALL OTHERS TIED TOGETHER				FAILURE CRITERIA: ELECTRICAL PARAMETER OUT OF SPEC								
053	1	NATIONAL SEMI	LM344H	N/R	JUN 81	1500	100 PF	1	SS	PASS	1500	2	EACH PIN
	REMARK: EACH PIN TESTED TO ALL OTHERS TIED TOGETHER				FAILURE CRITERIA: ELECTRICAL PARAMETER OUT OF SPEC								
348	OP AMP , QUAD												
030	308	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	2500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
3600	CONVERTER (D/A A/D)												
029	336	TEXAS INSTRUMENTS	SNR3600	N/R	N/R	1500	100 PF	1	N/R	FAIL	12930	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
4131	OP AMP												
030	682	N/R	RM4131	N/R	N/R	1500	100 PF	1	N/R	FAIL	2500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
4558	OP AMP , DUAL												
030	683	N/R	RM4558	N/R	N/R	1500	100 PF	1	N/R	FAIL	1750	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
532	LINEAR , MULTIPLIER/DIVIDER												
030	316	N/R	532S	N/R	N/R	1500	100 PF	1	N/R	FAIL	1250	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	317	N/R	532J	N/R	N/R	1500	100 PF	1	N/R	FAIL	1250	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	667	N/R	AD532	N/R	N/R	1500	100 PF	1	N/R	FAIL	1250	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
55107	RECEIVER , DUAL LINE												
245	37	N/R	.N/R	7730	N/R	100	.1 UF	1	SS	FAIL	41	15	INPUT(+) INPUT(-)
	REMARK: FAILURE VOLTAGE IS AN AVERAGE OF 15 DEVICES.				FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.								
55109	DRIVER , DUAL LINE												
245	38	N/R	N/R	7646	N/R	100	.1 UF	1	SS	FAIL	84	15	INPUT(+) GND(-)
	REMARK: FAILURE VOLTAGE IS AN AVERAGE OF 15 DEVICES.				FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.								

TECHNOLOGY: BIPOLAR
(CONTINUED)

BASIC PART NUMBER	SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
555 LINEAR , PROGRAMMABLE TIMER														
	026	7	SIGNETICS	SE555C	N/R	JAN 78	100	200 PF	1	SS	FAIL	296	4	N/R
REMARK: VOLTAGE IS AN AVERAGE OF 4 DEVICES FAILURE CRITERIA: 10% PARAMETER CHANGE														
	030	318	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1700	1	N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%														
	030	319	N/R	555C	N/R	N/R	1500	100 PF	1	N/R	FAIL	1700	1	N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%														
556 LINEAR , DUAL TIMER														
	030	320	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1700	1	N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%														
709 OP AMP														
	029	338	FAIRCHILD SEMI	UA709	N/R	N/R	1500	100 PF	1	N/R	FAIL	1984	1	N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.														
	029	344	FAIRCHILD SEMI	709HC	N/R	N/R	1500	100 PF	1	N/R	FAIL	1565	1	N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.														
710 COMPARATOR , DIFFERENTIAL														
	026	13	FAIRCHILD SEMI	UA710	N/R	JAN 78	100	200 PF	1	SS	FAIL	238	4	INPUT(3)(+) V(-)(4)(-)
REMARK: VOLTAGE IS AN AVERAGE OF 4 DEVICES FAILURE CRITERIA: CHANGE IN IIO OF 500%														
715 OP AMP , HIGH SPEED														
	029	339	FAIRCHILD SEMI	UA715	N/R	N/R	1500	100 PF	1	N/R	FAIL	15546	1	N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.														
723 VOLTAGE REGULATOR , ADJUSTABLE,POSITIVE														
	030	321	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%														
	030	322	N/R	723C	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%														
	245	34	N/R	N/R	725	N/R	100	.1 UF	1	SS	FAIL	50	15	INPUT(+) INPUT(-)
REMARK: FAILURE VOLTAGE IS AN AVERAGE OF 15 DEVICES. FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.														
	026	12	FAIRCHILD SEMI	UA723	N/R	JAN 78	100	200 PF	1	SS	FAIL	273	4	V(-)(5)(+) VREF(4)(-)
REMARK: VOLTAGE IS AN AVERAGE OF 4 DEVICES FAILURE CRITERIA: 2% CHANGE OF VOUT AT IL=50UA														
72709 OP AMP														
	029	337	TEXAS INSTRUMENTS	SN72709	N/R	N/R	1500	100 PF	1	N/R	FAIL	53665	1	N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.														
733 AMP , DIFFERENTIAL, VIDEO														
	030	665	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%														

TECHNOLOGY: BIPOLAR
(CONTINUED)

BASIC PART NUMBER	SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
733 AMP , DIFFERENTIAL,VIDIO (CONTINUED)														
	030	323	N/R	733C	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%														
741 OP AMP														
	029	341	FAIRCHILD SEMI	UA741	N/R	N/R	1500	100 PF	1	N/R	FAIL	5958	1	N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.														
	030	324	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	2500	1	N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%														
	030	711	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	2500	1	N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%														
	050	1	N/R	UA741	N/R	JUL 80	1500	125 PF	1	GN	FAIL	500	15	+OFFSET(+) APTT(-)
FAILURE CRITERIA: CATASTROPHIC														
	054	1	TEXAS INSTRUMENTS	UA741	7945	JAN 81	1500	100 PF	1	SS	FAIL	1000	2	EACH PIN
REMARK: EACH PIN TESTED TO ALL OTHERS TIED TOGETHER FAILURE CRITERIA: ELECTRICAL PARAMETER OUT OF SPEC														
	054	2	TEXAS INSTRUMENTS	UA741	7945	JAN 81	1500	100 PF	1	SS	FAIL	2000	2	EACH PIN
REMARK: EACH PIN TESTED TO ALL OTHERS TIED TOGETHER FAILURE CRITERIA: ELECTRICAL PARAMETER OUT OF SPEC														
	054	3	FAIRCHILD SEMI	UA741	7906	JAN 81	1500	100 PF	1	SS	FAIL	1000	2	EACH PIN
REMARK: EACH PIN TESTED TO ALL OTHERS TIED TOGETHER FAILURE CRITERIA: ELECTRICAL PARAMETER OUT OF SPEC														
	054	4	MOTOROLA SEMI	UA741	8024	JAN 81	1500	100 PF	1	SS	FAIL	1000	2	EACH PIN
REMARK: EACH PIN TESTED TO ALL OTHERS TIED TOGETHER FAILURE CRITERIA: ELECTRICAL PARAMETER OUT OF SPEC														
	054	5	RAYTHEON	UA741	7407	JAN 81	1500	100 PF	1	SS	FAIL	2000	2	EACH PIN
REMARK: EACH PIN TESTED TO ALL OTHERS TIED TOGETHER FAILURE CRITERIA: ELECTRICAL PARAMETER OUT OF SPEC														
	026	10	FAIRCHILD SEMI	UA741	N/R	JAN 78	100	200 PF	1	SS	FAIL	315	4	OFF NULL(5)(+) V(-)(4)
REMARK: VOLTAGE IS AN AVERAGE OF 4 DEVICES FAILURE CRITERIA: CHANGE IN IIO OF 500%														
747 OP AMP , DUAL														
	029	342	FAIRCHILD SEMI	UA747	N/R	N/R	1500	100 PF	1	N/R	FAIL	13675	1	N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.														
	030	325	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	2500	1	N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%														
776 OP AMP														
	029	343	FAIRCHILD SEMI	UA776	N/R	N/R	1500	100 PF	1	N/R	FAIL	5932	1	N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.														
	030	326	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	2500	1	N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%														
78M05 VOLTAGE REGULATOR , FIXED,POSITIVE														
	030	528	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	10000	1	N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%														
78M05 VOLTAGE REGULATOR , POSITIVE,FIXED														
	030	244	N/R	78M05C	N/R	N/R	1500	100 PF	1	N/R	FAIL	10000	1	N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%														

TECHNOLOGY: BIPOLAR
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION														
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
78M12	VOLTAGE REGULATOR , FIXED,POSITIVE												
030	245	N/R	78M12C	N/R	N/R	1500	100 PF	1	N/R	FAIL	10000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
78M15	VOLTAGE REGULATOR , FIXED,POSITIVE												
030	246	N/R	78M15C	N/R	N/R	1500	100 PF	1	N/R	FAIL	10000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
7805	VOLTAGE REGULATOR , FIXED,POSITIVE												
030	524	N/R	7805C	N/R	N/R	1500	100 PF	1	N/R	FAIL	10000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
7812	VOLTAGE REGULATOR , FIXED, POSITIVE												
030	666	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	10000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	525	N/R	7812C	N/R	N/R	1500	100 PF	1	N/R	FAIL	10000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	526	N/R	7812KC	N/R	N/R	1500	100 PF	1	N/R	FAIL	10000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
7815	VOLTAGE REGULATOR , FIXED,POSITIVE												
030	527	N/R	7815C	N/R	N/R	1500	100 PF	1	N/R	FAIL	10000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
79M12	VOLTAGE REGULATOR , FIXED,NEGATIVE												
030	247	N/R	79M12C	N/R	N/R	1500	100 PF	1	N/R	FAIL	10000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
79M15	VOLTAGE REGULATOR , FIXED,NEGATIVE												
030	248	N/R	79M15C	N/R	N/R	1500	100 PF	1	N/R	FAIL	10000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
7905	VOLTAGE REGULATOR , FIXED,NEGATIVE												
030	529	N/R	7905C	N/R	N/R	1500	100 PF	1	N/R	FAIL	10000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	530	N/R	7905K	N/R	N/R	1500	100 PF	1	N/R	FAIL	10000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
7912	VOLTAGE REGULATOR , FIXED,NEGATIVE												
030	531	N/R	7912C	N/R	N/R	1500	100 PF	1	N/R	FAIL	10000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												

TECHNOLOGY: BIPOLAR
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION														
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
7912	VOLTAGE REGULATOR , FIXED,NEGATIVE (CONTINUED)												
030	532	N/R	7912K	N/R	N/R	1500	100 PF	1	N/R	FAIL	10000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
7915	VOLTAGE REGULATOR , FIXED,NEGATIVE												
030	533	N/R	7915C	N/R	N/R	1500	100 PF	1	N/R	FAIL	10000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	534	N/R	7915K	N/R	N/R	1500	100 PF	1	N/R	FAIL	10000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
7924	VOLTAGE REGULATOR , FIXED,NEGATIVE												
030	535	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	10000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
8820	RECEIVER , DIFFERENTIAL LINE												
029	261	NATIONAL SEMI	DM8820AJ	N/R	N/R	1500	100 PF	1	N/R	FAIL	1707	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
9614	DRIVER , DUAL LINE												
030	538	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	2000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	539	N/R	9614C	N/R	N/R	1500	100 PF	1	N/R	FAIL	2000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
026	1	FAIRCHILD SEMI	N/R	N/R	JAN 78	100	200 PF	1	SS	FAIL	963	4	INPUT(5)(+) GND(8)(-)
	REMARK: VOLTAGE IS AN AVERAGE OF 4 DEVICES FAILURE CRITERIA: 10% PARAMETER CHANGE												
9615	RECEIVER , DUAL LINE												
030	540	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	12000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	541	N/R	9615C	N/R	N/R	1500	100 PF	1	N/R	FAIL	12000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
245	35	N/R	N/R	7618	N/R	100	.1 UF	1	SS	FAIL	90	15	INPUT(+) INPUT(-)
	REMARK: FAILURE VOLTAGE IS AN AVERAGE OF 15 DEVICES. FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.												
026	9	FAIRCHILD SEMI	N/R	N/R	JAN 78	100	200 PF	1	SS	FAIL	230	4	N/R
	REMARK: VOLTAGE IS AN AVERAGE OF 4 DEVICES FAILURE CRITERIA: 10% PARAMETER CHANGE												
9616	DRIVER , SINGLE ENDED LINE												
245	36	N/R	N/R	7730	N/R	100	.1 UF	1	SS	FAIL	112	15	INPUT(+) INPUT(-)
	REMARK: FAILURE VOLTAGE IS AN AVERAGE OF 15 DEVICES. FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.												

TECHNOLOGY: TTL

BASIC PART NUMBER	SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
140 GATE , NAND														
	029	288	N/R	SE140	N/R	N/R	1500	100 PF	1	N/R	FAIL	177676	1	N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.														
2001 SHIFT REGISTER														
	029	266	TEXAS INSTRUMENTS	DEA2001D	N/R	N/R	1500	100 PF	1	N/R	FAIL	7583	1	N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.														
4006 DECODER , BINARY TO OCTAL														
	029	282	MOTOROLA SEMI	MC4006	N/R	N/R	1500	100 PF	1	N/R	FAIL	4951	1	N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.														
4043 DRIVER , DUAL MEMORY														
	029	283	MOTOROLA SEMI	MC4043P	N/R	N/R	1500	100 PF	1	N/R	FAIL	6783	1	N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.														
5400 GATE , QUAD 2-INPUT NAND														
	245	2	N/R	N/R	7618	N/R	100	.1 UF	1	SS	FAIL	99	15	INPUT(+) GND(-)
REMARK: FAILURE VOLTAGE IS AN AVERAGE OF 15 DEVICES. FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.														
	026	2	TEXAS INSTRUMENTS	N/R	N/R	JAN 78	100	200 PF	1	SS	FAIL	763	4	INPUT(1)(+) GND(7)(-)
REMARK: VOLTAGE IS AN AVERAGE OF 4 DEVICES FAILURE CRITERIA: 10% PARAMETER CHANGE														
	026	3	NATIONAL SEMI	N/R	N/R	JAN 78	100	200 PF	1	SS	FAIL	625	4	INPUT(1)(+) GND(7)(-)
REMARK: VOLTAGE IS AN AVERAGE OF 4 DEVICES FAILURE CRITERIA: 10% PARAMETER CHANGE														
5404 BUFFER/INVERTER , HEX INVERTER														
	030	492	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	2500	1	N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%														
	321	1	N/R	N/R	N/R	N/R	1500	100 PF	200	GN	PASS	1000	2	VCC(14)(+) IN.(1)(-)
FAILURE CRITERIA: IIH AND/OR VR OUT OF SPEC.														
	331	1	N/R	N/R	N/R	N/R	1500	200 PF	200	GN	PASS	1500	1	VCC(14)(+) IN.(1)(-)
FAILURE CRITERIA: IIH AND/OR VR OUT OF SPEC.														
	332	1	N/R	N/R	N/R	N/R	1500	200 PF	200	GN	PASS	1575	1	VCC(14)(+) IN.(1)(-)
FAILURE CRITERIA: IIH AND/OR VR OUT OF SPEC.														
	333	1	N/R	N/R	N/R	N/R	1500	200 PF	1	GN	FAIL	1615	1	VCC(14)(+) IN.(1)(-)
FAILURE CRITERIA: IIH AND VR OUT OF SPEC.														
	334	1	N/R	N/R	N/R	N/R	1500	200 PF	1	GN	PASS	1630	1	VCC(14)(+) IN.(1)(-)
FAILURE CRITERIA: IIH AND/OR VR OUT OF SPEC.														
	335	1	N/R	N/R	N/R	N/R	1500	200 PF	2	GN	FAIL	1650	1	VCC(14)(+) IN.(1)(-)
FAILURE CRITERIA: VR OUT OF SPEC.														
	335	2	N/R	N/R	N/R	N/R	1500	200 PF	3	GN	FAIL	1650	2	VCC(14)(+) IN.(1)(-)
FAILURE CRITERIA: VR OUT OF SPEC.														
	335	3	N/R	N/R	N/R	N/R	1500	200 PF	4	GN	FAIL	1650	1	VCC(14)(+) IN.(1)(-)
FAILURE CRITERIA: VR OUT OF SPEC.														
	335	4	N/R	N/R	N/R	N/R	1500	200 PF	50	GN	FAIL	1650	1	VCC(14)(+) IN.(1)(-)
FAILURE CRITERIA: IIH AND VR OUT OF SPEC.														

TECHNOLOGY: TTL
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION														
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
5404	BUFFER/INVERTER , HEX INVERTER						(CONTINUED)						
335	5	N/R	N/R	N/R	N/R	1500	200 PF	150	GN	FAIL	1650	1	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: IIH AND VR OUT OF SPEC.												
335	6	N/R	N/R	N/R	N/R	1500	200 PF	2	GN	PASS	1650	1	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: VR OUT OF SPEC.												
336	1	N/R	N/R	N/R	N/R	1500	200 PF	1	GN	PASS	1670	1	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: IIH AND/OR VR OUT OF SPEC.												
337	1	N/R	N/R	N/R	N/R	1500	200 PF	3	GN	FAIL	1675	1	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: VR OUT OF SPEC.												
337	2	N/R	N/R	N/R	N/R	1500	200 PF	2	GN	FAIL	1675	1	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: IIH AND VR OUT OF SPEC.												
337	3	N/R	N/R	N/R	N/R	1500	200 PF	200	GN	PASS	1675	1	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: IIH AND/OR VR OUT OF SPEC.												
338	1	N/R	N/R	N/R	N/R	1500	200 PF	1	GN	FAIL	1700	1	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: VR OUT OF SPEC.												
338	2	N/R	N/R	N/R	N/R	1500	200 PF	2	GN	FAIL	1700	2	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: VR OUT OF SPEC.												
338	3	N/R	N/R	N/R	N/R	1500	200 PF	4	GN	FAIL	1700	2	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: IIH AND VR OUT OF SPEC.												
338	4	N/R	N/R	N/R	N/R	1500	200 PF	4	GN	FAIL	1700	1	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: VR OUT OF SPEC.												
338	5	N/R	N/R	N/R	N/R	1500	200 PF	200	GN	PASS	1700	1	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: IIH AND/OR VR OUT OF SPEC.												
338	6	N/R	N/R	N/R	N/R	1500	200 PF	2	GN	FAIL	1700	1	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: VR OUT OF SPEC.												
339	1	N/R	N/R	N/R	N/R	1500	200 PF	1	GN	PASS	1730	1	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: IIH AND/OR VR OUT OF SPEC.												
340	1	N/R	N/R	N/R	N/R	1500	200 PF	1	GN	PASS	1750	1	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: IIH AND/OR VR OUT OF SPEC.												
340	2	N/R	N/R	N/R	N/R	1500	200 PF	50	GN	FAIL	1750	1	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: IIH AND VR OUT OF SPEC.												
340	3	N/R	N/R	N/R	N/R	1500	200 PF	1	GN	FAIL	1750	1	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: VR OUT OF SPEC.												
340	4	N/R	N/R	N/R	N/R	1500	200 PF	1	GN	FAIL	1750	1	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: IIH AND VR OUT OF SPEC.												
340	5	N/R	N/R	N/R	N/R	1500	200 PF	2	GN	FAIL	1750	3	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: IIH AND VR OUT OF SPEC.												
340	6	N/R	N/R	N/R	N/R	1500	200 PF	3	GN	FAIL	1750	1	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: IIH AND VR OUT OF SPEC.												
340	7	N/R	N/R	N/R	N/R	1500	200 PF	4	GN	FAIL	1750	1	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: IIH AND VR OUT OF SPEC.												
340	8	N/R	N/R	N/R	N/R	1500	200 PF	1	GN	FAIL	1750	1	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: VR OUT OF SPEC.												
340	9	N/R	N/R	N/R	N/R	1500	200 PF	1	GN	PASS	1750	6	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: IIH AND/OR VR OUT OF SPEC.												
340	10	N/R	N/R	N/R	N/R	1500	200 PF	3	GN	FAIL	1750	1	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: IIH AND VR OUT OF SPEC.												
340	11	N/R	N/R	N/R	N/R	1500	200 PF	4	GN	FAIL	1750	1	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: VR OUT OF SPEC.												

TECHNOLOGY: TTL
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SEC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
5404	BUFFER/INVERTER , HEX INVERTER					(CONTINUED)							
341	1	N/R	N/R	N/R	N/R	1500	200 PF	1	GN	FAIL	1760	1	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: IIH AND VR OUT OF SPEC.												
342	1	N/R	N/R	N/R	N/R	1500	200 PF	1	GN	PASS	1775	1	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: IIH AND/OR VR OUT OF SPEC.												
343	1	N/R	N/R	N/R	N/R	1500	200 PF	1	GN	PASS	1800	1	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: IIH AND/OR VR OUT OF SPEC.												
343	2	N/R	N/R	N/R	N/R	1500	200 PF	1	GN	FAIL	1800	1	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: VR OUT OF SPEC.												
343	3	N/R	N/R	N/R	N/R	1500	200 PF	2	GN	FAIL	1800	1	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: VR OUT OF SPEC.												
343	4	N/R	N/R	N/R	N/R	1500	200 PF	2	GN	FAIL	1800	1	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: IIH AND VR OUT OF SPEC.												
343	5	N/R	N/R	N/R	N/R	1500	200 PF	3	GN	FAIL	1800	1	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: IIH AND VR OUT OF SPEC.												
343	6	N/R	N/R	N/R	N/R	1500	200 PF	5	GN	FAIL	1800	1	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: VR OUT OF SPEC.												
343	7	N/R	N/R	N/R	N/R	1500	200 PF	9	GN	FAIL	1800	1	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: VR OUT OF SPEC.												
343	8	N/R	N/R	N/R	N/R	1500	200 PF	200	GN	PASS	1800	1	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: IIH AND/OR VR OUT OF SPEC.												
343	9	N/R	N/R	N/R	N/R	1500	200 PF	1	GN	FAIL	1800	2	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: IIH OUT OF SPEC.												
343	10	N/R	N/R	N/R	N/R	1500	200 PF	1	GN	FAIL	1800	1	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: IIH AND VR OUT OF SPEC.												
343	11	N/R	N/R	N/R	N/R	1500	200 PF	1	GN	PASS	1800	4	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: IIH AND/OR VR OUT OF SPEC.												
344	1	N/R	N/R	N/R	N/R	1500	200 PF	1	GN	PASS	1850	1	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: IIH AND/OR VR OUT OF SPEC.												
344	2	N/R	N/R	N/R	N/R	1500	200 PF	1	GN	FAIL	1850	3	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: VR OUT OF SPEC.												
344	3	N/R	N/R	N/R	N/R	1500	200 PF	2	GN	FAIL	1850	2	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: VR OUT OF SPEC.												
344	4	N/R	N/R	N/R	N/R	1500	200 PF	3	GN	PASS	1850	1	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: IIH AND/OR VR OUT OF SPEC.												
344	5	N/R	N/R	N/R	N/R	1500	200 PF	6	GN	FAIL	1850	1	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: IIH AND VR OUT OF SPEC.												
345	1	N/R	N/R	N/R	N/R	1500	200 PF	1	GN	FAIL	1900	1	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: VR OUT OF SPEC.												
346	2	N/R	N/R	N/R	N/R	1500	100 PF	200	GN	PASS	2000	1	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: IIH AND/OR VR OUT OF SPEC.												
347	1	N/R	N/R	N/R	N/R	1500	200 PF	1	GN	FAIL	2000	1	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: VR OUT OF SPEC.												
5406	DRIVER , HEX INVERTER BUFFER												
030	493	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	2500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												

TECHNOLOGY: TTL
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION														
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
5407		DRIVER , HEX BUFFER											
030	494	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	2500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54120		DRIVER , DUAL PULSE SYNCHRO.											
030	561	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	2500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54128		DRIVER , QUAD 2 INPUT NOR											
030	562	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	2500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54153		MULTIPLEXER , DUAL 4-INPUT											
245	3	N/R	N/R	N/R	N/R	100	.1 UF	1	SS	FAIL	78	15	INPUT(+) GND(-)
	REMARK: FAILURE VOLTAGE IS AN AVERAGE OF 15 DEVICES. FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.												
54154		DECODER , 4 TO 16 LINE											
030	563	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	2500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54182		SSI/MSI , LOOK-AHEAD CARRY GEN											
030	120	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	564	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	2500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
5420		GATE , DUAL NAND											
029	293	TEXAS INSTRUMENTS	SN5420S	N/R	N/R	1500	100 PF	1	N/R	FAIL	2230	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
5421		GATE , DUAL 4 INPUT AND											
003	8	SIGNETICS	N/R	7329	NOV 75	0	100 PF	1	SS	FAIL	700	1	INPUT(+) PR. SUPPLY(-)
004	5	SIGNETICS	N/R	7329	NOV 75	0	125 PF	1	SS	FAIL	1400	1	INPUT
	REMARK: INPUTS STRESSED WITH NO PINS GROUNDED. CAPACITANCE OF PACKAGE TO GND. IS 37PF												
5425		GATE , DUAL 4 INPUT NOR											
030	495	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	2500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												

TECHNOLOGY: TTL
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION														
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
5437	GATE , QUAD 2 INPUT NAND												
030	496	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	2500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
5438	GATE , QUAD 2 INPUT NAND												
030	497	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	2500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
5445	DECODER , BCD TO DECIMAL												
030	498	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	2500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
5446	DRIVER , BCD TO 7-SEGMENT												
030	499	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	2500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
5483	SSI/MSI , 4-BIT BIN FULL ADDER												
245	4	N/R	N/R	7604	N/R	100	.1 UF	1	SS	FAIL	65	15	INPUT(+) GND(-)
	REMARK: FAILURE VOLTAGE IS AN AVERAGE OF 15 DEVICES. FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.												
55461	DRIVER , DUAL PERIPHERAL AND												
030	565	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	3000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
55462	DRIVER , DUAL PERIPHERAL NAND												
030	566	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	3000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
55463	DRIVER , DUAL PERIPHERAL OR												
030	567	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	3000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
55464	DRIVER , DUAL PERIPHERAL NOR												
030	568	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	3000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	569	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	3000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
7400	GATE , QUAD 2 INPUT NAND												
029	284	MOTOROLA SEMI	MC7400L	N/R	N/R	1500	100 PF	1	N/R	FAIL	2460	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												

TECHNOLOGY: TTL
(CONTINUED)

BASIC PART NUMBER	SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
							(CONTINUED)							
7400 GATE , QUAD 2 INPUT NAND														
	029	286	SIGNETICS	N7400F	N/R	N/R	1500	100 PF	1	N/R	FAIL	9032	1	N/R
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
	029	301	TEXAS INSTRUMENTS	SN7400	N/R	N/R	1500	100 PF	1	N/R	FAIL	4401	1	N/R
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
	029	310	FAIRCHILD SEMI	7400DC	N/R	N/R	1500	100 PF	1	N/R	FAIL	3234	1	N/R
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
	028	4	N/R	N/R	N/R	N/R	1500	117 PF	30	SS	FAIL	1500	5	N/R
		FAILURE CRITERIA: 1IH=97UA												
7402 GATE , QUAD 2 INPUT NOR														
	029	302	TEXAS INSTRUMENTS	SN7402	N/R	N/R	1500	100 PF	1	N/R	FAIL	5485	1	N/R
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
7404 BUFFER/INVERTER , HEX INVERTER														
	030	511	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	2500	1	N/R
		FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
7406 DRIVER , HEX INVERTER BUFFER														
	030	512	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	2500	1	N/R
		FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
7407 DRIVER , HEX BUFFER														
	030	513	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	2500	1	N/R
		FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74120 DRIVER , DUAL PULSE SYNCHRO.														
	030	570	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	2500	1	N/R
		FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
7[illegible]3 DRIVER , QUAD 2 INPUT NOR														
	030	571	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	2500	1	N/R
		FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
7413 SSI/MSI , NAND SCHMITT TRIGGER														
	029	303	TEXAS INSTRUMENTS	SN7413N	N/R	N/R	1500	100 PF	1	N/R	FAIL	7441	1	N/R
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
74154 DECODER , 4 TO 16 LINE														
	030	572	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	2500	1	N/R
		FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												

TECHNOLOGY: TTL
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION														
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
74163	COUNTER , BINARY,SYNCHRONOUS												
029	304	TEXAS INSTRUMENTS	SN74163N	N/R	N/R	1500	100 PF	1	N/R	FAIL	3733	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
234	4	N/R	N/R	N/R	N/R	0	62 PF	1	SS	FAIL	300	1	IN.(6)(+) GND(8)(-)
	REMARK: INPUT PIN 2 FAILED AT 400V. FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE												
234	5	N/R	N/R	N/R	N/R	0	62 PF	1	SS	FAIL	500	1	IN.(6)(+) GND(8)(-)
	FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE												
234	6	N/R	N/R	N/R	N/R	0	62 PF	1	SS	FAIL	300	1	IN.(6)(+) GND(8)(-)
	REMARK: INPUT PIN 2 FAILED AT 500V. FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE												
235	4	N/R	N/R	N/R	N/R	0	120 PF	1	SS	FAIL	200	2	IN.(6)(+) GND(8)(-)
	REMARK: INPUT PIN 2 FAILED AT 300V. FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE												
235	5	N/R	N/R	N/R	N/R	0	120 PF	1	SS	FAIL	200	3	IN.(6)(+) GND(8)(-)
	FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE												
236	5	N/R	N/R	N/R	N/R	0	510 PF	1	SS	FAIL	100	2	IN.(6)(+) GND(8)(-)
	REMARK: INPUT PIN 2 FAILED AT 200V. FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE												
236	6	N/R	N/R	N/R	N/R	0	510 PF	1	SS	FAIL	200	1	IN(2,6,10)(+) GND(-)
	FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE												
236	7	N/R	N/R	N/R	N/R	0	510 PF	1	SS	FAIL	200	1	IN.(2,6)(+) GND(8)(-)
	REMARK: INPUT PIN 10 FAILED AT 300V. FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE												
236	8	N/R	N/R	N/R	N/R	0	510 PF	1	SS	FAIL	300	1	IN.(2,6)(+) GND(8)(-)
	FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE												
237	6	N/R	N/R	N/R	N/R	0	.001 UF	1	SS	FAIL	100	2	IN.(10)(+) GND(8)(-)
	REMARK: INPUT PINS 2 AND 6 FAILED AT 200V. FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE												
237	7	N/R	N/R	N/R	N/R	0	.001 UF	1	SS	FAIL	100	1	IN.(6,10)(+) GND(8)(-)
	REMARK: INPUT PIN 2 FAILED AT 200V. FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE												
237	8	N/R	N/R	N/R	N/R	0	.001 UF	1	SS	FAIL	200	1	IN.(2,6)(+) GND(8)(-)
	FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE												
237	9	N/R	N/R	N/R	N/R	0	.001 UF	1	SS	FAIL	100	1	IN.(6)(+) GND(8)(-)
	REMARK: INPUT PINS 2 AND 10 FAILED AT 200V. FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE												
238	3	N/R	N/R	N/R	N/R	0	.01 UF	1	SS	FAIL	100	4	IN(2,6,10)(+) GND(-)
	FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE												
74173	FLIP-FLOP , QUAD D												
234	7	N/R	N/R	N/R	N/R	0	62 PF	1	SS	PASS	500	3	IN(7,11,15)(+) GND(-)
	FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE												
235	6	N/R	N/R	N/R	N/R	0	120 PF	1	SS	PASS	500	3	IN(7,11,15)(+) GND(-)
	FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE												
235	7	N/R	N/R	N/R	N/R	0	120 PF	1	SS	FAIL	400	1	IN.(7)(+) GND(8)(-)
	FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE												
235	8	N/R	N/R	N/R	N/R	0	120 PF	1	SS	FAIL	500	1	IN.(7)(+) GND(8)(-)
	FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE												
236	9	N/R	N/R	N/R	N/R	0	510 PF	1	SS	FAIL	300	4	IN(7,11,15)(+) GND(-)
	FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE												
236	10	N/R	N/R	N/R	N/R	0	510 PF	1	SS	FAIL	200	1	IN.(11)(+) GND(8)(-)
	REMARK: INPUT PINS 7 AND 15 FAILED AT 300V. FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE												
237	10	N/R	N/R	N/R	N/R	0	.001 UF	1	SS	FAIL	400	1	IN(7,11,15)(+) GND(-)
	FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE												
237	11	N/R	N/R	N/R	N/R	0	.001 UF	1	SS	FAIL	300	2	IN(7,11,15)(+) GND(-)
	FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE												

TECHNOLOGY: TTL
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION																
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
74173	FLIP-FLOP , QUAD D (CONTINUED)												
237	12	N/R	N/R	N/R	N/R	0	.001 UF	1	SS	FAIL	300	2	IN.(7)(+) GND(8)(-)
	FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE												
238	4	N/R	N/R	N/R	N/R	0	.01 UF	1	SS	FAIL	100	1	IN.(11,15)(+) GND(-)
	REMARK: INPUT PIN 7 FAILED AT 200V. FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE												
238	5	N/R	N/R	N/R	N/R	0	.01 UF	1	SS	FAIL	100	1	IN.(11)(+) GND(8)(-)
	FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE												
238	6	N/R	N/R	N/R	N/R	0	.01 UF	1	SS	FAIL	100	1	IN.(7)(+) GND(8)(-)
	REMARK: INPUT PINS 11 AND 15 FAILED AT 200V. FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE												
238	7	N/R	N/R	N/R	N/R	0	.01 UF	1	SS	FAIL	200	1	IN.(7)(+) GND(8)(-)
	FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE												
74175	FLIP-FLOP , QUAD D												
127	38	TEXAS INSTRUMENTS	SN74175	N/R	79	1000	200 PF	1	SS	FAIL	1500	1	INPUTS(+) GROUND(-)
	FAILURE CRITERIA: 10UA INPUT LEAKAGE AT THE VOLTAGE PREVIOUSLY MEASURED TO BE 1UA												
127	39	TEXAS INSTRUMENTS	SN74175	N/R	79	1000	200 PF	1	SS	PASS	1500	1	INPUTS(+) GROUND(-)
	FAILURE CRITERIA: 10UA INPUT LEAKAGE AT THE VOLTAGE PREVIOUSLY MEASURED TO BE 1UA												
127	40	TEXAS INSTRUMENTS	SN74175	N/R	79	1000	200 PF	10	SS	FAIL	1500	1	INPUTS(+) GROUND(-)
	FAILURE CRITERIA: 10UA INPUT LEAKAGE AT THE VOLTAGE PREVIOUSLY MEASURED TO BE 1UA												
127	41	TEXAS INSTRUMENTS	SN74175	N/R	79	1000	200 PF	10	SS	PASS	1500	1	INPUTS(+) GROUND(-)
	FAILURE CRITERIA: 10UA INPUT LEAKAGE AT THE VOLTAGE PREVIOUSLY MEASURED TO BE 1UA												
127	42	NATIONAL SEMI	DM74175	N/R	79	1000	200 PF	1	SS	FAIL	1400	1	INPUTS(+) GROUND(-)
	FAILURE CRITERIA: 10UA INPUT LEAKAGE AT THE VOLTAGE PREVIOUSLY MEASURED TO BE 1UA												
127	43	NATIONAL SEMI	DM74175	N/R	79	1000	200 PF	1	SS	PASS	1500	1	INPUTS(+) GROUND(-)
	FAILURE CRITERIA: 10UA INPUT LEAKAGE AT THE VOLTAGE PREVIOUSLY MEASURED TO BE 1UA												
127	44	NATIONAL SEMI	DM74175	N/R	79	1000	200 PF	10	SS	PASS	1500	2	INPUTS(+) GROUND(-)
	FAILURE CRITERIA: 10UA INPUT LEAKAGE AT THE VOLTAGE PREVIOUSLY MEASURED TO BE 1UA												
74182	SSI/MSI , LOOK-AHEAD CARRY GEN												
030	573	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	2500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
7425	GATE , DUAL 4 INPUT NOR												
030	514	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	2500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
7437	GATE , QUAD 2 INPUT NAND												
030	515	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	2500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
067	2	N/R	N/R	N/R	N/R	0	50 PF	1	N/R	FAIL	750	1	INPUT
068	2	N/R	N/R	N/R	N/R	0	100 PF	1	N/R	FAIL	475	1	INPUT
069	2	N/R	N/R	N/R	N/R	0	150 PF	1	N/R	FAIL	400	1	INPUT
070	2	N/R	N/R	N/R	N/R	0	200 PF	1	N/R	FAIL	300	1	INPUT

TECHNOLOGY: TTL
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION														
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
7438	GATE , QUAD 2 INPUT NAND												
030	516	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	2500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
7445	DECODER , BCD TO DECIMAL												
030	517	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	2500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
7446	DRIVER , BCD TO 7-SEGMENT												
030	518	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	2500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
7490	COUNTER , DECADE												
029	305	TEXAS INSTRUMENTS	SN7490	N/R	N/R	1500	100 PF	1	N/R	FAIL	4987	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
75107	RECEIVER , DIFFERENTIAL												
029	306	TEXAS INSTRUMENTS	SN75107I	N/R	N/R	1500	100 PF	1	N/R	FAIL	4907	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
75461	DRIVER , DUAL PERIPHERAL AND												
030	574	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	3000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
75462	DRIVER , DUAL PERIPHERAL NAND												
030	575	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	3000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
75463	DRIVER , DUAL PERIPHERAL OR												
030	576	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	3000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
75464	DRIVER , DUAL PERIPHERAL NOR												
030	577	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	3000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
93415	STATIC RAM , 1024X1 BIT												
027	1	MOTOROLA SEMI	MCM93415DC	N/R	N/R	1500	100 PF	1	GN	FAIL	1000	1	N/R
	FAILURE CRITERIA: DC PARAMETER OUT OF SPEC												
027	2	MOTOROLA SEMI	MCM93415DC	N/R	N/R	1500	100 PF	1	GN	PASS	1000	13	N/R
	FAILURE CRITERIA: DC PARAMETER OUT OF SPEC												

TECHNOLOGY: TTL
(CONTINUED)

BASIC PART NUMBER			DESCRIPTION												
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
93449	SSI/MSI , MULTIPLIER												
029	314	FAIRCHILD SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	8060	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
N/R	BUFFER/INVERTER , HEX INVERTER												
014	2	N/R	N/R	N/R	N/R	100	100 PF	1	SS	FAIL	1200	N/R	INPUT
	REMARK: 1200 VOLTS IS AN AVE. OF AN UNKNOWN NUMBER OF DEVICES. FAILURE CRITERIA: GREATER THAN 40UA INPUT LEAKAGE AT 5 VOLTS												
017	2	N/R	N/R	N/R	N/R	100	250 PF	1	SS	FAIL	1000	N/R	INPUT
	REMARK: 1000 VOLTS IS AN AVERAGE OF AN UNKNOWN NUMBER OF DEVICES. FAILURE CRITERIA: GREATER THAN 40 UA INPUT LEAKAGE AT 5 VOLTS												
020	2	N/R	N/R	N/R	N/R	100	500 PF	1	SS	FAIL	700	N/R	INPUT
	REMARK: 700 VOLTS IS AN AVERAGE OF AN UNKNOWN NUMBER OF DEVICES. FAILURE CRITERIA: GREATER THAN 40UA INPUT LEAKAGE AT 5VOLTS												
N/R	GATE												
004	6	FAIRCHILD SEMI	N/R	6947	NOV 75	0	125 PF	1	SS	FAIL	4000	1	INPUT
	REMARK: INPUTS STRESSED WITH NO PINS GROUNDED. CAPACITANCE OF PACKAGE TO GND. IS 3PF												

TECHNOLOGY: STTL

BASIC PART NUMBER	DESCRIPTION															
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
27S13	PROM												
030	7	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
27S19C	PROM												
030	8	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
27S20	PROM , 1024 BIT												
026	34	N/R	AM27S20	N/R	FEB 81	100	200 PF	1	SS	FAIL	263	4	N/R
	REMARK: VOLTAGE IS AN AVERAGE OF 4 DEVICES FAILURE CRITERIA: CHANGE IN IIL OF +500% AT VIN = .45V												
3101	STATIC RAM , 16X4 BIT												
029	270	INTEL	I3101I	N/R	N/R	1500	100 PF	1	N/R	FAIL	8060	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
54S00	GATE , QUAD 2 INPUT NAND												
030	90	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
245	8	N/R	N/R	7650	N/R	100	.1 UF	1	SS	FAIL	36	15	INPUT(+) GND(-)
	REMARK: FAILURE VOLTAGE IS AN AVERAGE OF 15 DEVICES. FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.												
026	8	SIGNETICS	N/R	N/R	JAN 78	100	200 PF	1	SS	FAIL	228	4	INPUT(1)(+) GND(7)(-)
	REMARK: VOLTAGE IS AN AVERAGE OF 4 DEVICES FAILURE CRITERIA: 10% PARAMETER CHANGE												
54S02	GATE , QUAD 2 INPUT NOR												
030	91	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54S03	GATE , QUAD 2 INPUT NAND												
030	92	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54S04	BUFFER/INVERTER , HEX INVERTER												
030	93	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
288	1	TEXAS INSTRUMENTS	SN54S04	N/R	N/R	1500	200 PF	200	GN	PASS	600	1	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: IIH,VF,OR VR OUT OF SPEC.												
297	8	TEXAS INSTRUMENTS	SN54S04	N/R	N/R	1500	100 PF	200	GN	PASS	800	1	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: IIH,VF,OR VR OUT OF SPEC.												
298	1	TEXAS INSTRUMENTS	SN54S04	N/R	N/R	1500	200 PF	1	GN	PASS	800	1	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: IIH,VF,OR VR OUT OF SPEC.												
314	3	TEXAS INSTRUMENTS	SN54S04	N/R	N/R	1500	100 PF	200	GN	PASS	900	1	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: IIH,VF,OR VR OUT OF SPEC.												

TECHNOLOGY: STTL
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SEC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
54S04		BUFFER/INVERTER , HEX INVERTER				(CONTINUED)							
319	1	TEXAS INSTRUMENTS	SN54S04	N/R	N/R	1500	100 PF	200	GN	PASS	975	1	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: IIH,VF,OR VR OUT OF SPEC.												
320	1	TEXAS INSTRUMENTS	SN54S04	N/R	N/R	1500	100 PF	1	GN	FAIL	1000	1	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: IIH AND VR OUT OF SPEC.												
320	2	TEXAS INSTRUMENTS	SN54S04	N/R	N/R	1500	100 PF	200	GN	PASS	1000	2	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: IIH,VF,OR VR OUT OF SPEC.												
320	3	TEXAS INSTRUMENTS	SN54S04	N/R	N/R	1500	100 PF	1	GN	FAIL	1000	4	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: VR OUT OF SPEC.												
320	4	TEXAS INSTRUMENTS	SN54S04	N/R	N/R	1500	100 PF	2	GN	FAIL	1000	3	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: VR OUT OF SPEC.												
320	5	TEXAS INSTRUMENTS	SN54S04	N/R	N/R	1500	100 PF	9	GN	FAIL	1000	1	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: VR OUT OF SPEC.												
320	6	TEXAS INSTRUMENTS	SN54S04	N/R	N/R	1500	100 PF	30	GN	FAIL	1000	1	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: VR OUT OF SPEC.												
320	7	TEXAS INSTRUMENTS	SN54S04	N/R	N/R	1500	100 PF	500	GN	PASS	1000	1	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: VR OUT OF SPEC.												
320	8	TEXAS INSTRUMENTS	SN54S04	N/R	N/R	1500	100 PF	2	GN	FAIL	1000	2	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: VR OUT OF SPEC.												
320	9	TEXAS INSTRUMENTS	SN54S04	N/R	N/R	1500	100 PF	6	GN	FAIL	1000	1	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: VR OUT OF SPEC.												
321	2	TEXAS INSTRUMENTS	SN54S04	N/R	N/R	1500	100 PF	1	GN	FAIL	1000	1	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: IIH AND VR OUT OF SPEC.												
322	1	TEXAS INSTRUMENTS	SN54S04	N/R	N/R	1500	100 PF	2	GN	FAIL	1100	1	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: IIH AND VR OUT OF SPEC.												
322	2	TEXAS INSTRUMENTS	SN54S04	N/R	N/R	1500	100 PF	2	GN	FAIL	1100	2	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: VR OUT OF SPEC.												
322	3	TEXAS INSTRUMENTS	SN54S04	N/R	N/R	1500	100 PF	2	GN	FAIL	1100	1	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: IIH AND VR OUT OF SPEC.												
323	1	TEXAS INSTRUMENTS	SN54S04	N/R	N/R	1500	100 PF	1	GN	FAIL	1125	4	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: VR OUT OF SPEC.												
323	2	TEXAS INSTRUMENTS	SN54S04	N/R	N/R	1500	100 PF	2	GN	FAIL	1125	2	VCC(1&44)(+) IN.(1)(-)
	FAILURE CRITERIA: VR OUT OF SPEC.												
323	3	TEXAS INSTRUMENTS	SN54S04	N/R	N/R	1500	100 PF	2	GN	FAIL	1125	2	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: IIH AND VR OUT OF SPEC.												
323	4	TEXAS INSTRUMENTS	SN54S04	N/R	N/R	1500	100 PF	3	GN	FAIL	1125	1	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: VR OUT OF SPEC.												
323	5	TEXAS INSTRUMENTS	SN54S04	N/R	N/R	1500	100 PF	40	GN	FAIL	1125	1	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: VR OUT OF SPEC.												
324	1	TEXAS INSTRUMENTS	SN54S04	N/R	N/R	1500	100 PF	1	GN	FAIL	1150	1	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: VR OUT OF SPEC.												
325	1	TEXAS INSTRUMENTS	SN54S04	N/R	N/R	1500	100 PF	1	GN	FAIL	1200	2	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: VR OUT OF SPEC.												
325	2	TEXAS INSTRUMENTS	SN54S04	N/R	N/R	1500	100 PF	1	GN	FAIL	1200	4	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: VR OUT OF SPEC.												
325	3	TEXAS INSTRUMENTS	SN54S04	N/R	N/R	1500	100 PF	1	GN	PASS	1200	6	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: IIH,VF,OR VR OUT OF SPEC.												
325	4	TEXAS INSTRUMENTS	SN54S04	N/R	N/R	1500	100 PF	5	GN	PASS	1200	1	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: VR OUT OF SPEC.												

TECHNOLOGY: STTL
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION														
SEC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
54S04	BUFFER/INVERTER , HEX INVERTER						(CONTINUED)						
325	5	TEXAS INSTRUMENTS	SN54S04	N/R	N/R	1500	100 PF	2	GN	PASS	1200	1	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: IIH,VF,OR VR OUT OF SPEC.												
325	6	TEXAS INSTRUMENTS	SN54S04	N/R	N/R	1500	100 PF	2	GN	FAIL	1200	2	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: VR OUT OF SPEC.												
326	2	TEXAS INSTRUMENTS	SN54S04	N/R	N/R	1500	100 PF	1	GN	FAIL	1250	1	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: IIH AND VR OUT OF SPEC.												
326	3	TEXAS INSTRUMENTS	SN54S04	N/R	N/R	1500	100 PF	1	GN	FAIL	1250	5	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: VR OUT OF SPEC.												
326	4	TEXAS INSTRUMENTS	SN54S04	N/R	N/R	1500	100 PF	1	GN	FAIL	1250	2	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: IIH AND VR OUT OF SPEC.												
326	5	TEXAS INSTRUMENTS	SN54S04	N/R	N/R	1500	100 PF	2	GN	FAIL	1250	2	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: VR OUT OF SPEC.												
326	6	TEXAS INSTRUMENTS	SN54S04	N/R	N/R	1500	100 PF	5	GN	FAIL	1250	1	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: IIH AND VR OUT OF SPEC.												
327	1	TEXAS INSTRUMENTS	SN54S04	N/R	N/R	1500	100 PF	1	GN	PASS	1300	1	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: IIH,VF,OR VR OUT OF SPEC.												
328	1	TEXAS INSTRUMENTS	SN54S04	N/R	N/R	1500	100 PF	1	GN	FAIL	1350	2	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: VR OUT OF SPEC.												
328	2	TEXAS INSTRUMENTS	SN54S04	N/R	N/R	1500	100 PF	1	GN	FAIL	1350	1	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: IIH AND VR OUT OF SPEC.												
329	1	TEXAS INSTRUMENTS	SN54S04	N/R	N/R	1500	100 PF	1	GN	FAIL	1375	5	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: VR OUT OF SPEC.												
329	2	TEXAS INSTRUMENTS	SN54S04	N/R	N/R	1500	100 PF	2	GN	FAIL	1375	2	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: VR OUT OF SPEC.												
329	3	TEXAS INSTRUMENTS	SN54S04	N/R	N/R	1500	100 PF	3	GN	FAIL	1375	2	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: VR OUT OF SPEC.												
329	4	TEXAS INSTRUMENTS	SN54S04	N/R	N/R	1500	100 PF	4	GN	FAIL	1375	1	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: IIH AND VR OUT OF SPEC.												
329	5	TEXAS INSTRUMENTS	SN54S04	N/R	N/R	1500	100 PF	1	GN	FAIL	1375	1	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: VR OUT OF SPEC.												
329	6	TEXAS INSTRUMENTS	SN54S04	N/R	N/R	1500	100 PF	1	GN	FAIL	1375	4	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: IIH AND VR OUT OF SPEC.												
329	7	TEXAS INSTRUMENTS	SN54S04	N/R	N/R	1500	100 PF	1	GN	PASS	1375	2	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: IIH,VF,OR VR OUT OF SPEC.												
330	3	TEXAS INSTRUMENTS	SN54S04	N/R	N/R	1500	100 PF	1	GN	PASS	1500	2	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: IIH,VF,OR VR OUT OF SPEC.												
330	4	TEXAS INSTRUMENTS	SN54S04	N/R	N/R	1500	100 PF	1	GN	FAIL	1500	7	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: VR OUT OF SPEC.												
330	5	TEXAS INSTRUMENTS	SN54S04	N/R	N/R	1500	100 PF	2	GN	FAIL	1500	1	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: VR OUT OF SPEC.												
330	6	TEXAS INSTRUMENTS	SN54S04	N/R	N/R	1500	100 PF	3	GN	FAIL	1500	1	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: VR OUT OF SPEC.												
330	7	TEXAS INSTRUMENTS	SN54S04	N/R	N/R	1500	100 PF	3	GN	FAIL	1500	1	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: IIH AND VR OUT OF SPEC.												
331	2	TEXAS INSTRUMENTS	SN54S04	N/R	N/R	1500	200 PF	1	GN	FAIL	1500	1	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: IIH AND VR OUT OF SPEC.												
346	3	TEXAS INSTRUMENTS	SN54S04	N/R	N/R	1500	100 PF	1	GN	FAIL	2000	1	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: IIH AND VR OUT OF SPEC.												

TECHNOLOGY: STTL
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION	SEC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
54S04	BUFFER/INVERTER , HEX INVERTER (CONTINUED)														
		347	2	TEXAS INSTRUMENTS	SN54S04	N/R	N/R	1500	200 PF	1	GN	FAIL	2000	1	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: IIH AND VR OUT OF SPEC.														
54S05	BUFFER/INVERTER , HEX INVERTER														
		030	94	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%														
54S08	GATE , QUAD 2 INPUT AND														
		030	95	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%														
54S10	GATE , TRIPLE 3 INPUT NAND														
		030	96	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%														
		004	2	TEXAS INSTRUMENTS	N/R	7433	NOV 75	0	125 PF	1	SS	FAIL	600	1	INPUT
	REMARK: INPUTS STRESSED WITH NO PINS GROUNDED. CAPACITANCE OF PACKAGE TO GND. IS 290PF														
		004	3	TEXAS INSTRUMENTS	N/R	7443	NOV 75	0	125 PF	1	SS	FAIL	1700	1	INPUT
	REMARK: INPUTS STRESSED WITH NO PINS GROUNDED. CAPACITANCE OF PACKAGE TO GND. IS 6.5PF														
		004	4	TEXAS INSTRUMENTS	N/R	7443	NOV 75	0	125 PF	1	SS	FAIL	2200	1	INPUT
	REMARK: INPUTS STRESSED WITH NO PINS GROUNDED. CAPACITANCE OF PACKAGE TO GND. IS 3PF														
54S11	GATE , TRIPLE 3 INPUT AND														
		030	97	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%														
54S112	FLIP-FLOP , DUAL JK														
		030	106	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%														
54S133	GATE , 13 INPUT NAND														
		030	107	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%														
54S135	GATE , QUAD 2 INPUT OR/NOR														
		030	108	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%														
54S138	DECODER , DUAL 2 TO 4 LINE														
		030	109	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%														

TECHNOLOGY: STTL
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION	SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
54S138	DECODER , DUAL 2 TO 4 LINE (CONTINUED)														
		245	9	N/R	N/R	7609	N/R	100	.1 UF	1	SS	FAIL	40	15	INPUT(+) GND(-)
	REMARK: FAILURE VOLTAGE IS AN AVERAGE OF 15 DEVICES. FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.														
54S140	GATE , DUAL 4 INPUT NAND														
		030	110	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%														
54S151	MULTIPLEXER , 8 INPUT														
		030	111	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%														
54S153	MULTIPLEXER , DUAL 4 INPUT														
		030	112	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%														
54S157	MULTIPLEXER , QUAD 2 INPUT														
		030	113	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%														
		128	15	SIGNETICS	N/R	N/R	MAR 81	1000	200 PF	5	SS	FAIL	1100	2	INPUTS(+) GROUND(-)
	REMARK: VOLTAGE IS AN AVERAGE OF ALL INPUTS. PINS 11,14 MOST SUSCEPTIBLE (AVERAGE=960V)														
	FAILURE CRITERIA: SIGNIFICANT CHANGE IN THE +INPUT-GROUND V-I CURVE.														
		128	16	SIGNETICS	N/R	N/R	MAR 81	1000	200 PF	5	SS	FAIL	888	1	INPUTS(+) GROUND(-)
	REMARK: VOLTAGE IS AN AVERAGE OF ALL INPUTS. PINS 11,14 MOST SUSCEPTIBLE (AVERAGE=960V)														
	FAILURE CRITERIA: SIGNIFICANT CHANGE IN THE +INPUT-GROUND V-I CURVE.														
		128	17	SIGNETICS	N/R	N/R	MAR 81	1000	200 PF	5	SS	FAIL	1138	1	INPUTS(+) GROUND(-)
	REMARK: VOLTAGE IS AN AVERAGE OF ALL INPUTS. PINS 11,14 MOST SUSCEPTIBLE (AVERAGE=960V)														
	FAILURE CRITERIA: SIGNIFICANT CHANGE IN THE +INPUT-GROUND V-I CURVE.														
		128	18	SIGNETICS	N/R	N/R	MAR 81	1000	200 PF	5	SS	FAIL	988	1	INPUTS(+) GROUND(-)
	REMARK: VOLTAGE IS AN AVERAGE OF ALL INPUTS. PINS 11,14 MOST SUSCEPTIBLE (AVERAGE=960V)														
	FAILURE CRITERIA: SIGNIFICANT CHANGE IN THE +INPUT-GROUND V-I CURVE.														
54S160	COUNTER , DECADE,SYNCHRONOUS														
		030	115	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%														
54S161	COUNTER , BINARY,SYNCHRONOUS														
		030	116	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%														
54S174	FLIP-FLOP , HEX D														
		030	117	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%														

TECHNOLOGY: STTL
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION														
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
54S175	FLIP-FLOP , QUAD D												
030	118	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54S181	SSI/MSI , ADDER ALU												
029	292	TEXAS INSTRUMENTS	SN54S181S	N/R	N/R	1500	100 PF	1	N/R	FAIL	1106	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
030	119	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54S189	STATIC RAM , 16X4 BIT												
030	121	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54S20	GATE , DUAL 4 INPUT NAND												
030	98	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54S200	RAM , 256X1 BIT TRI STATE												
030	122	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54S22	GATE , DUAL 4 INPUT NAND												
030	99	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54S251	MULTIPLEXER , 8 INPUT												
030	123	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54S257	MULTIPLEXER , QUAD 2 INPUT												
030	124	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54S258	MULTIPLEXER , QUAD 2 INPUT												
030	125	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54S287	PROM , 256X4 BIT												
030	126	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												

TECHNOLOGY: STTL
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION														
SBC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
54S288	PROM , 32X8 BIT												
030	127	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54S30	GATE , 8 INPUT NAND												
030	100	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54S32	GATE , QUAD 2 INPUT OR												
030	101	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54S471	PROM , 256X8 BIT												
030	128	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54S472	PROM , 512X8 BIT												
030	129	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54S51	GATE , DUAL 2 INPUT AND/OR												
030	102	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54S573	PROM , 1024X4 BIT												
030	130	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54S74	FLIP-FLOP , DUAL D												
030	103	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54S85	SSI/MSI , 4 BIT MAG.COMPARATOR												
030	104	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54S86	GATE , QUAD 2 IN. EXCL. OR												
030	105	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												

TECHNOLOGY: STTL
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION														
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
74S00	GATE , QUAD 2 INPUT NAND												
029	300	TEXAS INSTRUMENTS	SN74S00	N/R	N/R	1500	100 PF	1	N/R	FAIL	2144	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
030	210	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
067	1	N/R	N/R	N/R	N/R	0	50 PF	1	N/R	FAIL	375	1	INPUT
068	1	N/R	N/R	N/R	N/R	0	100 PF	1	N/R	FAIL	250	1	INPUT
069	1	N/R	N/R	N/R	N/R	0	150 PF	1	N/R	FAIL	200	1	INPUT
070	1	N/R	N/R	N/R	N/R	0	200 PF	1	N/R	FAIL	175	1	INPUT
384	11	N/R	N/R	N/R	N/R	1000	200 PF	1	SS	FAIL	800	1	EACH PIN(+)
	REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 1100V.												
	FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.												
384	13	N/R	N/R	N/R	N/R	1000	200 PF	1	SS	FAIL	650	1	EACH PIN(+)
	REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 850V.												
	FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.												
384	16	N/R	N/R	N/R	N/R	1000	200 PF	1	SS	FAIL	850	1	EACH PIN(+)
	REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 1025V.												
	FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.												
384	20	N/R	N/R	N/R	N/R	1000	200 PF	1	SS	FAIL	650	1	EACH PIN(+)
	REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 725V.												
	FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.												
003	7	TEXAS INSTRUMENTS	N/R	N/R	NOV 75	0	100 PF	1	SS	FAIL	250	1	INPUT(+) PR. SUPPLY(-)
028	5	N/R	N/R	N/R	N/R	1500	117 PF	30	SS	FAIL	1000	5	N/R
	FAILURE CRITERIA: IIH=16MA												
74S02	GATE , QUAD 2 INPUT NOR												
030	211	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74S03	GATE , QUAD 2 INPUT NAND												
030	212	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74S04	BUFFER/INVERTER , HEX INVERTER												
030	213	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74S05	BUFFER/INVERTER , HEX INVERTER												
030	214	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74S08	GATE , QUAD 2 INPUT AND												
030	215	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												

TECHNOLOGY: STTL
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION														
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
74S10	GATE , TRIPLE 3 INPUT NAND												
030	216	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74S11	GATE , TRIPLE 3 INPUT AND												
030	217	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74S112	FLIP-FLOP , DUAL JK												
030	226	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74S133	GATE , 13 INPUT NAND												
030	227	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74S135	GATE , QUAD 2 INPUT OR/NOR												
030	228	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74S140	GATE , DUAL 4 INPUT NAND												
030	229	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74S151	MULTIPLEXER , 8 INPUT												
030	230	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74S153	MULTIPLEXER , DUAL 4 INPUT												
030	712	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74S157	MULTIPLEXER , QUAD 2 INPUT												
030	231	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74S160	COUNTER , DECADE,SYNCHRONOUS												
030	232	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												

TECHNOLOGY: STTL
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION														
SEC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
74S161	COUNTER , BINARY,SYNCHRONOUS												
030	233	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74S174	FLIP-FLOP , HEX D												
030	234	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74S175	FLIP-FLOP , QUAD D												
030	235	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74S181	SSI/MSI , ARITH. LOGIC UNIT												
030	236	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74S182	SSI/MSI , LOOK AHEAD CARRY GEN												
030	237	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74S189	STATIC RAM , 16X4 BIT												
030	238	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74S20	GATE , DUAL 4 INPUT NAND												
030	218	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74S200	RAM , 256X1 BIT TRI STATE												
030	239	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74S22	GATE , DUAL 4 INPUT NAND												
030	219	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74S251	MULTIPLEXER , 8 INPUT												
030	240	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												

TECHNOLOGY: STTL
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION														
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
74S257	MULTIPLEXER , QUAD 2 INPUT												
030	241	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74S258	MULTIPLEXER , QUAD 2 INPUT												
030	242	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74S30	GATE , 8 INPUT NAND												
030	220	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74S32	GATE , QUAD 2 INPUT OR												
030	221	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74S472	PROM , 512X8 BIT												
030	243	N/R	74S472C	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74S51	GATE , DUAL 2 INPUT AND/OR												
030	222	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74S74	FLIP-FLOP , DUAL D												
030	223	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74S85	SSI/MSI , 4 BIT MAG.COMPARATOR												
030	224	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74S86	GATE , QUAD 2 IN. EXCL. OR												
030	225	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
7620	PROM , 512X4 BIT												
245	12	N/R	N/R	7712	N/R	100	.1 UF	1	SS	FAIL	83	15	INPUT(+) GND(-)
	REMARK: FAILURE VOLTAGE IS AN AVERAGE OF 15 DEVICES. FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.												

TECHNOLOGY: STTL
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION														
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
8T26	TRANSCEIVER , 4 BIT PARALLEL												
030	1	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
8T26C	TRANSCEIVER , 4 BIT PARALLEL												
030	2	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
8:S114	PROM , 256X8 BIT												
030	249	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
82S123	PROM , 32X8 BIT												
030	250	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
82S129	PROM , 256X4 BIT												
030	251	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
82S131	PROM , 512X4 BIT												
030	252	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
82S137	PROM , 1024X4 BIT												
030	253	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
82S141	PROM , 512X8 BIT												
030	254	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
82S181	PROM , 1024X8 BIT												
030	255	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
82S185	PROM , 2048X4 BIT												
030	256	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												

TECHNOLOGY: STTL
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION														
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
82S191	PROM , 2048X8 BIT												
030	257	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
82S2708	PROM , 1024X8 BIT												
030	258	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
82S34	MULTIPLEXER , 2 INPUT												
245	10	N/R	N/R	N/R	N/R	100	.1 UF	1	SS	FAIL	31	15	INPUT(+) GND(-)
	REMARK: FAILURE VOLTAGE IS AN AVERAGE OF 15 DEVICES. FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.												
82S67	MULTIPLEXER , 2 INPUT												
245	11	N/R	N/R	7211	N/R	100	.1 UF	1	SS	FAIL	41	15	INPUT(+) GND(-)
	REMARK: FAILURE VOLTAGE IS AN AVERAGE OF 15 DEVICES. FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.												
82288	ROM												
029	311	SIGNETICS	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1576	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
N/R	BUFFER/INVERTER , HEX INVERTER												
014	3	N/R	N/R	N/R	N/R	100	100 PF	1	SS	FAIL	525	N/R	INPUT
	REMARK: 525 VOLTS IS AN AVERAGE FROM AN UNKNOWN NUMBER OF DEVICES. FAILURE CRITERIA: GREATER THAN 50MA INPUT LEAKAGE AT 5 VOLTS												
017	3	N/R	N/R	N/R	N/R	100	250 PF	1	SS	FAIL	350	N/R	INPUT
	REMARK: 350 VOLTS IS AN AVERAGE OF AN UNKNOWN NUMBER OF DEVICES. FAILURE CRITERIA: GREATER THAN 50 MA INPUT LEAKAGE AT 5 VOLTS.												
020	3	N/R	N/R	N/R	N/R	100	500 PF	1	SS	FAIL	250	N/R	INPUT
	REMARK: 250 VOLTS IS AN AVERAGE OF AN UNKNOWN NUMBER OF DEVICES. FAILURE CRITERIA: GREATER THAN 50MA INPUT LEAKAGE AT 5 VOLTS												
023	1	N/R	N/R	N/R	N/R	470	100 PF	1	SS	FAIL	825	N/R	N/R
	REMARK: 825 VOLTS IS AN AVERAGE OF AN UNKNOWN NUMBER OF DEVICES. FAILURE CRITERIA: GREATER THAN 50 MA AT 5 VOLTS.												
024	1	N/R	N/R	N/R	N/R	470	250 PF	1	SS	FAIL	490	N/R	N/R
	REMARK: 490 VOLTS IS AN AVERAGE OF AN UNKNOWN NUMBER OF DEVICES. FAILURE CRITERIA: GREATER THAN 50 MA AT 5 VOLTS.												
025	1	N/R	N/R	N/R	N/R	470	500 PF	1	SS	FAIL	410	N/R	N/R
	REMARK: 410 VOLTS IS AN AVERAGE OF AN UNKNOWN NUMBER OF DEVICES. FAILURE CRITERIA: GREATER THAN 5 MA AT 5 VOLTS.												

TECHNOLOGY: LSTTL

BASIC PART NUMBER	DESCRIPTION															
SEC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
26LS31	DRIVER , DIFFERENTIAL LINE												
030	4	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
26LS32	RECEIVER , DIFFERENTIAL LINE												
030	5	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
2901	MICROPROCESSOR , CPU,4 BIT SLICE												
030	360	N/R	2901A	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
383	11	ADVANCED MICRO DEVICES	AM2901	N/R	N/R	1500	100 PF	1	SS	FAIL	774	1	CP(+) APTT(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL. FAILURE CRITERIA: DEGRADATION OF V-I CURVE OR FUNCTIONAL FAILURE.												
383	12	ADVANCED MICRO DEVICES	AM2901	N/R	N/R	1500	100 PF	1	SS	FAIL	183	1	F=0(+) APTT(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL. FAILURE CRITERIA: DEGRADATION OF V-I CURVE OR FUNCTIONAL FAILURE.												
383	13	ADVANCED MICRO DEVICES	AM2901	N/R	N/R	1500	100 PF	1	SS	FAIL	57286	1	VCC(+) APTT(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL. FAILURE CRITERIA: DEGRADATION OF V-I CURVE OR FUNCTIONAL FAILURE.												
2909	MICROPROCESSOR , MICROPROGRAM SEQ.												
030	361	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
2910	MICROPROCESSOR , MICROPROGRAM CONTROL												
030	362	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
2930	MICROPROCESSOR , PROGRAM CONTROL UNIT												
030	713	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54LS00	GATE , QUAD 2 INPUT NAND												
030	9	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
245	13	N/R	54LS00A	7735	N/R	100	.1 UF	1	SS	FAIL	85	15	INPUT(+) GND(-)
	REMARK: FAILURE VOLTAGE IS AN AVERAGE OF 15 DEVICES. FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.												
245	14	N/R	54LS00B	716	N/R	100	.1 UF	1	SS	FAIL	83	15	INPUT(+) GND(-)
	REMARK: FAILURE VOLTAGE IS AN AVERAGE OF 15 DEVICES. FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.												
245	15	N/R	54LS00C1	7720	N/R	100	.1 UF	1	SS	FAIL	80	15	INPUT(+) GND(-)
	REMARK: FAILURE VOLTAGE IS AN AVERAGE OF 15 DEVICES. FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.												
245	16	N/R	54LS00C2	7720	N/R	100	.1 UF	1	SS	FAIL	80	15	INPUT(+) GND(-)
	REMARK: FAILURE VOLTAGE IS AN AVERAGE OF 15 DEVICES. FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.												
383	17	NATIONAL SEMI	N/R	N/R	N/R	1500	100 PF	1	SS	FAIL	8132	1	IN.(+) APTT(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL. FAILURE CRITERIA: DEGRADATION OF V-I CURVE OR FUNCTIONAL FAILURE.												

TECHNOLOGY: LSTTL
(CONTINUED)

BASIC PART NUMBER	SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
54LS00			GATE , QUAD 2 INPUT NAND (CONTINUED)											
	383	19	NATIONAL SEMI	N/R	N/R	N/R	1500	100 PF	1	SS	FAIL	771	1	VCC(+) APTT(-)
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL. FAILURE CRITERIA: DEGRADATION OF V-I CURVE OR FUNCTIONAL FAILURE.												
	026	4	SIGNETICS	N/R	N/R	JAN 78	100	200 PF	1	SS	FAIL	513	4	INPUT(1)(+) GND(7)(-)
		REMARK: VOLTAGE IS AN AVERAGE OF 4 DEVICES FAILURE CRITERIA: 10% PARAMETER CHANGE												
	026	6	NATIONAL SEMI	N/R	N/R	JAN 78	100	200 PF	1	SS	FAIL	366	1	INPUT(1)(+) GND(7)(-)
		REMARK: VOLTAGE IS AN AVERAGE OF 4 DEVICES FAILURE CRITERIA: 10% PARAMETER CHANGE												
54LS02			GATE , QUAD 2 INPUT NOR											
	030	10	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
		FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54LS03			GATE , QUAD 2 INPUT NAND											
	030	11	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
		FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54LS04			BUFFER/INVERTER , HEX INVERTER											
	030	12	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
		FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
	383	18	NATIONAL SEMI	N/R	N/R	N/R	1500	100 PF	1	SS	FAIL	1263	1	OUT.(+) APTT(-)
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL. FAILURE CRITERIA: DEGRADATION OF V-I CURVE OR FUNCTIONAL FAILURE.												
54LS05			BUFFER/INVERTER , HEX INVERTER											
	030	13	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
		FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
	384	1	N/R	N/R	N/R	N/R	1000	200 PF	1	SS	FAIL	900	1	EACH PIN(+)
		REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 1000V. FAILURE CRITERIA: 200 NA LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.												
	384	2	N/R	N/R	N/R	N/R	1000	200 PF	1	SS	FAIL	800	1	EACH PIN(+)
		REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 1080V. FAILURE CRITERIA: 2 UA LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.												
	384	3	N/R	N/R	N/R	N/R	1000	200 PF	1	SS	FAIL	900	1	EACH PIN(+)
		REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 1125V FAILURE CRITERIA: 20 UA LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.												
54LS08			GATE , QUAD 2 INPUT AND											
	030	14	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
		FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54LS09			GATE , QUAD 2 INPUT AND											
	030	15	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
		FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												

TECHNOLOGY: LSTTL
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION														
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
54LS10	GATE , TRIPLE 3 INPUT NAND												
030	16	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54LS107	FLIP-FLOP , DUAL JK MASTER SLAVE												
030	37	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54LS109	FLIP-FLOP , DUAL JK												
030	38	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54LS11	GATE , TRIPLE 3 INPUT AND												
030	17	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54LS112	FLIP-FLOP , DUAL JK												
030	39	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54LS12	GATE , TRIPLE 3 INPUT NAND												
030	18	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54LS123	MULTIVIBRATOR , DUAL RETRIGGERABLE												
030	40	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54LS125	BUFFER/INVERTER , QUAD GATED												
030	41	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54LS126	BUFFER/INVERTER , QUAD GATED												
030	42	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54LS138	DECODER , DUAL 2 TO 4 LINE												
030	43	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												

TECHNOLOGY: LSTTL
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION														
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
54LS139	DECODER , DUAL 2 TO 4 LINE												
030	44	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54LS14	SSI/MSI , HEX SCHMITT TRIGGER												
030	19	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54LS148	ENCODER , 8-INPUT PRIORITY												
030	45	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54LS15	GATE , TRIPLE 3 INPUT AND												
030	20	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54LS151	MULTIPLEXER , 8 INPUT												
030	46	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
128	1	MOTOROLA SEMI	SN54LS151	N/R	MAR 81	1000	200 PF	5	SS	FAIL	1117	1	INPUTS(+) GROUND(-)
	REMARK: VOLTAGE IS AN AVERAGE OF ALL INPUTS. PIN 15 MOST SUSCEPTIBLE (AVERAGE=960V)												
	FAILURE CRITERIA: SIGNIFICANT CHANGE IN THE +INPUT-GROUND V-I CURVE.												
128	2	MOTOROLA SEMI	SN54LS151	N/R	MAR 81	1000	200 PF	5	SS	FAIL	1133	1	INPUTS(+) GROUND(-)
	REMARK: VOLTAGE IS AN AVERAGE OF ALL INPUTS. PIN 15 MOST SUSCEPTIBLE (AVERAGE=960V)												
	FAILURE CRITERIA: SIGNIFICANT CHANGE IN THE +INPUT-GROUND V-I CURVE.												
128	3	MOTOROLA SEMI	SN54LS151	N/R	MAR 81	1000	200 PF	5	SS	FAIL	1142	1	INPUTS(+) GROUND(-)
	REMARK: VOLTAGE IS AN AVERAGE OF ALL INPUTS. PIN 15 MOST SUSCEPTIBLE (AVERAGE=960V)												
	FAILURE CRITERIA: SIGNIFICANT CHANGE IN THE +INPUT-GROUND V-I CURVE.												
128	4	MOTOROLA SEMI	SN54LS151	N/R	MAR 81	1000	200 PF	5	SS	FAIL	973	1	INPUTS(+) GROUND(-)
	REMARK: VOLTAGE IS AN AVERAGE OF ALL INPUTS. PINS 1,2,15 MOST SUSCEPTIBLE (AVERAGE=940V)												
	FAILURE CRITERIA: SIGNIFICANT CHANGE IN THE +INPUT-GROUND V-I CURVE.												
128	5	MOTOROLA SEMI	SN54LS151	N/R	MAR 81	1000	200 PF	5	SS	FAIL	1045	1	INPUTS(+) GROUND(-)
	REMARK: VOLTAGE IS AN AVERAGE OF ALL INPUTS. PINS 1,2,15 MOST SUSCEPTIBLE (AVERAGE=940V)												
	FAILURE CRITERIA: SIGNIFICANT CHANGE IN THE +INPUT-GROUND V-I CURVE.												
128	6	NATIONAL SEMI	DM54LS151	N/R	MAR 81	1000	200 PF	5	SS	FAIL	1127	1	INPUTS(+) GROUND(-)
	REMARK: VOLTAGE IS AN AVERAGE OF ALL INPUTS. PIN 15 MOST SUSCEPTIBLE (AVERAGE=960V)												
	FAILURE CRITERIA: SIGNIFICANT CHANGE IN THE +INPUT-GROUND V-I CURVE.												
128	7	NATIONAL SEMI	DM54LS151	N/R	MAR 81	1000	200 PF	5	SS	FAIL	1033	1	INPUTS(+) GROUND(-)
	REMARK: VOLTAGE IS AN AVERAGE OF ALL INPUTS. PIN 15 MOST SUSCEPTIBLE (AVERAGE=960V)												
	FAILURE CRITERIA: SIGNIFICANT CHANGE IN THE +INPUT-GROUND V-I CURVE.												
128	8	NATIONAL SEMI	DM54LS151	N/R	MAR 81	1000	200 PF	5	SS	FAIL	950	1	INPUTS(+) GROUND(-)
	REMARK: VOLTAGE IS AN AVERAGE OF ALL INPUTS. PIN 15 MOST SUSCEPTIBLE (AVERAGE=960V)												
	FAILURE CRITERIA: SIGNIFICANT CHANGE IN THE +INPUT-GROUND V-I CURVE.												
128	9	NATIONAL SEMI	DM54LS151	N/R	MAR 81	1000	200 PF	5	SS	FAIL	1042	1	INPUTS(+) GROUND(-)
	REMARK: VOLTAGE IS AN AVERAGE OF ALL INPUTS. PIN 15 MOST SUSCEPTIBLE (AVERAGE=960V)												
	FAILURE CRITERIA: SIGNIFICANT CHANGE IN THE +INPUT-GROUND V-I CURVE.												

TECHNOLOGY: LSTTL
(CONTINUED)

BASIC PART NUMBER	SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
54LS151	MULTIPLEXER , 8 INPUT (CONTINUED)													
	128	10	NATIONAL SEMI	DM54LS151	N/R	MAR 81	1000	200 PF	5	SS	FAIL	1075	1	INPUTS(+) GROUND(-)
	REMARK: VOLTAGE IS AN AVERAGE OF ALL INPUTS. PIN 15 MOST SUSCEPTIBLE (AVERAGE=960V) FAILURE CRITERIA: SIGNIFICANT CHANGE IN THE +INPUT-GROUND V-I CURVE.													
	128	11	NATIONAL SEMI	DM54LS151	N/R	MAR 81	1000	200 PF	5	SS	FAIL	700	1	INPUT(15)(+) GROUND(-)
	FAILURE CRITERIA: SIGNIFICANT CHANGE IN THE +INPUT-GROUND V-I CURVE.													
	128	12	NATIONAL SEMI	DM54LS151	N/R	MAR 81	1000	200 PF	5	SS	FAIL	1000	3	INPUT(15)(+) GROUND(-)
	FAILURE CRITERIA: SIGNIFICANT CHANGE IN THE +INPUT-GROUND V-I CURVE.													
	128	13	NATIONAL SEMI	DM54LS151	N/R	MAR 81	1000	200 PF	5	SS	FAIL	1100	1	INPUT(15)(+) GROUND(-)
	FAILURE CRITERIA: SIGNIFICANT CHANGE IN THE +INPUT-GROUND V-I CURVE.													
54LS153	MULTIPLEXER , DUAL 4 INPUT													
	030	47	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%													
	128	14	SIGNETICS	N/R	N/R	MAR 81	1000	200 PF	5	SS	PASS	1500	5	INPUTS(+) GROUND(-)
	REMARK: VOLTAGE IS AN AVERAGE OF ALL INPUTS. FAILURE CRITERIA: SIGNIFICANT CHANGE IN THE +INPUT-GROUND V-I CURVE.													
	245	17	N/R	N/R	7609	N/R	100	.1 UF	1	SS	FAIL	95	15	INPUT(+) GND(-)
	REMARK: FAILURE VOLTAGE IS AN AVERAGE OF 15 DEVICES. FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.													
54LS154	DECODER , 4 TO 16 LINE													
	030	48	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%													
54LS155	DECODER , DUAL 2 TO 4 LINE													
	030	49	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%													
54LS157	MULTIPLEXER , QUAD 2 INPUT													
	030	50	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%													
	026	31	ADVANCED MICRO DEVICES	54LS157J	N/R	FEB 81	100	200 PF	1	SS	FAIL	433	4	INPUT(15)(+) GND(8)(-)
	REMARK: VOLTAGE IS AN AVERAGE OF 4 DEVICES FAILURE CRITERIA: CHANGE IN IIH OF 500% AT VIN = 2.7V													
54LS160	COUNTER , DECADE,SYNCHRONOUS													
	030	51	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%													
54LS161	COUNTER , BINARY,SYNCHRONOUS													
	030	52	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%													

TECHNOLOGY: LSTTL
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION														
SEC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
54LS162	COUNTER , DECADE,SYNCHRONOUS												
030	53	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54LS163	COUNTER , BINARY,SYNCHRONOUS												
030	54	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54LS164	SHIFT REGISTER , 8-BIT GATED												
030	55	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
026	36	SIGNETICS	N/R	N/R	FEB 81	100	200 PF	1	SS	FAIL	228	4	INPUT(1)(+) OUT(7)(-)
	REMARK: VOLTAGE IS AN AVERAGE OF 4 DEVICES FAILURE CRITERIA: CHANGE IN IR OF +500% AT VBR = 30V												
54LS165	SHIFT REGISTER , 8-BIT												
030	56	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54LS166	SHIFT REGISTER , 8-BIT												
030	57	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54LS173	FLIP-FLOP , QUAD D												
030	58	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54LS174	FLIP-FLOP , HEX D												
030	59	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54LS175	FLIP-FLOP , QUAD D												
030	60	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54LS181	SSI/MSI , ARITH. LOGIC UNIT												
030	61	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54LS192	COUNTER , DECADE UP/DOWN												
030	62	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												

TECHNOLOGY: LSTTL
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION														
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
54LS192	COUNTER , DECADE UP/DOWN				(CONTINUED)								
245	18	N/R	N/R	7547	N/R	100	.1 UF	1	SS	FAIL	59	15	INPUT(+) GND(-)
	REMARK: FAILURE VOLTAGE IS AN AVERAGE OF 15 DEVICES. FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.												
54LS193	COUNTER , BINARY UP/DOWN												
030	63	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54LS194	SHIFT REGISTER , 4-BIT												
030	64	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54LS196	COUNTER , DECADE COUNTER/LATCH												
030	65	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54LS197	COUNTER , BINARY COUNTER/LATCH												
030	66	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54LS20	GATE , DUAL 4 INPUT NAND												
030	21	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54LS21	GATE , DUAL 4 INPUT AND												
030	22	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54LS221	MULTIVIBRATOR , DUAL MONOSTABLE												
030	67	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54LS240	DRIVER , OCTAL BUS												
030	68	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54LS244	DRIVER , OCTAL BUS												
030	69	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												

TECHNOLOGY: LSTTL
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION														
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
54LS245	TRANSCEIVER , OCTAL BUS												
030	70	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54LS251	MULTIPLEXER , 8-INPUT												
030	71	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54LS253	MULTIPLEXER , DUAL 4 INPUT												
030	72	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54LS257	MULTIPLEXER , QUAD 2 INPUT												
030	73	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54LS259	LATCH , 8-BIT ADDRESSABLE												
030	74	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54LS266	GATE , QUAD 2 IN. EXCL. NOR												
030	75	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54LS27	GATE , TRIPLE 3 INPUT NOR												
030	23	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54LS279	LATCH , QUAD RS												
030	76	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54LS280	SSI/MSI , 9 BIT PARITY GEN.												
030	77	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54LS283	SSI/MSI , 4 BIT BINARY ADDER												
030	78	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												

TECHNOLOGY: LSTTL
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION														
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
54LS295	SHIFT REGISTER , 4-BIT												
030	79	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54LS298	MULTIPLEXER , QUAD 2-INPUT												
030	80	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54LS299	SHIFT REGISTER , 8-BIT												
030	81	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500 .	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54LS30	GATE , 8 INPUT NAND												
030	24	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54LS32	GATE , QUAD 2 INPUT OR												
030	25	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54LS353	MULTIPLEXER , DUAL 3-INPUT												
030	82	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54LS367	BUFFER/INVERTER , HEX BUFFER												
030	83	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54LS368	BUFFER/INVERTER , HEX INVERTER												
030	84	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54LS37	GATE , QUAD 2 INPUT NAND												
030	26	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54LS373	LATCH , 8 BIT,D TYPE												
030	85	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												

TECHNOLOGY: LSTTL
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION														
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
54LS374	FLIP-FLOP , OCTAL D												
030	86	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54LS38	GATE , QUAD 2 INPUT NAND												
030	27	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54LS390	COUNTER , DUAL DECADE												
030	87	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54LS393	COUNTER , DUAL 4 BIT BINARY												
030	88	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54LS40	GATE , DUAL 4 INPUT NAND												
030	28	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54LS42	ENCODER , BCD TO DECIMAL												
030	29	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54LS51	GATE , DUAL 2 INPUT AND/OR												
030	30	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54LS54	GATE , AND/OR INVERT												
030	31	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54LS670	SSI/MSI , 16 BIT REGISTER FILE												
030	89	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54LS74	FLIP-FLOP , DUAL D												
030	32	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
383	20	NATIONAL SEMI	N/R	N/R	N/R	1500	100 PF	1	SS	FAIL	133	1	IN.(+) APTT(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL. FAILURE CRITERIA: DEGRADATION OF V-I CURVE OR FUNCTIONAL FAILURE.												

TECHNOLOGY: LSTTL
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION	SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
54LS74	FLIP-FLOP , DUAL D (CONTINUED)														
		383	21	NATIONAL SEMI	N/R	N/R	N/R	1500	100 PF	1	SS	FAIL	280	1	OUT.(+) APTT(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL. FAILURE CRITERIA: DEGRADATION OF V-I CURVE OR FUNCTIONAL FAILURE.														
		383	22	NATIONAL SEMI	N/R	N/R	N/R	1500	100 PF	1	SS	FAIL	483	1	VCC(+) APTT(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL. FAILURE CRITERIA: DEGRADATION OF V-I CURVE OR FUNCTIONAL FAILURE.														
54LS75	LATCH , QUAD BISTABLE														
		030	33	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%														
54LS85	SSI/MSI , 4 BIT MAG.COMPARATOR														
		030	34	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%														
54LS86	GATE , QUAD 2 IN. EXCL. OR														
		030	35	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%														
54LS90	COUNTER , DECADE														
		383	23	NATIONAL SEMI	N/R	N/R	N/R	1500	100 PF	1	SS	FAIL	2692	1	IN.(-) APTT(+)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL. FAILURE CRITERIA: DEGRADATION OF V-I CURVE OR FUNCTIONAL FAILURE.														
		383	24	NATIONAL SEMI	N/R	N/R	N/R	1500	100 PF	1	SS	FAIL	618	1	OUT.(-) APTT(+)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL. FAILURE CRITERIA: DEGRADATION OF V-I CURVE OR FUNCTIONAL FAILURE.														
		383	25	NATIONAL SEMI	N/R	N/R	N/R	1500	100 PF	1	SS	FAIL	459716	1	VCC(-) APTT(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL. FAILURE CRITERIA: DEGRADATION OF V-I CURVE OR FUNCTIONAL FAILURE.														
54LS92	COUNTER , DIVIDE BY 12														
		030	36	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%														
74LS00	GATE , QUAD 2 INPUT NAND														
		030	131	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%														
		384	8	N/R	N/R	N/R	N/R	1000	200 PF	1	SS	FAIL	400	1	EACH PIN(+)
	REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 1000V. FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.														
		384	9	N/R	N/R	N/R	N/R	1000	200 PF	1	SS	FAIL	400	1	EACH PIN(+)
	REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 700V. FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.														
		384	14	N/R	N/R	N/R	N/R	1000	200 PF	1	SS	FAIL	950	1	EACH PIN(+)
	REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 1325V. FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.														
		027	8	MOTOROLA SEMI	SN74LS00ND	N/R	N/R	1500	100 PF	1	GN	FAIL	1000	2	N/R
	FAILURE CRITERIA: DC PARAMETER OUT OF SPEC														

TECHNOLOGY: LSTTL
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION																
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
74LS00	GATE , QUAD 2 INPUT NAND												(CONTINUED)
027	9	MOTOROLA SEMI	SN74LS00ND	N/R	N/R	1500	100 PF	1	GN	PASS	1000	13	N/R
	FAILURE CRITERIA: DC PARAMETER OUT OF SPEC												
028	6	N/R	N/R	N/R	N/R	1500	117 PF	30	SS	FAIL	1000	5	N/R
	FAILURE CRITERIA: CHANGE IN IIH OF 10%												
74LS02	GATE , QUAD 2 INPUT NOR												
030	132	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74LS03	GATE , QUAD 2 INPUT NAND												
030	133	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
384	17	N/R	N/R	N/R	N/R	1000	200 PF	1	SS	FAIL	1000	1	EACH PIN(+)
	REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 1325V.												
	FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.												
74LS05	BUFFER/INVERTER , HEX INVERTER												
030	134	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74LS08	GATE , QUAD 2 INPUT AND												
030	135	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74LS09	GATE , QUAD 2 INPUT AND												
030	136	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
127	12	TEXAS INSTRUMENTS	SN74LS09	N/R	79	1000	200 PF	1	SS	FAIL	800	1	INPUTS(+) GROUND(-)
	FAILURE CRITERIA: 10UA INPUT LEAKAGE AT THE VOLTAGE PREVIOUSLY MEASURED TO BE 1UA												
127	13	TEXAS INSTRUMENTS	SN74LS09	N/R	79	1000	200 PF	1	SS	FAIL	1500	1	INPUTS(+) GROUND(-)
	FAILURE CRITERIA: 10UA INPUT LEAKAGE AT THE VOLTAGE PREVIOUSLY MEASURED TO BE 1UA												
127	14	TEXAS INSTRUMENTS	SN74LS09	N/R	79	1000	200 PF	10	SS	FAIL	400	1	INPUTS(+) GROUND(-)
	FAILURE CRITERIA: 10UA INPUT LEAKAGE AT THE VOLTAGE PREVIOUSLY MEASURED TO BE 1UA												
127	15	TEXAS INSTRUMENTS	SN74LS09	N/R	79	1000	200 PF	10	SS	FAIL	800	1	INPUTS(+) GROUND(-)
	FAILURE CRITERIA: 10UA INPUT LEAKAGE AT THE VOLTAGE PREVIOUSLY MEASURED TO BE 1UA												
127	16	SIGNETICS	74LS09	N/R	79	1000	200 PF	1	SS	FAIL	1400	1	INPUTS(+) GROUND(-)
	FAILURE CRITERIA: 10UA INPUT LEAKAGE AT THE VOLTAGE PREVIOUSLY MEASURED TO BE 1UA												
127	17	SIGNETICS	74LS09	N/R	79	1000	200 PF	1	SS	PASS	1500	1	INPUTS(+) GROUND(-)
	FAILURE CRITERIA: 10UA INPUT LEAKAGE AT THE VOLTAGE PREVIOUSLY MEASURED TO BE 1UA												
127	18	SIGNETICS	74LS09	N/R	79	1000	200 PF	10	SS	FAIL	1400	1	INPUTS(+) GROUND(-)
	FAILURE CRITERIA: 10UA INPUT LEAKAGE AT THE VOLTAGE PREVIOUSLY MEASURED TO BE 1UA												
127	19	SIGNETICS	74LS09	N/R	79	1000	200 PF	10	SS	PASS	1500	1	INPUTS(+) GROUND(-)
	FAILURE CRITERIA: 10UA INPUT LEAKAGE AT THE VOLTAGE PREVIOUSLY MEASURED TO BE 1UA												

TECHNOLOGY: LSTTL
(CONTINUED)

BASIC PART NUMBER / SEC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
74LS09		GATE , QUAD 2 INPUT AND				(CONTINUED)							
127	20	FAIRCHILD SEMI	74LS09	N/R	79	1000	200 PF	1	SS	FAIL	800	1	INPUTS(+) GROUND(-)
		FAILURE CRITERIA: 10UA INPUT LEAKAGE AT THE VOLTAGE PREVIOUSLY MEASURED TO BE 1UA											
127	21	FAIRCHILD SEMI	74LS09	N/R	79	1000	200 PF	1	SS	FAIL	1200	1	INPUTS(+) GROUND(-)
		FAILURE CRITERIA: 10UA INPUT LEAKAGE AT THE VOLTAGE PREVIOUSLY MEASURED TO BE 1UA											
127	22	FAIRCHILD SEMI	74LS09	N/R	79	1000	200 PF	10	SS	FAIL	800	1	INPUTS(+) GROUND(-)
		FAILURE CRITERIA: 10UA INPUT LEAKAGE AT THE VOLTAGE PREVIOUSLY MEASURED TO BE 1UA											
127	23	FAIRCHILD SEMI	74LS09	N/R	79	1000	200 PF	10	SS	FAIL	1000	1	INPUTS(+) GROUND(-)
		FAILURE CRITERIA: 10UA INPUT LEAKAGE AT THE VOLTAGE PREVIOUSLY MEASURED TO BE 1UA											
74LS10		GATE , TRIPLE 3 INPUT NAND											
030	137	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
		FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%											
74LS107		FLIP-FLOP , DUAL JK MASTER SLAVE											
030	158	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
		FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%											
74LS109		FLIP-FLOP , DUAL JK											
030	159	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
		FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%											
74LS11		GATE , TRIPLE 3 INPUT NAND											
030	138	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
		FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%											
74LS112		FLIP-FLOP , DUAL JK											
030	160	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
		FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%											
384	10	N/R	N/R	N/R	N/R	1000	200 PF	1	SS	FAIL	800	1	EACH PIN(+)
		REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 1025V.											
		FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.											
74LS12		GATE , TRIPLE 3 INPUT NAND											
030	139	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
		FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%											
74LS123		MULTIVIBRATOR , DUAL RETRIGGERABLE											
030	161	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
		FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%											

TECHNOLOGY: LSTTL
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION														
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
74LS125	BUFFER/INVERTER , QUAD GATED												
030	162	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74LS126	BUFFER/INVERTER , QUAD GATED												
030	163	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74LS138	DECODER , DUAL 2 TO 4 LINE												
030	164	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74LS139	DECODER , DUAL 2 TO 4 LINE												
030	165	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74LS14	SSI/MSI , HEX SCHMITT TRIGGER												
030	140	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74LS148	ENCODER , 8 INPUT PRIORITY												
030	166	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74LS15	GATE , TRIPLE 3 INPUT AND												
030	141	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74LS151	MULTIPLEXER , 8-INPUT												
030	167	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74LS153	MULTIPLEXER , DUAL 4 INPUT												
030	168	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74LS154	DECODER , 4 TO 16 LINE												
030	169	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												

TECHNOLOGY: LSTTL
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION														
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
74LS155	DECODER , DUAL 2 TO 4 LINE												
030	170	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74LS157	MULTIPLEXER , QUAD 2 INPUT												
030	171	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74LS160	COUNTER , DECADE,SYNCHRONOUS												
030	172	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74LS161	COUNTER , BINARY,SYNCHRONOUS												
030	173	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74LS162	COUNTER , DECADE,SYNCHRONOUS												
030	174	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74LS163	COUNTER , BINARY,SYNCHRONOUS												
030	175	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
239	1	N/R	N/R	N/R	N/R	0	62 PF	1	SS	FAIL	400	1	IN.(2)(+) GND(8)(-)
	FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE												
239	2	N/R	N/R	N/R	N/R	0	62 PF	1	SS	FAIL	400	1	IN.(6,10)(+) GND(8)(-)
	FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE												
239	3	N/R	N/R	N/R	N/R	0	62 PF	1	SS	FAIL	400	1	IN.(2,6,10)(+) GND(-)
	FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE												
240	1	N/R	N/R	N/R	N/R	0	120 PF	1	SS	FAIL	300	1	IN.(2,6)(+) GND(8)(-)
	FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE												
240	2	N/R	N/R	N/R	N/R	0	120 PF	1	SS	FAIL	100	1	IN.(10)(+) GND(8)(-)
	REMARK: INPUT PINS 2 AND 6 FAILED AT 300V. FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE												
240	3	N/R	N/R	N/R	N/R	0	120 PF	1	SS	FAIL	200	3	IN.(10)(+) GND(8)(-)
	REMARK: INPUT PINS 2 AND 6 FAILED AT 300V. FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE												
241	1	N/R	N/R	N/R	N/R	0	510 PF	1	SS	FAIL	200	2	IN.(2,6,10)(+) GND(-)
	FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE												
241	2	N/R	N/R	N/R	N/R	0	510 PF	1	SS	FAIL	100	3	IN.(10)(+) GND(8)(-)
	REMARK: INPUT PINS 2 AND 6 FAILED AT 200V. FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE												
242	1	N/R	N/R	N/R	N/R	0	.001 UF	1	SS	FAIL	100	1	IN.(10)(+) GND(8)(-)
	REMARK: INPUT PINS 2 AND 6 FAILED AT 200V. FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE												
242	2	N/R	N/R	N/R	N/R	0	.001 UF	1	SS	FAIL	100	2	IN.(2,10)(+) GND(8)(-)
	FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE												
242	3	N/R	N/R	N/R	N/R	0	.001 UF	1	SS	FAIL	100	1	IN.(6,10)(+) GND(8)(-)
	FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE												

TECHNOLOGY: LSTTL
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION														
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
74LS163	COUNTER , BINARY (CONTINUED)												
242	4	N/R	N/R	N/R	N/R	0	.001 UF	1	SS	FAIL	100	1	IN.(10)(+) GND(8)(-)
	FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE												
243	1	N/R	N/R	N/R	N/R	0	.01 UF	1	SS	PASS	400	1	IN.(2,6,10)(+) GND(-)
	FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE												
243	2	N/R	N/R	N/R	N/R	0	.01 UF	1	SS	FAIL	75	1	IN.(6,10)(+) GND(8)(-)
	FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE												
243	3	N/R	N/R	N/R	N/R	0	.01 UF	1	SS	FAIL	100	2	IN.(2,6,10)(+) GND(-)
	FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE												
74LS164	SHIFT REGISTER , 8-BIT GATED												
030	176	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74LS165	SHIFT REGISTER , 8-BIT												
030	177	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74LS166	SHIFT REGISTER , 8-BIT												
030	178	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74LS173	FLIP-FLOP , QUAD D												
030	179	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74LS174	FLIP-FLOP , HEX D												
030	180	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74LS175	FLIP-FLOP , QUAD D												
030	181	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
127	24	FAIRCHILD SEMI	74LS175	N/R	79	1000	200 PF	1	SS	FAIL	800	1	INPUTS(+) GROUND(-)
	FAILURE CRITERIA: 10UA INPUT LEAKAGE AT THE VOLTAGE PREVIOUSLY MEASURED TO BE 1UA												
127	25	FAIRCHILD SEMI	74LS175	N/R	79	1000	200 PF	1	SS	FAIL	1400	1	INPUTS(+) GROUND(-)
	FAILURE CRITERIA: 10UA INPUT LEAKAGE AT THE VOLTAGE PREVIOUSLY MEASURED TO BE 1UA												
127	26	FAIRCHILD SEMI	74LS175	N/R	79	1000	200 PF	10	SS	FAIL	600	1	INPUTS(+) GROUND(-)
	FAILURE CRITERIA: 10UA INPUT LEAKAGE AT THE VOLTAGE PREVIOUSLY MEASURED TO BE 1UA												
127	27	FAIRCHILD SEMI	74LS175	N/R	79	1000	200 PF	10	SS	FAIL	1000	1	INPUTS(+) GROUND(-)
	FAILURE CRITERIA: 10UA INPUT LEAKAGE AT THE VOLTAGE PREVIOUSLY MEASURED TO BE 1UA												
127	28	SIGNETICS	74LS175	N/R	79	1000	200 PF	1	SS	FAIL	800	1	INPUTS(+) GROUND(-)
	FAILURE CRITERIA: 10UA INPUT LEAKAGE AT THE VOLTAGE PREVIOUSLY MEASURED TO BE 1UA												

TECHNOLOGY: LSTTL
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION														
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
74LS175	FLIP-FLOP , QUAD D (CONTINUED)												
127	29	SIGNETICS	74LS175	N/R	79	1000	200 PF	1	SS	FAIL	1400	1	INPUTS(+) GROUND(-)
	FAILURE CRITERIA: 10UA INPUT LEAKAGE AT THE VOLTAGE PREVIOUSLY MEASURED TO BE 1UA												
127	30	SIGNETICS	74LS175	N/R	79	1000	200 PF	10	SS	FAIL	1000	1	INPUTS(+) GROUND(-)
	FAILURE CRITERIA: 10UA INPUT LEAKAGE AT THE VOLTAGE PREVIOUSLY MEASURED TO BE 1UA												
127	31	SIGNETICS	74LS175	N/R	79	1000	200 PF	10	SS	FAIL	1400	1	INPUTS(+) GROUND(-)
	FAILURE CRITERIA: 10UA INPUT LEAKAGE AT THE VOLTAGE PREVIOUSLY MEASURED TO BE 1UA												
127	32	10	SN74LS175	N/R	79	1000	200 PF	1	SS	FAIL	800	1	INPUTS(+) GROUND(-)
	FAILURE CRITERIA: 10UA INPUT LEAKAGE AT THE VOLTAGE PREVIOUSLY MEASURED TO BE 1UA												
127	33	10	SN74LS175	N/R	79	1000	200 PF	1	SS	FAIL	1000	1	INPUTS(+) GROUND(-)
	FAILURE CRITERIA: 10UA INPUT LEAKAGE AT THE VOLTAGE PREVIOUSLY MEASURED TO BE 1UA												
127	34	10	SN74LS175	N/R	79	1000	200 PF	10	SS	FAIL	800	1	INPUTS(+) GROUND(-)
	FAILURE CRITERIA: 10UA INPUT LEAKAGE AT THE VOLTAGE PREVIOUSLY MEASURED TO BE 1UA												
127	35	10	SN74LS175	N/R	79	1000	200 PF	10	SS	FAIL	1000	1	INPUTS(+) GROUND(-)
	FAILURE CRITERIA: 10UA INPUT LEAKAGE AT THE VOLTAGE PREVIOUSLY MEASURED TO BE 1UA												
127	36	MOTOROLA SEMI	SN74LS175	N/R	79	1000	200 PF	1	SS	FAIL	800	2	INPUTS(+) GROUND(-)
	FAILURE CRITERIA: 10UA INPUT LEAKAGE AT THE VOLTAGE PREVIOUSLY MEASURED TO BE 1UA												
127	37	MOTOROLA SEMI	SN74LS175	N/R	79	1000	200 PF	10	SS	FAIL	1000	2	INPUTS(+) GROUND(-)
	FAILURE CRITERIA: 10UA INPUT LEAKAGE AT THE VOLTAGE PREVIOUSLY MEASURED TO BE 1UA												
74LS181	SSI/MSI , ARITH. LOGIC UNIT												
030	182	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74LS192	COUNTER , DECADE UP/DOWN												
030	183	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74LS193	COUNTER , BINARY UP/DOWN												
030	184	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74LS194	SHIFT REGISTER , 4-BIT												
030	185	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74LS196	COUNTER , DECADE COUNTER/LATCH												
030	186	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74LS197	COUNTER , BINARY COUNTER/LATCH												
030	187	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												

TECHNOLOGY: LSTTL
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION														
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
74LS20	GATE , DUAL 4 INPUT NAND												
030	142	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74LS21	GATE , DUAL 4 INPUT AND												
030	143	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74LS221	MULTIVIBRATOR , DUAL MONOSTABLE												
030	188	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74LS240	DRIVER , OCTAL BUS												
030	189	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
127	1	SIGNETICS	74LS240	N/R	79	1000	200 PF	1	SS	FAIL	800	1	INPUTS(+) GROUND(-)
	FAILURE CRITERIA: 10UA INPUT LEAKAGE AT THE VOLTAGE PREVIOUSLY MEASURED TO BE 1UA												
127	2	SIGNETICS	74LS240	N/R	79	1000	200 PF	1	SS	FAIL	1500	1	INPUTS(+) GROUND(-)
	FAILURE CRITERIA: 10UA INPUT LEAKAGE AT THE VOLTAGE PREVIOUSLY MEASURED TO BE 1UA												
127	3	SIGNETICS	74LS240	N/R	79	1000	200 PF	10	SS	FAIL	800	1	INPUTS(+) GROUND(-)
	FAILURE CRITERIA: 10UA INPUT LEAKAGE AT THE VOLTAGE PREVIOUSLY MEASURED TO BE 1UA												
127	4	SIGNETICS	74LS240	N/R	79	1000	200 PF	10	SS	FAIL	1400	1	INPUTS(+) GROUND(-)
	FAILURE CRITERIA: 10UA INPUT LEAKAGE AT THE VOLTAGE PREVIOUSLY MEASURED TO BE 1UA												
127	5	MOTOROLA SEMI	SN74LS240	N/R	79	1000	200 PF	1	SS	FAIL	1200	1	INPUTS(+) GROUND(-)
	FAILURE CRITERIA: 10UA INPUT LEAKAGE AT THE VOLTAGE PREVIOUSLY MEASURED TO BE 1UA												
127	6	MOTOROLA SEMI	SN74LS240	N/R	79	1000	200 PF	1	SS	FAIL	1400	1	INPUTS(+) GROUND(-)
	FAILURE CRITERIA: 10UA INPUT LEAKAGE AT THE VOLTAGE PREVIOUSLY MEASURED TO BE 1UA												
127	7	MOTOROLA SEMI	SN74LS240	N/R	79	1000	200 PF	10	SS	FAIL	1200	2	INPUTS(+) GROUND(-)
	FAILURE CRITERIA: 10UA INPUT LEAKAGE AT THE VOLTAGE PREVIOUSLY MEASURED TO BE 1UA												
127	8	TEXAS INSTRUMENTS	SN74LS240	N/R	79	1000	200 PF	1	SS	FAIL	1000	1	INPUTS(+) GROUND(-)
	FAILURE CRITERIA: 10UA INPUT LEAKAGE AT THE VOLTAGE PREVIOUSLY MEASURED TO BE 1UA												
127	9	TEXAS INSTRUMENTS	SN74LS240	N/R	79	1000	200 PF	1	SS	FAIL	1500	1	INPUTS(+) GROUND(-)
	FAILURE CRITERIA: 10UA INPUT LEAKAGE AT THE VOLTAGE PREVIOUSLY MEASURED TO BE 1UA												
127	10	TEXAS INSTRUMENTS	SN74LS240	N/R	79	1000	200 PF	10	SS	FAIL	1000	1	INPUTS(+) GROUND(-)
	FAILURE CRITERIA: 10UA INPUT LEAKAGE AT THE VOLTAGE PREVIOUSLY MEASURED TO BE 1UA												
127	11	TEXAS INSTRUMENTS	SN74LS240	N/R	79	1000	200 PF	10	SS	PASS	1500	1	INPUTS(+) GROUND(-)
	FAILURE CRITERIA: 10UA INPUT LEAKAGE AT THE VOLTAGE PREVIOUSLY MEASURED TO BE 1UA												
74LS244	DRIVER , SCHMITT TRIGGER												
030	190	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
027	7	MOTOROLA SEMI	N/R	N/R	N/R	1500	100 PF	1	GN	PASS	1000	15	N/R
	FAILURE CRITERIA: DC PARAMETER OUT OF SPEC												

TECHNOLOGY: LSTTL
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION														
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
74LS245	TRANSCEIVER , OCTAL BUS												
030	191	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74LS251	MULTIPLEXER , 8 INPUT												
030	192	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
384	12	N/R	N/R	N/R	N/R	1000	200 PF	1	SS	FAIL	550	1	EACH PIN(+)
	REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 750V.												
	FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.												
384	15	N/R	N/R	N/R	N/R	1000	200 PF	1	SS	FAIL	1150	1	EACH PIN(+)
	REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 1600V.												
	FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.												
384	18	N/R	N/R	N/R	N/R	1000	200 PF	1	SS	FAIL	1100	1	EACH PIN(+)
	REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 1350V.												
	FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.												
74LS253	MULTIPLEXER , DUAL 4 INPUT												
030	193	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74LS257	MULTIPLEXER , QUAD 2 INPUT												
030	194	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74LS259	LATCH , 8-BIT ADDRESSABLE												
030	195	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74LS266	GATE , QUAD 2 IN. EXCL.NOR												
030	196	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74LS27	GATE , TRIPLE 3 INPUT NOR												
030	144	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74LS279	LATCH , QUAD RS												
030	197	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												

TECHNOLOGY: LSTTL
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION														
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
74LS280	SSI/MSI , 9 BIT PARITY GEN.												
030	198	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74LS283	SSI/MSI , 4 BIT BINARY ADDER												
030	199	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74LS295	SHIFT REGISTER , 4-BIT												
030	200	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74LS298	MULTIPLEXER , QUAD 2 INPUT												
030	201	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74LS299	SHIFT REGISTER , 8 BIT												
384	19	N/R	N/R	N/R	N/R	1000	200 PF	1	SS	FAIL	600	1	EACH PIN(+)
	REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 850V.												
	FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.												
74LS30	GATE , 8 INPUT NAND												
030	145	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74LS32	GATE , QUAD 2 INPUT OR												
030	146	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74LS353	MULTIPLEXER , DUAL 3 INPUT												
030	202	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74LS367	BUFFER/INVERTER , HEX BUFFER												
030	203	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74LS368	BUFFER/INVERTER , HEX INVERTER												
030	204	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												

TECHNOLOGY: LSTTL
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION														
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
74LS37	GATE , QUAD 2 INPUT NAND												
030	147	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500 .	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74LS373	LATCH , 8-BIT,D TYPE												
030	205	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74LS374	FLIP-FLOP , OCTAL D												
030	206	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74LS38	GATE , QUAD 2 INPUT NAND												
030	148	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74LS390	COUNTER , DUAL DECADE												
030	207	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74LS393	COUNTER , DUAL 4 BIT BINARY												
030	208	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74LS40	GATE , DUAL 4 INPUT NAND												
030	149	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74LS42	ENCODER , BCD TO DECIMAL												
030	150	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74LS51	GATE , DUAL 2 INPUT AND/OR												
030	151	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74LS54	GATE , AND/OR INVERT												
030	152	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												

TECHNOLOGY: LSTTL
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION														
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
74LS670	SSI/MSI , 16 BIT REGISTER FILE												
030	209	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74LS74	FLIP-FLOP , DUAL D												
030	153	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
384	4	N/R	N/R	N/R	N/R	1000	200 PF	1	SS	FAIL	700	1	EACH PIN(+)
	REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 1310V.												
	FAILURE CRITERIA: 200 NA LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.												
384	5	N/R	N/R	N/R	N/R	1000	200 PF	1	SS	FAIL	900	1	EACH PIN(+)
	REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 1360V.												
	FAILURE CRITERIA: 2 UA LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.												
384	6	N/R	N/R	N/R	N/R	1000	200 PF	1	SS	FAIL	1200	1	EACH PIN(+)
	REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 1675V.												
	FAILURE CRITERIA: 20 UA LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.												
384	7	N/R	N/R	N/R	N/R	1000	200 PF	1	SS	FAIL	3700	1	EACH PIN(+)
	REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 4550V.												
	FAILURE CRITERIA: 2 MA LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.												
74LS75	LATCH , QUAD BISTABLE												
030	154	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74LS86	GATE , QUAD 2 IN. EXCL. OR												
030	156	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74LS92	COUNTER , DIVIDE BY 12												
030	157	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
75LS85	SSI/MSI , 4 BIT MAG.COMPARATOR												
030	155	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
N/R	BUFFER/INVERTER , HEX INVERTER												
014	4	N/R	N/R	N/R	N/R	100	100 PF	1	SS	FAIL	900	N/R	INPUT
	REMARK: 900 VOLTS IS AN AVERAGE OF AN UNKNOWN NUMBER OF DEVICES. FAILURE CRITERIA: GREATER THAN 20MA INPUT LEAKAGE AT 5 VOLTS												
017	4	N/R	N/R	N/R	N/R	100	250 PF	1	SS	FAIL	500	N/R	INPUT
	REMARK: 500 VOLTS IS AN AVERAGE OF AN UNKNOWN NUMBER OF DEVICES. FAILURE CRITERIA: GREATER THAN 20MA INPUT LEAKAGE AT 5 VOLTS.												
020	4	N/R	N/R	N/R	N/R	100	500 PF	1	SS	FAIL	350	N/R	INPUT
	REMARK: 350 VOLTS IS AN AVERAGE OF AN UNKNOWN NUMBER OF DEVICES. FAILURE CRITERIA: GREATER THAN 20 MA INPUT LEAKAGE AT 5 VOLTS.												

TECHNOLOGY: ADVANCED STTL

BASIC PART NUMBER	DESCRIPTION													
SMC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
74F00	GATE , QUAD 2 INPUT NAND												
049	1	FAIRCHILD SEMI	74F00PC	8022	JUN 81	1500	100 PF	1	GN	FAIL	500	3	INPUT(+) INPUT(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETER OUT OF SPEC												
74F04	BUFFER/INVERTER , HEX												
170	1	FAIRCHILD SEMI	74F04PC	8027	AUG 81	1500	100 PF	1	GN	FAIL	1250	2	INPUT(1)(+) COM.(7)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
170	2	FAIRCHILD SEMI	74F04PC	8027	AUG 81	1500	100 PF	1	GN	FAIL	1250	1	INPUT(3)(+) COM.(7)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
170	3	FAIRCHILD SEMI	74F04PC	8027	AUG 81	1500	100 PF	1	GN	PASS	1250	1	INPUT(3)(+) COM.(7)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
170	4	FAIRCHILD SEMI	74F04PC	8027	AUG 81	1500	100 PF	1	GN	FAIL	1250	2	INPUT(5)(+) COM.(7)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
170	5	FAIRCHILD SEMI	74F04PC	8027	AUG 81	1500	100 PF	1	GN	FAIL	1250	2	INPUT(9)(+) COM.(7)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
170	6	FAIRCHILD SEMI	74F04PC	8027	AUG 81	1500	100 PF	1	GN	FAIL	1250	2	INPUT(11)(+) COM(7)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
170	7	FAIRCHILD SEMI	74F04PC	8027	AUG 81	1500	100 PF	1	GN	FAIL	1250	2	INPUT(13)(+) COM(7)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
170	9	FAIRCHILD SEMI	74F04PC	8027	AUG 81	1500	100 PF	1	GN	PASS	1250	1	COM(7)(+) OUT.(4)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
170	10	FAIRCHILD SEMI	74F04PC	8027	AUG 81	1500	100 PF	1	GN	PASS	1250	1	COM(7)(+) OUT.(6)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
170	11	FAIRCHILD SEMI	74F04PC	8027	AUG 81	1500	100 PF	1	GN	PASS	1250	1	COM(7)(+) OUT.(8)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
170	12	FAIRCHILD SEMI	74F04PC	8027	AUG 81	1500	100 PF	1	GN	PASS	1250	1	COM(7)(+) OUT.(10)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
170	13	FAIRCHILD SEMI	74F04PC	8027	AUG 81	1500	100 PF	1	GN	PASS	1250	1	COM(7)(+) OUT.(12)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
170	14	FAIRCHILD SEMI	74F04PC	8027	AUG 81	1500	100 PF	1	GN	FAIL	1250	2	INPUT(1)(+) OUT.(2)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
170	15	FAIRCHILD SEMI	74F04PC	8027	AUG 81	1500	100 PF	1	GN	FAIL	1250	2	INPUT(3)(+) OUT.(4)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
170	16	FAIRCHILD SEMI	74F04PC	8027	AUG 81	1500	100 PF	1	GN	FAIL	1250	2	INPUT(5)(+) OUT.(6)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
170	17	FAIRCHILD SEMI	74F04PC	8027	AUG 81	1500	100 PF	1	GN	PASS	1250	1	INPUT(9)(+) OUT.(8)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
170	18	FAIRCHILD SEMI	74F04PC	8027	AUG 81	1500	100 PF	1	GN	FAIL	1250	2	IN.(11)(+) OUT.(10)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
170	19	FAIRCHILD SEMI	74F04PC	8027	AUG 81	1500	100 PF	1	GN	FAIL	1250	2	IN.(13)(+) OUT.(12)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
170	20	FAIRCHILD SEMI	74F04PC	8027	AUG 81	1500	100 PF	1	GN	PASS	1250	1	VCC(-) COMMON(7)(+)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
171	1	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	GN	FAIL	1250	2	INPUT(1)(+) COM.(7)(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												
171	2	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	GN	FAIL	1250	2	INPUT(3)(+) COM.(7)(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												
171	3	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	GN	FAIL	1250	2	INPUT(5)(+) COM.(7)(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												

TECHNOLOGY: ADVANCED STTL
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
74F04		BUFFER/INVERTER , HEX				(CONTINUED)							
171	4	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	GN	FAIL	1250	2	INPUT(9)(+) COM.(7)(-)
		FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.											
171	5	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	GN	FAIL	1250	2	IN.(11)(+) COM.(7)(-)
		FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.											
171	6	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	GN	FAIL	1250	2	IN.(13)(+) COM.(7)(-)
		FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.											
171	7	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	GN	PASS	1250	1	COM.(7)(+) OUT.(2)(-)
		FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.											
171	8	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	GN	PASS	1250	1	COM.(7)(+) OUT.(4)(-)
		FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.											
171	9	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	GN	PASS	1250	1	COM.(7)(+) OUT.(6)(-)
		FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.											
171	10	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	GN	PASS	1250	1	COM.(7)(-) OUT.(8)(-)
		FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.											
171	11	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	GN	PASS	1250	1	COM.(7)(+) OUT.(10)(-)
		FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.											
171	12	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	GN	PASS	1250	1	COM.(7)(+) OUT.(12)(-)
		FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.											
171	13	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	GN	FAIL	1250	2	IN.(1)(+) OUT.(2)(-)
		FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.											
171	14	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	GN	FAIL	1250	2	IN.(3)(+) OUT.(4)(-)
		FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.											
171	15	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	GN	FAIL	1250	2	IN.(5)(+) OUT.(6)(-)
		FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.											
171	16	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	GN	FAIL	1250	2	IN.(9)(+) OUT.(8)(-)
		FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.											
171	17	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	GN	FAIL	1250	2	IN.(11)(+) OUT.(10)(-)
		FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.											
171	18	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	GN	FAIL	1250	2	IN.(13)(+) OUT.(12)(-)
		FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.											
171	19	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	GN	PASS	1250	1	COM.(7)(+) VCC(-)
		FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.											
172	1	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	GN	FAIL	5000	2	COM.(7)(+) OUT.(2)(-)
		FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.											
172	2	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	GN	PASS	5000	1	COM.(7)(+) OUT.(4)(-)
		FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.											
172	3	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	GN	PASS	5000	1	COM.(7)(+) OUT.(6)(-)
		FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.											
172	4	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	GN	PASS	5000	1	COM.(7)(+) OUT.(8)(-)
		FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.											
172	5	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	GN	PASS	5000	1	COM.(7)(+) OUT.(10)(-)
		FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.											
172	6	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	GN	FAIL	5000	2	COM.(7)(+) OUT.(12)(-)
		FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.											
172	7	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	GN	PASS	5000	1	COM.(7)(+) VCC(-)
		FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.											
173	1	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	GN	FAIL	1250	2	IN.(1)(+) COM.(7)(-)
		FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.											

TECHNOLOGY: ADVANCED STTL
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

74F04 BUFFER/INVERTER , HEX (CONTINUED)

SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
173	2	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	GN	FAIL	1250	2	IN.(3)(+) COM.(7)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
173	3	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	GN	FAIL	1250	2	IN.(5)(+) COM.(7)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
173	4	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	GN	FAIL	1250	2	IN.(9)(+) COM.(7)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
173	5	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	GN	FAIL	1250	2	IN.(11)(+) COM.(7)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
173	6	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	GN	FAIL	1250	2	IN.(13)(+) COM.(7)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
173	7	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	GN	PASS	1250	2	COM.(7)(+) OUT.(2)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
173	8	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	GN	PASS	1250	2	COM.(7)(+) OUT.(4)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
173	9	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	GN	PASS	1250	2	COM.(7)(+) OUT.(6)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
173	10	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	GN	PASS	1250	2	COM.(7)(+) OUT.(8)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
173	11	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	GN	PASS	1250	2	COM.(7)(+) OUT.(10)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
173	12	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	GN	PASS	1250	2	COM.(7)(+) OUT.(12)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
173	13	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	GN	FAIL	1250	2	IN.(1)(+) OUT.(2)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
173	14	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	GN	FAIL	1250	2	IN.(3)(+) OUT.(4)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
173	15	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	GN	FAIL	1250	2	IN.(5)(+) OUT.(6)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
173	16	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	GN	FAIL	1250	2	IN.(9)(+) OUT.(8)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
173	17	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	GN	FAIL	1250	2	IN.(11)(+) OUT.(10)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
173	18	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	GN	FAIL	1250	2	IN.(13)(+) OUT.(12)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
173	19	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	GN	PASS	1250	2	COM.(7)(+) VCC(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
174	1	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	GN	PASS	5000	2	COM.(7)(+) OUT.(2)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
174	2	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	GN	PASS	5000	2	COM.(7)(+) OUT.(4)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
174	3	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	GN	PASS	5000	2	COM.(7)(+) OUT.(6)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
174	4	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	GN	PASS	5000	2	COM.(7)(+) OUT.(8)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
174	5	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	GN	PASS	5000	2	COM.(7)(+) OUT.(10)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
174	6	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	GN	PASS	5000	2	COM.(7)(+) OUT.(12)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												

TECHNOLOGY: ADVANCED STTL
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
74F04		BUFFER/INVERTER , HEX				(CONTINUED)							
174	7	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	GN	PASS	5000	2	COM.(7)(+) VCC(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
175	1	FAIRCHILD SEMI	74F04PC	8027	AUG 81	1500	100 PF	1	GN	FAIL	1000	2	IN.(1)(+) COM.(7)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
176	1	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	GN	FAIL	1000	2	IN.(1)(+) COM.(7)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
177	1	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	GN	FAIL	1000	2	IN.(1)(+) COM.(7)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
178	1	FAIRCHILD SEMI	74F04PC	8027	SEP 81	1500	100 PF	1	SS	FAIL	400	1	IN.(1)(+) APTT(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
178	2	FAIRCHILD SEMI	74F04PC	8027	SEP 81	1500	100 PF	1	SS	FAIL	300	1	IN.(3)(+) APTT(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
178	3	FAIRCHILD SEMI	74F04PC	8027	SEP 81	1500	100 PF	1	SS	FAIL	400	1	IN.(5)(+) APTT(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
178	4	FAIRCHILD SEMI	74F04PC	8027	SEP 81	1500	100 PF	1	SS	FAIL	300	1	IN.(9)(+) APTT(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
178	5	FAIRCHILD SEMI	74F04PC	8027	SEP 81	1500	100 PF	1	SS	FAIL	100	1	IN.(11)(+) APTT(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
178	6	FAIRCHILD SEMI	74F04PC	8027	SEP 81	1500	100 PF	1	SS	FAIL	400	1	IN.(13)(+) APTT(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
178	7	FAIRCHILD SEMI	74F04PC	8027	SEP 81	1500	100 PF	1	SS	PASS	1250	1	OUT.(2)(+) APTT(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
178	8	FAIRCHILD SEMI	74F04PC	8027	SEP 81	1500	100 PF	1	SS	PASS	1250	1	OUT.(4)(+) APTT(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
178	9	FAIRCHILD SEMI	74F04PC	8027	SEP 81	1500	100 PF	1	SS	PASS	1250	1	OUT.(6)(+) APTT(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
178	10	FAIRCHILD SEMI	74F04PC	8027	SEP 81	1500	100 PF	1	SS	PASS	1250	1	OUT.(8)(+) APTT(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
178	11	FAIRCHILD SEMI	74F04PC	8027	SEP 81	1500	100 PF	1	SS	PASS	1250	1	OUT.(10)(+) APTT(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
178	12	FAIRCHILD SEMI	74F04PC	8027	SEP 81	1500	100 PF	1	SS	PASS	1250	1	OUT.(12)(+) APTT(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
178	13	FAIRCHILD SEMI	74F04PC	8027	SEP 81	1500	100 PF	1	SS	PASS	1250	1	VCC(14)(+) APTT(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
179	1	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	SS	FAIL	200	1	IN.(1)(+) APTT(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												
179	2	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	SS	FAIL	200	1	IN.(3)(+) APTT(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												
179	3	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	SS	FAIL	200	1	IN.(5)(+) APTT(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												
179	4	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	SS	FAIL	400	1	IN.(9)(+) APTT(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												
179	5	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	SS	FAIL	600	1	IN.(11)(+) APTT(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												
179	6	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	SS	FAIL	500	1	IN.(13)(+) APTT(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												
179	7	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	SS	PASS	5000	1	OUT.(2)(+) APTT(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												

TECHNOLOGY: ADVANCED STTL
(CONTINUED)

BASIC PART NUMBER	SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
74F04			BUFFER/INVERTER , HEX				(CONTINUED)							
	179	8	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	SS	PASS	5000	1	OUT.(4)(+) APTT(-)
			FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.											
	179	9	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	SS	PASS	5000	1	OUT.(6)(+) APTT(-)
			FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.											
	179	10	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	SS	PASS	5000	1	OUT.(8)(+) APTT(-)
			FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.											
	179	11	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	SS	PASS	5000	1	OUT.(10)(+) APTT(-)
			FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.											
	179	12	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	SS	PASS	5000	1	OUT.(12)(+) APTT(-)
			FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.											
	179	13	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	SS	PASS	5000	1	VCC(14)(+) APTT(-)
			FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.											
	180	1	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	SS	FAIL	400	1	IN.(1)(+) APTT(-)
			FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.											
	180	2	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	SS	FAIL	400	1	IN.(3)(+) APTT(-)
			FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.											
	180	3	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	SS	FAIL	400	1	IN.(5)(+) APTT(-)
			FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.											
	180	4	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	SS	FAIL	300	1	IN.(9)(+) APTT(-)
			FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.											
	180	5	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	SS	FAIL	400	1	IN.(11)(+) APTT(-)
			FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.											
	180	6	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	SS	FAIL	400	1	IN.(13)(+) APTT(-)
			FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.											
	180	7	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	SS	PASS	5000	2	OUT.(2)(+) APTT(-)
			FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.											
	180	8	N/R	74F04PC	8027	N/R	1500	100 PF	1	SS	PASS	5000	1	OUT.(4)(+) APTT(-)
			FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.											
	180	9	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	SS	PASS	5000	1	OUT.(6)(+) APTT(-)
			FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.											
	180	10	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	SS	PASS	5000	1	OUT.(8)(+) APTT(-)
			FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.											
	180	11	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	SS	PASS	5000	1	OUT.(10)(+) APTT(-)
			FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.											
	180	12	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	SS	PASS	5000	1	OUT.(12)(+) APTT(-)
			FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.											
	180	13	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	SS	PASS	5000	1	VCC(14)(+) APTT(-)
			FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.											
	181	1	FAIRCHILD SEMI	74F04PC	8027	SEP 81	1500	100 PF	1	SS	PASS	1250	1	IN.(1)(+)
			REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.											
	181	2	FAIRCHILD SEMI	74F04PC	8027	SEP 81	1500	100 PF	1	SS	PASS	1250	1	IN.(3)(+)
			REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.											
	181	3	FAIRCHILD SEMI	74F04PC	8027	SEP 81	1500	100 PF	1	SS	FAIL	800	1	IN.(5)(+)
			REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.											
	181	4	FAIRCHILD SEMI	74F04PC	8027	SEP 81	1500	100 PF	1	SS	PASS	1250	1	IN.(9)(+)
			REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.											
	181	5	FAIRCHILD SEMI	74F04PC	8027	SEP 81	1500	100 PF	1	SS	PASS	1250	1	IN.(11)(+)
			REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.											

TECHNOLOGY: ADVANCED STTL
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
74F04		BUFFER/INVERTER , HEX					(CONTINUED)						
181	6	FAIRCHILD SEMI	74F04PC	8027	SEP 81	1500	100 PF	1	SS	FAIL	1250	1	IN.(13)(+)
		REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING					FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.						
181	7	FAIRCHILD SEMI	74F04PC	8027	SEP 81	1500	100 PF	1	SS	PASS	1250	1	OUT.(2)(+)
		REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING					FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.						
181	8	FAIRCHILD SEMI	74F04PC	8027	SEP 81	1500	100 PF	1	SS	PASS	1250	1	OUT.(4)(+)
		REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING					FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.						
181	9	FAIRCHILD SEMI	74F04PC	8027	SEP 81	1500	100 PF	1	SS	PASS	1250	1	OUT.(6)(+)
		REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING					FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.						
181	10	FAIRCHILD SEMI	74F04PC	8027	SEP 81	1500	100 PF	1	SS	PASS	1250	1	OUT.(8)(+)
		REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING					FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.						
181	11	FAIRCHILD SEMI	74F04PC	8027	SEP 81	1500	100 PF	1	SS	PASS	1250	1	OUT.(10)(+)
		REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING					FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.						
181	12	FAIRCHILD SEMI	74F04PC	8027	SEP 81	1500	100 PF	1	SS	PASS	1250	1	OUT.(12)(+)
		REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING					FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.						
181	13	FAIRCHILD SEMI	74F04PC	8027	SEP 81	1500	100 PF	1	SS	PASS	1250	1	VCC(14)(+)
		REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING					FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.						
182	1	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	SS	FAIL	1800	1	IN.(1)(+)
		REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING					FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.						
182	2	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	SS	FAIL	800	1	IN.(3)(+)
		REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING					FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.						
182	3	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	SS	FAIL	700	1	IN.(5)(+)
		REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING					FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.						
182	4	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	SS	FAIL	1800	1	IN.(9)(+)
		REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING					FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.						
182	5	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	SS	FAIL	1400	1	IN.(11)(+)
		REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING					FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.						
182	6	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	SS	FAIL	1400	1	IN.(13)(+)
		REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING					FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.						
182	7	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	SS	FAIL	5000	1	OUT.(2)(+)
		REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING					FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.						
182	8	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	SS	FAIL	5000	1	OUT.(4)(+)
		REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING					FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.						
182	9	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	SS	PASS	5000	1	OUT.(6)(+)
		REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING					FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.						
182	10	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	SS	PASS	5000	1	OUT.(8)(+)
		REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING					FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.						
182	11	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	SS	PASS	5000	1	OUT.(10)(+)
		REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING					FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.						
182	12	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	SS	PASS	5000	1	OUT.(12)(+)
		REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING					FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.						
182	13	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	SS	PASS	5000	1	VCC(14)(+)
		REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING					FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.						
183	1	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	SS	FAIL	3000	1	IN.(1)(+)
		REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING					FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.						
183	2	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	SS	FAIL	2200	1	IN.(3)(+)
		REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING					FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.						
183	3	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	SS	FAIL	2200	1	IN.(5)(+)
		REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING					FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.						

TECHNOLOGY: ADVANCED STTL
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION														
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
74F04		BUFFER/INVERTER , HEX											(CONTINUED)
183	4	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	SS	FAIL	1400	1	IN.(9)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING									FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.			
183	5	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	SS	FAIL	900	1	IN.(11)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING									FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.			
183	6	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	SS	FAIL	900	1	IN.(13)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING									FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.			
183	7	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	SS	PASS	5000	1	OUT.(2)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING									FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.			
183	8	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	SS	PASS	5000	1	OUT.(4)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING									FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.			
183	9	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	SS	PASS	5000	1	OUT.(6)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING									FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.			
183	10	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	SS	PASS	5000	1	OUT.(8)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING									FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.			
183	11	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	SS	PASS	5000	1	OUT.(10)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING									FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.			
183	12	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	SS	PASS	5000	1	OUT.(12)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING									FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.			
183	13	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	1	SS	PASS	5000	1	VCC(14)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING									FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.			
184	1	FAIRCHILD SEMI	74F04PC	8027	SEP 81	1500	100 PF	10	SS	FAIL	60	1	IN.(11)(+) APTT(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
184	2	FAIRCHILD SEMI	74F04PC	8027	SEP 81	1500	100 PF	300	SS	FAIL	60	3	IN.(11)(+) APTT(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
184	3	FAIRCHILD SEMI	74F04PC	8027	SEP 81	1500	100 PF	100	SS	PASS	60	1	IN.(11)(+) APTT(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
185	1	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	30	GN	FAIL	60	5	IN.(1)(+) APTT(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												
186	1	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	10	GN	FAIL	120	7	IN.(1)(+) APTT(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												
186	2	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	100	GN	FAIL	120	1	IN.(1)(+) APTT(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												
187	1	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	300	SS	PASS	160	1	IN.(1)(+) APTT(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												
188	1	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	10	GN	FAIL	160	4	IN.(1)(+) APTT(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												
189	1	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	30	SS	FAIL	240	1	IN.(9)(+) APTT(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
189	2	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	300	SS	FAIL	240	1	IN.(9)(+) APTT(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
189	3	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	300	SS	PASS	240	3	IN.(9)(+) APTT(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
190	1	FAIRCHILD SEMI	74F04PC	8027	SEP 81	1500	100 PF	300	SS	FAIL	480	2	IN.(5)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING									FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.			
190	2	FAIRCHILD SEMI	74F04PC	8027	SEP 81	1500	100 PF	30	SS	PASS	480	1	IN.(5)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING									FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.			
191	1	FAIRCHILD SEMI	74F04PC	8027	SEP 81	1500	100 PF	300	SS	PASS	640	1	IN.(5)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING									FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.			

BASIC PART NUMBER DESCRIPTION

SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
74F04		BUFFER/INVERTER , HEX					(CONTINUED)						
192	1	FAIRCHILD SEMI	74F04PC	8027	SEP 81	1500	100 PF	300	GN	PASS	240	1	IN.(5)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
193	1	FAIRCHILD SEMI	74F04PC	8027	SEP 81	1500	100 PF	100	GN	PASS	480	1	IN.(5)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
194	1	FAIRCHILD SEMI	74F04PC	8027	SEP 81	1500	100 PF	10	GN	PASS	640	3	IN.(5)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
194	2	FAIRCHILD SEMI	74F04PC	8027	SEP 81	1500	100 PF	30	GN	PASS	640	1	IN.(5)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
195	1	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	300	SS	PASS	560	4	IN.(5)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												
196	1	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	10	SS	FAIL	420	1	IN.(5)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												
197	1	FAIRCHILD SEMI	74F04PC	8027	N/R	1500	100 PF	30	GN	FAIL	560	1	IN.(5)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												
028	8	FAIRCHILD SEMI	74F04PC	8027	AUG 81	1500	117 PF	1	SS	PASS	2500	1	COM(7)(+) OUT.(2)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
74F175		FLIP-FLOP , QUAD D											
198	1	FAIRCHILD SEMI	74F175PC	8125	AUG 81	1500	100 PF	1	GN	PASS	1250	1	IN.(1)(+) COM.(8)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
198	2	FAIRCHILD SEMI	74F175PC	8125	AUG 81	1500	100 PF	1	GN	PASS	1250	1	IN.(4)(+) COM.(8)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
198	3	FAIRCHILD SEMI	74F175PC	8125	AUG 81	1500	100 PF	1	GN	FAIL	1250	2	IN.(5)(+) COM.(8)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
198	4	FAIRCHILD SEMI	74F175PC	8125	AUG 81	1500	100 PF	1	GN	FAIL	1250	2	IN.(9)(+) COM.(8)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
198	5	FAIRCHILD SEMI	74F175PC	8125	AUG 81	1500	100 PF	1	GN	PASS	1250	1	IN.(12)(+) COM.(8)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
198	6	FAIRCHILD SEMI	74F175PC	8125	AUG 81	1500	100 PF	1	GN	PASS	1250	1	IN.(13)(+) COM.(8)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
198	7	FAIRCHILD SEMI	74F175PC	8125	AUG 81	1500	100 PF	1	GN	PASS	1250	1	OUT.(2)(+) COM.(8)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
198	8	FAIRCHILD SEMI	74F175PC	8125	AUG 81	1500	100 PF	1	GN	PASS	1250	1	OUT.(3)(+) COM.(8)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
198	9	FAIRCHILD SEMI	74F175PC	8125	AUG 81	1500	100 PF	1	GN	PASS	1250	1	OUT.(6)(+) COM.(8)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
198	10	FAIRCHILD SEMI	74F175PC	8125	AUG 81	1500	100 PF	1	GN	PASS	1250	1	OUT.(7)(+) COM.(8)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
198	11	FAIRCHILD SEMI	74F175PC	8125	AUG 81	1500	100 PF	1	GN	PASS	1250	1	OUT.(10)(+) COM.(8)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
198	12	FAIRCHILD SEMI	74F175PC	8125	AUG 81	1500	100 PF	1	GN	PASS	1250	1	OUT.(11)(+) COM.(8)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
198	13	FAIRCHILD SEMI	74F175PC	8125	AUG 81	1500	100 PF	1	GN	PASS	1250	1	OUT(14)(+) COM.(8)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
198	14	FAIRCHILD SEMI	74F175PC	8125	AUG 81	1500	100 PF	1	GN	PASS	1250	1	OUT.(15)(+) COM.(8)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
198	15	FAIRCHILD SEMI	74F175PC	8125	AUG 81	1500	100 PF	1	GN	PASS	1250	1	IN.(4)(+) OUT.(2)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												

TECHNOLOGY: ADVANCED STTL
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
74F175		FLIP-FLOP , QUAD D				(CONTINUED)							
198	16	FAIRCHILD SEMI	74F175PC	8125	AUG 81	1500	100 PF	1	GN	PASS	1250	1	IN.(4)(+) OUT.(3)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
198	17	FAIRCHILD SEMI	74F175PC	8125	AUG 81	1500	100 PF	1	GN	FAIL	1250	2	IN.(5)(+) OUT.(6)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
198	18	FAIRCHILD SEMI	74F175PC	8125	AUG 81	1500	100 PF	1	GN	PASS	1250	1	IN.(5)(+) OUT.(7)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
198	19	FAIRCHILD SEMI	74F175PC	8125	AUG 81	1500	100 PF	1	GN	FAIL	1250	2	IN.(12)(+) OUT.(10)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
198	20	FAIRCHILD SEMI	74F175PC	8125	AUG 81	1500	100 PF	1	GN	FAIL	1250	1	IN.(12)(+) OUT.(11)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
198	21	FAIRCHILD SEMI	74F175PC	8125	AUG 81	1500	100 PF	1	GN	PASS	1250	1	IN.(12)(+) OUT.(11)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
198	22	FAIRCHILD SEMI	74F175PC	8125	AUG 81	1500	100 PF	1	GN	PASS	1250	1	IN.(13)(+) OUT.(14)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
198	23	FAIRCHILD SEMI	74F175PC	8125	AUG 81	1500	100 PF	1	GN	FAIL	1250	1	IN.(13)(+) OUT.(15)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
198	24	FAIRCHILD SEMI	74F175PC	8125	AUG 81	1500	100 PF	1	GN	PASS	1250	1	IN.(13)(+) OUT.(15)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
198	25	FAIRCHILD SEMI	74F175PC	8125	AUG 81	1500	100 PF	1	GN	PASS	1250	2	VCC(16)(+) COM.(8)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
199	1	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	PASS	1250	1	IN.(4)(+) COM.(8)(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												
199	2	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	FAIL	1250	2	IN.(1)(+) OUT.(2)(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												
200	1	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	FAIL	5000	2	IN.(1)(+) COM.(8)(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												
200	2	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	FAIL	5000	2	IN.(4)(+) COM.(8)(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												
200	3	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	FAIL	5000	2	IN.(5)(+) COM.(8)(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												
200	4	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	FAIL	5000	2	IN.(9)(+) COM.(8)(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												
200	5	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	FAIL	5000	2	IN.(12)(+) COM.(8)(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												
200	6	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	FAIL	5000	2	IN.(13)(+) COM.(8)(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												
200	7	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	PASS	5000	1	OUT.(2)(+) COM.(8)(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												
200	8	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	PASS	5000	1	OUT.(3)(+) COM.(8)(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												
200	9	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	PASS	5000	1	OUT.(6)(+) COM.(8)(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												
200	10	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	PASS	5000	1	OUT.(7)(+) COM.(8)(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												
200	11	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	PASS	5000	1	OUT.(10)(+) COM.(8)(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												
200	12	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	PASS	5000	1	OUT.(11)(+) COM.(8)(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												

TECHNOLOGY: ADVANCED STTL
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
74F175		FLIP-FLOP , QUAD D					(CONTINUED)						
200	13	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	PASS	5000	1	OUT.(14)(+) COM.(8)(-)
		FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.											
200	14	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	PASS	5000	1	OUT.(15)(+) COM.(8)(-)
		FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.											
200	15	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	FAIL	5000	2	IN.(4)(+) OUT.(2)(-)
		FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.											
200	16	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	FAIL	5000	2	IN.(5)(+) OUT.(7)(-)
		FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.											
200	17	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	FAIL	5000	2	IN.(9)(+) OUT.(2)(-)
		FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.											
200	18	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	FAIL	5000	2	IN.(12)(+) OUT.(11)(-)
		FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.											
200	19	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	FAIL	5000	2	IN.(13)(+) OUT.(14)(-)
		FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.											
200	20	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	PASS	5000	1	VCC(16)(+) COM.(8)(-)
		FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.											
201	1	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	FAIL	1250	2	IN.(2)(+) COM.(8)(-)
		FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.											
201	2	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	PASS	1250	2	IN.(4)(+) COM.(8)(-)
		FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.											
201	3	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	PASS	1250	2	IN.(5)(+) COM.(8)(-)
		FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.											
201	4	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	PASS	1250	2	IN.(9)(+) COM.(8)(-)
		FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.											
201	5	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	PASS	1250	2	IN.(12)(+) COM.(8)(-)
		FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.											
201	6	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	PASS	1250	1	IN.(13)(+) COM.(8)(-)
		FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.											
201	7	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	FAIL	1250	1	IN.(13)(+) COM.(8)(-)
		FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.											
201	8	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	PASS	1250	2	OUT.(2)(+) COM.(8)(-)
		FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.											
201	9	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	PASS	1250	2	OUT.(3)(+) COM.(8)(-)
		FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.											
201	10	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	PASS	1250	2	OUT.(6)(+) COM.(8)(-)
		FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.											
201	11	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	PASS	1250	2	OUT.(7)(+) COM.(8)(-)
		FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.											
201	12	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	PASS	1250	2	OUT.(10)(+) COM.(8)(-)
		FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.											
201	13	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	PASS	1250	2	OUT.(11)(+) COM.(8)(-)
		FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.											
201	14	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	PASS	1250	2	OUT.(14)(+) COM.(8)(-)
		FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.											
201	15	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	PASS	1250	2	OUT.(15)(+) COM.(8)(-)
		FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.											
201	16	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	FAIL	1250	2	IN.(1)(+) OUT.(2)(-)
		FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.											

TECHNOLOGY: ADVANCED STTL
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

74F175 FLIP-FLOP , QUAD D (CONTINUED)

SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
201	17	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	PASS	1250	2	IN.(4)(+) OUT.(2)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
201	18	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	PASS	1250	2	IN.(5)(+) OUT.(7)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
201	19	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	FAIL	1250	1	IN.(9)(+) OUT.(7)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
201	20	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	PASS	1250	1	IN.(9)(+) OUT.(7)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
201	21	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	PASS	1250	2	IN.(12)(+) OUT.(10)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
201	22	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	PASS	1250	2	IN.(13)(+) OUT.(15)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
201	23	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	PASS	1250	2	VCC(16)(+) COM.(8)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
202	1	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	FAIL	5000	2	IN.(4)(+) COM.(8)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
202	2	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	FAIL	5000	2	IN.(5)(+) COM.(8)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
202	3	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	FAIL	5000	2	IN.(9)(+) COM.(8)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
202	4	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	FAIL	5000	2	IN.(12)(+) COM.(8)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
202	5	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	FAIL	5000	1	IN.(13)(+) COM.(8)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
202	6	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	PASS	5000	2	OUT.(2)(+) COM.(8)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
202	7	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	PASS	5000	2	OUT.(3)(+) COM.(8)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
202	8	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	PASS	5000	2	OUT.(6)(+) COM.(8)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
202	9	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	PASS	5000	2	OUT.(7)(+) COM.(8)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
202	10	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	PASS	5000	2	OUT.(10)(+) COM.(8)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
202	11	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	PASS	5000	2	OUT.(11)(+) COM.(8)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
202	12	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	PASS	5000	2	OUT.(14)(+) COM.(8)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
202	13	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	PASS	5000	2	OUT.(15)(+) COM.(8)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
202	14	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	FAIL	5000	2	IN.(4)(+) OUT.(2)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
202	15	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	FAIL	5000	2	IN.(5)(+) OUT.(7)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
202	16	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	FAIL	5000	1	IN.(9)(+) OUT.(7)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
202	17	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	FAIL	5000	2	IN.(12)(+) OUT.(10)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												

TECHNOLOGY: ADVANCED STTL
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
74F175		FLIP-FLOP , QUAD D					(CONTINUED)						
202	18	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	FAIL	5000	2	IN.(13)(+) OUT.(15)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
202	19	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	PASS	5000	2	VCC(16)(+) COM.(8)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
203	1	FAIRCHILD SEMI	74F175PC	8125	AUG 81	1500	100 PF	1	GN	FAIL	1000	2	IN.(5)(+) COM.(8)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
203	2	FAIRCHILD SEMI	74F175PC	8125	AUG 81	1500	100 PF	1	GN	PASS	1000	8	IN.(5)(+) COM.(8)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
204	1	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	PASS	1000	10	IN.(1)(+) OUT.(2)(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												
205	1	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	FAIL	4000	2	IN.(4)(+) COM.(8)(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												
206	1	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	FAIL	1000	2	IN.(1)(+) COM.(8)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
207	1	FAIRCHILD SEMI	74F175PC	8125	SEP 81	1500	100 PF	1	SS	FAIL	500	1	IN.(1)(+) APTT(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
207	2	FAIRCHILD SEMI	74F175PC	8125	SEP 81	1500	100 PF	1	SS	FAIL	800	1	IN.(4)(+) APTT(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
207	3	FAIRCHILD SEMI	74F175PC	8125	SEP 81	1500	100 PF	1	SS	FAIL	700	1	IN.(5)(+) APTT(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
207	4	FAIRCHILD SEMI	74F175PC	8125	SEP 81	1500	100 PF	1	SS	FAIL	600	1	IN.(9)(+) APTT(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
207	5	FAIRCHILD SEMI	74F175PC	8125	SEP 81	1500	100 PF	1	SS	FAIL	1250	1	IN.(12)(+) APTT(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
207	6	FAIRCHILD SEMI	74F175PC	8125	SEP 81	1500	100 PF	1	SS	FAIL	1000	1	IN.(13)(+) APTT(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
207	7	FAIRCHILD SEMI	74F175PC	8125	SEP 81	1500	100 PF	1	SS	PASS	1250	1	OUT.(2)(+) APTT(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
207	8	FAIRCHILD SEMI	74F175PC	8125	SEP 81	1500	100 PF	1	SS	PASS	1250	1	OUT.(3)(+) APTT(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
207	9	FAIRCHILD SEMI	74F175PC	8125	SEP 81	1500	100 PF	1	SS	PASS	1250	1	OUT.(6)(+) APTT(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
207	10	FAIRCHILD SEMI	74F175PC	8125	SEP 81	1500	100 PF	1	SS	PASS	1250	1	OUT.(7)(+) APTT(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
207	11	FAIRCHILD SEMI	74F175PC	8125	SEP 81	1500	100 PF	1	SS	PASS	1250	1	OUT.(10)(+) APTT(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
207	12	FAIRCHILD SEMI	74F175PC	8125	SEP 81	1500	100 PF	1	SS	PASS	1250	1	OUT.(11)(+) APTT(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
207	13	FAIRCHILD SEMI	74F175PC	8125	SEP 81	1500	100 PF	1	SS	PASS	1250	1	OUT.(14)(+) APTT(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
207	14	FAIRCHILD SEMI	74F175PC	8125	SEP 81	1500	100 PF	1	SS	PASS	1250	1	OUT.(15)(+) APTT(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
207	15	FAIRCHILD SEMI	74F175PC	8125	SEP 81	1500	100 PF	1	SS	PASS	1250	1	VCC(16)(+) APTT(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
208	1	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	SS	FAIL	1800	1	IN.(1)(+) APTT(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												
208	2	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	SS	FAIL	700	4	IN.(4)(+) APTT(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												

TECHNOLOGY: ADVANCED STTL
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

74F173 FLIP-FLOP , QUAD D (CONTINUED)

SEC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
208	3	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	SS	FAIL	500	1	IN.(5)(+) APTT(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												
208	4	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	SS	FAIL	1800	1	IN.(9)(+) APTT(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												
208	5	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	SS	FAIL	2200	1	IN.(12)(+) APTT(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												
208	6	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	SS	FAIL	2600	1	IN.(13)(+) APTT(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												
208	7	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	SS	PASS	5000	1	OUT.(2)(+) APTT(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												
208	8	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	SS	PASS	5000	1	OUT.(3)(+) APTT(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												
208	9	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	SS	PASS	5000	1	OUT.(6)(+) APTT(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												
208	10	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	SS	PASS	5000	1	OUT.(7)(+) APTT(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												
208	11	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	SS	PASS	5000	1	OUT.(10)(+) APTT(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												
208	12	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	SS	PASS	5000	1	OUT.(11)(+) APTT(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												
208	13	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	SS	PASS	5000	1	OUT.(14)(+) APTT(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												
208	14	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	SS	PASS	5000	1	OUT.(15)(+) APTT(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												
208	15	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	SS	PASS	5000	1	VCC(16)(+) APTT(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												
209	1	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	SS	FAIL	500	1	IN.(1)(+) APTT(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
209	2	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	SS	FAIL	700	1	IN.(4)(+) APTT(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
209	3	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	SS	FAIL	3400	1	IN.(5)(+) APTT(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
209	4	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	SS	FAIL	300	1	IN.(9)(+) APTT(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
209	5	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	SS	FAIL	400	1	IN.(12)(+) APTT(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
209	6	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	SS	FAIL	800	1	IN.(13)(+) APTT(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
209	7	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	SS	PASS	5000	1	OUT.(2)(+) APTT(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
209	8	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	SS	PASS	5000	1	OUT.(3)(+) APTT(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
209	9	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	SS	PASS	5000	1	OUT.(6)(+) APTT(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
209	10	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	SS	PASS	5000	1	OUT.(7)(+) APTT(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
209	11	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	SS	PASS	5000	1	OUT.(10)(+) APTT(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												

TECHNOLOGY: ADVANCED STTL
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

74F175 FLIP-FLOP , QUAD D (CONTINUED)

SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
209	12	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	SS	PASS	5000	1	OUT.(11)(+) APTT(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
209	13	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	SS	PASS	5000	1	OUT.(14)(+) APTT(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
209	14	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	SS	PASS	5000	1	OUT.(15)(+) APTT(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
209	15	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	SS	PASS	5000	1	VCC(16)(+) APTT(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
210	1	FAIRCHILD SEMI	74F175PC	8125	SEP 81	1500	100 PF	1	SS	PASS	1250	1	IN.(1)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
210	2	FAIRCHILD SEMI	74F175PC	8125	SEP 81	1500	100 PF	1	SS	PASS	1250	1	IN.(4)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
210	3	FAIRCHILD SEMI	74F175PC	8125	SEP 81	1500	100 PF	1	SS	PASS	1250	1	IN.(5)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
210	4	FAIRCHILD SEMI	74F175PC	8125	SEP 81	1500	100 PF	1	SS	FAIL	1000	1	IN.(9)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
210	5	FAIRCHILD SEMI	74F175PC	8125	SEP 81	1500	100 PF	1	SS	PASS	1250	1	INPUT(12)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
210	6	FAIRCHILD SEMI	74F175PC	8125	SEP 81	1500	100 PF	1	SS	PASS	1250	1	IN.(13)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
210	7	FAIRCHILD SEMI	74F175PC	8125	SEP 81	1500	100 PF	1	SS	PASS	1250	1	OUT.(2)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
210	8	FAIRCHILD SEMI	74F175PC	8125	SEP 81	1500	100 PF	1	SS	PASS	1250	1	OUT.(3)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
210	9	FAIRCHILD SEMI	74F175PC	8125	SEP 81	1500	100 PF	1	SS	PASS	1250	1	OUT.(6)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
210	10	FAIRCHILD SEMI	74F175PC	8125	SEP 81	1500	100 PF	1	SS	PASS	1250	1	OUT.(7)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
210	11	FAIRCHILD SEMI	74F175PC	8125	SEP 81	1500	100 PF	1	SS	PASS	1250	1	OUT.(10)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
210	12	FAIRCHILD SEMI	74F175PC	8125	SEP 81	1500	100 PF	1	SS	PASS	1250	1	OUT.(11)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
210	13	FAIRCHILD SEMI	74F175PC	8125	SEP 81	1500	100 PF	1	SS	PASS	1250	1	OUT.(14)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
210	14	FAIRCHILD SEMI	74F175PC	8125	SEP 81	1500	100 PF	1	SS	PASS	1250	1	OUT.(15)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
210	15	FAIRCHILD SEMI	74F175PC	8125	SEP 81	1500	100 PF	1	SS	PASS	1250	1	VCC(16)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
211	1	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	SS	FAIL	2200	1	IN.(1)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												
211	2	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	SS	FAIL	1400	1	IN.(4)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												
211	3	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	SS	FAIL	2200	1	IN.(5)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												
211	4	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	SS	FAIL	2200	1	IN.(9)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												
211	5	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	SS	FAIL	3000	1	IN.(12)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												

TECHNOLOGY: ADVANCED STTL
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

74F175 FLIP-FLOP , QUAD D (CONTINUED)

SHC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	TEST VOLTAGE	NUM. DEV.	PIN COMBINATION
211	6	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	SS	FAIL	2200	1	IN.(13)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												
211	7	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	SS	PASS	5000	1	OUT.(2)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												
211	8	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	SS	PASS	5000	1	OUT.(3)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												
211	9	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	SS	PASS	5000	1	OUT.(6)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												
211	10	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	SS	PASS	5000	1	OUT.(7)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												
211	11	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	SS	PASS	5000	1	OUT.(10)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												
211	12	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	SS	PASS	5000	1	OUT.(11)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												
211	13	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	SS	PASS	5000	1	OUT.(14)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												
211	14	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	SS	PASS	5000	1	OUT.(15)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												
211	15	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	SS	PASS	5000	1	VCC(16)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												
212	1	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	SS	FAIL	4700	1	IN.(1)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
212	2	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	SS	FAIL	4600	1	IN.(4)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
212	3	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	SS	FAIL	4600	1	IN.(5)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
212	4	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	SS	FAIL	2200	1	IN.(9)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
212	5	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	SS	FAIL	3000	1	IN.(12)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
212	6	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	SS	FAIL	4600	1	IN.(13)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
212	7	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	SS	PASS	5000	1	OUT.(2)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
212	8	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	SS	PASS	5000	1	OUT.(3)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
212	9	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	SS	PASS	5000	1	OUT.(6)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
212	10	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	SS	PASS	5000	1	OUT.(7)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
212	11	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	SS	PASS	5000	1	OUT.(10)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
212	12	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	SS	PASS	5000	1	OUT.(11)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
212	13	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	SS	PASS	5000	1	OUT.(14)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
212	14	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	SS	PASS	5000	1	OUT.(15)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												

TECHNOLOGY: ADVANCED STTL
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SMC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
74F175		FLIP-FLOP , QUAD D					(CONTINUED)						
212	15	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	SS	PASS	5000	1	VCC(16)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
213	1	FAIRCHILD SEMI	74F175PC	8125	SEP 81	1500	100 PF	100	SS	FAIL	360	1	IN.(9)(+) APTT(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
214	1	FAIRCHILD SEMI	74F175PC	8125	SEP 81	1500	100 PF	100	SS	FAIL	480	1	IN.(9)(+) APTT(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
215	1	FAIRCHILD SEMI	74F175PC	8125	SEP 81	1500	100 PF	30	GN	PASS	180	1	IN.(9)(+) APTT(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
215	2	FAIRCHILD SEMI	74F175PC	8125	SEP 81	1500	100 PF	100	GN	PASS	180	1	IN.(9)(+) APTT(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
215	3	FAIRCHILD SEMI	74F175PC	8125	SEP 81	1500	100 PF	300	GN	PASS	180	1	IN.(9)(+) APTT(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
216	1	FAIRCHILD SEMI	74F175PC	8125	SEP 81	1500	100 PF	30	SS	FAIL	480	1	IN.(9)(+) APTT(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
217	1	FAIRCHILD SEMI	74F175PC	8125	SEP 81	1500	100 PF	30	GN	FAIL	360	1	IN.(9)(+) APTT(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
217	2	FAIRCHILD SEMI	74F175PC	8125	SEP 81	1500	100 PF	100	GN	FAIL	360	1	IN.(9)(+) APTT(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
218	1	FAIRCHILD SEMI	74F175PC	8125	SEP 81	1500	100 PF	30	GN	FAIL	480	1	IN.(9)(+) APTT(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
218	2	FAIRCHILD SEMI	74F175PC	8125	SEP 81	1500	100 PF	30	GN	PASS	480	1	IN.(9)(+) APTT(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
218	3	FAIRCHILD SEMI	74F175PC	8125	SEP 81	1500	100 PF	300	GN	PASS	480	1	IN.(9)(+) APTT(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
219	1	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	100	SS	FAIL	300	2	IN.(5)(+) APTT(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												
220	1	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	30	GN	FAIL	150	1	IN.(5)(+) APTT(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												
220	2	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	100	GN	FAIL	150	1	IN.(5)(+) APTT(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												
221	1	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	10	SS	FAIL	300	1	IN.(5)(+) APTT(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												
222	1	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	10	GN	FAIL	300	1	IN.(5)(+) APTT(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												
222	2	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	30	GN	FAIL	300	1	IN.(5)(+) APTT(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												
223	1	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	30	GN	FAIL	400	1	IN.(5)(+) APTT(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												
223	2	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	100	GN	FAIL	400	4	IN.(5)(+) APTT(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												
224	1	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	300	SS	FAIL	320	2	IN.(9)(+) APTT(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
224	2	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	300	SS	PASS	320	3	IN.(9)(+) APTT(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
225	1	FAIRCHILD SEMI	74F175PC	8125	SEP 81	1500	100 PF	300	SS	PASS	800	5	IN.(9)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
226	1	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	30	SS	FAIL	1120	1	IN.(4)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												

TECHNOLOGY: ADVANCED STTL
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION													
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
74F175	FLIP-FLOP , QUAD D						(CONTINUED)						
226	2	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	300	SS	PASS	1120	2	IN.(4)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												
227	1	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	10	SS	FAIL	840	1	IN.(4)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												
228	1	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	300	SS	PASS	1120	1	IN.(4)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												
229	1	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	300	GN	FAIL	420	1	IN.(4)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												
230	1	FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	300	GN	PASS	1120	1	IN.(4)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												
74F20	GATE , DUAL 4 INPUT NAND												
049	2	FAIRCHILD SEMI	74F20PC	8044	JUN 81	1500	100 PF	1	GN	FAIL	500	1	INPUT(4)(+) VCC(14)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETER OUT OF SPEC												

TECHNOLOGY: LTTL

BASIC PART NUMBER	DESCRIPTION													
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
54L04	BUFFER/INVERTER , HEX INVERTER												
361	1	N/R	N/R	N/R	N/R	1500	100 PF	200	GN	PASS	2000	11	GND.(1)(+) IN.(7)(-)
	FAILURE CRITERIA: IIH AND/OR VOL OUT OF SPEC.												
362	1	N/R	N/R	N/R	N/R	1500	100 PF	200	GN	PASS	2250	1	GND.(1)(+) IN.(7)(-)
	FAILURE CRITERIA: IIH AND/OR VOL OUT OF SPEC.												
363	1	N/R	N/R	N/R	N/R	1500	100 PF	10	GN	FAIL	2500	1	GND.(1)(+) IN.(7)(-)
	FAILURE CRITERIA: IIH AND VOL OUT OF SPEC.												
363	2	N/R	N/R	N/R	N/R	1500	100 PF	200	GN	PASS	2500	1	GND.(1)(+) IN.(7)(-)
	FAILURE CRITERIA: IIH AND/OR VOL OUT OF SPEC.												
364	1	N/R	N/R	N/R	N/R	1500	100 PF	1	GN	FAIL	2750	1	GND.(1)(+) IN.(7)(-)
	REMARK: ALL UNUSED INPUTS AT GROUND. FAILURE CRITERIA: CHANGE IN IIH OF 20NA AT VCC=5.5V AND VIN=2.4V												
364	2	N/R	N/R	N/R	N/R	1500	100 PF	3	GN	FAIL	2750	1	GND.(1)(+) IN.(7)(-)
	REMARK: ALL UNUSED INPUTS AT GROUND. FAILURE CRITERIA: CHANGE IN IIH OF 20NA AT VCC=5.5V AND VIN=2.4V												
364	3	N/R	N/R	N/R	N/R	1500	100 PF	5	GN	FAIL	2750	1	GND.(1)(+) IN.(7)(-)
	REMARK: ALL UNUSED INPUTS AT 5.5V. FAILURE CRITERIA: CHANGE IN VOL OF .050V AT VCC=4.5V,IOL=2MA AND VIN=2.0V.												
364	4	N/R	N/R	N/R	N/R	1500	100 PF	8	GN	FAIL	2750	1	GND.(1)(+) IN.(7)(-)
	REMARK: ALL UNUSED INPUTS AT 5.5V. FAILURE CRITERIA: CHANGE IN VOL OF .050V AT VCC=4.5V,IOL=2MA AND VIN=2.0V.												
364	5	N/R	N/R	N/R	N/R	1500	100 PF	50	GN	FAIL	2750	1	GND.(1)(+) IN.(7)(-)
	REMARK: ALL UNUSED INPUTS AT 5.5V. FAILURE CRITERIA: CHANGE IN VOL OF .050V AT VCC=4.5V,IOL=2MA AND VIN=2.0V.												
364	6	N/R	N/R	N/R	N/R	1500	100 PF	75	GN	FAIL	2750	1	GND.(1)(+) IN.(7)(-)
	REMARK. ALL UNUSED INPUTS AT GROUND. FAILURE CRITERIA: CHANGE IN IIH OF 20NA AT VCC=5.5V AND VIN=2.4V												
364	7	N/R	N/R	N/R	N/R	1500	100 PF	125	GN	FAIL	2750	1	GND.(1)(+) IN.(7)(-)
	REMARK: ALL UNUSED INPUTS AT 5.5V. FAILURE CRITERIA: CHANGE IN VOL OF .050V AT VCC=4.5V,IOL=2MA AND VIN=2.0V.												
364	8	N/R	N/R	N/R	N/R	1500	100 PF	175	GN	FAIL	2750	1	GND.(1)(+) IN.(7)(-)
	REMARK: ALL UNUSED INPUTS AT 5.5V. FAILURE CRITERIA: CHANGE IN VOL OF .050V AT VCC=4.5V,IOL=2MA AND VIN=2.0V.												
364	9	N/R	N/R	N/R	N/R	1500	100 PF	175	GN	PASS	2750	1	GND.(1)(+) IN.(7)(-)
	FAILURE CRITERIA: IIH AND/OR VOL OUT OF SPEC.												
364	10	N/R	N/R	N/R	N/R	1500	100 PF	200	GN	PASS	2750	11	GND.(1)(+) IN.(7)(-)
	FAILURE CRITERIA: IIH AND/OR VOL OUT OF SPEC.												
365	1	N/R	N/R	N/R	N/R	1500	100 PF	200	GN	PASS	3000	1	GND.(1)(+) IN.(7)(-)
	FAILURE CRITERIA: IIH AND/OR VOL OUT OF SPEC.												
365	2	N/R	N/R	N/R	N/R	1500	100 PF	5	GN	FAIL	3000	1	GND.(1)(+) IN.(7)(-)
	REMARK: ALL UNUSED INPUTS AT 5.5V. FAILURE CRITERIA: CHANGE IN VOL OF .050V AT VCC=4.5V,IOL=2MA AND VIN=2.0V.												
366	1	N/R	N/R	N/R	N/R	1500	100 PF	10	GN	FAIL	3250	1	GND.(1)(+) IN.(7)(-)
	REMARK: ALL UNUSED INPUTS AT 5.5V. FAILURE CRITERIA: CHANGE IN VOL OF .050V AT VCC=4.5V,IOL=2MA AND VIN=2.0V.												
367	1	N/R	N/R	N/R	N/R	1500	100 PF	1	GN	FAIL	3500	4	GND.(1&))(+) IN.(7)(-)
	FAILURE CRITERIA: IIH AND VOL OUT OF SPEC.												
367	2	N/R	N/R	N/R	N/R	1500	100 PF	1	GN	FAIL	3500	2	GND.(1)(+) IN.(7)(-)
	REMARK: ALL UNUSED INPUTS AT GROUND. FAILURE CRITERIA: CHANGE IN IIH OF 20NA AT VCC=5.5V AND VIN=2.4V												
367	3	N/R	N/R	N/R	N/R	1500	100 PF	1	GN	FAIL	3500	6	GND.(1)(+) IN.(7)(-)
	REMARK: ALL UNUSED INPUTS AT 5.5V. FAILURE CRITERIA: CHANGE IN VOL OF .050V AT VCC=4.5V,IOL=2MA AND VIN=2.0V.												
367	4	N/R	N/R	N/R	N/R	1500	100 PF	4	GN	FAIL	3500	2	GND.(1)(+) IN.(7)(-)
	REMARK: ALL UNUSED INPUTS AT 5.5V. FAILURE CRITERIA: CHANGE IN VOL OF .050V AT VCC=4.5V,IOL=2MA AND VIN=2.0V.												
367	5	N/R	N/R	N/R	N/R	1500	100 PF	8	GN	FAIL	3500	1	GND.(1)(+) IN.(7)(-)
	REMARK: ALL UNUSED INPUTS AT 5.5V. FAILURE CRITERIA: CHANGE IN VOL OF .050V AT VCC=4.5V,IOL=2MA AND VIN=2.0V.												
367	6	N/R	N/R	N/R	N/R	1500	100 PF	25	GN	FAIL	3500	1	GND.(1)(+) IN.(7)(-)
	FAILURE CRITERIA: IIH AND VOL OUT OF SPEC.												
367	7	N/R	N/R	N/R	N/R	1500	100 PF	200	GN	PASS	3500	8	GND.(1)(+) IN.(7)(-)
	FAILURE CRITERIA: IIH AND/OR VOL OUT OF SPEC.												

TECHNOLOGY: LTTL
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
54L04		BUFFER/INVERTER , HEX INVERTER					(CONTINUED)						
368	1	N/R	N/R	N/R	N/R	1500	100 PF	1	GN	FAIL	4000	2	GND.(1)(+) IN.(7)(-)
	FAILURE CRITERIA: IIH AND VOL OUT OF SPEC.												
368	2	N/R	N/R	N/R	N/R	1500	100 PF	1	GN	FAIL	4000	4	GND.(1)(+) IN.(7)(-)
	REMARK: ALL UNUSED INPUTS AT GROUND. FAILURE CRITERIA: CHANGE IN IIH OF 20NA AT VCC=5.5V AND VIN=2.4V												
368	3	N/R	N/R	N/R	N/R	1500	100 PF	1	GN	FAIL	4000	7	GND.(1)(+) IN.(7)(-)
	REMARK: ALL UNUSED INPUTS AT 5.5V. FAILURE CRITERIA: CHANGE IN VOL OF .050V AT VCC=4.5V,IOL=2MA AND VIN=2.0V.												
368	4	N/R	N/R	N/R	N/R	1500	100 PF	50	GN	FAIL	4000	1	GND.(1)(+) IN.(7)(-)
	FAILURE CRITERIA: IIH AND VOL OUT OF SPEC.												
368	5	N/R	N/R	N/R	N/R	1500	100 PF	1	GN	PASS	4000	8	GND.(1)(+) IN.(7)(-)
	FAILURE CRITERIA: IIH AND VOL OUT OF SPEC.												
369	1	N/R	N/R	N/R	N/R	1500	100 PF	1	GN	FAIL	4250	10	GND.(1)(+) IN.(7)(-)
	REMARK: ALL UNUSED INPUTS AT 5.5V. FAILURE CRITERIA: CHANGE IN VOL OF .050V AT VCC=4.5V,IOL=2MA AND VIN=2.0V.												
369	2	N/R	N/R	N/R	N/R	1500	100 PF	1	GN	FAIL	4250	2	GND.(1)(+) IN.(7)(-)
	FAILURE CRITERIA: IIH AND VOL OUT OF SPEC.												
369	3	N/R	N/R	N/R	N/R	1500	100 PF	1	GN	FAIL	4250	5	GND.(1)(+) IN.(7)(-)
	REMARK: ALL UNUSED INPUTS AT GROUND. FAILURE CRITERIA: CHANGE IN IIH OF 20NA AT VCC=5.5V AND VIN=2.4V												
369	4	N/R	N/R	N/R	N/R	1500	100 PF	8	GN	FAIL	4250	1	GND.(1)(+) IN.(7)(-)
	REMARK: ALL UNUSED INPUTS AT GROUND. FAILURE CRITERIA: CHANGE IN IIH OF 20NA AT VCC=5.5V AND VIN=2.4V												
369	5	N/R	N/R	N/R	N/R	1500	100 PF	200	GN	PASS	4250	3	GND.(1)(+) IN.(7)(-)
	FAILURE CRITERIA: IIH AND/OR VOL OUT OF SPEC.												
370	1	N/R	N/R	N/R	N/R	1500	100 PF	1	GN	FAIL	4500	2	GND.(1)(+) IN.(7)(-)
	REMARK: ALL UNUSED INPUTS AT GROUND. FAILURE CRITERIA: CHANGE IN IIH OF 20NA AT VCC=5.5V AND VIN=2.4V												
370	2	N/R	N/R	N/R	N/R	1500	100 PF	1	GN	FAIL	4500	7	GND.(1)(+) IN.(7)(-)
	FAILURE CRITERIA: IIH AND VOL OUT OF SPEC.												
370	3	N/R	N/R	N/R	N/R	1500	100 PF	1	GN	FAIL	4500	8	GND.(1)(+) IN.(7)(-)
	REMARK: ALL UNUSED INPUTS AT 5.5V. FAILURE CRITERIA: CHANGE IN VOL OF .050V AT VCC=4.5V,IOL=2MA AND VIN=2.0V.												
370	4	N/R	N/R	N/R	N/R	1500	100 PF	1	GN	PASS	4500	3	GND.(1)(+) IN.(7)(-)
	FAILURE CRITERIA: IIH AND/OR VOL OUT OF SPEC.												
371	1	N/R	N/R	N/R	N/R	1500	100 PF	1	GN	FAIL	5000	7	GND.(1)(+) IN.(7)(-)
	REMARK: ALL UNUSED INPUTS AT 5.5V. FAILURE CRITERIA: CHANGE IN VOL OF .050V AT VCC=4.5V,IOL=2MA AND VIN=2.0V.												
371	2	N/R	N/R	N/R	N/R	1500	100 PF	1	GN	FAIL	5000	5	GND.(1)(+) IN.(7)(-)
	FAILURE CRITERIA: IIH AND VOL OUT OF SPEC.												
371	3	N/R	N/R	N/R	N/R	1500	100 PF	1	GN	FAIL	5000	4	GND.(1)(+) IN.(7)(-)
	REMARK: ALL UNUSED INPUTS AT GROUND. FAILURE CRITERIA: CHANGE IN IIH OF 20NA AT VCC=5.5V AND VIN=2.4V												
371	4	N/R	N/R	N/R	N/R	1500	100 PF	2	GN	FAIL	5000	1	GND.(1)(+) IN.(7)(-)
	FAILURE CRITERIA: IIH AND VOL OUT OF SPEC.												
371	5	N/R	N/R	N/R	N/R	1500	100 PF	6	GN	FAIL	5000	1	GND.(1)(+) IN.(7)(-)
	REMARK: ALL UNUSED INPUTS AT 5.5V. FAILURE CRITERIA: CHANGE IN VOL OF .050V AT VCC=4.5V,IOL=2MA AND VIN=2.0V.												
371	6	N/R	N/R	N/R	N/R	1500	100 PF	7	GN	FAIL	5000	1	GND.(1)(+) IN.(7)(-)
	REMARK: ALL UNUSED INPUTS AT 5.5V. FAILURE CRITERIA: CHANGE IN VOL OF .050V AT VCC=4.5V,IOL=2MA AND VIN=2.0V.												
371	7	N/R	N/R	N/R	N/R	1500	100 PF	175	GN	FAIL	5000	1	GND.(1)(+) IN.(7)(-)
	REMARK: ALL UNUSED INPUTS AT 5.5V. FAILURE CRITERIA: CHANGE IN VOL OF .050V AT VCC=4.5V,IOL=2MA AND VIN=2.0V.												
371	8	N/R	N/R	N/R	N/R	1500	100 PF	200	GN	FAIL	5000	1	GND.(1)(+) IN.(7)(-)
	FAILURE CRITERIA: IIH AND VOL OUT OF SPEC.												
371	9	N/R	N/R	N/R	N/R	1500	100 PF	200	GN	PASS	5000	4	GND.(1)(+) IN.(7)(-)
	FAILURE CRITERIA: IIH AND/OR VOL OUT OF SPEC.												
372	1	N/R	N/R	N/R	N/R	1500	100 PF	200	GN	FAIL	5500	1	GND.(1)(+) IN.(7)(-)
	FAILURE CRITERIA: IIH AND VOL OUT OF SPEC.												

TECHNOLOGY: LTTL
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION																
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
54L04	BUFFER/INVERTER , HEX INVERTER (CONTINUED)												
373	1	N/R	N/R	N/R	N/R	1500	100 PF	1	GN	FAIL	5750	3	GND.(1)(+) IN.(7)(-)
	REMARK: ALL UNUSED INPUTS AT 5.5V. FAILURE CRITERIA: CHANGE IN VOL OF .050V AT VCO=4.5V,IOL=2MA AND VIN=2.0V.												
373	2	N/R	N/R	N/R	N/R	1500	100 PF	1	GN	FAIL	5750	3	GND.(1)(+) IN.(7)(-)
	REMARK: ALL UNUSED INPUTS AT GROUND. FAILURE CRITERIA: CHANGE IN IIH OF 20NA AT VCO=5.5V AND VIN=2.4V												
373	3	N/R	N/R	N/R	N/R	1500	100 PF	1	GN	FAIL	5750	4	GND.(1)(+) IN.(7)(-)
	FAILURE CRITERIA: IIH AND VOL OUT OF SPEC.												
374	1	N/R	N/R	N/R	N/R	1500	100 PF	1	GN	FAIL	6000	1	GND.(1)(+) IN.(7)(-)
	FAILURE CRITERIA: IIH AND VOL OUT OF SPEC.												
374	2	N/R	N/R	N/R	N/R	1500	100 PF	25	GN	FAIL	6000	1	GND.(1)(+) IN.(7)(-)
	FAILURE CRITERIA: IIH AND VOL OUT OF SPEC.												
375	1	N/R	N/R	N/R	N/R	1500	100 PF	20	GN	FAIL	6500	1	GND.(1)(+) IN.(7)(-)
	FAILURE CRITERIA: IIH AND VOL OUT OF SPEC.												
375	2	N/R	N/R	N/R	N/R	1500	100 PF	25	GN	FAIL	6500	1	GND.(1)(+) IN.(7)(-)
	FAILURE CRITERIA: IIH AND VOL OUT OF SPEC.												
376	1	N/R	N/R	N/R	N/R	1500	100 PF	1	GN	FAIL	7000	1	GND.(1)(+) IN.(7)(-)
	FAILURE CRITERIA: IIH AND VOL OUT OF SPEC.												
376	2	N/R	N/R	N/R	N/R	1500	100 PF	2	GN	FAIL	7000	1	GND.(1)(+) IN.(7)(-)
	FAILURE CRITERIA: IIH AND VOL OUT OF SPEC.												
376	3	N/R	N/R	N/R	N/R	1500	100 PF	5	GN	FAIL	7000	1	GND.(1)(+) IN.(7)(-)
	FAILURE CRITERIA: IIH AND VOL OUT OF SPEC.												
377	1	N/R	N/R	N/R	N/R	1500	100 PF	50	GN	FAIL	7200	1	GND.(1)(+) IN.(7)(-)
	FAILURE CRITERIA: IIH AND VOL OUT OF SPEC.												
378	1	N/R	N/R	N/R	N/R	1500	100 PF	1	GN	FAIL	7500	1	GND.(1)(+) IN.(7)(-)
	FAILURE CRITERIA: IIH AND VOL OUT OF SPEC.												
379	1	N/R	N/R	N/R	N/R	1500	100 PF	1	GN	FAIL	8000	1	GND.(1)(+) IN.(7)(-)
	FAILURE CRITERIA: IIH AND VOL OUT OF SPEC.												
54L74	FLIP-FLOP , DUAL D												
245	7	N/R	N/R	N/R	N/R	100	.1 UF	1	SS	FAIL	77	15	INPUT(+) GND(-)
	REMARK: FAILURE VOLTAGE IS AN AVERAGE OF 15 DEVICES. FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.												
74L00	GATE , QUAD 2 INPUT NAND												
029	296	TEXAS INSTRUMENTS	SN74L00	N/R	N/R	1500	100 PF	1	N/R	FAIL	4031	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
74L71	FLIP-FLOP , RS												
029	297	TEXAS INSTRUMENTS	SN74L71	N/R	N/R	1500	100 PF	1	N/R	FAIL	4692	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
74L73	FLIP-FLOP , JK												
029	298	TEXAS INSTRUMENTS	SN74L73	N/R	N/R	1500	100 PF	1	N/R	FAIL	2139	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												

TECHNOLOGY: LTTL
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION														
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
74L95	SHIFT REGISTER , STATIC												
029	299	TEXAS INSTRUMENTS	SN74L95	N/R	N/R	1500	100 PF	1	N/R	FAIL	4642	1	N/R

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.

TECHNOLOGY: HTTL

BASIC PART NUMBER	SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	TEST VOLTAGE	NUM. DEV.	PIN COMBINATION
54H00 GATE , QUAD 2-INPUT NAND														
	245	5	N/R	N/R	N/R	N/R	100	.1 UF	1	SS	FAIL	93	15	INPUT(+) GND(-)
REMARK: FAILURE VOLTAGE IS AN AVERAGE OF 15 DEVICES. FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.														
54H183 SSI/MSI , DUAL FULL ADDER														
	245	6	N/R	N/R	N/R	N/R	100	.1 UF	1	SS	FAIL	98	15	INPUT(+) GND(-)
REMARK: FAILURE VOLTAGE IS AN AVERAGE OF 15 DEVICES. FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.														
74H00 GATE , QUAD 2 INPUT NAND														
	029	294	TEXAS INSTRUMENTS	SN74H00	N/R	N/R	1500	100 PF	1	N/R	FAIL	3205	1	N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.														
74H05 BUFFER/INVERTER , HEX INVERTER														
	029	295	TEXAS INSTRUMENTS	SN74H05	N/R	N/R	1500	100 PF	1	N/R	FAIL	21697	1	N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.														
74H106 FLIP-FLOP , DUAL JK														
	234	1	N/R	N/R	N/R	N/R	0	62 PF	1	SS	FAIL	300	1	IN.(9)(+) GND(13)(-)
REMARK: INPUT PINS 1 AND 8 FAILED AT 500V. FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE														
	234	2	N/R	N/R	N/R	N/R	0	62 PF	1	SS	FAIL	300	1	IN.(9)(+) GND(13)(-)
REMARK: INPUT PIN 1 FAILED AT 500V. FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE														
	234	3	N/R	N/R	N/R	N/R	0	62 PF	1	SS	FAIL	300	1	IN.(9)(+) GND(13)(-)
REMARK: INPUT PIN 1 FAILED AT 400V AND INPUT PIN 8 FAILED AT 500V. FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE														
	235	1	N/R	N/R	N/R	N/R	0	120 PF	1	SS	FAIL	200	3	IN.(9)(+) GND(8)(-)
REMARK: INPUT PINS 1 AND 8 FAILED AT 300V FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE														
	235	2	N/R	N/R	N/R	N/R	0	120 PF	1	SS	FAIL	200	1	IN.(9)(+) GND(8)(-)
REMARK: INPUT PIN 8 FAILED AT 400V. FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE														
	235	3	N/R	N/R	N/R	N/R	0	120 PF	1	SS	FAIL	200	1	IN.(9)(+) GND(8)(-)
REMARK: INPUT PINS 1 AND 8 FAILED AT 400V. FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE														
	236	1	N/R	N/R	N/R	N/R	0	510 PF	1	SS	FAIL	100	1	IN.(8)(+) GND(13)(-)
REMARK: INPUT PINS 1 AND 9 FAILED AT 200V. FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE														
	236	2	N/R	N/R	N/R	N/R	0	510 PF	1	SS	FAIL	100	1	IN.(9)(+) GND(13)(-)
REMARK: INPUT PIN 1 FAILED AT 300V. FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE														
	236	3	N/R	N/R	N/R	N/R	0	510 PF	1	SS	FAIL	100	1	IN.(9)(+) GND(13)(-)
REMARK: INPUT PIN 1 FAILED AT 200V AND INPUT PIN 8 FAILED AT 300V. FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE														
	236	4	N/R	N/R	N/R	N/R	0	510 PF	1	SS	FAIL	100	2	IN.(8,9)(+) GND(13)(-)
REMARK: INPUT PIN 1 FAILED AT 200V. FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE														
	237	1	N/R	N/R	N/R	N/R	0	.001 UF	1	SS	FAIL	200	1	IN.(8)(+) GND(13)(-)
REMARK: INPUT PIN 9 FAILED AT 400V. FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE														
	237	2	N/R	N/R	N/R	N/R	0	.001 UF	1	SS	FAIL	200	1	IN.(8,9)(+) GND(13)(-)
REMARK: INPUT PIN 1 FAILED AT 300V. FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE														
	237	3	N/R	N/R	N/R	N/R	0	.001 UF	1	SS	FAIL	100	1	IN.(9)(+) GND(13)(-)
REMARK: INPUT PIN 1 FAILED AT 200V AND INPUT PIN 8 FAILED AT 400V. FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE														
	237	4	N/R	N/R	N/R	N/R	0	.001 UF	1	SS	FAIL	100	1	IN.(8,9)(+) GND(13)(-)
REMARK: INPUT PIN 1 FAILED AT 300V. FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE														

TECHNOLOGY: HTTL
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION															
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
74H106	FLIP-FLOP , DUAL JK						(CONTINUED)						
237	5	N/R	N/R	N/R	N/R	0	.001 UF	1	SS	FAIL	100	1	IN(1,8,9)(+) GND(-)
	FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE												
238	1	N/R	N/R	N/R	N/R	0	.01 UF	1	SS	FAIL	100	2	IN(1,8,9)(+) GND(-)
	FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE												
238	2	N/R	N/R	N/R	N/R	0	.01 UF	1	SS	FAIL	100	2	IN(8,9)(+) GND(13)(-)
	FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE												
76161	PROM , 2048 X 8 BIT												
030	578	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	3000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												

TECHNOLOGY: I1L

BASIC PART NUMBER	DESCRIPTION														
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
XC401	GATE , INVERTER												
245	21	N/R	N/R	7616	N/R	100	.1 UF	1	SS	FAIL	52	15	OUTPUT(+) GND(-)
	REMARK: FAILURE VOLTAGE IS AN AVERAGE OF 15 DEVICES.				FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.								
XC402	GATE , NOR												
245	22	N/R	N/R	7616	N/R	100	.1 UF	1	SS	FAIL	62	15	INJECTOR(+) INPUT(-)
	REMARK: FAILURE VOLTAGE IS AN AVERAGE OF 15 DEVICES.				FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.								
XC404	FLIP-FLOP , D TYPE												
245	23	N/R	N/R	7621	N/R	100	.1 UF	1	SS	FAIL	49	15	INJECTOR(+) INPUT(-)
	REMARK: FAILURE VOLTAGE IS AN AVERAGE OF 15 DEVICES.				FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.								
5710	COMPARATOR												
029	335	SIGNETICS	N5710T	N/R	N/R	1500	100 PF	1	N/R	FAIL	6910	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
8X01	LSI , CRC												
383	8	SIGNETICS	N/R	N/R	N/R	1500	100 PF	1	SS	FAIL	1728	1	IN.(+) APTT(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.				FAILURE CRITERIA: DEGRADATION OF V-I CURVE OR FUNCTIONAL FAILURE.								
383	9	SIGNETICS	N/R	N/R	N/R	1500	100 PF	1	SS	FAIL	507	1	OUT.(+) APTT(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.				FAILURE CRITERIA: DEGRADATION OF V-I CURVE OR FUNCTIONAL FAILURE.								
383	10	SIGNETICS	N/R	N/R	N/R	1500	100 PF	1	SS	FAIL	459	1	VCC(+) APTT(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.				FAILURE CRITERIA: DEGRADATION OF V-I CURVE OR FUNCTIONAL FAILURE.								
9900	MICROPROCESSOR												
383	16	TEXAS INSTRUMENTS	SBP9900	N/R	N/R	1500	100 PF	1	SS	FAIL	113	1	INJ.(-) APTT(+)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.				FAILURE CRITERIA: DEGRADATION OF V-I CURVE OR FUNCTIONAL FAILURE.								

TECHNOLOGY: DTL

BASIC PART NUMBER	DESCRIPTION															
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
156	DRIVER , LINE												
029	289	SIGNETICS	SE156W	N/R	N/R	1500	100 PF	1	N/R	FAIL	3945	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
15946	GATE , NAND												
029	291	TEXAS INSTRUMENTS	SN15946	N/R	N/R	1500	100 PF	1	N/R	FAIL	342741	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
180	GATE , NAND												
029	290	SIGNETICS	SE180J	N/R	N/R	1500	100 PF	1	N/R	FAIL	7274	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
8481	GATE , NAND												
029	312	SIGNETICS	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	164722	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
9093	FLIP-FLOP , DUAL JK												
029	313	FAIRCHILD SEMI	9093DC9	N/R	N/R	1500	100 PF	1	N/R	FAIL	6123	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
930	GATE , NAND												
029	287	RAYTHEON	RC930	N/R	N/R	1500	100 PF	1	N/R	FAIL	4283	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
933	SSI/MSI , DUAL EXTENDER												
029	262	NATIONAL SEMI	DM933N	N/R	N/R	1500	100 PF	1	N/R	FAIL	6748	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
94459	GATE , NAND												
029	267	FAIRCHILD SEMI	DTMUL94459	N/R	N/R	1500	100 PF	1	N/R	FAIL	13426	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
946	GATE , NAND												
029	263	NATIONAL SEMI	DM946D	N/R	N/R	1500	100 PF	1	N/R	FAIL	5237	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
029	264	NATIONAL SEMI	DM946N	N/R	N/R	1500	100 PF	1	N/R	FAIL	4192	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
245	1	N/R	N/R	7705	N/R	100	.1 UF	1	SS	FAIL	58	15	INPUT(+) GND(-)
	REMARK: FAILURE VOLTAGE IS AN AVERAGE OF 15 DEVICES. FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.												

TECHNOLOGY: DTL
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION														
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
948	FLIP-FLOP , RS												
029	265	NATIONAL SEMI	DM948	N/R	N/R	1500	100 PF	1	N/R	FAIL	5227	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
9908	SSI/MSI , ADDER												
029	315	FAIRCHILD SEMI	9908HC	N/R	N/R	1500	100 PF	1	N/R	FAIL	9561	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
9930	GATE , NAND												
029	320	FAIRCHILD SEMI	9930HC	N/R	N/R	1500	100 PF	1	N/R	FAIL	3514	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
9932	GATE , NAND												
029	321	FAIRCHILD SEMI	9932HC	N/R	N/R	1500	100 PF	1	N/R	FAIL	3883	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
9944	GATE , NAND												
029	322	NATIONAL SEMI	9944DM	N/R	N/R	1500	100 PF	1	N/R	FAIL	3444	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
9945	FLIP-FLOP , RS												
029	323	NATIONAL SEMI	9945DM	N/R	N/R	1500	100 PF	1	N/R	FAIL	3708	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
029	324	FAIRCHILD SEMI	9945HC	N/R	N/R	1500	100 PF	1	N/R	FAIL	4481	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
9946	GATE , NAND												
029	325	FAIRCHILD SEMI	9946HC	N/R	N/R	1500	100 PF	1	N/R	FAIL	7970	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
9948	FLIP-FLOP , RS												
029	326	FAIRCHILD SEMI	9948HC	N/R	N/R	1500	100 PF	1	N/R	FAIL	4774	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												

TECHNOLOGY: RTL

BASIC PART NUMBER	DESCRIPTION													
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
914	GATE , DUAL NAND												
029	285	MOTOROLA SEMI	MC914M	N/R	N/R	1500	100 PF	1	N/R	FAIL	5848	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
9909	GATE , NOR												
029	316	FAIRCHILD SEMI	9909HC	N/R	N/R	1500	100 PF	1	N/R	FAIL	7342	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
9910	GATE , NOR												
029	317	FAIRCHILD SEMI	9910HC	N/R	N/R	1500	100 PF	1	N/R	FAIL	4595	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
9911	GATE , NOR												
029	318	FAIRCHILD SEMI	9911HC	N/R	N/R	1500	100 PF	1	N/R	FAIL	6371	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
9912	SSI/MSI , ADDER												
029	319	FAIRCHILD SEMI	9912HC	N/R	N/R	1500	100 PF	1	N/R	FAIL	14260	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												

TECHNOLOGY: ECL

BASIC PART NUMBER	DESCRIPTION														
SEC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
10102	GATE , QUAD 2 INPUT NOR												
245	19	N/R	N/R	7718	N/R	100	.1 UF	1	SS	FAIL	59	15	OUTPUT(+) INPUT(-)
	REMARK: FAILURE VOLTAGE IS AN AVERAGE OF 15 DEVICES. FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.												
10130	LATCH , QUAD D CLOCKED												
245	20	N/R	N/R	7634	N/R	100	.1 UF	1	SS	FAIL	131	15	OUTPUT(+) INPUT(-)
	REMARK: FAILURE VOLTAGE IS AN AVERAGE OF 15 DEVICES. FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.												
10146	RAM , 1024X1 BIT												
027	10	MOTOROLA SEMI	N/R	N/R	N/R	1500	100 PF	1	GN	FAIL	1000	15	N/R
	FAILURE CRITERIA: DC PARAMETER OUT OF SPEC												
10501	GATE , QUAD 2 INPUT OR												
026	33	MOTOROLA SEMI	MC10501	N/R	FEB 81	100	200 PF	1	SS	FAIL	440	4	N/R
	REMARK: VOLTAGE IS AN AVERAGE OF 4 DEVICES FAILURE CRITERIA: CHANGE IN IIL OF 500% AT VIL = 1.85V												
10518	GATE , DUAL OR/NOR												
028	8	N/R	N/R	N/R	N/R	1500	117 PF	30	SS	FAIL	1500	5	N/R
	FAILURE CRITERIA: IIH=10MA												
1678	COUNTER , BI-QUINARY												
029	275	MOTOROLA SEMI	MC1678M	N/R	N/R	1500	100 PF	1	N/R	FAIL	11934	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
301	GATE , OR												
029	277	MOTOROLA SEMI	MC301	N/R	N/R	1500	100 PF	1	N/R	FAIL	82092	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
304	DRIVER												
029	278	MOTOROLA SEMI	MC304G	N/R	N/R	1500	100 PF	1	N/R	FAIL	13991	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
308	FLIP-FLOP , JK												
029	279	MOTOROLA SEMI	MC308G	N/R	N/R	1500	100 PF	1	N/R	FAIL	6257	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
317	CONVERTER (D/A A/D)												
029	280	MOTOROLA SEMI	MC317F	N/R	N/R	1500	100 PF	1	N/R	FAIL	6253	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												

TECHNOLOGY: ECL
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION															
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
351		GATE , NOR											
029	281	MOTOROLA SEMI	MC351M	N/R	N/R	1500	100 PF	1	N/R	FAIL	1576	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
N/R		BUFFER/INVERTER , HEX INVERTER											
014	5	N/R	N/R	N/R	N/R	100	100 PF	1	SS	FAIL	450	N/R	INPUT
	REMARK: 450 VOLTS IS AN AVERAGE OF AN UNKNOWN NUMBER OF DEVICES. FAILURE CRITERIA: GREATER THAN 265 UA AT 3.8 SWITCHING POINT.												
017	5	N/R	N/R	N/R	N/R	100	250 PF	1	SS	FAIL	350	N/R	N/R
	REMARK: 350 VOLTS IS AN AVERAGE OF AN UNKNOWN NUMBER OF DEVICES. FAILURE CRITERIA: GREATER THAN 265 UA AT 3.8 SWITCHING PT.												
020	5	N/R	N/R	N/R	N/R	100	500 PF	1	SS	FAIL	400	N/R	N/R
	REMARK: 400 VOLTS IS AN AVERAGE OF AN UNKNOWN NUMBER OF DEVICES. FAILURE CRITERIA: GREATER THAN 265 UA AT 3.8 SWITCHING PT.												
N/R		RAM , 256 BIT RAM											
014	6	N/R	N/R	N/R	N/R	100	100 PF	1	SS	FAIL	135	N/R	INPUT
	REMARK: 135 VOLTS IS AN AVERAGE OF AN UNKNWON NUMBER OF DEVICES. FAILURE CRITERIA: GREATER THAN 200MA AT 5.2VCC & GREATER THAN 10NA AT 3.8 V SWITCHING PT												
014	12	N/R	N/R	N/R	N/R	100	100 PF	1	SS	FAIL	200	N/R	INPUT
	REMARK: 200 VOLTS IS AN AVERAGE OF AN UNKNOWN NUMBER OF DEVICES. FAILURE CRITERIA: GREATER THEN 200MA AT 5.2 VCC & GREATER THAN 10 NA AT 3.8V SWITCHING PT.												
014	13	N/R	N/R	N/R	N/R	100	100 PF	1	SS	FAIL	420	N/R	INPUT
	REMARK: 420 VOLTS IS AN AVERAGE OF AN UNKNOWN NUMBER OF DEVICES. FAILURE CRITERIA: GREATER THEN 200MA AT 5.2 VCC & GREATER THAN 10 NA AT 3.8V SWITCHING PT.												
015	2	N/R	N/R	N/R	N/R	1000	100 PF	1	SS	FAIL	200	N/R	N/R
	REMARK: 200 VOLTS IS AN AVERAGE OF AN UNKNOWN NUMBER OF DEVICES. FAILURE CRITERIA: GREATER THAN 200MA AT 5.2VCC & GREATER THAN 10 NA AT 3.8 V SWITCHING PT.												
015	3	N/R	N/R	N/R	N/R	1000	100 PF	1	SS	FAIL	500	N/R	N/R
	REMARK: 500 VOLTS IS AN AVERAGE OF AN UNKNWON NUMBER OF DEVICES. FAILURE CRITERIA: GREATER THAN 200MA AT 5.2VCC & GREATER THAN 10 NA AT 3.8 V SWITCHING PT.												
015	4	N/R	N/R	N/R	N/R	1000	100 PF	1	SS	FAIL	1000	N/R	N/R
	REMARK: 1000 VOLTS IS AN AVERAGE OF AN UNKNOWN NUMBER OF DEVICES. FAILURE CRITERIA: GREATER THAN 200MA AT 5.2VCC & GREATER THAN 10 NA AT 3.8 V SWITCHING PT.												
016	2	N/R	N/R	N/R	N/R	10K	100 PF	1	SS	FAIL	700	N/R	N/R
	REMARK: 700 VOLTS IS AN AVERAGE OF AN UNKNOWN NUMBER OF DEVICES. FAILURE CRITERIA: GREATER THAN 200MA AT 5.2 VCC & GREATER THAN 10NA AT 3.8 V SWITCHING PT.												
016	3	N/R	N/R	N/R	N/R	10K	100 PF	1	SS	FAIL	1830	N/R	N/R
	REMARK: 1830 VOLTS IS AN AVERAGE OF AN UNKNOWN NUMBER OF DEVICES. FAILURE CRITERIA: GREATER THAN 200MA AT 5.2 VCC & GREATER THAN 10NA AT 3.8 V SWITCHING PT.												
016	4	N/R	N/R	N/R	N/R	10K	100 PF	1	SS	FAIL	2100	N/R	N/R
	REMARK: 2100 VOLTS IS AN AVERAGE OF AN UNKNOWN NUMBER OF DEVICES. FAILURE CRITERIA: GREATER THAN 200MA AT 5.2 VCC & GREATER THAN 10NA AT 3.8 V SWITCHING PT.												

SECTION 2B

DETAILED DISCRETE COMPONENT SUSCEPTIBILITY TEST DATA

DEVICE TYPE: DIODES

BASIC PART NUMBER	DESCRIPTION														
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
FD777F		SWITCHING DIODE											
029	109	FAIRCHILD SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1017	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL												
LMA351		VOLTAGE REFERENCE DIODE											
029	110	CODI SEMICONDUCTOR	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	126405	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
LVA356		VOLTAGE REFERENCE DIODE											
048	5	N/R	N/R	N/R	N/R	100	218 PF	1	SS	PASS	3000	1	N/R
	FAILURE CRITERIA: 50% DROP IN REVERSE VOLTAGE AT IR=5UA												
LVA51A		VOLTAGE REFERENCE DIODE											
029	111	TRW	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	124453	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
LVA91A		VOLTAGE REFERENCE DIODE											
029	112	TRW	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	93922	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
MR501		GENERAL PURPOSE DIODE											
029	113	MOTOROLA SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	9962	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
SD241		SCHOTTKY POWER RECTIFIER											
026	38	TRW	N/R	N/R	FEB 81	100	200 PF	1	SS	FAIL	1400	4	C(+) A(-)
	REMARK: OF 4 DEVICES FAILURE VOLTAGE WAS FROM 1400V TO 6000V FAILURE CRITERIA: CHANGE IN IR OF 500% AT VR=35V												
TI551		DIODES											
048	3	N/R	N/R	N/R	N/R	100	218 PF	1	SS	FAIL	450	1	N/R
	FAILURE CRITERIA: 50% DROP IN REVERSE VOLTAGE AT IR=5UA												
1N1095		GENERAL PURPOSE DIODE											
029	114	TEXAS INSTRUMENTS	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	12868	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
1N1124A		GENERAL PURPOSE DIODE											
029	115	SYNTRON	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	31200	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												

DEVICE TYPE: DIODES
(CONTINUED)

BASIC PART NUMBER	SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
1N1126A			GENERAL PURPOSE DIODE											
	029	116	SYNTRON	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	93741	1	N/R
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
1N1202A			POWER RECTIFIER											
	029	117	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	55813	1	N/R
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
	030	600	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	10000	1	N/R
		FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
1N1202A1			POWER RECTIFIER											
	029	118	BENDIX	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	90397	1	N/R
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
1N1204A			POWER RECTIFIER											
	232	59	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	108139	1	N/R
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												
1N1206			POWER RECTIFIER											
	029	119	SYNTRON	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	92874	1	N/R
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
1N1614			GENERAL PURPOSE DIODE											
	029	120	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	70874	1	N/R
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
1N1615			GENERAL PURPOSE DIODE											
	029	121	SYNTRON	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	88705	1	N/R
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
1N1733A			GENERAL PURPOSE DIODE											
	029	122	TRW	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	32958	1	N/R
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
1N21B1			MICROWAVE DIODES											
	029	123	ALPHA INDUSTRIES	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1193	1	N/R
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
1N21C1			MICROWAVE DIODES											
	029	124	ALPHA INDUSTRIES	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1550	1	N/R
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												

DEVICE TYPE: DIODES
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION															
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
1N21E1		MICROWAVE DIODES											
029	125	ALPHA INDUSTRIES	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1579	1	N/R
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.											
1N21F1		MICROWAVE DIODES											
029	126	ALPHA INDUSTRIES	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1334	1	N/R
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.											
1N21WE1		MICROWAVE DIODES											
029	127	ALPHA INDUSTRIES	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1266	1	N/R
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.											
1N2158		GENERAL PURPOSE DIODE											
029	128	SYNTRON	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	146346	1	N/R
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.											
1N23B1		MICROWAVE DIODES											
029	129	ALPHA INDUSTRIES	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1193	1	N/R
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.											
1N23D1		MICROWAVE DIODES											
029	130	ALPHA INDUSTRIES	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1033	1	N/R
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.											
1N23E1		MICROWAVE DIODES											
029	131	ALPHA INDUSTRIES	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1550	1	N/R
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.											
1N23F1		MICROWAVE DIODES											
029	132	ALPHA INDUSTRIES	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	943	1	N/R
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.											
1N23G1		MICROWAVE DIODES											
029	133	ALPHA INDUSTRIES	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	870	1	N/R
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.											
1N23RF		MICROWAVE DIODES											
029	134	ALPHA INDUSTRIES	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	915	1	N/R
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.											

DEVICE TYPE: DIODES
(CONTINUED)

BASIC PART NUMBER	SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
1N23WE			POINT CONTACT DIODE											
	029	135	ALPHA INDUSTRIES	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	508	1	N/R
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
	026	25	N/R	N/R	N/R	JAN 78	100	200 PF	1	SS	FAIL	56	4	C(+) A(-)
		REMARK: VOLTAGE IS AN AVERAGE OF 4 DEVICES FAILURE CRITERIA: IL AT VR = .5V +300%												
1N25			MICROWAVE DIODES											
	029	136	ALPHA INDUSTRIES	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	4812	1	N/R
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
1N25A1			MICROWAVE DIODES											
	029	137	ALPHA INDUSTRIES	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	3402	1	N/R
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
1N251			MICROWAVE DIODES											
	029	138	ALPHA INDUSTRIES	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	2233	1	N/R
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
1N253			GENERAL PURPOSE DIODE											
	029	139	TRANSITION ELEC. CORP.	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	23347	1	N/R
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
1N2701			GENERAL PURPOSE DIODE											
	029	140	ITT SEMICONDUCTOR	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	2624	1	N/R
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
1N277			GENERAL PURPOSE DIODE											
	029	141	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1792	1	N/R
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
1N2804B			VOLTAGE REFERENCE DIODE											
	030	601	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	PASS	15300	1	N/R
		FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
1N2813B			VOLTAGE REFERENCE DIODE											
	030	602	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	PASS	15300	1	N/R
		FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
1N2816B			VOLTAGE REFERENCE DIODE											
	030	603	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	PASS	15300	1	N/R
		FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												

DEVICE TYPE: DIODES
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION														
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
1N2929A		TUNNEL DIODE											
029	142	CENTRALAB	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	8063	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
1N2970B		VOLTAGE REFERENCE DIODE											
029	143	CENTRALAB	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	144367	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
1N2984B		VOLTAGE REFERENCE DIODE											
029	144	CENTRALAB	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	211692	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
1N2985B		VOLTAGE REFERENCE DIODE											
029	145	CENTRALAB	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	120865	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
1N2985RB		VOLTAGE REFERENCE DIODE											
029	146	MOTOROLA SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	152760	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
1N2988B		VOLTAGE REFERENCE DIODE											
029	147	CENTRALAB	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	155728	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
1N2989B		VOLTAGE REFERENCE DIODE											
029	148	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	161151	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
1N2991B		VOLTAGE REFERENCE DIODE											
029	149	CENTRALAB	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	176527	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
1N3015B		VOLTAGE REFERENCE DIODE											
029	150	CENTRALAB	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	191984	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
1N3017B		VOLTAGE REFERENCE DIODE											
029	151	CENTRALAB	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	96791	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL												

DEVICE TYPE: DIODES
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION														
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
1N3019B		VOLTAGE REFERENCE DIODE											
029	152	CENTRALAB	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	154045	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL												
1N3022B		VOLTAGE REFERENCE DIODE											
029	153	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	110268	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL												
1N3025B		VOLTAGE REGULATOR DIODE											
030	690	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	15000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
1N3031B		VOLTAGE REFERENCE DIODE											
029	154	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	156428	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL												
1N3035B		VOLTAGE REFERENCE DIODE											
029	155	CENTRALAB	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	194957	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
1N3037B		VOLTAGE REFERENCE DIODE											
029	156	CENTRALAB	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	202154	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
1N3040B		VOLTAGE REFERENCE DIODE											
029	157	CENTRALAB	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	247209	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
1N3047B1		ZENER DIODE											
029	158	INTNTL. RECTIFIER CORP	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	71606	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
1N3064		SWITCHING DIODE											
029	159	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	8813	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
1N30641		SWITCHING DIODE											
029	160	RAYTHEON	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	23216	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												

DEVICE TYPE: DIODES
(CONTINUED)

BASIC PART NUMBER	SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
1N3155			VOLTAGE REFERENCE DIODE											
	030	691	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	15000	1	N/R
			FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%											
1N3157			VOLTAGE REFERENCE DIODE											
	029	161	DICKSON ELEC. CORP.	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	185703	1	N/R
			REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL											
1N3189			GENERAL PURPOSE DIODE											
	029	162	GENERAL ELECTRIC	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	71986	1	N/R
			REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.											
1N31911			GENERAL PURPOSE DIODE											
	029	163	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	26595	1	N/R
			REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.											
1N3323B			VOLTAGE REFERENCE DIODE											
	232	60	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	22943	1	N/R
			REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)											
1N34A			GENERAL PURPOSE DIODE											
	029	164	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1672	1	N/R
			REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.											
1N3595			DIODES											
	232	61	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	4440	1	N/R
			REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)											
1N35951			GENERAL PURPOSE DIODE											
	029	165	FAIRCHILD SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	14356	1	N/R
			REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.											
1N3600			SWITCHING DIODE											
	029	166	FAIRCHILD SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	9476	1	N/R
			REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.											
	029	167	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	9558	1	N/R
			REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.											
	030	692	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	9000	1	N/R
			FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%											
	232	62	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	2787	1	N/R
			REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)											

DEVICE TYPE: DIODES
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION														
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
1N36001		SWITCHING DIODE											
029	168	FAIRCHILD SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	7312	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
1N3821A		VOLTAGE REFERENCE DIODE											
029	169	DICKSON ELEC. CORP.	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	103218	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
1N3828A		VOLTAGE REFERENCE DIODE											
029	170	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	92159	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
1N3910		SWITCHING DIODE											
030	604	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	12000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
1N4003		GENERAL PURPOSE DIODE											
029	171	MOTOROLA SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	35426	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
1N4004		POWER RECTIFIER											
030	693	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	7000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
1N40051		GENERAL PURPOSE DIODE											
029	172	MOTOROLA SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	3697	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
1N4006		GENERAL PURPOSE DIODE											
029	173	MOTOROLA SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	5369	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
1N4099		VOLTAGE REGULATOR DIODE											
232	63	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	7871	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												
026	20	N/R	N/R	N/R	JAN 78	100	200 PF	1	SS	FAIL	6000	4	C(+) A(-)
	REMARK: VOLTAGE IS AN AVERAGE OF 4 DEVICES FAILURE CRITERIA: IZ AT VR= 6.5V +1000% CHANGE												
1N4100		VOLTAGE REFERENCE DIODE											
232	64	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	7854	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												

DEVICE TYPE: DIODES
(CONTINUED)

BASIC PART NUMBER / SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
1N4101		VOLTAGE REFERENCE DIODE											
232	65	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	7838	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												
1N4103		VOLTAGE REGULATOR DIODE											
030	694	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	15000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
232	66	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	7590	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												
1N4112		VOLTAGE REFERENCE DIODE											
232	1	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	7608	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												
1N4114		VOLTAGE REFERENCE DIODE											
232	2	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	7562	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												
1N4116		VOLTAGE REFERENCE DIODE											
232	3	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	7471	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												
1N4120		VOLTAGE REFERENCE DIODE											
232	4	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	7337	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												
1N4121		VOLTAGE REFERENCE DIODE											
232	5	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	7271	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												
1N4123		VOLTAGE REFERENCE DIODE											
232	6	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	7142	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												
1N4124		VOLTAGE REFERENCE DIODE											
232	7	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	7057	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												
1N4125		VOLTAGE REFERENCE DIODE											
232	8	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	6973	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												

DEVICE TYPE: DIODES
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION														
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
1N4126		VOLTAGE REFERENCE DIODE											
232	9	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	6891	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												
1N4127		VOLTAGE REFERENCE DIODE											
232	10	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	6790	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												
1N4129		VOLTAGE REFERENCE DIODE											
232	11	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	6671	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												
1N4130		VOLTAGE REFERENCE DIODE											
232	12	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	6555	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												
1N4131		VOLTAGE REFERENCE DIODE											
232	13	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	6423	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												
1N4132		VOLTAGE REFERENCE DIODE											
232	14	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	6294	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												
1N4134		VOLTAGE REFERENCE DIODE											
232	15	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	6135	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												
1N4148		SWITCHING DIODE											
029	174	FAIRCHILD SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1189	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
030	695	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	4500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
1N4148-1		SWITCHING DIODE											
030	605	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	PASS	4500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
1N4150		SWITCHING DIODE											
232	16	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	2787	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												

DEVICE TYPE: DIODES
(CONTINUED)

BASIC PART NUMBER / SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
1N4150-1		SWITCHING DIODE											
030	606	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	4500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
026	22	GENERAL ELECTRIC	N/R	N/R	JAN 78	100	200 PF	1	SS	FAIL	3875	4	C(+) A(-)
	REMARK: VOLTAGE IS AN AVERAGE OF 4 DEVICES FAILURE CRITERIA: IL AT VR = 50V +1000% CHANGE												
1N4151		SWITCHING DIODE											
048	4	N/R	N/R	N/R	N/R	100	218 PF	1	SS	PASS	3000	1	N/R
	FAILURE CRITERIA: 50% DROP IN REVERSE VOLTAGE AT IR=5UA												
1N41521		SWITCHING DIODE											
029	175	FAIRCHILD SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	4077	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
1N4153-1		SWITCHING DIODE											
232	17	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	2625	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												
1N41541		SWITCHING DIODE											
029	176	FAIRCHILD SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	3293	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
1N416G1		MICROWAVE DIODES											
029	177	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1910	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
1N42441		SWITCHING DIODE											
029	178	FAIRCHILD SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1418	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
1N429		VOLTAGE REFERENCE DIODE											
029	179	CENTRALAB	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	22809	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
1N4370		VOLTAGE REFERENCE DIODE											
029	180	TRANSITION ELEC. CORP.	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	107626	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
1N4385		GENERAL PURPOSE DIODE											
029	181	ITT SEMICONDUCTOR	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	16674	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												

DEVICE TYPE: DIODES
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION														
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
1N44501		SWITCHING DIODE											
029	182	FAIRCHILD SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	5889	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
1N4454		SWITCHING DIODE											
232	18	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	2625	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												
1N4465		VOLTAGE REGULATOR DIODE											
030	607	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	PASS	15300	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
1N4467		VOLTAGE REGULATOR DIODE											
030	608	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	PASS	15300	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
1N4469		VOLTAGE REGULATOR DIODE											
030	609	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	PASS	15300	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
1N4471		VOLTAGE REGULATOR DIODE											
030	610	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	PASS	15300	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
1N4474		VOLTAGE REGULATOR DIODE											
030	611	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	PASS	15300	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
1N4476		VOLTAGE REGULATOR DIODE											
030	612	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	PASS	15300	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
1N4561		GENERAL PURPOSE DIODE											
029	183	FAIRCHILD SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	13624	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
1N457		GENERAL PURPOSE DIODE											
029	184	FAIRCHILD SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	7437	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												

DEVICE TYPE: DIODES
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION														
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
1N459		GENERAL PURPOSE DIODE											
029	185	TEXAS INSTRUMENTS	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	15090	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
030	684	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	12000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
048	1	N/R	N/R	N/R	N/R	100	218 PF	1	SS	PASS	3000	1	N/R
	FAILURE CRITERIA: 50% DROP IN REVERSE VOLTAGE AT IR=5UA												
1N459A		GENERAL PURPOSE DIODE											
029	186	TRW	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	20969	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
1N4614		VOLTAGE REGULATOR DIODE											
030	696	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	15000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
1N4624		VOLTAGE REGULATOR DIODE											
030	613	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	PASS	15300	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
1N4625		VOLTAGE REGULATOR DIODE											
030	614	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	PASS	15300	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
1N4626		VOLTAGE REGULATOR DIODE											
030	615	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	PASS	15300	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
1N4627		VOLTAGE REGULATOR DIODE											
030	616	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	PASS	15300	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
1N4679		VOLTAGE REGULATOR DIODE											
030	617	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	PASS	15300	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
1N4683		VOLTAGE REGULATOR DIODE											
030	618	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	PASS	15300	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												

DEVICE TYPE: DIODES
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION														
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
1N4686		VOLTAGE REGULATOR DIODE											
030	619	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	PASS	15300	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
1N4689		VOLTAGE REGULATOR DIODE											
030	620	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	PASS	15300	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
1N4691		VOLTAGE REGULATOR DIODE											
030	621	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	PASS	15300	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
1N4693		VOLTAGE REGULATOR DIODE											
030	622	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	PASS	15300	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
1N4696		VOLTAGE REGULATOR DIODE											
030	623	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	PASS	15300	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
1N4697		VOLTAGE REGULATOR DIODE											
030	624	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	PASS	15300	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
1N47271		SWITCHING DIODE											
029	187	FAIRCHILD SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	6399	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
1N482A		GENERAL PURPOSE DIODE											
029	188	TRANSITION ELEC. CORP.	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	27498	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
1N4821		GENERAL PURPOSE DIODE											
029	189	FAIRCHILD SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	11155	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
1N483B		GENERAL PURPOSE DIODE											
029	190	TRANSITION ELEC. CORP.	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	28562	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												

DEVICE TYPE: DIODES
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION														
SRC. CODE	SEQ.: NUM.:	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
1N484A		GENERAL PURPOSE DIODE											
029	191	TRANSITION ELEC. CORP.	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	14589	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
1N486		GENERAL PURPOSE DIODE											
029	192	TRANSITION ELEC. CORP.	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	7374	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
1N486B		DIODES											
232	51	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	3224	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												
1N4905A		VOLTAGE REFERENCE DIODE											
030	697	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	15000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
1N4937		SWITCHING DIODE											
029	193	MOTOROLA SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	10054	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
1N4938		SWITCHING DIODE											
232	19	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	5827	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												
1N4942		SWITCHING DIODE											
232	20	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	23868	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												
1N4944		SWITCHING DIODE											
232	21	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	24771	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												
1N4946		SWITCHING DIODE											
232	22	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	21703	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												
1N4948		SWITCHING DIODE											
232	23	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	15873	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												

DEVICE TYPE: DIODES
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION														
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
1N4954		VOLTAGE REGULATOR DIODE											
030	625	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	PASS	15300	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
1N4955		VOLTAGE REGULATOR DIODE											
030	626	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	PASS	15300	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
1N4956		VOLTAGE REGULATOR DIODE											
030	627	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	PASS	15300	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
1N4957		VOLTAGE REGULATOR DIODE											
030	628	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	PASS	15300	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
1N4958		VOLTAGE REGULATOR DIODE											
030	629	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	PASS	15300	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
1N4960		VOLTAGE REGULATOR DIODE											
030	630	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	PASS	15300	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
1N4962		VOLTAGE REGULATOR DIODE											
030	631	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	PASS	15300	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
1N4964		VOLTAGE REGULATOR DIODE											
030	632	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	PASS	15300	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
1N4967		VOLTAGE REGULATOR DIODE											
030	633	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	PASS	15300	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
1N4969		VOLTAGE REGULATOR DIODE											
030	634	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	PASS	15300	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												

DEVICE TYPE: DIODES
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION														
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
1N4971		VOLTAGE REGULATOR DIODE											
030	635	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	PASS	15300	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
1N4972		VOLTAGE REGULATOR DIODE											
030	636	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	PASS	15300	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
1N4974		VOLTAGE REGULATOR DIODE											
030	637	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	PASS	15300	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
1N4976		VOLTAGE REGULATOR DIODE											
030	638	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	PASS	15300	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
1N4979		VOLTAGE REGULATOR DIODE											
030	639	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	PASS	15300	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
1N5139A		VARIABLE CAPACITANCE DIODE (VARACTOR)											
232	24	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	5600	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												
026	24	MOTOROLA SEMI	N/R	N/R	JAN 78	100	200 PF	1	SS	FAIL	513	4	C(+) A(-)
	REMARK: VOLTAGE IS AN AVERAGE OF 4 DEVICES FAILURE CRITERIA: IL AT VR = 50V +1000% CHANGE												
1N5140A		VARIABLE CAPACITANCE DIODE (VARACTOR)											
232	25	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	7010	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												
1N5144A		VARIABLE CAPACITANCE DIODE (VARACTOR)											
232	26	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	11090	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												
1N5148A		VARIABLE CAPACITANCE DIODE (VARACTOR)											
232	27	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	16758	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												
1N5187		SWITCHING DIODE											
232	28	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	68381	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												

DEVICE TYPE: DIODES
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION														
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
1N5188		SWITCHING DIODE											
232	29	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	75226	1	N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)													
1N5190		SWITCHING DIODE											
232	30	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	74897	1	N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)													
1N5233		ZENER DIODE											
029	194	MOTOROLA SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	84112	1	N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.													
1N5285		CURRENT REGULATOR DIODE											
026	23	MOTOROLA SEMI	N/R	N/R	JAN 78	100	200 PF	1	SS	FAIL	1950	4	A(+) C(-)
REMARK: VOLTAGE IS AN AVERAGE OF 4 DEVICES FAILURE CRITERIA: IL AT VR = 50V +1000% CHANGE													
1N5287		CURRENT REGULATOR DIODE											
029	195	MOTOROLA SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	104875	1	N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.													
1N5291		CURRENT REGULATOR DIODE											
030	640	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	PASS	15300	1	N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%													
1N5356		ZENER DIODE											
029	196	MOTOROLA SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	156131	1	N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.													
1N537		GENERAL PURPOSE DIODE											
029	197	TEXAS INSTRUMENTS	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	16914	1	N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.													
1N537B		ZENER DIODE											
029	198	MOTOROLA SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	17904	1	N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.													
1N538B		GENERAL PURPOSE DIODE											
029	199	GENERAL INSTRUMENTS	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	78542	1	N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.													

DEVICE TYPE: DIODES
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION														
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
1N5391		GENERAL PURPOSE DIODE											
029	200	TEXAS INSTRUMENTS	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	17121	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
1N540		GENERAL PURPOSE DIODE											
029	201	TEXAS INSTRUMENTS	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	14985	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
1N5416		SWITCHING DIODE											
232	31	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	64333	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												
1N5417		FAST RECOVERY RECTIFIER											
030	698	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	6000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
232	32	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	62028	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												
1N5418		FAST RECOVERY RECTIFIER											
232	33	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	62087	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												
026	21	N/R	N/R	N/R	JAN 78	100	200 PF	1	SS	FAIL	6000	4	C(+) A(-)
	REMARK: VOLTAGE IS AN AVERAGE OF 4 DEVICES FAILURE CRITERIA: IL AT VR = 50V +1000% CHANGE												
1N5420		SWITCHING DIODE											
030	641	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	PASS	15300	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
030	699	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	9000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
1N5463B		VARIABLE CAPACITANCE DIODE (VARACTOR)											
232	34	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	5465	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												
1N5467B		VARIABLE CAPACITANCE DIODE (VARACTOR)											
232	35	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	8126	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												
1N547		GENERAL PURPOSE DIODE											
029	202	TEXAS INSTRUMENTS	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	76707	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												

DEVICE TYPE: DIODES
(CONTINUED)

BASIC PART NUMBER	SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
1N5476B			VARIABLE CAPACITANCE DIODE (VARACTOR)											
	232	36	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	18736	1	N/R
			REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)											
1N5523B			VOLTAGE REGULATOR DIODE											
	030	700	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	15000	1	N/R
			FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%											
1N553			SWITCHING DIODE											
	232	39	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	68061	1	N/R
			REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)											
1N5550			SWITCHING DIODE											
	232	37	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	47043	1	N/R
			REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)											
1N5552			POWER RECTIFIER											
	030	642	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	5000	1	N/R
			FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%											
	232	38	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	53765	1	N/R
			REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)											
1N55521			SWITCHING DIODE											
	029	203	SEMTECH CORP.	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	34779	1	N/R
			REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.											
1N5554			SWITCHING DIODE											
	232	40	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	54348	1	N/R
			REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)											
1N5555			TRANSIENT SUPPRESSOR DIODE											
	030	643	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	PASS	15300	1	N/R
			FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%											
1N5556			TRANSIENT SUPPRESSOR DIODE											
	029	204	GENERAL SEMICONDUCTOR	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	188033	1	N/R
			REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.											
1N5558			TRANSIENT SUPPRESSOR DIODE											
	030	644	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	PASS	15300	1	N/R
			FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%											

DEVICE TYPE: DIODES
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION														
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
1N5614		POWER RECTIFIER											
030	645	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	8000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
232	41	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	23868	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												
1N56141		SWITCHING DIODE											
029	205	SEMTECH CORP.	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	11990	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
1N5615		POWER RECTIFIER											
030	646	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	9000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
232	42	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	23868	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												
1N5616		SWITCHING DIODE											
232	43	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	24771	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												
1N56161		SWITCHING DIODE											
029	206	SEMTECH CORP.	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	11403	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
1N5617		SWITCHING DIODE											
232	44	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	24771	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												
1N5618		SWITCHING DIODE											
232	45	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	21703	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												
1N5619		SWITCHING DIODE											
232	46	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	21703	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												
1N5622		SWITCHING DIODE											
232	47	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	15868	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												

DEVICE TYPE: DIODES
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION														
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
1N5623		SWITCHING DIODE											
232	48	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	17775	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												
1N5711		SCHOTTKY BARRIER (HOT CARRIER) DIODE											
030	647	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	2500	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
232	49	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	2452	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												
277	1	HEWLETT PACKARD	N/R	8016	N/R	1500	100 PF	200	GN	PASS	275	1	C(+) A(-)
	FAILURE CRITERIA: IR AND/OR VB OUT OF SPEC.												
278	1	HEWLETT PACKARD	N/R	8016	N/R	1500	100 PF	65	GN	PASS	300	1	C(+) A(-)
	FAILURE CRITERIA: IR AND/OR VB OUT OF SPEC.												
278	2	HEWLETT PACKARD	N/R	8016	N/R	1500	100 PF	500	GN	PASS	300	1	C(+) A(-)
	FAILURE CRITERIA: IR AND/OR VB OUT OF SPEC.												
278	3	HEWLETT PACKARD	N/R	8016	N/R	1500	100 PF	500	GN	PASS	300	8	C(+) A(-)
	FAILURE CRITERIA: IR AND/OR VB OUT OF SPEC.												
278	4	HEWLETT PACKARD	N/R	8016	N/R	1500	100 PF	1	GN	FAIL	300	1	C(+) A(-)
	FAILURE CRITERIA: IR AND VB OUT OF SPEC.												
278	5	HEWLETT PACKARD	N/R	8016	N/R	1500	100 PF	500	GN	FAIL	300	1	C(+) A(-)
	FAILURE CRITERIA: IR AND VB OUT OF SPEC.												
279	1	HEWLETT PACKARD	N/R	8016	N/R	1500	100 PF	10	GN	FAIL	325	1	C(+) A(-)
	FAILURE CRITERIA: IR AND VB OUT OF SPEC.												
279	2	HEWLETT PACKARD	N/R	8016	N/R	1500	100 PF	50	GN	FAIL	325	1	C(+) A(-)
	FAILURE CRITERIA: IR AND VB OUT OF SPEC.												
280	1	HEWLETT PACKARD	N/R	8016	N/R	1500	100 PF	37	GN	FAIL	350	1	C(+) A(-)
	FAILURE CRITERIA: IR AND VB OUT OF SPEC.												
280	2	HEWLETT PACKARD	N/R	8016	N/R	1500	100 PF	75	GN	FAIL	350	1	C(+) A(-)
	FAILURE CRITERIA: IR AND/OR VB OUT OF SPEC.												
281	1	HEWLETT PACKARD	N/R	8016	N/R	1500	100 PF	2	GN	FAIL	375	1	C(+) A(-)
	FAILURE CRITERIA: IR AND VB OUT OF SPEC.												
282	1	HEWLETT PACKARD	N/R	8016	N/R	1500	100 PF	7	GN	FAIL	400	1	C(+) A(-)
	FAILURE CRITERIA: IR AND VB OUT OF SPEC.												
282	2	HEWLETT PACKARD	N/R	8016	N/R	1500	100 PF	1	GN	FAIL	400	2	C(+) A(-)
	FAILURE CRITERIA: IR AND VB OUT OF SPEC.												
282	3	HEWLETT PACKARD	N/R	8016	N/R	1500	100 PF	8	GN	FAIL	400	1	C(+) A(-)
	FAILURE CRITERIA: IR AND VB OUT OF SPEC.												
282	4	HEWLETT PACKARD	N/R	8016	N/R	1500	100 PF	9	GN	FAIL	400	1	C(+) A(-)
	FAILURE CRITERIA: IR AND VB OUT OF SPEC.												
282	5	HEWLETT PACKARD	N/R	8016	N/R	1500	100 PF	20	GN	FAIL	400	1	C(+) A(-)
	FAILURE CRITERIA: VB OUT OF SPEC.												
282	6	HEWLETT PACKARD	N/R	8016	N/R	1500	100 PF	25	GN	FAIL	400	2	C(+) A(-)
	FAILURE CRITERIA: IR AND VB OUT OF SPEC.												
282	7	HEWLETT PACKARD	N/R	8016	N/R	1500	100 PF	60	GN	FAIL	400	1	C(+) A(-)
	FAILURE CRITERIA: IR AND VB OUT OF SPEC.												
282	8	HEWLETT PACKARD	N/R	8016	N/R	1500	100 PF	125	GN	FAIL	400	1	C(+) A(-)
	FAILURE CRITERIA: IR AND VB OUT OF SPEC.												
282	9	HEWLETT PACKARD	N/R	8016	N/R	1500	100 PF	200	GN	FAIL	400	1	C(+) A(-)
	FAILURE CRITERIA: IR AND VB OUT OF SPEC.												

DEVICE TYPE: DIODES
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
1N5711	(CONTINUED) SCHOTTKY BARRIER (HOT CARRIER) DIODE												
283	1	HEWLETT PACKARD	N/R	8016	N/R	1500	100 PF	5	GN	FAIL	450	1	C(+) A(-)
	FAILURE CRITERIA: IR AND VB OUT OF SPEC.												
283	2	HEWLETT PACKARD	N/R	8016	N/R	1500	100 PF	10	GN	FAIL	450	2	C(+) A(-)
	FAILURE CRITERIA: IR AND VB OUT OF SPEC.												
283	3	HEWLETT PACKARD	N/R	8016	N/R	1500	100 PF	2	GN	FAIL	450	1	C(+) A(-)
	FAILURE CRITERIA: IR AND VB OUT OF SPEC.												
283	4	HEWLETT PACKARD	N/R	8016	N/R	1500	100 PF	20	GN	FAIL	450	1	C(+) A(-)
	FAILURE CRITERIA: IR AND VB OUT OF SPEC.												
284	1	HEWLETT PACKARD	N/R	8016	N/R	1500	100 PF	1	GN	FAIL	500	1	C(+) A(-)
	FAILURE CRITERIA: IR AND VB OUT OF SPEC.												
284	2	HEWLETT PACKARD	N/R	8016	N/R	1500	100 PF	4	GN	FAIL	500	1	C(+) A(-)
	FAILURE CRITERIA: IR AND VB OUT OF SPEC.												
284	3	HEWLETT PACKARD	N/R	8016	N/R	1500	100 PF	1	GN	FAIL	500	4	C(+) A(-)
	FAILURE CRITERIA: IR AND VB OUT OF SPEC.												
284	4	HEWLETT PACKARD	N/R	8016	N/R	1500	100 PF	3	GN	FAIL	500	1	C(+) A(-)
	FAILURE CRITERIA: IR OUT OF SPEC.												
284	5	HEWLETT PACKARD	N/R	8016	N/R	1500	100 PF	3	GN	FAIL	500	1	C(+) A(-)
	FAILURE CRITERIA: IR AND VB OUT OF SPEC.												
284	6	HEWLETT PACKARD	N/R	8016	N/R	1500	100 PF	5	GN	FAIL	500	3	C(+) A(-)
	FAILURE CRITERIA: IR AND VB OUT OF SPEC.												
284	7	HEWLETT PACKARD	N/R	8016	N/R	1500	100 PF	9	GN	FAIL	500	1	C(+) A(-)
	FAILURE CRITERIA: IR AND VB OUT OF SPEC.												
285	1	HEWLETT PACKARD	N/R	8016	N/R	1500	100 PF	2	GN	FAIL	550	1	C(+) A(-)
	FAILURE CRITERIA: IR AND VB OUT OF SPEC.												
285	2	HEWLETT PACKARD	N/R	8016	N/R	1500	100 PF	3	GN	FAIL	550	1	C(+) A(-)
	FAILURE CRITERIA: IR AND VB OUT OF SPEC.												
285	3	HEWLETT PACKARD	N/R	8016	N/R	1500	100 PF	8	GN	FAIL	550	1	C(+) A(-)
	FAILURE CRITERIA: IR AND VB OUT OF SPEC.												
286	1	HEWLETT PACKARD	N/R	8016	N/R	1500	100 PF	1	GN	PASS	560	5	C(+) A(-)
	FAILURE CRITERIA: IR AND/OR VB OUT OF SPEC.												
286	2	HEWLETT PACKARD	N/R	8016	N/R	1500	100 PF	1	GN	FAIL	560	5	C(+) A(-)
	FAILURE CRITERIA: IR AND/OR VB OUT OF SPEC.												
287	1	HEWLETT PACKARD	N/R	8016	N/R	1500	100 PF	1	GN	FAIL	600	1	C(+) A(-)
	FAILURE CRITERIA: IR AND/OR VB OUT OF SPEC.												
287	2	HEWLETT PACKARD	N/R	8016	N/R	1500	100 PF	2	GN	FAIL	600	2	C(+) A(-)
	FAILURE CRITERIA: IR AND/OR VB OUT OF SPEC.												
287	3	HEWLETT PACKARD	N/R	8016	N/R	1500	100 PF	1	GN	FAIL	600	6	C(+) A(-)
	FAILURE CRITERIA: IR AND VB OUT OF SPEC.												
287	4	HEWLETT PACKARD	N/R	8016	N/R	1500	100 PF	3	GN	FAIL	600	2	C(+) A(-)
	FAILURE CRITERIA: IR AND VB OUT OF SPEC.												
287	5	HEWLETT PACKARD	N/R	8016	N/R	1500	100 PF	5	GN	FAIL	600	1	C(+) A(-)
	FAILURE CRITERIA: IR AND VB OUT OF SPEC.												
287	6	HEWLETT PACKARD	N/R	8016	N/R	1500	100 PF	8	GN	FAIL	600	1	C(+) A(-)
	FAILURE CRITERIA: IR AND VB OUT OF SPEC.												
289	1	HEWLETT PACKARD	N/R	8016	N/R	1500	100 PF	1	GN	FAIL	630	7	C(+) A(-)
	FAILURE CRITERIA: IR AND VB OUT OF SPEC.												
289	2	HEWLETT PACKARD	N/R	8016	N/R	1500	100 PF	1	GN	PASS	630	3	C(+) A(-)
	FAILURE CRITERIA: IR AND VB OUT OF SPEC.												

DEVICE TYPE: DIODES
(CONTINUED)

BASIC PART NUMBER	SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
1N5711 (CONTINUED) SCHOTTKY BARRIER (HOT CARRIER) DIODE														
	290	1	HEWLETT PACKARD	N/R	8016	N/R	1500	100 PF	1	GN	FAIL	650	1	C(+) A(-)
		FAILURE CRITERIA: IR AND VB OUT OF SPEC.												
	290	2	HEWLETT PACKARD	N/R	8016	N/R	1500	100 PF	2	GN	FAIL	650	1	C(+) A(-)
		FAILURE CRITERIA: IR AND VB OUT OF SPEC.												
	290	3	HEWLETT PACKARD	N/R	8016	N/R	1500	100 PF	4	GN	FAIL	650	1	C(+) A(-)
		FAILURE CRITERIA: IR AND VB OUT OF SPEC.												
	290	4	HEWLETT PACKARD	N/R	8016	N/R	1500	100 PF	1	GN	FAIL	650	2	C(+) A(-)
		FAILURE CRITERIA: IR AND VB OUT OF SPEC.												
	290	5	HEWLETT PACKARD	N/R	8016	N/R	1500	100 PF	4	GN	FAIL	650	1	C(+) A(-)
		FAILURE CRITERIA: IR AND VB OUT OF SPEC.												
	291	1	HEWLETT PACKARD	N/R	8016	N/R	1500	100 PF	1	GN	FAIL	675	1	C(+) A(-)
		FAILURE CRITERIA: IR AND VB OUT OF SPEC.												
	291	2	HEWLETT PACKARD	N/R	8016	N/R	1500	100 PF	3	GN	FAIL	675	1	C(+) A(-)
		FAILURE CRITERIA: IR AND VB OUT OF SPEC.												
	292	1	HEWLETT PACKARD	N/R	8016	N/R	1500	100 PF	1	GN	FAIL	700	3	C(+) A(-)
		FAILURE CRITERIA: IR AND VB OUT OF SPEC.												
	292	2	HEWLETT PACKARD	N/R	8016	N/R	1500	100 PF	1	GN	FAIL	700	2	C(+) A(-)
		FAILURE CRITERIA: IR AND VB OUT OF SPEC.												
	292	3	HEWLETT PACKARD	N/R	8016	N/R	1500	100 PF	1	GN	FAIL	700	1	C(+) A(-)
		FAILURE CRITERIA: IR OUT OF SPEC.												
	292	4	HEWLETT PACKARD	N/R	8016	N/R	1500	100 PF	2	GN	FAIL	700	4	C(+) A(-)
		FAILURE CRITERIA: IR AND VB OUT OF SPEC.												
	292	5	HEWLETT PACKARD	N/R	8016	N/R	1500	100 PF	3	GN	FAIL	700	1	C(+) A(-)
		FAILURE CRITERIA: IR OUT OF SPEC.												
	292	6	HEWLETT PACKARD	N/R	8016	N/R	1500	100 PF	3	GN	FAIL	700	1	C(+) A(-)
		FAILURE CRITERIA: IR AND VB OUT OF SPEC.												
	292	7	HEWLETT PACKARD	N/R	8016	N/R	1500	100 PF	5	GN	FAIL	700	1	C(+) A(-)
		FAILURE CRITERIA: IR AND VB OUT OF SPEC.												
	026	39	HEWLETT PACKARD	N/R	N/R	FEB 81	100	200 PF	1	SS	FAIL	100	4	C(+) A(-)
		REMARK: VOLTAGE IS AN AVERAGE OF 4 DEVICES			FAILURE CRITERIA: CHANGE IN IR OF +500% AT VR = 50V									
	028	1	N/R	N/R	N/R	N/R	1500	117 PF	30	SS	FAIL	300	5	N/R
		FAILURE CRITERIA: IR=300UA AT 50V												
1N5712 SCHOTTKY BARRIER (HOT CARRIER) DIODE														
	232	50	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1293	1	N/R
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												
1N64 GENERAL PURPOSE DIODE														
	029	207	AMPEREX ELECTRONICS	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	4829	1	N/R
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
1N643A SWITCHING DIODE														
	029	208	TRW	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	3823	1	N/R
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												

DEVICE TYPE: DIODES
(CONTINUED)

BASIC PART NUMBER / SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
1N645		GENERAL PURPOSE DIODE											
029	209	ITT SEMICONDUCTOR	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	16543	1	N/R
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.											
029	210	TEXAS INSTRUMENTS	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	13591	1	N/R
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.											
030	685	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	3800	1	N/R
		FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%											
1N645-1		LOW POWER RECTIFIER											
030	579	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	3800	1	N/R
		FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%											
1N646		LOW POWER RECTIFIER											
029	211	TEXAS INSTRUMENTS	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	32048	1	N/R
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.											
1N647		LOW POWER RECTIFIER											
029	212	TEXAS INSTRUMENTS	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	41545	1	N/R
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.											
232	52	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	21384	1	N/R
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)											
1N647-1		LOW POWER RECTIFIER											
030	580	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	3800	1	N/R
		FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%											
1N6471		LOW POWER RECTIFIER											
029	214	TRW	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	41067	1	N/R
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.											
1N649		LOW POWER RECTIFIER											
232	53	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	7187	1	N/R
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)											
1N658		SWITCHING DIODE											
029	345	FAIRCHILD SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	22818	1	N/R
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.											
1N6601		SWITCHING DIODE											
029	215	FAIRCHILD SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	7597	1	N/R
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.											

DEVICE TYPE: DIODES
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION														
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
1N661		SWITCHING DIODE											
029	216	TEXAS INSTRUMENTS	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	12421	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
1N6621		SWITCHING DIODE											
029	217	FAIRCHILD SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	10893	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
1N702A		ZENER DIODE											
029	218	TEXAS INSTRUMENTS	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	29131	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
1N711A		ZENER DIODE											
029	219	CENTRALAB	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	42034	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
1N746A		VOLTAGE REGULATOR DIODE											
029	220	NUCLEONIC PROD	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	35564	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
1N750A		VOLTAGE REGULATOR DIODE											
029	221	TEXAS INSTRUMENTS	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	50167	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
030	581	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	PASS	15300	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
1N751A		VOLTAGE REGULATOR DIODE											
029	222	TEXAS INSTRUMENTS	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	318002	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
029	223	TEXAS INSTRUMENTS	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	73190	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
030	582	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	PASS	15300	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
1N752A		VOLTAGE REGULATOR DIODE											
029	224	TRANSITION ELEC. CORP.	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	110477	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
030	583	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	PASS	15300	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												

DEVICE TYPE: DIODES
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION													
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
1N753A		VOLTAGE REGULATOR DIODE											
029	225	TRANSITION ELEC. CORP.	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	111218	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
030	686	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	15000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
1N753A-1		VOLTAGE REGULATOR DIODE											
030	584	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	PASS	15300	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
1N754A		VOLTAGE REGULATOR DIODE											
029	226	NUCLEONIC PROD	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	31542	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
1N754A-1		VOLTAGE REGULATOR DIODE											
030	585	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	PASS	15300	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
1N755A		VOLTAGE REGULATOR DIODE											
029	227	TRANSITION ELEC. CORP.	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	131406	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
1N755A-1		VOLTAGE REGULATOR DIODE											
030	586	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	PASS	15300	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
1N756		VOLTAGE REGULATOR DIODE											
029	228	TRW	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	154666	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
1N756A		VOLTAGE REGULATOR DIODE											
030	587	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	PASS	15300	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
1N756A-1		VOLTAGE REGULATOR DIODE											
030	588	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	PASS	15300	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
1N757A		VOLTAGE REGULATOR DIODE											
029	229	TRANSITION ELEC. CORP.	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	77547	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												

DEVICE TYPE: DIODES
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION														
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
1N757A	(CONTINUED) VOLTAGE REGULATOR DIODE												
030	589	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	PASS	15300	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
1N757A-1	VOLTAGE REGULATOR DIODE												
030	590	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	PASS	15300	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
1N758A	VOLTAGE REGULATOR DIODE												
029	230	TRANSITION ELEC. CORP.	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	76779	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
030	591	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	PASS	15300	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
1N758A-1	VOLTAGE REGULATOR DIODE												
030	592	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	PASS	15300	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
1N759A	VOLTAGE REGULATOR DIODE												
030	593	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	PASS	15300	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
1N759A-1	VOLTAGE REGULATOR DIODE												
030	594	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	PASS	15300	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
1N763-2	ZENER DIODE												
029	231	DICKSON ELEC. CORP.	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	51343	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
1N78BI	MICROWAVE DIODES												
029	232	ALPHA INDUSTRIES	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	828	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
1N78CR1	MICROWAVE DIODES												
029	233	ALPHA INDUSTRIES	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1334	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
1N78D1	MICROWAVE DIODES												
029	234	ALPHA INDUSTRIES	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1266	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												

DEVICE TYPE: DIODES
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION														
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
1N781		MICROWAVE DIODES											
029	235	494	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1033	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
1N816		VOLTAGE REGULATOR DIODE											
029	236	TRANSITION ELEC. CORP.	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	36252	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
1N8161		GENERAL PURPOSE DIODE											
029	237	ITT SEMICONDUCTOR	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	67756	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
1N82A		POINT CONTACT DIODE											
029	238	NUCLEONIC PROD	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	579	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
1N82A1		POINT CONTACT DIODE											
029	239	ALPHA INDUSTRIES	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1200	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
1N821		VOLTAGE REFERENCE DIODE											
029	240	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	165166	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
030	595	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	PASS	15300	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
1N823		VOLTAGE REFERENCE DIODE											
029	241	TRANSITION ELEC. CORP.	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	39731	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
030	596	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	PASS	15300	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
1N827		VOLTAGE REFERENCE DIODE				6.4V							
026	19	N/R	N/R	N/R	JAN 78	100	200 PF	1	SS	FAIL	6000	4	C(+) A(-)
	REMARK: VOLTAGE IS AN AVERAGE OF 4 DEVICES FAILURE CRITERIA: IZ AT VR=5V +1000% CHANGE												
1N829		VOLTAGE REFERENCE DIODE											
030	597	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	PASS	15300	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
232	54	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	9080	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												

DEVICE TYPE: DIODES
(CONTINUED)

BASIC PART NUMBER / DESCRIPTION	SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
1N914 SWITCHING DIODE														
	029	242	TEXAS INSTRUMENTS	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	6256	1	N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.														
	030	687	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	11000	1	N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%														
1N9141 SWITCHING DIODE														
	029	243	FAIRCHILD SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	3653	1	N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.														
1N916 SWITCHING DIODE														
	048	2	N/R	N/R	N/R	N/R	100	218 PF	1	SS	FAIL	3000	1	N/R
FAILURE CRITERIA: 50% DROP IN REVERSE VOLTAGE AT IR=5UA														
1N933J GENERAL PURPOSE DIODE														
	029	244	TRANSITION ELEC. CORP.	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	5727	1	N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.														
1N938B VOLTAGE REFERENCE DIODE														
	232	55	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	5827	1	N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)														
1N941B SWITCHING DIODE														
	030	688	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	15000	1	N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%														
1N943B VOLTAGE REFERENCE DIODE														
	232	56	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	26556	1	N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)														
1N944B VOLTAGE REFERENCE DIODE														
	232	57	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	24770	1	N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)														
1N945B VOLTAGE REFERENCE DIODE														
	232	58	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	17762	1	N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)														
1N9568I VARIABLE CAPACITANCE DIODE (VARACTOR)														
	029	245	TRW	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	36551	1	N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.														

DEVICE TYPE: DIODES
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION														
SRC. CODE	SEQ.: NUM.:	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
1N963B		VOLTAGE REGULATOR DIODE											
029	246	DICKSON ELEC. CORP.	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	84847	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
1N964B		VOLTAGE REGULATOR DIODE											
029	247	FAIRCHILD SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	32725	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
1N965B		VOLTAGE REGULATOR DIODE											
029	248	DICKSON ELEC. CORP.	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	18131	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
1N965B-1		VOLTAGE REGULATOR DIODE											
030	598	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	PASS	15300	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
1N965B1		VOLTAGE REGULATOR DIODE											
029	249	MOTOROLA SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	39297	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
1N967		VOLTAGE REGULATOR DIODE											
029	250	MOTOROLA SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	24615	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
1N967B-1		VOLTAGE REGULATOR DIODE											
030	599	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	PASS	15300	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
1N968B		VOLTAGE REGULATOR DIODE											
030	689	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	15000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
1N970B		VOLTAGE REGULATOR DIODE											
029	251	DICKSON ELEC. CORP.	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	84360	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
1N972B		VOLTAGE REGULATOR DIODE											
029	252	DICKSON ELEC. CORP.	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	120865	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												

DEVICE TYPE: DIODES
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION													
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
1N973B		VOLTAGE REGULATOR DIODE											
029	253	HAUFMAN	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	730704	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
1N974B		VOLTAGE REGULATOR DIODE											
029	254	MOTOROLA SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	76205	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
1N981B		VOLTAGE REGULATOR DIODE											
029	255	MOTOROLA SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	32082	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
N/R		SCHOTTKY BARRIER (HOT CARRIER) DIODE											
014	9	N/R	N/R	N/R	N/R	100	100 PF	1	SS	FAIL	250	N/R	N/R
	REMARK: 250 VOLTS IS AN AVERAGE OF AN UNKNOWN NUMBER OF DEVICES. FAILURE CRITERIA: CHANGE IN I REVERSE												
015	9	N/R	N/R	N/R	N/R	1000	100 PF	1	SS	FAIL	1800	N/R	N/R
	REMARK: 1800 VOLTS IS AN AVERAGE OF AN UNKNOWN NUMBER OF DEVICES. FAILURE CRITERIA: CHANGE IN I REVERSE.												
016	9	N/R	N/R	N/R	N/R	10K	100 PF	1	SS	FAIL	3800	N/R	N/R
	REMARK: 3800 VOLTS IS AN AVERAGE OF AN UNKNOWN NUMBER OF DEVICES. FAILURE CRITERIA: CHANGE IN I REVERSE												

DEVICE TYPE: TRANSISTORS

BASIC PART NUMBER	DESCRIPTION														
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
SKA4504		TRANSISTORS											
014	11	TEKTRONIX	N/R	N/R	N/R	100	100 PF	1	SS	FAIL	475	N/R	B C
	REMARK: 475 VOLTS IS AN AVERAGE OF AN UNKNWON NUMBER OF DEVICES.												
015	6	TEKTRONIX	N/R	N/R	N/R	1000	100 PF	1	SS	FAIL	1900	N/R	B C
	REMARK: 1900 VOLTS IS AN AVERAGE OF AN UNKNOWN NUMBER OF DEVICES.												
016	6	N/R	N/R	N/R	N/R	10K	100 PF	1	SS	FAIL	5000	N/R	B C
	REMARK: 5000 VOLTS IS AN AVERAGE OF AN UNKNOWN NUMBER OF DEVICES.												
SKA6516		TRANSISTORS					JUNCTION CONTACT						
014	10	TEKTRONIX	N/R	N/R	N/R	100	100 PF	1	SS	FAIL	450	N/R	B C
	REMARK: 450 VOLTS IS AN AVERAGE OF AN UNKNWON NUMBER OF DEVICES.												
015	5	TEKTRONIX	N/R	N/R	N/R	1000	100 PF	1	SS	FAIL	1625	N/R	B C
	REMARK: 1625 VOLTS IS AN AVERAGE OF AN UNKNOWN NUMBER OF DEVICES.												
016	5	N/R	N/R	N/R	N/R	10K	100 PF	1	SS	FAIL	7800	N/R	B C
	REMARK: 7800 VOLTS IS AN AVERAGE OF AN UNKNOWN NUMBER OF DEVICES.												
SM692-1		PNP LOW POWER TRANSISTOR											
029	1	MOTOROLA SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1871	1	B(+) E(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
2N1016B		NPN HIGH POWER TRANSISTOR											
029	2	WESTINGHOUSE	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	37445	1	E(+) B(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
2N1039		PNP HIGH POWER TRANSISTOR, GERMANIUM											
029	3	TEXAS INSTRUMENTS	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	34323	1	B(+) E(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
2N1099		PNP HIGH POWER TRANSISTOR, GERMANIUM											
029	4	DELCO ELECTRONICS	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	27917	1	B(+) E(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
2N1115		PNP LOW POWER TRANSISTOR, GERMANIUM											
029	5	ELEC. TRANSISTOR CORP.	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	17911	1	B(+) E(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
2N1116A		NPN LOW POWER TRANSISTOR											
029	6	TRANSITION ELEC. CORP.	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	92846	1	E(+) B(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												

DEVICE TYPE: TRANSISTORS
(CONTINUED)

BASIC PART NUMBER	SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
2N1118	PNP LOW POWER TRANSISTOR													
	029	7	SPRAGUE ELECTRIC	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	13005	1	B(+) E(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.													
2N1132	PNP LOW POWER TRANSISTOR													
	029	8	FAIRCHILD SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	14066	1	B(+) E(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.													
2N1132A	PNP LOW POWER TRANSISTOR													
	029	9	FAIRCHILD SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	9185	1	B(+) E(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.													
	029	10	MOTOROLA SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	13423	1	B(+) E(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.													
	029	11	RAYTHEON	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	17906	1	B(+) E(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.													
2N1204	PNP LOW POWER TRANSISTOR, GERMANIUM													
	029	12	MOTOROLA SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	2787	1	B(+) E(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.													
2N1308	NPN LOW POWER TRANSISTOR, GERMANIUM													
	029	13	GENERAL INSTRUMENTS	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	8272	1	E(+) B(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.													
	029	14	TEXAS INSTRUMENTS	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1892	1	E(+) B(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.													
2N1469	PNP LOW POWER TRANSISTOR													
	029	15	SOLITRON DEVICES	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	23857	1	B(+) E(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.													
2N1485	NPN HIGH POWER TRANSISTOR													
	029	16	SENSITRON SEMI.	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	41077	1	E(+) B(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.													
2N1486	NPN HIGH POWER TRANSISTOR													
	029	17	SENSITRON SEMI.	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	36839	1	E(+) B(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.													
2N1613	NPN LOW POWER TRANSISTOR													
	029	20	MOTOROLA SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	29490	1	E(+) B(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.													

DEVICE TYPE: TRANSISTORS
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION																
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
2N1642		MISCELLANEOUS TRANSISTORS					SI BIDIRECTIONAL PNP						
029	21	TELEDYNE CRYSTALONICS	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	10756	1	B(+) E(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
2N1711		NPN LOW POWER TRANSISTOR											
029	22	FAIRCHILD SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	10411	1	E(+) B(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
029	23	MOTOROLA SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	10411	1	E(+) B(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
029	24	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	10337	1	E(+) B(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
2N176		PNP HIGH POWER TRANSISTOR, GERMANIUM											
029	25	MOTOROLA SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	31013	1	B(+) E(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
2N1893		NPN LOW POWER TRANSISTOR											
029	27	FAIRCHILD SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	18535	1	E(+) B(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
2N190		PNP LOW POWER TRANSISTOR, GERMANIUM											
029	28	ELEC. TRANSISTOR CORP.	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	22735	1	B(+) E(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
2N2060		NPN LOW POWER TRANSISTOR											
232	97	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	12225	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												
2N2102		NPN HIGH POWER TRANSISTOR											
029	29	NATIONAL SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	19499	1	E(+) B(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
2N2151		NPN HIGH POWER TRANSISTOR											
232	98	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	50408	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												
2N2198		NPN LOW POWER TRANSISTOR											
029	30	ELEC. TRANSISTOR CORP.	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	21886	1	E(+) B(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												

DEVICE TYPE: TRANSISTORS
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION														
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
2N2219A		NPN LOW POWER TRANSISTOR											
232	99	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	7891	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												
2N2222		NPN LOW POWER TRANSISTOR											
029	31	FAIRCHILD SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	22863	1	E(+) B(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
029	32	FAIRCHILD SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	8298	1	E(+) B(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
048	6	N/R	N/R	N/R	N/R	100	218 PF	1	SS	FAIL	1000	1	N/R
	FAILURE CRITERIA: 50% DROP IN V(BR) CBO AT IB=5UA												
2N2222A		NPN LOW POWER TRANSISTOR											
030	648	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	10000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
051	1	N/R	N/R	N/R	N/R	1500	100 PF	1	SS	PASS	10000	10	N/R
232	100	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	7914	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												
026	16	ITT SEMICONDUCTOR	N/R	N/R	JAN 78	100	200 PF	1	SS	FAIL	1600	4	E(+) B(-)
	REMARK: VOLTAGE IS AN AVERAGE OF 4 DEVICES FAILURE CRITERIA: IEB AT VEB = +6V +1000% CHANGE												
2N2297		NPN LOW POWER TRANSISTOR											
029	33	FAIRCHILD SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	20754	1	E(+) B(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
029	34	RAYTHEON	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	20754	1	E(+) B(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
029	35	RAYTHEON	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	24490	1	E(+) B(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
2N2369A		NPN LOW POWER TRANSISTOR											
030	649	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	4000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
048	7	N/R	N/R	N/R	N/R	100	218 PF	1	SS	FAIL	460	1	N/R
	FAILURE CRITERIA: 50% DROP IN V(BR) CBO AT IB=5UA												
232	101	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	4293	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												
2N2405		NPN HIGH POWER TRANSISTOR											
029	38	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	15646	1	E(+) B(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
2N2432		NPN LOW POWER TRANSISTOR											
029	39	TEXAS INSTRUMENTS	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	7764	1	E(+) B(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												

DEVICE TYPE: TRANSISTORS
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION														
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
2N2432A		NPN LOW POWER TRANSISTOR											
048	8	N/R	N/R	N/R	N/R	100	218 PF	1	SS	FAIL	620	1	N/R
	FAILURE CRITERIA: 50% DROP IN V(BR) CBO AT IB=5UA												
2N2453		NPN LOW POWER TRANSISTOR											
029	40	FAIRCHILD SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	8100	1	E(+) B(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
029	41	MOTOROLA SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	6968	1	E(+) B(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
2N2481		NPN LOW POWER TRANSISTOR											
029	42	FAIRCHILD SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	4214	1	E(+) B(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
2N2483		NPN LOW POWER TRANSISTOR											
029	43	FAIRCHILD SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	5499	1	E(+) B(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
2N2484		NPN LOW POWER TRANSISTOR											
029	44	FAIRCHILD SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	7047	1	E(+) B(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
030	650	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	5000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
2N2540		NPN LOW POWER TRANSISTOR											
048	9	N/R	N/R	N/R	N/R	100	218 PF	1	SS	FAIL	1450	1	N/R
	FAILURE CRITERIA: 50% DROP IN V(BR) CBO AT IB=5UA												
2N2608		JFET P-CHANNEL											
048	16	N/R	N/R	N/R	N/R	100	218 PF	1	SS	FAIL	320	1	N/R
	FAILURE CRITERIA: 50% DROP IN V(BR)GSS AT IG=5UA												
2N2609		JFET P-CHANNEL											
030	651	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	3000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
2N2708		NPN LOW POWER TRANSISTOR											
029	45	ELEC. TRANSISTOR CORP.	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	2216	1	E(+) B(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												

DEVICE TYPE: TRANSISTORS
(CONTINUED)

BASIC PART NUMBER	SRC. CODE	SEQ.: NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
2N2801			PNP LOW POWER TRANSISTOR											
	029	46	FAIRCHILD SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	9644	1	B(+) E(-)
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
	029	47	MOTOROLA SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	13744	1	B(+) E(-)
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
2N2857			NPN RF TRANSISTOR											
	029	48	MOTOROLA SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	2741	1	E(+) B(-)
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
	026	17	MOTOROLA SEMI	N/R	N/R	JAN 78	100	200 PF	1	SS	FAIL	290	4	E(+) B(-)
		REMARK: VOLTAGE IS AN AVERAGE OF 4 DEVICES FAILURE CRITERIA: IEBO AT VEB = 2.5V +1000% CHANGE												
	028	2	N/R	N/R	N/R	N/R	1500	117 PF	30	SS	FAIL	1500	5	N/R
		FAILURE CRITERIA: VEBO=IV.TYPICALLY 5 VOLTS												
2N2894			PNP LOW POWER TRANSISTOR											
	029	49	RAYTHEON	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	5405	1	B(+) E(-)
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
2N2904A			NPN LOW POWER TRANSISTOR											
	232	102	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	7189	1	N/R
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												
2N2905			PNP LOW POWER TRANSISTOR											
	030	702	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	11000	1	N/R
		FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
	232	103	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	7189	1	N/R
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												
2N2905A			PNP LOW POWER TRANSISTOR											
	030	652	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	11300	1	N/R
		FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
	232	104	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	7189	1	N/R
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												
2N2906			PNP LOW POWER TRANSISTOR											
	029	50	MOTOROLA SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	6018	1	B(+) E(-)
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL												
2N2907			PNP LOW POWER TRANSISTOR											
	029	51	MOTOROLA SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	10914	1	B(+) E(-)
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL												
	048	10	N/R	N/R	N/R	N/R	100	218 PF	1	SS	FAIL	1200	1	N/R
		FAILURE CRITERIA: 50% DROP IN V(BR) CBO AT IB=5UA												

DEVICE TYPE: TRANSISTORS
(CONTINUED)

BASIC PART NUMBER / SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
2N2907A		PNP LOW POWER TRANSISTOR											
029	52	MOTOROLA SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	9185	1	B(+) E(-)
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL											
051	2	N/R	N/R	N/R	N/R	1500	100 PF	1	SS	PASS	10000	9	N/R
051	3	N/R	N/R	N/R	N/R	1500	100 PF	1	SS	FAIL	10000	1	N/R
026	15	NATIONAL SEMI	N/R	N/R	JAN 78	100	200 PF	1	SS	FAIL	2250	4	B(+) E(-)
		REMARK: VOLTAGE IS AN AVERAGE OF 4 DEVICES FAILURE CRITERIA: IEBO AT VEB = -6V +1000% CHANGE											
2N2920		NPN LOW POWER TRANSISTOR											
029	53	FAIRCHILD SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	5682	1	E(+) B(-)
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL											
2N2945		PNP LOW POWER TRANSISTOR											
029	54	MOTOROLA SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	2450	1	B(+) E(-)
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.											
2N2946A		PNP LOW POWER TRANSISTOR											
232	105	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	6093	1	N/R
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)											
2N297A		PNP HIGH POWER TRANSISTOR, GERMANIUM											
029	55	BENDIX	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	32094	1	B(+) E(-)
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.											
029	56	MOTOROLA SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	26387	1	B(+) E(-)
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.											
2N3019		NPN LOW POWER TRANSISTOR											
029	57	RAYTHEON	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	18706	1	E(+) B(-)
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.											
030	653	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	12000	1	N/R
		FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%											
232	106	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	12492	1	N/R
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)											
2N3055		NPN HIGH POWER TRANSISTOR											
232	107	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	66396	1	N/R
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)											
2N3057		NPN LOW POWER TRANSISTOR											
029	58	MICROWAVE SEMI. CORP.	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	10840	1	E(+) B(-)
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.											

DEVICE TYPE: TRANSISTORS
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION														
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
2N3112		JFET P-CHANNEL											
048	17	N/R	N/R	N/R	N/R	100	218 PF	1	SS	FAIL	530	1	N/R
	FAILURE CRITERIA: 50% DROP IN V(BR)GSS AT IG=5UA												
2N3114		NPN LOW POWER TRANSISTOR											
029	59	FAIRCHILD SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	10564	1	E(+) B(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
2N3117		NPN LOW POWER TRANSISTOR											
048	11	N/R	N/R	N/R	N/R	100	218 PF	1	SS	FAIL	1000	1	N/R
	FAILURE CRITERIA: 50% DROP IN V(BR) CBO AT IB=5UA												
2N3250A		PNP LOW POWER TRANSISTOR											
232	108	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	6205	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												
2N3251		PNP LOW POWER TRANSISTOR											
029	60	RAYTHEON	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	6064	1	B(+) E(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
2N3251A		PNP LOW POWER TRANSISTOR											
232	109	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	3655	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												
2N3253		NPN HIGH POWER TRANSISTOR											
232	110	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	12363	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												
2N329		PNP LOW POWER TRANSISTOR											
029	61	RAYTHEON	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	14000	1	B(+) E(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
2N335		NPN LOW POWER TRANSISTOR											
029	62	TEXAS INSTRUMENTS	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	22140	1	E(+) B(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
029	63	TEXAS INSTRUMENTS	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	21681	1	E(+) B(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
2N336		NPN LOW POWER TRANSISTOR											
029	64	TEXAS INSTRUMENTS	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	22079	1	E(+) B(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												

DEVICE TYPE: TRANSISTORS
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION														
	SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
2N336A	NPN LOW POWER TRANSISTOR													
	029	65	ELEC. TRANSISTOR CORP.	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	17201	1	E(+) B(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.													
2N3375	NPN HIGH POWER TRANSISTOR													
	232	111	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	25313	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)													
2N338	NPN LOW POWER TRANSISTOR													
	029	66	TRANSITION ELEC. CORP.	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	6488	1	E(+) B(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.													
2N343	NPN LOW POWER TRANSISTOR													
	029	67	TEXAS INSTRUMENTS	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	6427	1	E(+) B(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.													
2N3439	NPN LOW POWER TRANSISTOR													
	030	654	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	10000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%													
	232	112	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	12308	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)													
2N3440	NPN LOW POWER TRANSISTOR													
	029	68	RCA	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	30959	1	E(+) B(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.													
	232	113	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	12308	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)													
2N3468	PNP LOW POWER TRANSISTOR													
	029	69	RAYTHEON	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	19178	1	B(+) E(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.													
2N3486A	PNP LOW POWER TRANSISTOR													
	232	114	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	7189	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)													
2N3498	NPN HIGH POWER TRANSISTOR													
	232	115	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	9752	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)													

DEVICE TYPE: TRANSISTORS
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION															
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
2N3500		NPN HIGH POWER TRANSISTOR											
232	116	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	9752	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												
2N3501		NPN HIGH POWER TRANSISTOR											
232	117	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	9752	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												
2N3503		PNP LOW POWER TRANSISTOR											
029	70	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	16547	1	B(+) E(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
2N3507		NPN HIGH POWER TRANSISTOR											
232	118	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	18753	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												
2N3553		NPN HIGH POWER TRANSISTOR											
232	119	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	16916	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												
2N3570		NPN LOW POWER TRANSISTOR											
048	12	N/R	N/R	N/R	N/R	100	218 PF	1	SS	FAIL	380	1	N/R
	FAILURE CRITERIA: 50% DROP IN V(BR) CBO AT IB=5UA												
2N3584		NPN HIGH POWER TRANSISTOR											
232	120	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	34200	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												
2N3585		NPN HIGH POWER TRANSISTOR											
029	71	MOTOROLA SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	53877	1	E(+) B(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
2N3631		MOSFET (IGFET) N-CHANNEL											
028	9	N/R	N/R	N/R	N/R	1500	117 PF	30	SS	FAIL	100	5	N/R
	FAILURE CRITERIA: ID=SHORT												
2N3635		PNP LOW POWER TRANSISTOR											
030	703	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	11000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
232	121	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	12363	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												

DEVICE TYPE: TRANSISTORS
(CONTINUED)

BASIC PART NUMBER / SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
2N3636		PNP LOW POWER TRANSISTOR											
029	77	MOTOROLA SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	29595	1	B(+) E(-)
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.											
2N3637		PNP HIGH POWER TRANSISTOR											
232	122	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	12363	1	N/R
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)											
2N3677		PNP LOW POWER TRANSISTOR											
029	73	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	6158	1	B(+) E(-)
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.											
2N3700		NPN LOW POWER TRANSISTOR											
029	74	FAIRCHILD SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	16661	1	E(+) B(-)
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.											
2N3715		NPN HIGH POWER TRANSISTOR											
232	123	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	75917	1	N/R
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)											
2N3716		NPN HIGH POWER TRANSISTOR											
232	124	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	75917	1	N/R
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)											
2N3735		NPN HIGH POWER TRANSISTOR											
232	125	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	9999	1	N/R
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)											
2N3737		NPN LOW POWER TRANSISTOR											
232	126	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	8451	1	N/R
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)											
2N3739		NPN HIGH POWER TRANSISTOR											
232	127	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	27363	1	N/R
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)											
2N3741		PNP HIGH POWER TRANSISTOR											
232	67	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	28191	1	N/R
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)											

DEVICE TYPE: TRANSISTORS
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION														
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
2N375		PNP HIGH POWER TRANSISTOR, GERMANIUM											
029	75	MOTOROLA SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	28201	1	B(+) C(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
2N3763		PNP HIGH POWER TRANSISTOR											
232	68	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	9999	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												
2N3765		PNP LOW POWER TRANSISTOR											
232	69	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	9999	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												
2N3772		NPN HIGH POWER TRANSISTOR											
232	70	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	76645	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												
2N3791		PNP HIGH POWER TRANSISTOR											
232	71	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	76500	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												
2N3799		PNP LOW POWER TRANSISTOR											
030	704	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	7000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
2N3810		PNP LOW POWER TRANSISTOR											
232	72	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	5048	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												
2N3811		PNP LOW POWER TRANSISTOR											
030	705	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	6000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
2N3821		JFET N-CHANNEL											
232	73	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	4879	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												
2N3822		JFET N-CHANNEL											
232	74	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	7879	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												

DEVICE TYPE: TRANSISTORS
(CONTINUED)

BASIC PART NUMBER	SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
2N3823			JFET N-CHANNEL											
	232	75	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	4045	1	N/R
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												
	026	18	TEXAS INSTRUMENTS	N/R	N/R	JAN 78	100	200 PF	1	SS	FAIL	208	4	SOURCE(+) GATE(-)
		REMARK: VOLTAGE IS AN AVERAGE OF 4 DEVICES			FAILURE CRITERIA: IGSS AT VGS = -20V +1000% CHANGE									
2N3866			NPN HIGH POWER TRANSISTOR											
	232	76	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	11659	1	N/R
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												
	026	14	RCA	N/R	N/R	JAN 78	100	200 PF	1	SS	FAIL	3525	4	E(+) B(-)
		REMARK: VOLTAGE IS AN AVERAGE OF 4 DEVICES			FAILURE CRITERIA: IEBO AT VEB = 3.5V 1000% CHANGE									
2N3866A			NPN RF TRANSISTOR											
	232	77	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	11659	1	N/R
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												
2N3868			PNP HIGH POWER TRANSISTOR											
	232	78	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	22533	1	N/R
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												
2N389			NPN HIGH POWER TRANSISTOR											
	029	76	TEXAS INSTRUMENTS	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	43161	1	E(+) B(-0
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
2N3902			NPN HIGH POWER TRANSISTOR											
	030	655	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	PASS	15300	1	N/R
		FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
2N3960			NPN LOW POWER TRANSISTOR											
	232	79	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	3921	1	N/R
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												
2N3964			PNP LOW POWER TRANSISTOR											
	030	656	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	5500	1	N/R
		FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
2N3971			JFET N-CHANNEL											
	048	18	N/R	N/R	N/R	N/R	100	218 PF	1	SS	FAIL	160	1	N/R
		FAILURE CRITERIA: 50% DROP IN V(BR)GSS AT IG=5UA												

DEVICE TYPE: TRANSISTORS
(CONTINUED)

BASIC PART NUMBER / SRC. CODE	SEQ.: NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
2N3997		PNP HIGH POWER TRANSISTOR											
232	80	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	4538	1	N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)													
2N4033		PNP LOW POWER TRANSISTOR											
029	77	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	16190	1	B(+) E(-)
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.													
2N4036		PNP HIGH POWER TRANSISTOR											
030	706	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	5000	1	N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%													
2N4118A		JFET N-CHANNEL											
048	19	N/R	N/R	N/R	N/R	100	218 PF	1	SS	FAIL	140	1	N/R
FAILURE CRITERIA: 50% DROP IN V(BR)GSS AT IG=5UA													
2N4134		NPN LOW POWER TRANSISTOR											
030	657	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	2000	1	N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%													
2N4150		NPN HIGH POWER TRANSISTOR											
232	81	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	2951	1	N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)													
2N4251		NPN LOW POWER TRANSISTOR											
048	13	N/R	N/R	N/R	N/R	100	218 PF	1	SS	FAIL	460	1	N/R
FAILURE CRITERIA: 50% DROP IN V(BR) CBO AT IB=5UA													
2N4303		JFET N-CHANNEL											
014	7	N/R	N/R	N/R	N/R	100	100 PF	1	SS	FAIL	850	N/R	SOURCE DRAIN
REMARK: 850 VOLTS IS AN AVERAGE OF AN UNKNOWN NUMBER OF DEVICES.													
015	7	N/R	N/R	N/R	N/R	1000	100 PF	1	SS	FAIL	10000	N/R	SOURCE DRAIN
REMARK: 10000 VOLTS IS AN AVERAGE OF AN UNKNOWN NUMBER OF DEVICES.													
016	7	N/R	N/R	N/R	N/R	10K	100 PF	1	SS	FAIL	16300	N/R	SOURCE DRAIN
REMARK: 16300 VOLTS IS AN AVERAGE OF AN UNKNOWN NUMBER OF DEVICES.													
2N4393		JFET N-CHANNEL											
029	78	SOLITRON DEVICES	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	5691	1	DRAIN SOURCE
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.													

DEVICE TYPE: TRANSISTORS
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION															
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
2N4399		PNP HIGH POWER TRANSISTOR											
232	82	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	88158	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												
2N4405		PNP HIGH POWER TRANSISTOR											
232	83	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	12362	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												
2N4416		JFET N-CHANNEL											
249	1	INTERSIL	N/R	8027	N/R	1500	100 PF	200	GN	FAIL	100	1	G(+) S(-)
	FAILURE CRITERIA: IGSS OUT OF SPEC.												
253	1	INTERSIL	N/R	8033	N/R	1500	100 PF	200	GN	PASS	130	1	G(+) S(-)
	FAILURE CRITERIA: IGSS AND/OR V(BR)GSS OUT OF SPEC.												
254	1	INTERSIL	N/R	8033	N/R	1500	100 PF	200	GN	FAIL	140	1	G(+) S(-)
	FAILURE CRITERIA: V(BR)GSS OUT OF SPEC.												
256	5	INTERSIL	N/R	8027	N/R	1500	100 PF	18	GN	FAIL	150	1	G(+) S(-)
	FAILURE CRITERIA: IGSS AND V(BR)GSS OUT OF SPEC.												
259	1	INTERSIL	N/R	8006	N/R	1500	100 PF	20	GN	FAIL	165	1	G(+) S(-)
	FAILURE CRITERIA: IGSS AND V(BR)GSS OUT OF SPEC.												
262	1	INTERSIL	N/R	8027	N/R	1500	100 PF	10	GN	FAIL	175	1	G(+) S(-)
	FAILURE CRITERIA: IGSS AND V(BR)GSS OUT OF SPEC.												
263	2	INTERSIL	N/R	8027	N/R	1500	100 PF	4	GN	FAIL	180	1	G(+) S(-)
	FAILURE CRITERIA: IGSS AND V(BR)GSS OUT OF SPEC.												
263	3	INTERSIL	N/R	8033	N/R	1500	100 PF	500	GN	PASS	180	2	G(+) S(-)
	FAILURE CRITERIA: IGSS AND/OR V(BR)GSS OUT OF SPEC.												
263	4	INTERSIL	N/R	8027	N/R	1500	100 PF	500	GN	PASS	180	1	G(+) S(-)
	FAILURE CRITERIA: IGSS AND/OR V(BR)GSS OUT OF SPEC.												
263	5	INTERSIL	N/R	8033	N/R	1500	100 PF	1	GN	FAIL	180	1	G(+) S(-)
	FAILURE CRITERIA: IGSS AND V(BR)GSS OUT OF SPEC.												
263	6	TEXAS INSTRUMENTS	N/R	8006	N/R	1500	100 PF	500	GN	FAIL	180	2	G(+) S(-)
	FAILURE CRITERIA: V(BR)GSS OUT OF SPEC.												
263	7	TEXAS INSTRUMENTS	N/R	8006	N/R	1500	100 PF	500	GN	PASS	180	1	G(+) S(-)
	FAILURE CRITERIA: IGSS AND/OR V(BR)GSS OUT OF SPEC.												
263	8	TEXAS INSTRUMENTS	N/R	8006	N/R	1500	100 PF	15	GN	FAIL	180	1	G(+) S(-)
	FAILURE CRITERIA: IGSS AND V(BR)GSS OUT OF SPEC.												
263	9	TEXAS INSTRUMENTS	N/R	8006	N/R	1500	100 PF	125	GN	FAIL	180	1	G(+) S(-)
	FAILURE CRITERIA: IGSS AND V(BR)GSS OUT OF SPEC.												
264	1	INTERSIL	N/R	8027	N/R	1500	100 PF	45	GN	FAIL	185	1	G(+) S(-)
	FAILURE CRITERIA: IGSS AND V(BR)GSS OUT OF SPEC.												
264	2	INTERSIL	N/R	8027	N/R	1500	100 PF	200	GN	PASS	185	1	G(+) S(-)
	FAILURE CRITERIA: IGSS AND/OR V(BR)GSS OUT OF SPEC.												
264	3	TEXAS INSTRUMENTS	N/R	8006	N/R	1500	100 PF	200	GN	PASS	185	1	G(+) S(-)
	FAILURE CRITERIA: IGSS AND/OR V(BR)GSS OUT OF SPEC.												
264	4	INTERSIL	N/R	8033	N/R	1500	100 PF	200	GN	FAIL	185	1	G(+) S(-)
	FAILURE CRITERIA: V(BR)GSS OUT OF SPEC.												
265	2	INTERSIL	N/R	8027	N/R	1500	100 PF	6	GN	FAIL	190	1	G(+) S(-)
	FAILURE CRITERIA: IGSS AND V(BR)GSS OUT OF SPEC.												

DEVICE TYPE: TRANSISTORS
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION													
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
2N4416	(CONTINUED) JFET N-CHANNEL												
265	3	TEXAS INSTRUMENTS	N/R	8006	N/R	1500	100 PF	2	GN	FAIL	190	1	G(+) S(-)
	FAILURE CRITERIA: IGSS AND V(BR)GSS OUT OF SPEC.												
265	6	TEXAS INSTRUMENTS	N/R	8006	N/R	1500	100 PF	200	GN	FAIL	190	2	G(+) S(-)
	FAILURE CRITERIA: V(BR)GSS OUT OF SPEC.												
265	7	TEXAS INSTRUMENTS	N/R	8006	N/R	1500	100 PF	100	GN	FAIL	190	1	G(+) S(-)
	FAILURE CRITERIA: IGSS AND V(BR)GSS OUT OF SPEC.												
266	1	INTERSIL	N/R	8027	N/R	1500	100 PF	1	GN	FAIL	192	1	G(+) S(-)
	FAILURE CRITERIA: IGSS AND V(BR)GSS OUT OF SPEC.												
266	2	INTERSIL	N/R	8033	N/R	1500	100 PF	1	GN	PASS	192	4	G(+) S(-)
	FAILURE CRITERIA: IGSS AND/OR V(BR)GSS OUT OF SPEC.												
266	3	INTERSIL	N/R	8033	N/R	1500	100 PF	1	GN	FAIL	192	1	G(+) S(-)
	FAILURE CRITERIA: V(BR)GSS OUT OF SPEC.												
266	4	TEXAS INSTRUMENTS	N/R	8006	N/R	1500	100 PF	1	GN	PASS	192	2	G(+) S(-)
	FAILURE CRITERIA: IGSS AND/OR V(BR)GSS OUT OF SPEC.												
266	5	TEXAS INSTRUMENTS	N/R	8006	N/R	1500	100 PF	1	GN	FAIL	192	2	G(+) S(-)
	FAILURE CRITERIA: IGSS AND V(BR)GSS OUT OF SPEC.												
267	1	INTERSIL	N/R	8027	N/R	1500	100 PF	500	GN	FAIL	195	1	G(+) S(-)
	FAILURE CRITERIA: V(BR)GSS OUT OF SPEC.												
267	2	INTERSIL	N/R	8027	N/R	1500	100 PF	1	GN	FAIL	195	1	G(+) S(-)
	FAILURE CRITERIA: IGSS AND V(BR)GSS OUT OF SPEC.												
267	3	INTERSIL	N/R	8033	N/R	1500	100 PF	500	GN	FAIL	195	2	G(+) S(-)
	FAILURE CRITERIA: V(BR)GSS OUT OF SPEC.												
267	4	INTERSIL	N/R	8033	N/R	1500	100 PF	15	GN	FAIL	195	1	G(+) S(-)
	FAILURE CRITERIA: IGSS AND V(BR)GSS OUT OF SPEC.												
267	5	TEXAS INSTRUMENTS	N/R	8006	N/R	1500	100 PF	9	GN	FAIL	195	1	G(+) S(-)
	FAILURE CRITERIA: IGSS AND V(BR)GSS OUT OF SPEC.												
267	6	TEXAS INSTRUMENTS	N/R	8006	N/R	1500	100 PF	1	GN	FAIL	195	2	G(+) S(-)
	FAILURE CRITERIA: IGSS AND V(BR)GSS OUT OF SPEC.												
267	7	TEXAS INSTRUMENTS	N/R	8006	N/R	1500	100 PF	500	GN	PASS	195	2	G(+) S(-)
	FAILURE CRITERIA: IGSS AND V(BR)GSS OUT OF SPEC.												
268	3	INTERSIL	N/R	8027	N/R	1500	100 PF	1	GN	FAIL	200	2	G(+) S(-)
	FAILURE CRITERIA: IGSS AND V(BR)GSS OUT OF SPEC.												
268	4	INTERSIL	N/R	8027	N/R	1500	100 PF	4	GN	FAIL	200	1	G(+) S(-)
	FAILURE CRITERIA: IGSS AND V(BR)GSS OUT OF SPEC.												
268	5	TEXAS INSTRUMENTS	N/R	8006	N/R	1500	100 PF	3	GN	FAIL	200	1	G(+) S(-)
	FAILURE CRITERIA: IGSS AND V(BR)GSS OUT OF SPEC.												
269	1	INTERSIL	N/R	8033	N/R	1500	100 PF	200	GN	FAIL	205	1	G(+) S(-)
	FAILURE CRITERIA: V(BR)GSS OUT OF SPEC.												
270	1	INTERSIL	N/R	8027	N/R	1500	100 PF	1	GN	FAIL	210	1	G(+) S(-)
	FAILURE CRITERIA: IGSS AND V(BR)GSS OUT OF SPEC.												
270	2	TEXAS INSTRUMENTS	N/R	8006	N/R	1500	100 PF	200	GN	PASS	210	1	G(+) S(-)
	FAILURE CRITERIA: IGSS AND/OR V(BR)GSS OUT OF SPEC.												
270	3	INTERSIL	N/R	8027	N/R	1500	100 PF	30	GN	FAIL	210	1	G(+) S(-)
	FAILURE CRITERIA: IGSS AND V(BR)GSS OUT OF SPEC.												
270	4	INTERSIL	N/R	8027	N/R	1500	100 PF	9	GN	FAIL	210	1	G(+) S(-)
	FAILURE CRITERIA: IGSS AND V(BR)GSS OUT OF SPEC.												
270	5	INTERSIL	N/R	8033	N/R	1500	100 PF	1	GN	FAIL	210	1	G(+) S(-)
	FAILURE CRITERIA: IGSS AND V(BR)GSS OUT OF SPEC.												

DEVICE TYPE: TRANSISTORS
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

2N4416 (CONTINUED) JFET N-CHANNEL

SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
270	6	INTERSIL	N/R	8033	N/R	1500	100 PF	200	GN	PASS	210	1	G(+) S(-)
	FAILURE CRITERIA: IGSS AND/OR V(BR)GSS OUT OF SPEC.												
270	7	INTERSIL	N/R	8033	N/R	1500	100 PF	25	GN	FAIL	210	1	G(+) S(-)
	FAILURE CRITERIA: IGSS OUT OF SPEC												
270	8	TEXAS INSTRUMENTS	N/R	8006	N/R	1500	100 PF	1	GN	FAIL	210	1	G(+) S(-)
	FAILURE CRITERIA: IGSS AND V(BR)GSS OUT OF SPEC.												
270	9	TEXAS INSTRUMENTS	N/R	8006	N/R	1500	100 PF	3	GN	FAIL	210	1	G(+) S(-)
	FAILURE CRITERIA: IGSS AND V(BR)GSS OUT OF SPEC.												
270	10	TEXAS INSTRUMENTS	N/R	8006	N/R	1500	100 PF	90	GN	FAIL	210	1	G(+) S(-)
	FAILURE CRITERIA: IGSS OUT OF SPEC.												
270	11	TEXAS INSTRUMENTS	N/R	8006	N/R	1500	100 PF	15	GN	FAIL	210	1	G(+) S(-)
	FAILURE CRITERIA: IGSS AND V(BR)GSS OUT OF SPEC.												
270	12	TEXAS INSTRUMENTS	N/R	8006	N/R	1500	100 PF	9	GN	FAIL	210	1	G(+) S(-)
	FAILURE CRITERIA: IGSS AND V(BR)GSS OUT OF SPEC.												
271	1	TEXAS INSTRUMENTS	N/R	8006	N/R	1500	100 PF	200	GN	FAIL	215	1	G(+) S(-)
	FAILURE CRITERIA: IGSS AND V(BR)GSS OUT OF SPEC.												
272	1	INTERSIL	N/R	8027	N/R	1500	100 PF	1	GN	FAIL	216	1	G(+) S(-)
	FAILURE CRITERIA: IGSS AND V(BR)GSS OUT OF SPEC.												
272	2	TEXAS INSTRUMENTS	N/R	8006	N/R	1500	100 PF	1	GN	PASS	216	4	G(+) S(-)
	FAILURE CRITERIA: IGSS AND/OR V(BR)GSS OUT OF SPEC.												
272	3	INTERSIL	N/R	8033	N/R	1500	100 PF	1	GN	PASS	216	5	G(+) S(-)
	FAILURE CRITERIA: IGSS AND/OR V(BR)GSS OUT OF SPEC.												
273	1	INTERSIL	N/R	8033	N/R	1500	100 PF	200	GN	PASS	220	1	G(+) S(-)
	FAILURE CRITERIA: IGSS AND/OR V(BR)GSS OUT OF SPEC.												
274	1	INTERSIL	N/R	8027	N/R	1500	100 PF	200	GN	PASS	225	1	G(+) S(-)
	FAILURE CRITERIA: IGSS AND/OR V(BR)GSS OUT OF SPEC.												
274	2	INTERSIL	N/R	8027	N/R	1500	100 PF	1	GN	FAIL	225	1	G(+) S(-)
	FAILURE CRITERIA: IGSS AND V(BR)GSS OUT OF SPEC.												
274	3	INTERSIL	N/R	8033	N/R	1500	100 PF	200	GN	PASS	225	2	G(+) S(-)
	FAILURE CRITERIA: IGSS AND/OR V(BR)GSS OUT OF SPEC.												
274	4	INTERSIL	N/R	8033	N/R	1500	100 PF	200	GN	FAIL	225	1	G(+) S(-)
	FAILURE CRITERIA: V(BR)GSS OUT OF SPEC.												
274	5	TEXAS INSTRUMENTS	N/R	8006	N/R	1500	100 PF	2	GN	FAIL	225	1	G(+) S(-)
	FAILURE CRITERIA: IGSS AND V(BR)GSS OUT OF SPEC.												
274	6	TEXAS INSTRUMENTS	N/R	8006	N/R	1500	100 PF	20	GN	FAIL	225	1	G(+) S(-)
	FAILURE CRITERIA: IGSS AND V(BR)GSS OUT OF SPEC.												
274	7	TEXAS INSTRUMENTS	N/R	8006	N/R	1500	100 PF	4	GN	FAIL	225	1	G(+) S(-)
	FAILURE CRITERIA: IGSS AND V(BR)GSS OUT OF SPEC.												
274	8	TEXAS INSTRUMENTS	N/R	8006	N/R	1500	100 PF	200	GN	FAIL	225	1	G(+) S(-)
	FAILURE CRITERIA: V(BR)GSS OUT OF SPEC.												
274	9	TEXAS INSTRUMENTS	N/R	8006	N/R	1500	100 PF	200	GN	PASS	225	1	G(+) S(-)
	FAILURE CRITERIA: IGSS AND/OR V(BR)GSS OUT OF SPEC.												
275	1	TEXAS INSTRUMENTS	N/R	8006	N/R	1500	100 PF	2	GN	FAIL	230	1	G(+) S(-)
	FAILURE CRITERIA: IGSS AND V(BR)GSS OUT OF SPEC.												
275	2	TEXAS INSTRUMENTS	N/R	8006	N/R	1500	100 PF	200	GN	FAIL	230	1	G(+) S(-)
	FAILURE CRITERIA: IGSS AND V(BR)GSS OUT OF SPEC.												
275	3	INTERSIL	N/R	8033	N/R	1500	100 PF	200	GN	PASS	230	2	G(+) S(-)
	FAILURE CRITERIA: IGSS AND/OR V(BR)GSS OUT OF SPEC.												

DEVICE TYPE: TRANSISTORS
(CONTINUED)

BASIC PART NUMBER	SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
2N4416 (CONTINUED) JFET N-CHANNEL														
	276	1	INTERSIL	N/R	8027	N/R	1500	100 PF	1	GN	FAIL	240	2	G(+) S(-)
FAILURE CRITERIA: IGSS AND V(BR)GSS OUT OF SPEC.														
	276	2	TEXAS INSTRUMENTS	N/R	8006	N/R	1500	100 PF	1	GN	FAIL	240	2	G(+) S(-)
FAILURE CRITERIA: IGSS AND V(BR)GSS OUT OF SPEC.														
	276	3	INTERSIL	N/R	8033	N/R	1500	100 PF	1	GN	FAIL	240	1	G(+) S(-)
FAILURE CRITERIA: IGSS AND V(BR)GSS OUT OF SPEC.														
	276	4	INTERSIL	N/R	8033	N/R	1500	100 PF	25	GN	FAIL	240	1	G(+) S(-)
FAILURE CRITERIA: V(BR)GSS OUT OF SPEC.														
	276	5	INTERSIL	N/R	8033	N/R	1500	100 PF	200	GN	FAIL	240	1	G(+) S(-)
FAILURE CRITERIA: V(BR)GSS OUT OF SPEC.														
	276	6	TEXAS INSTRUMENTS	N/R	8006	N/R	1500	100 PF	25	GN	FAIL	240	1	G(+) S(-)
FAILURE CRITERIA: IGSS OUT OF SPEC.														
	276	7	TEXAS INSTRUMENTS	N/R	8006	N/R	1500	100 PF	35	GN	FAIL	240	1	G(+) S(-)
FAILURE CRITERIA: IGSS OUT OF SPEC.														
	276	8	TEXAS INSTRUMENTS	N/R	8006	N/R	1500	100 PF	90	GN	FAIL	240	1	G(+) S(-)
FAILURE CRITERIA: IGSS AND V(BR)GSS OUT OF SPEC.														
2N4416A JFET N-CHANNEL														
	232	84	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	3259	1	N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)														
2N463 PNP HIGH POWER TRANSISTOR, GERMANIUM														
	029	79	KSC SEMI. CORP.	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	68798	1	B(+) E(-)
REMARK: FAILURE VOLTAGE OBTASINED FROM EMP DATA AND WUNSCH MODEL.														
2N4856 JFET N-CHANNEL														
	232	85	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	8395	1	N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)														
2N4858 JFET N-CHANNEL														
	030	707	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	6000	1	N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%														
	232	86	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	8395	1	N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)														
2N4872 PNP LOW POWER TRANSISTOR														
	048	14	N/R	N/R	N/R	N/R	100	218 PF	1	SS	FAIL	1200	1	N/R
FAILURE CRITERIA: 50% DROP IN V(BR) CBO AT IB=5UA														
2N491 UNIJUNCTION TRANSISTOR														
	029	80	GENERAL ELECTRIC	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	83934	1	E B
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.														

DEVICE TYPE: TRANSISTORS
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION															
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
2N4931		PNP HIGH POWER TRANSISTOR											
232	87	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	12387	1	N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)													
2N4948		UNIJUNCTION TRANSISTOR											
026	37	MOTOROLA SEMI	N/R	N/R	FEB 81	100	200 PF	1	SS	FAIL	742	4	B(+) E(-)
REMARK: VOLTAGE IS AN AVERAGE OF 4 DEVICES FAILURE CRITERIA: BVBE AT IR = 100NA													
2N495A		PNP LOW POWER TRANSISTOR											
029	81	CONTINENTAL SEMI INC.	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	790	1	B(+) E(-)
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.													
2N4957		PNP LOW POWER TRANSISTOR											
232	88	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	1563	1	N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)													
2N498		NPN HIGH POWER TRANSISTOR											
029	82	TEXAS INSTRUMENTS	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	26297	1	B(+) E(-)
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.													
2N5036		NPN LOW POWER TRANSISTOR					SILICON						
030	708	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	15000	1	N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%													
2N5038		NPN HIGH POWER TRANSISTOR											
232	89	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	20283	1	N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)													
2N5109		NPN HIGH POWER TRANSISTOR											
232	90	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	9246	1	N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)													
2N5114		JFET P-CHANNEL											
030	709	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	7000	1	N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%													
2N5154		NPN HIGH POWER TRANSISTOR											
048	15	N/R	N/R	N/R	N/R	100	218 PF	1	SS	PASS	3000	1	N/R
FAILURE CRITERIA: 50% DROP IN V(BR) CBO AT IB=5UA													

DEVICE TYPE: TRANSISTORS
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION														
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
2N5157		NPN HIGH POWER TRANSISTOR											
232	91	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	96560	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												
2N5241		NPN HIGH POWER TRANSISTOR											
232	92	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	7439	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												
2N5245		JFET N-CHANNEL											
014	8	N/R	N/R	N/R	N/R	100	100 PF	1	SS	FAIL	600	N/R	GATE DRAIN
	REMARK: 600 VOLTS IS AN AVERAGE OF AN UNKNOWN NUMBER OF DEVICES.												
015	8	N/R	N/R	N/R	N/R	1000	100 PF	1	SS	FAIL	3200	N/R	GATE DRAIN
	REMARK: 3200 VOLTS IS AN AVERAGE OF AN UNKNWON NUMBER OF DEVICES.												
016	8	N/R	N/R	N/R	N/R	10K	100 PF	1	SS	FAIL	5500	N/R	GATE DRAIN
	REMARK: 5500 VOLTS IS AN AVERAGE OF AN UNKNOWN NUMBER OF DEVICES.												
2N526		PNP LOW POWER TRANSISTOR, GERMANIUM											
029	83	GENERAL ELECTRIC	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	17903	1	B(+) E(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
029	84	MOTOROLA SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	30560	1	B(+) E(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
2N5302		NPN HIGH POWER TRANSISTOR											
232	93	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	88158	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												
2N5415		PNP HIGH POWER TRANSISTOR											
232	94	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	22529	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												
2N5416		PNP HIGH POWER TRANSISTOR											
030	658	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	10000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
2N5524		JFET N-CHANNEL											
028	10	N/R	N/R	N/R	N/R	1500	117 PF	30	SS	PASS	2500	5	N/R
2N5663		NPN HIGH POWER TRANSISTOR											
232	95	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	28942	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)												

DEVICE TYPE: TRANSISTORS
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION	SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
2N5682	NPN HIGH POWER TRANSISTOR	030	659	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	10000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%														
2N5745	PNP HIGH POWER TRANSISTOR	232	96	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	88158	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)														
2N576A	NPN LOW POWER TRANSISTOR, GERMANIUM	029	85	ELEC. TRANSISTOR CORP.	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	3840	1	E(+) B(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.														
2N598	PNP LOW POWER TRANSISTOR, GERMANIUM	029	86	GENERAL INSTRUMENTS	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	19658	1	B(+) E(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.														
2N6052	PNP DARLINGTON TRANSISTOR	030	660	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	PASS	15300	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%														
2N6059	NPN DARLINGTON TRANSISTOR	030	661	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	PASS	15300	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%														
2N618	PNP HIGH POWER TRANSISTOR, GERMANIUM	029	87	MOTOROLA SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	26070	1	B(+) E(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.														
2N6212	PNP HIGH POWER TRANSISTOR	060	1	N/R	N/R	N/R	N/R	1500	100 PF	5	GN	PASS	4000	6	N/R
2N656	NPN HIGH POWER TRANSISTOR	029	88	TEXAS INSTRUMENTS	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	12953	1	E(+) B(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.														
2N657	NPN HIGH POWER TRANSISTOR	029	89	TEXAS INSTRUMENTS	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	23103	1	E(+) B(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.														

DEVICE TYPE: TRANSISTORS
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION													
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
2N657A		NPN HIGH POWER TRANSISTOR											
029	90	GENERAL ELECTRIC	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	26290	1	E(+) B(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
2N697		NPN LOW POWER TRANSISTOR											
029	93	MOTOROLA SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	10153	1	E(+) B(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
2N699		NPN LOW POWER TRANSISTOR											
029	94	FAIRCHILD SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	14674	1	E(+) B(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
2N706		NPN LOW POWER TRANSISTOR											
029	95	TEXAS INSTRUMENTS	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	2439	1	E(+) B(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
2N708		NPN LOW POWER TRANSISTOR											
029	96	FAIRCHILD SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	4925	1	E(+) B(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
2N718A		NPN LOW POWER TRANSISTOR											
029	97	MOTOROLA SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	14863	1	E(+) B(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
2N736		NPN LOW POWER TRANSISTOR											
029	98	MOTOROLA SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	9191	1	E(+) B(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
2N760		NPN LOW POWER TRANSISTOR											
029	99	MOTOROLA SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	5118	1	E(+) B(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
2N834		NPN LOW POWER TRANSISTOR											
029	100	RAYTHEON	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	3434	1	E(+) B(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
2N859		PNP LOW POWER TRANSISTOR											
029	101	TELEDYNE CRYSTALONICS	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	11476	1	B(+) E(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												

DEVICE TYPE: TRANSISTORS
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION														
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
2N869A		NPN LOW POWER TRANSISTOR											
029	102	FAIRCHILD SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	3823	1	E(+) B(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
2N916		NPN LOW POWER TRANSISTOR											
029	103	RAYTHEON	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	6502	1	E(+) B(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
2N918		NPN LOW POWER TRANSISTOR .											
029	104	TELEDYNE CRYSTALONICS	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	2085	1	E(+) B(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
2N927		PNP LOW POWER TRANSISTOR											
029	105	TELEDYNE CRYSTALONICS	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	6412	1	B(+) E(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
2N930		NPN LOW POWER TRANSISTOR											
029	106	FAIRCHILD SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	6156	1	E(+) B(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
2N930A		NPN LOW POWER TRANSISTOR											
029	107	SOLITRON DEVICES	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	4221	1	E(+) B(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
2N956		NPN LOW POWER TRANSISTOR											
029	108	MOTOROLA SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	8806	1	E(+) B(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
3N128		MOSFET (IGFET) N-CHANNEL											
348	1	RCA	N/R	N/R	N/R	1500	100 PF	50	GN	FAIL	50	1	GATE(+) SOURCE(-)
	FAILURE CRITERIA: IGSSR >25PA AT VGS=8V AND VDS=0V.												
348	2	RCA	N/R	N/R	N/R	1500	100 PF	200	GN	PASS	50	1	GATE(+) SOURCE(-)
	FAILURE CRITERIA: VGS(OFF) OUT OF SPEC AND/OR IGSSR >25PA AT VGS=8V AND VDS=0V.												
349	1	RCA	N/R	N/R	N/R	1500	100 PF	200	GN	PASS	60	1	GATE(+) SOURCE(-)
	FAILURE CRITERIA: VGS(OFF) OUT OF SPEC AND/OR IGSSR >25PA AT VGS=8V AND VDS=0V.												
350	1	RCA	N/R	N/R	N/R	1500	100 PF	200	GN	PASS	75	1	GATE(+) SOURCE(-)
	FAILURE CRITERIA: VGS(OFF) OUT OF SPEC AND/OR IGSSR >25PA AT VGS=8V AND VDS=0V.												
351	1	RCA	N/R	N/R	N/R	1500	100 PF	1	GN	FAIL	92	5	GATE(+) SOURCE(-)
	FAILURE CRITERIA: IGSSR >25PA AT VGS=8V AND VDS=0V.												
351	2	RCA	N/R	N/R	N/R	1500	100 PF	1	GN	PASS	92	15	GATE(+) SOURCE(-)
	FAILURE CRITERIA: VGS(OFF) OUT OF SPEC AND/OR IGSSR >25PA AT VGS=8V AND VDS=0V.												
352	1	RCA	N/R	N/R	N/R	1500	100 PF	1	GN	FAIL	95	6	GATE(+) SOURCE(-)
	FAILURE CRITERIA: IGSSR >25PA AT VGS=8V AND VDS=0V.												

DEVICE TYPE: TRANSISTORS
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
3N128	(CONTINUED) MOSFET (IGFET) N-CHANNEL												
352	2	RCA	N/R	N/R	N/R	1500	100 PF	2	GN	FAIL	95	1	GATE(+) SOURCE(-)
	FAILURE CRITERIA: VGS(OFF) OUT OF SPEC AND IGSSR >25PA AT VGS=8V AND VDS=0V.												
352	3	RCA	N/R	N/R	N/R	1500	100 PF	15	GN	FAIL	95	3	GATE(+) SOURCE(-)
	FAILURE CRITERIA: VGS(OFF) OUT OF SPEC AT VDS=15V AND ID=50UA.												
352	4	RCA	N/R	N/R	N/R	1500	100 PF	15	GN	FAIL	95	1	GATE(+) SOURCE(-)
	FAILURE CRITERIA: IGSSR >25PA AT VGS=8V AND VDS=0V.												
352	5	RCA	N/R	N/R	N/R	1500	100 PF	20	GN	FAIL	95	1	GATE(+) SOURCE(-)
	FAILURE CRITERIA: VGS(OFF) OUT OF SPEC AT VDS=15V AND ID=50UA.												
352	6	RCA	N/R	N/R	N/R	1500	100 PF	75	GN	FAIL	95	2	GATE(+) SOURCE(-)
	FAILURE CRITERIA: VGS(OFF) OUT OF SPEC AT VDS=15V AND ID=50UA.												
352	7	RCA	N/R	N/R	N/R	1500	100 PF	100	GN	FAIL	95	1	GATE(+) SOURCE(-)
	FAILURE CRITERIA: VGS(OFF) OUT OF SPEC AT VDS=15V AND ID=50UA.												
352	8	RCA	N/R	N/R	N/R	1500	100 PF	150	GN	FAIL	95	1	GATE(+) SOURCE(-)
	FAILURE CRITERIA: IGSSR >25PA AT VGS=8V AND VDS=0V.												
352	9	RCA	N/R	N/R	N/R	1500	100 PF	200	GN	PASS	95	4	GATE(+) SOURCE(-)
	FAILURE CRITERIA: VGS(OFF) OUT OF SPEC AND/OR IGSSR >25PA AT VGS=8V AND VDS=0V.												
353	1	RCA	N/R	N/R	N/R	1500	100 PF	1	GN	FAIL	100	7	GATE(+) SOURCE(-)
	FAILURE CRITERIA: IGSSR >25PA AT VGS=8V AND VDS=0V.												
353	2	RCA	N/R	N/R	N/R	1500	100 PF	2	GN	FAIL	100	1	GATE(+) SOURCE(-)
	FAILURE CRITERIA: IGSSR >25PA AT VGS=8V AND VDS=0V.												
353	3	RCA	N/R	N/R	N/R	1500	100 PF	8	GN	FAIL	100	1	GATE(+) SOURCE(-)
	FAILURE CRITERIA: VGS(OFF) OUT OF SPEC AT VDS=15V AND ID=50UA.												
353	4	RCA	N/R	N/R	N/R	1500	100 PF	10	GN	FAIL	100	4	GATE(+) SOURCE(-)
	FAILURE CRITERIA: VGS(OFF) OUT OF SPEC AT VDS=15V AND ID=50UA.												
353	5	RCA	N/R	N/R	N/R	1500	100 PF	15	GN	FAIL	100	4	GATE(+) SOURCE(-)
	FAILURE CRITERIA: VGS(OFF) OUT OF SPEC AT VDS=15V AND ID=50UA.												
353	6	RCA	N/R	N/R	N/R	1500	100 PF	30	GN	FAIL	100	1	GATE(+) SOURCE(-)
	FAILURE CRITERIA: IGSSR >25PA AT VGS=8V AND VDS=0V.												
353	7	RCA	N/R	N/R	N/R	1500	100 PF	30	GN	FAIL	100	1	GATE(+) SOURCE(-)
	FAILURE CRITERIA: VGS(OFF) OUT OF SPEC AT VDS=15V AND ID=50UA.												
353	8	RCA	N/R	N/R	N/R	1500	100 PF	100	GN	FAIL	100	1	GATE(+) SOURCE(-)
	FAILURE CRITERIA: VGS(OFF) OUT OF SPEC AT VDS=15V AND ID=50UA.												
353	9	RCA	N/R	N/R	N/R	1500	100 PF	175	GN	FAIL	100	2	GATE(+) SOURCE(-)
	FAILURE CRITERIA: IGSSR >25PA AT VGS=8V AND VDS=0V.												
354	1	RCA	N/R	N/R	N/R	1500	100 PF	1	GN	FAIL	103	2	GATE(+) SOURCE(-)
	FAILURE CRITERIA: VGS(OFF) OUT OF SPEC AND IGSSR >25PA AT VGS=8V AND VDS=0V.												
354	2	RCA	N/R	N/R	N/R	1500	100 PF	1	GN	FAIL	103	9	GATE(+) SOURCE(-)
	FAILURE CRITERIA: IGSSR >25PA AT VGS=8V AND VDS=0V.												
354	3	RCA	N/R	N/R	N/R	1500	100 PF	1	GN	PASS	103	9	GATE(+) SOURCE(-)
	FAILURE CRITERIA: VGS(OFF) OUT OF SPEC AND/OR IGSSR >25PA AT VGS=8V AND VDS=0V.												
355	1	RCA	N/R	N/R	N/R	1500	100 PF	1	GN	FAIL	105	6	GATE(+) SOURCE(-)
	FAILURE CRITERIA: IGSSR >25PA AT VGS=8V AND VDS=0V.												
355	2	RCA	N/R	N/R	N/R	1500	100 PF	5	GN	FAIL	105	1	GATE(+) SOURCE(-)
	FAILURE CRITERIA: VGS(OFF) OUT OF SPEC AT VDS=15V AND ID=50UA.												
355	3	RCA	N/R	N/R	N/R	1500	100 PF	6	GN	FAIL	105	3	GATE(+) SOURCE(-)
	FAILURE CRITERIA: VGS(OFF) OUT OF SPEC AT VDS=15V AND ID=50UA.												
355	4	RCA	N/R	N/R	N/R	1500	100 PF	7	GN	FAIL	105	1	GATE(+) SOURCE(-)
	FAILURE CRITERIA: VGS(OFF) OUT OF SPEC AT VDS=15V AND ID=50UA.												

BASIC PART NUMBER DESCRIPTION

SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
3N128	(CONTINUED) MOSFET (IGFET) N-CHANNEL												
355	5	RCA	N/R	N/R	N/R	1500	100 PF	8	GN	FAIL	105	2	GATE(+) SOURCE(-)
	FAILURE CRITERIA: VGS(OFF) OUT OF SPEC AT VDS=15V AND ID=50UA.												
355	6	RCA	N/R	N/R	N/R	1500	100 PF	9	GN	FAIL	105	1	GATE(+) SOURCE(-)
	FAILURE CRITERIA: IGSSR >25PA AT VGS=8V AND VDS=0V.												
355	7	RCA	N/R	N/R	N/R	1500	100 PF	20	GN	FAIL	105	2	GATE(+) SOURCE(-)
	FAILURE CRITERIA: VGS(OFF) OUT OF SPEC AT VDS=15V AND ID=50UA.												
355	8	RCA	N/R	N/R	N/R	1500	100 PF	30	GN	FAIL	105	1	GATE(+) SOURCE(-)
	FAILURE CRITERIA: VGS(OFF) OUT OF SPEC AT VDS=15V AND ID=50UA.												
355	9	RCA	N/R	N/R	N/R	1500	100 PF	50	GN	FAIL	105	1	GATE(+) SOURCE(-)
	FAILURE CRITERIA: VGS(OFF) OUT OF SPEC AT VDS=15V AND ID=50UA.												
355	10	RCA	N/R	N/R	N/R	1500	100 PF	75	GN	FAIL	105	1	GATE(+) SOURCE(-)
	FAILURE CRITERIA: IGSSR >25PA AT VGS=8V AND VDS=0V.												
355	11	RCA	N/R	N/R	N/R	1500	100 PF	100	GN	FAIL	105	1	GATE(+) SOURCE(-)
	FAILURE CRITERIA: VGS(OFF) OUT OF SPEC AND IGSSR >25PA AT VGS=8V AND VDS=0V.												
355	12	RCA	N/R	N/R	N/R	1500	100 PF	200	GN	PASS	105	1	GATE(+) SOURCE(-)
	FAILURE CRITERIA: VGS(OFF) OUT OF SPEC AND/OR IGSSR >25PA AT VGS=8V AND VDS=0V.												
356	1	RCA	N/R	N/R	N/R	1500	100 PF	1	GN	FAIL	110	11	GATE(+) SOURCE(-)
	FAILURE CRITERIA: IGSSR >25PA AT VGS=8V AND VDS=0V.												
356	2	RCA	N/R	N/R	N/R	1500	100 PF	1	GN	FAIL	110	1	GATE(+) SOURCE(-)
	FAILURE CRITERIA: VGS(OFF) OUT OF SPEC AND IGSSR >25PA AT VGS=8V AND VDS=0V.												
356	3	RCA	N/R	N/R	N/R	1500	100 PF	2	GN	FAIL	110	1	GATE(+) SOURCE(-)
	FAILURE CRITERIA: VGS(OFF) OUT OF SPEC AND IGSSR >25PA AT VGS=8V AND VDS=0V.												
356	4	RCA	N/R	N/R	N/R	1500	100 PF	4	GN	FAIL	110	1	GATE(+) SOURCE(-)
	FAILURE CRITERIA: VGS(OFF) OUT OF SPEC AT VDS=15V AND ID=50UA.												
356	5	RCA	N/R	N/R	N/R	1500	100 PF	6	GN	FAIL	110	3	GATE(+) SOURCE(-)
	FAILURE CRITERIA: VGS(OFF) OUT OF SPEC AT VDS=15V AND ID=50UA.												
356	6	RCA	N/R	N/R	N/R	1500	100 PF	15	GN	FAIL	110	1	GATE(+) SOURCE(-)
	FAILURE CRITERIA: VGS(OFF) OUT OF SPEC AT VDS=15V AND ID=50UA.												
356	7	RCA	N/R	N/R	N/R	1500	100 PF	20	GN	FAIL	110	1	GATE(+) SOURCE(-)
	FAILURE CRITERIA: VGS(OFF) OUT OF SPEC AT VDS=15V AND ID=50UA.												
356	8	RCA	N/R	N/R	N/R	1500	100 PF	50	GN	FAIL	110	1	GATE(+) SOURCE(-)
	FAILURE CRITERIA: VGS(OFF) OUT OF SPEC AT VDS=15V AND ID=50UA.												
356	9	RCA	N/R	N/R	N/R	1500	100 PF	200	GN	PASS	110	1	GATE(+) SOURCE(-)
	FAILURE CRITERIA: VGS(OFF) OUT OF SPEC AND/OR IGSSR >25PA AT VGS=8V AND VDS=0V.												
357	1	RCA	N/R	N/R	N/R	1500	100 PF	1	GN	FAIL	115	12	GATE(+) SOURCE(-)
	FAILURE CRITERIA: IGSSR >25PA AT VGS=8V AND VDS=0V												
357	2	RCA	N/R	N/R	N/R	1500	100 PF	1	GN	FAIL	115	1	GATE(+) SOURCE(-)
	FAILURE CRITERIA: VGS(OFF) OUT OF SPEC AND IGSSR >25PA AT VGS=8V AND VDS=0V.												
357	3	RCA	N/R	N/R	N/R	1500	100 PF	3	GN	FAIL	115	1	GATE(+) SOURCE(-)
	FAILURE CRITERIA: IGSSR >25PA AT VGS=8V AND VDS=0V.												
357	4	RCA	N/R	N/R	N/R	1500	100 PF	4	GN	FAIL	115	3	GATE(+) SOURCE(-)
	FAILURE CRITERIA: VGS(OFF) OUT OF SPEC AT VDS=15V AND ID=50UA.												
357	5	RCA	N/R	N/R	N/R	1500	100 PF	5	GN	FAIL	115	2	GATE(+) SOURCE(-)
	FAILURE CRITERIA: VGS(OFF) OUT OF SPEC AT VDS=15V AND ID=50UA.												
357	6	RCA	N/R	N/R	N/R	1500	100 PF	10	GN	FAIL	115	1	GATE(+) SOURCE(-)
	FAILURE CRITERIA: IGSSR >25PA AT VGS=8V AND VDS=0V.												
357	7	RCA	N/R	N/R	N/R	1500	100 PF	25	GN	FAIL	115	1	GATE(+) SOURCE(-)
	FAILURE CRITERIA: VGS(OFF) OUT OF SPEC AT VDS=15V AND ID=50UA.												

DEVICE TYPE: TRANSISTORS
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
3N128	(CONTINUED) MOSFET (IGFET) N-CHANNEL												
358	1	RCA	N/R	N/R	N/R	1500	100 PF	1	GN	FAIL	125	1	GATE(+) SOURCE(-)
	FAILURE CRITERIA: IGSSR >25PA AT VGS=8V AND VDS=0V.												
359	1	RCA	N/R	N/R	N/R	1500	100 PF	1	GN	FAIL	150	1	GATE(+) SOURCE(-)
	FAILURE CRITERIA: IGSSR >25PA AT VGS=8V AND VDS=0V.												
360	1	RCA	N/R	N/R	N/R	1500	100 PF	1	GN	FAIL	200	1	GATE(+) SOURCE(-)
	FAILURE CRITERIA: IGSSR >25PA AT VGS=8V AND VDS=0V.												
3N170	MOSFET (IGFET) N-CHANNEL						SWITCHING						
246	1	INTERSIL	N/R	8012	N/R	1500	100 PF	200	GN	FAIL	80	1	G(+) S(-)
	FAILURE CRITERIA: IDSS OUT OF SPEC.												
247	1	INTERSIL	N/R	8012	N/R	1500	100 PF	5	GN	PASS	87	1	G(+) S(-)
	FAILURE CRITERIA: IGSSR,VGS(TH) OR IDSS OUT OF SPEC.												
248	1	INTERSIL	N/R	8012	N/R	1500	100 PF	200	GN	PASS	90	1	G(+) S(-)
	FAILURE CRITERIA: IGSSR,VGS(TH) OR IDSS OUT OF SPEC.												
248	2	INTERSIL	N/R	8012	N/R	1500	100 PF	2	GN	FAIL	90	1	G(+) S(-)
	FAILURE CRITERIA: IDSS OUT OF SPEC												
248	3	INTERSIL	N/R	8012	N/R	1500	100 PF	200	GN	PASS	90	7	G(+) S(-)
	FAILURE CRITERIA: IGSSR,VGS(TH) OR IDSS OUT OF SPEC.												
248	4	INTERSIL	N/R	8012	N/R	1500	100 PF	1	GN	FAIL	90	1	G(+) S(-)
	FAILURE CRITERIA: IGSSR OUT OF SPEC.												
248	5	INTERSIL	N/R	8012	N/R	1500	100 PF	200	GN	FAIL	90	1	G(+) S(-)
	FAILURE CRITERIA: IGSSR OUT OF SPEC.												
250	1	INTERSIL	N/R	8012	N/R	1500	100 PF	70	GN	FAIL	105	1	G(+) S(-)
	FAILURE CRITERIA: IGSSR OUT OF SPEC.												
251	1	INTERSIL	N/R	8012	N/R	1500	100 PF	1	GN	FAIL	115	1	G(+) S(-)
	FAILURE CRITERIA: IGSSR OUT OF SPEC.												
251	2	INTERSIL	N/R	8012	N/R	1500	100 PF	2	GN	PASS	115	1	G(+) S(-)
	FAILURE CRITERIA: IGSSR,VGS(TH) OR IDSS OUT OF SPEC.												
251	3	INTERSIL	N/R	8012	N/R	1500	100 PF	2	GN	FAIL	115	1	G(+) S(-)
	FAILURE CRITERIA: VGS(TH) OUT OF SPEC.												
251	4	INTERSIL	N/R	8012	N/R	1500	100 PF	5	GN	FAIL	115	1	G(+) S(-)
	FAILURE CRITERIA: VGS(TH) OUT OF SPEC.												
251	5	INTERSIL	N/R	8012	N/R	1500	100 PF	25	GN	FAIL	115	1	G(+) S(-)
	FAILURE CRITERIA: VGS(TH) OUT OF SPEC.												
251	6	INTERSIL	N/R	8012	N/R	1500	100 PF	43	GN	FAIL	115	1	G(+) S(-)
	FAILURE CRITERIA: VGS(TH) OUT OF SPEC.												
251	7	INTERSIL	N/R	8012	N/R	1500	100 PF	50	GN	FAIL	115	1	G(+) S(-)
	FAILURE CRITERIA: VGS(TH) OUT OF SPEC.												
251	8	INTERSIL	N/R	8012	N/R	1500	100 PF	75	GN	FAIL	115	1	G(+) S(-)
	FAILURE CRITERIA: IGSSR AND VGS(TH) OUT OF SPEC.												
251	9	INTERSIL	N/R	8012	N/R	1500	100 PF	125	GN	FAIL	115	1	G(+) S(-)
	FAILURE CRITERIA: VGS(TH) OUT OF SPEC.												
251	10	INTERSIL	N/R	8012	N/R	1500	100 PF	135	GN	FAIL	115	1	G(+) S(-)
	FAILURE CRITERIA: VGS(TH) OUT OF SPEC.												
251	11	INTERSIL	N/R	8012	N/R	1500	100 PF	40	GN	FAIL	115	1	S(+) G(-)
	FAILURE CRITERIA: VGS(TH) AND IDSS OUT OF SPEC.												
252	1	INTERSIL	N/R	8012	N/R	1500	100 PF	90	GN	FAIL	125	1	G(+) S(-)
	FAILURE CRITERIA: VGS(TH) OUT OF SPEC.												

DEVICE TYPE: TRANSISTORS
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
3N170	(CONTINUED) MOSFET (IGFET) N-CHANNEL						SWITCHING						
254	2	INTERSIL	N/R	8012	N/R	1500	100 PF	1	GN	FAIL	140	2	G(+) S(-)
	FAILURE CRITERIA: VGS(TH) OUT OF SPEC.												
254	3	INTERSIL	N/R	8012	N/R	1500	100 PF	2	GN	FAIL	140	1	G(+) S(-)
	FAILURE CRITERIA: IGSSR AND IDSS OUT OF SPEC.												
254	4	INTERSIL	N/R	8012	N/R	1500	100 PF	3	GN	FAIL	140	1	G(+) S(-)
	FAILURE CRITERIA: VGS(TH) OUT OF SPEC.												
254	5	INTERSIL	N/R	8012	N/R	1500	100 PF	4	GN	FAIL	140	1	G(+) S(-)
	FAILURE CRITERIA: VGS(TH) OUT OF SPEC.												
254	6	INTERSIL	N/R	8012	N/R	1500	100 PF	5	GN	FAIL	140	1	G(+) S(-)
	FAILURE CRITERIA: VGS(TH) OUT OF SPEC.												
254	7	INTERSIL	N/R	8012	N/R	1500	100 PF	6	GN	FAIL	140	1	G(+) S(-)
	FAILURE CRITERIA: IGSSR OUT OF SPEC.												
254	8	INTERSIL	N/R	8012	N/R	1500	100 PF	8	GN	FAIL	140	1	G(+) S(-)
	FAILURE CRITERIA: IGSSR OUT OF SPEC.												
254	9	INTERSIL	N/R	8012	N/R	1500	100 PF	200	GN	PASS	140	2	G(+) S(-)
	FAILURE CRITERIA: IGSSR,VGS(TH) OR IDSS OUT OF SPEC.												
254	10	INTERSIL	N/R	8012	N/R	1500	100 PF	1	GN	FAIL	140	1	S(+) G(-)
	FAILURE CRITERIA: VGS(TH) OUT OF SPEC.												
254	11	INTERSIL	N/R	8012	N/R	1500	100 PF	2	GN	FAIL	140	1	S(+) G(-)
	FAILURE CRITERIA: VGS(TH) AND IDSS OUT OF SPEC.												
255	1	INTERSIL	N/R	8012	N/R	1500	100 PF	19	GN	FAIL	145	1	G(+) S(-)
	FAILURE CRITERIA: VGS(TH) AND IDSS OUT OF SPEC.												
256	1	INTERSIL	N/R	8012	N/R	1500	100 PF	45	GN	FAIL	150	1	G(+) S(-)
	FAILURE CRITERIA: VGS(TH) OUT OF SPEC.												
256	2	INTERSIL	N/R	8012	N/R	1500	100 PF	21	GN	FAIL	150	1	G(+) S(-)
	FAILURE CRITERIA: IGSSR AND VGS(TH) OUT OF SPEC.												
256	3	INTERSIL	N/R	8012	N/R	1500	100 PF	1	GN	FAIL	150	1	S(+) G(-)
	FAILURE CRITERIA: VGS(TH) AND IDSS OUT OF SPEC.												
256	4	INTERSIL	N/R	8012	N/R	1500	100 PF	200	GN	FAIL	150	1	G(+) S(-)
	FAILURE CRITERIA: VGS(TH) OUT OF SPEC.												
257	1	INTERSIL	N/R	8012	N/R	1500	100 PF	1	GN	PASS	152	9	G(+) S(-)
	FAILURE CRITERIA: IGSSR,VGS(TH) OR IDSS OUT OF SPEC.												
257	2	INTERSIL	N/R	8012	N/R	1500	100 PF	1	GN	FAIL	152	1	G(+) S(-)
	FAILURE CRITERIA: IGSSR OUT OF SPEC.												
258	1	INTERSIL	N/R	8012	N/R	1500	100 PF	3	GN	FAIL	160	1	G(+) S(-)
	FAILURE CRITERIA: VGS(TH) OUT OF SPEC.												
259	2	INTERSIL	N/R	8012	N/R	1500	100 PF	1	GN	FAIL	165	1	G(+) S(-)
	FAILURE CRITERIA: IGSSR AND VGS(TH) OUT OF SPEC.												
259	3	INTERSIL	N/R	8012	N/R	1500	100 PF	1	GN	FAIL	165	5	G(+) S(-)
	FAILURE CRITERIA: VGS(TH) OUT OF SPEC.												
259	4	INTERSIL	N/R	8012	N/R	1500	100 PF	2	GN	FAIL	165	2	G(+) S(-)
	FAILURE CRITERIA: VGS(TH) OUT OF SPEC.												
259	5	INTERSIL	N/R	8012	N/R	1500	100 PF	5	GN	FAIL	165	1	G(+) S(-)
	FAILURE CRITERIA: VGS(TH) OUT OF SPEC.												
259	6	INTERSIL	N/R	8012	N/R	1500	100 PF	10	GN	FAIL	165	1	G(+) S(-)
	FAILURE CRITERIA: VGS(TH) OUT OF SPEC.												
259	7	INTERSIL	N/R	8012	N/R	1500	100 PF	35	GN	FAIL	165	1	G(+) S(-)
	FAILURE CRITERIA: VGS(TH) AND IDSS OUT OF SPEC.												

DEVICE TYPE: TRANSISTORS
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
3N170	(CONTINUED) MOSFET (IGFET) N-CHANNEL						SWITCHING						
259	8	INTERSIL	N/R	8012	N/R	1500	100 PF	19	GN	FAIL	165	1	G(+) S(-)
	FAILURE CRITERIA: VGS(TH) AND IDSS OUT OF SPEC.												
259	9	INTERSIL	N/R	8012	N/R	1500	100 PF	59	GN	FAIL	165	1	G(+) S(-)
	FAILURE CRITERIA: VGS(TH) AND IDSS OUT OF SPEC.												
260	1	INTERSIL	N/R	8012	N/R	1500	100 PF	2	GN	FAIL	170	1	G(+) S(-)
	FAILURE CRITERIA: VGS(TH) OUT OF SPEC.												
261	1	INTERSIL	N/R	8012	N/R	1500	100 PF	1	GN	FAIL	171	6	G(+) S(-)
	FAILURE CRITERIA: VGS(TH) AND IDSS OUT OF SPEC.												
261	2	INTERSIL	N/R	8012	N/R	1500	100 PF	1	GN	FAIL	171	3	G(+) S(-)
	FAILURE CRITERIA: VGS(TH) OUT OF SPEC.												
261	3	INTERSIL	N/R	8012	N/R	1500	100 PF	1	GN	PASS	171	1	G(+) S(-)
	FAILURE CRITERIA: IGSSR,VGS(TH) OR IDSS OUT OF SPEC.												
263	1	INTERSIL	N/R	8012	N/R	1500	100 PF	2	GN	FAIL	180	1	G(+) S(-)
	FAILURE CRITERIA: IGSSR,VGS(TH) AND IDSS OUT OF SPEC.												
265	1	INTERSIL	N/R	8012	N/R	1500	100 PF	1	GN	FAIL	190	1	G(+) S(-)
	FAILURE CRITERIA: IGSSR,VGS(TH) AND IDSS OUT OF SPEC.												
265	4	INTERSIL	N/R	8012	N/R	1500	100 PF	1	GN	FAIL	190	9	G(+) S(-)
	FAILURE CRITERIA: VGS(TH) AND IDSS OUT OF SPEC.												
265	5	INTERSIL	N/R	8012	N/R	1500	100 PF	1	GN	FAIL	190	1	G(+) S(-)
	FAILURE CRITERIA: VGS(TH) OUT OF SPEC.												
268	1	INTERSIL	N/R	8012	N/R	1500	100 PF	1	GN	FAIL	200	1	G(+) S(-)
	FAILURE CRITERIA: IGSSR,VGS(TH) AND IDSS OUT OF SPEC.												
268	2	INTERSIL	N/R	8012	N/R	1500	100 PF	1	GN	FAIL	200	2	G(+) S(-)
	FAILURE CRITERIA: VGS(TH) AND IDSS OUT OF SPEC.												

DEVICE TYPE: THYRISTORS

BASIC PART NUMBER	DESCRIPTION														
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
2N1596		TRIODE, POWER, REVERSE BLOCKING (SCR)											
029	18	TEXAS INSTRUMENTS	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	24381	1	B E
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
2N1602		TRIODE, POWER, REVERSE BLOCKING (SCR)											
029	19	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	18880	1	B E
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
2N1774A		TRIODE, POWER, REVERSE BLOCKING (SCR)											
030	701	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	15000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
2N1777A		TRIODE, POWER, REVERSE BLOCKING (SCR)											
029	26	GENERAL ELECTRIC	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	59685	1	B E
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
2N2323		TRIODE, POWER, REVERSE BLOCKING (SCR)											
029	36	GENERAL ELECTRIC	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	16543	1	E B
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
2N2346		TRIODE, POWER, REVERSE BLOCKING (SCR)											
029	37	GENERAL ELECTRIC	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	58170	1	E B
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
2N3030		TRIODE, POWER, REVERSE BLOCKING (SCR)											
048	23	N/R	N/R	N/R	N/R	100	218 PF	1	SS	FAIL	1000	1	N/R
	FAILURE CRITERIA: 50% INCREASE IN GATE LEAKAGE CURRENT												
2N685		TRIODE, POWER, REVERSE BLOCKING (SCR)											
029	91	GENERAL ELECTRIC	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	26756	1	B E
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
2N687		TRIODE, POWER, REVERSE BLOCKING (SCR)											
029	92	GENERAL ELECTRIC	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	88223	1	B E
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.												
2N886A		TRIODE, POWER, REVERSE BLOCKING (SCR)											
048	22	N/R	N/R	N/R	N/R	100	218 PF	1	SS	FAIL	680	1	N/R
	FAILURE CRITERIA: 50% INCREASE IN GATE LEAKAGE CURRENT												

DEVICE TYPE: OPTOELECTRONIC DEVICES

BASIC PART NUMBER	DESCRIPTION															
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION			
FLV104		LIGHT EMITTING DIODE														
386	3	FAIRCHILD SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	17160	1	A(+) C(-)			
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA.					FAILURE CRITERIA: LIGHT OUTPUT DEGRADATION AT CONSTANT CURRENT.										
386	4	FAIRCHILD SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	4400	1	C(+) A(-)			
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA.					FAILURE CRITERIA: LIGHT OUTPUT DEGRADATION AT CONSTANT CURRENT.										
FLV152		LIGHT EMITTING DIODE														
386	1	FAIRCHILD SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	20580	1	A(+) C(-)			
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA.					FAILURE CRITERIA: LIGHT OUTPUT DEGRADATION AT CONSTANT CURRENT.										
386	2	FAIRCHILD SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	5310	1	C(+) A(-)			
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA.					FAILURE CRITERIA: LIGHT OUTPUT DEGRADATION AT CONSTANT CURRENT.										
IRL60		LIGHT EMITTING DIODE														
386	13	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	15870	1	A(+) C(-)			
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA.					FAILURE CRITERIA: LIGHT OUTPUT DEGRADATION AT CONSTANT CURRENT.										
386	14	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	4060	1	C(+) A(-)			
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA.					FAILURE CRITERIA: LIGHT OUTPUT DEGRADATION AT CONSTANT CURRENT.										
MCT2		PHOTOTRANSISTOR OUTPUT														
030	710	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	9000	1	N/R			
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%															
ME60		LIGHT EMITTING DIODE														
386	7	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	15680	1	A(+) C(-)			
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA.					FAILURE CRITERIA: LIGHT OUTPU DEGRADATION AT CONSTANT CURRENT.										
386	8	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	4010	1	C(+) A(-)			
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA.					FAILURE CRITERIA: LIGHT OUTPUT DEGRADATION AT CONSTANT CURRENT.										
MLED900		LIGHT EMITTING DIODE														
386	9	MOTOROLA SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	19850	1	A(+) C(-)			
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA.					FAILURE CRITERIA: LIGHT OUTPUT DEGRADATION AT CONSTANT CURRENT.										
386	10	MOTOROLA SEMI	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	5120	1	C(+) A(-)			
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA.					FAILURE CRITERIA: LIGHT OUTPUT DEGRADATION AT CONSTANT CURRENT.										
MV-10B		LIGHT EMITTING DIODE														
386	5	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	31950	1	A(+) C(-)			
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA.					FAILURE CRITERIA: LIGHT OUTPUT DEGRADATION AT CONSTANT CURRENT.										
386	6	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	8320	1	C(+) A(-)			
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA.					FAILURE CRITERIA: LIGHT OUTPUT DEGRADATION AT CONSTANT CURRENT.										
5082-4885		LIGHT EMITTING DIODE														
386	11	HEWLETT PACKARD	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	22340	1	A(+) C(-)			
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA.					FAILURE CRITERIA: LIGHT OUTPUT DEGRADATION AT CONSTANT CURRENT.										

DEVICE TYPE: OPTOELECTRONIC DEVICES
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION														
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
5082-4885 (CONTINUED) LIGHT EMITTING DIODE													
386	12	HEWLETT PACKARD	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	5770	1	C(+) A(-)

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA. FAILURE CRITERIA: LIGHT OUTPUT DEGRADATION AT CONSTANT CURRENT.

DEVICE TYPE: RESISTORS

BASIC PART NUMBER	DESCRIPTION														
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
RNC55H		METAL FILM				100K							
026	26	DALE ELECTRONICS	N/R	N/R	FEB 81	100	200 PF	1	SS	FAIL	3000	4	N/R
	REMARK: VOLTAGE IS AN AVERAGE OF 4 DEVICES			FAILURE CRITERIA: RESISTANCE CHANGE OF 1%									
RNC55H3322		FILM RESISTOR				33.22K OHMS .1%							
079	2	N/R	RNC55H3322BSCJ	7836	N/R	1000	200 PF	1	SS	PASS	2000	1	N/R
	FAILURE CRITERIA: CHANGE IN RESISTANCE OF .1%												
084	1	N/R	RNC55H3322BSJ	7835	N/R	1000	200 PF	1	SS	FAIL	3500	1	N/R
	FAILURE CRITERIA: CHANGE IN RESISTANCE OF .1%												
084	2	N/R	RNC55H3322BSCJ	7836	N/R	1000	200 PF	1	SS	PASS	4000	1	N/R
	FAILURE CRITERIA: CHANGE IN RESISTANCE OF .1%												
084	3	N/R	RNC55H3322BSCJ	7836	N/R	1000	200 PF	1	SS	FAIL	1000	2	N/R
	FAILURE CRITERIA: CHANGE IN RESISTANCE OF .1%												
084	4	N/R	RNC55H3322BSCJ	7835	N/R	1000	200 PF	1	SS	FAIL	3000	1	N/R
	FAILURE CRITERIA: CHANGE IN RESISTANCE OF .1%												
RNC55H68		FILM RESISTOR				68 OHMS .1%							
086	1	N/R	RNC55H68RIFSCJ	7818	N/R	1000	200 PF	1	SS	FAIL	15000	3	N/R
	FAILURE CRITERIA: CHANGE IN RESISTANCE OF .1%												
RN50H1692		FILM RESISTOR				16.9K OHMS .1%							
074	1	N/R	RN50H1692BS	7811	N/R	0	200 PF	1	SS	FAIL	200	1	N/R
	FAILURE CRITERIA: CHANGE IN RESISTANCE OF .1%												
075	1	N/R	RN50H16923S	7807	N/R	1000	200 PF	1	SS	PASS	1000	1	N/R
	FAILURE CRITERIA: CHANGE IN RESISTANCE OF .1%												
075	2	N/R	RN50H1692BS	7808	N/R	1000	200 PF	1	SS	PASS	1000	1	N/R
	FAILURE CRITERIA: CHANGE IN RESISTANCE OF .1%												
078	2	N/R	RN50H1692BS	7807	N/R	1000	200 PF	1	SS	PASS	1000	1	N/R
	FAILURE CRITERIA: CHANGE IN RESISTANCE OF .1%												
078	3	N/R	RN50H1692BS	780[illegible]	N/R	1000	200 PF	1	SS	FAIL	100[illegible]	1	N/R
	FAILURE CRITERIA: CHANGE IN RESISTANCE OF .1%												
078	4	N/R	RN50H1692BS	781[illegible]	N/R	1000	200 PF	1	SS	FAIL	1000	2	N/R
	FAILURE CRITERIA: CHANGE IN RESISTANCE OF .1%												
081	1	N/R	RN50H1692BS	7811	N/R	1000	200 PF	1	SS	FAIL	2000	1	N/R
	FAILURE CRITERIA: CHANGE IN RESISTANCE OF .1%												
082	1	N/R	RN50H1692BS	7811	N/R	1000	200 PF	1	GN	FAIL	4000	1	N/R
	FAILURE CRITERIA: CHANGE IN RESISTANCE OF .1%												
085	1	N/R	RN50H1692BS	7808	N/R	1000	200 PF	1	SS	FAIL	1100	1	N/R
	FAILURE CRITERIA: CHANGE IN RESISTANCE OF .1%												
RN50H4532		FILM RESISTOR				045.3K OHMS .1%							
076	1	N/R	RN50H4532BS	7819	N/R	1000	200 PF	1	SS	PASS	2000	1	N/R
	FAILURE CRITERIA: CHANGE IN RESISTANCE OF .1%												
077	1	N/R	RN50H4532BS	7819	N/R	1000	200 PF	1	SS	PASS	2500	1	N/R
	FAILURE CRITERIA: CHANGE IN RESISTANCE OF .1%												

DEVICE TYPE: RESISTORS
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION														
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
RN50H4532 (CONTINUED) FILM RESISTOR						45.3K .1%							
078	1	N/R	RN50H4532BS	7819	N/R	1000	200 PF	1	SS	FAIL	1000	1	N/R
FAILURE CRITERIA: CHANGE IN RESISTANCE OF .1%													
079	1	N/R	RN50H4532BS	7819	N/R	1000	200 PF	1	SS	PASS	2000	1	N/R
FAILURE CRITERIA: CHANGE IN RESISTANCE OF .1%													
080	1	N/R	RN50H4532BS	7818	N/R	1000	200 PF	1	SS	FAIL	1500	1	N/R
FAILURE CRITERIA: CHANGE IN RESISTANCE OF .1%													
083	1	N/R	RN50H4532BS	7819	N/R	0	200 PF	1	SS	FAIL	2000	1	N/R
FAILURE CRITERIA: CHANGE IN RESISTANCE OF .1%													
0181A00361		METAL FILM				100 OHMS							
071	1	BECKMAN INSTRUMENTS	N/R	N/R	JUL 79	1500	100 PF	10	GN	FAIL	15000	1	N/R
FAILURE CRITERIA: CHANGE IN RESISTANCE OF 2%													
071	2	BECKMAN INSTRUMENTS	N/R	N/R	JUL 79	1500	100 PF	10	GN	FAIL	15000	1	N/R
FAILURE CRITERIA: CHANGE IN RESISTANCE OF 2%													
071	3	BECKMAN INSTRUMENTS	N/R	N/R	JUL 79	1500	100 PF	10	GN	FAIL	15000	1	N/R
FAILURE CRITERIA: CHANGE IN RESISTANCE OF 2%													
072	1	BECKMAN INSTRUMENTS	N/R	N/R	JUL 79	1500	100 PF	10	GN	PASS	2000	1	N/R
FAILURE CRITERIA: CHANGE IN RESISTANCE OF 2%													
072	2	BECKMAN INSTRUMENTS	N/R	N/R	JUL 79	1500	100 PF	10	GN	FAIL	2000	1	N/R
FAILURE CRITERIA: CHANGE IN RESISTANCE OF 2%													
072	3	BECKMAN INSTRUMENTS	N/R	N/R	JUL 79	1500	100 PF	10	GN	FAIL	2000	1	N/R
FAILURE CRITERIA: CHANGE IN RESISTANCE OF 2%													
073	1	BECKMAN INSTRUMENTS	N/R	N/R	JUL 79	1500	100 PF	10	GN	PASS	170	1	N/R
FAILURE CRITERIA: CHANGE IN RESISTANCE OF 2%													
073	2	BECKMAN INSTRUMENTS	N/R	N/R	JUL 79	1500	100 PF	10	GN	PASS	170	1	N/R
FAILURE CRITERIA: CHANGE IN RESISTANCE OF 2%													
073	3	BECKMAN INSTRUMENTS	N/R	N/R	JUL 79	1500	100 PF	10	GN	PASS	170	1	N/R
FAILURE CRITERIA: CHANGE IN RESISTANCE OF 2%													
0181A00363		METAL FILM				470 OHMS							
071	4	BECKMAN INSTRUMENTS	N/R	N/R	JUL 79	1500	100 PF	10	GN	FAIL	15000	1	N/R
FAILURE CRITERIA: CHANGE IN RESISTANCE OF 2%													
071	5	BECKMAN INSTRUMENTS	N/R	N/R	JUL 79	1500	100 PF	10	GN	FAIL	15000	1	N/R
FAILURE CRITERIA: CHANGE IN RESISTANCE OF 2%													
071	6	BECKMAN INSTRUMENTS	N/R	N/R	JUL 79	1500	100 PF	10	GN	FAIL	15000	1	N/R
FAILURE CRITERIA: CHANGE IN RESISTANCE OF 2%													
072	4	BECKMAN INSTRUMENTS	N/R	N/R	JUL 79	1500	100 PF	10	GN	PASS	2000	1	N/R
FAILURE CRITERIA: CHANGE IN RESISTANCE OF 2%													
072	5	BECKMAN INSTRUMENTS	N/R	N/R	JUL 79	1500	100 PF	10	GN	FAIL	2000	1	N/R
FAILURE CRITERIA: CHANGE IN RESISTANCE OF 2%													
072	6	BECKMAN INSTRUMENTS	N/R	N/R	JUL 79	1500	100 PF	10	GN	FAIL	2000	1	N/R
FAILURE CRITERIA: CHANGE IN RESISTANCE OF 2%													
073	4	BECKMAN INSTRUMENTS	N/R	N/R	JUL 79	1500	100 PF	10	GN	PASS	170	1	N/R
FAILURE CRITERIA: CHANGE IN RESISTANCE OF 2%													
073	5	BECKMAN INSTRUMENTS	N/R	N/R	JUL 79	1500	100 PF	10	GN	PASS	170	1	N/R
FAILURE CRITERIA: CHANGE IN RESISTANCE OF 2%													

DEVICE TYPE: RESISTORS
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION															
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION
0181A00363 (CONTINUED)		METAL FILM				100K OHMS							
073	6	BECKMAN INSTRUMENTS	N/R	N/R	JUL 79	1500	100 PF	10	GN	PASS	170	1	N/R
	FAILURE CRITERIA: CHANGE IN RESISTANCE OF 2%												
0181A00371		METAL FILM				100 OHMS							
071	7	BECKMAN INSTRUMENTS	N/R	N/R	JUL 79	1500	100 PF	10	GN	FAIL	15000	1	N/R
	FAILURE CRITERIA: CHANGE IN RESISTANCE OF 2%												
071	8	BECKMAN INSTRUMENTS	N/R	N/R	JUL 79	1500	100 PF	10	GN	FAIL	15000	1	N/R
	FAILURE CRITERIA: CHANGE IN RESISTANCE OF 2%												
071	9	BECKMAN INSTRUMENTS	N/R	N/R	JUL 79	1500	100 PF	10	GN	FAIL	15000	1	N/R
	FAILURE CRITERIA: CHANGE IN RESISTANCE OF 2%												
072	7	BECKMAN INSTRUMENTS	N/R	N/R	JUL 79	1500	100 PF	10	GN	PASS	2000	1	N/R
	FAILURE CRITERIA: CHANGE IN RESISTANCE OF 2%												
072	8	BECKMAN INSTRUMENTS	N/R	N/R	JUL 79	1500	100 PF	10	GN	PASS	2000	1	N/R
	FAILURE CRITERIA: CHANGE IN RESISTANCE OF 2%												
072	9	BECKMAN INSTRUMENTS	N/R	N/R	JUL 79	1500	100 PF	10	GN	FAIL	2000	1	N/R
	FAILURE CRITERIA:- CHANGE IN RESISTANCE OF 2%												
073	7	BECKMAN INSTRUMENTS	N/R	N/R	JUL 79	1500	100 PF	10	GN	PASS	170	1	N/R
	FAILURE CRITERIA: CHANGE IN RESISTANCE OF 2%												
073	8	BECKMAN INSTRUMENTS	N/R	N/R	JUL 79	1500	100 PF	10	GN	PASS	170	1	N/R
	FAILURE CRITERIA: CHANGE IN RESISTANCE OF 2%												
073	9	BECKMAN INSTRUMENTS	N/R	N/R	JUL 79	1500	100 PF	10	GN	PASS	170	1	N/R
	FAILURE CRITERIA: CHANGE IN RESISTANCE OF 2%												
0181A00373		METAL FILM				150 OHMS							
071	10	BECKMAN INSTRUMENTS	N/R	N/R	JUL 79	1500	100 PF	10	GN	FAIL	15000	1	N/R
	FAILURE CRITERIA: CHANGE IN RESISTANCE OF 2%												
071	11	BECKMAN INSTRUMENTS	N/R	N/R	JUL 79	1500	100 PF	10	GN	FAIL	15000	1	N/R
	FAILURE CRITERIA: CHANGE IN RESISTANCE OF 2%												
071	12	BECKMAN INSTRUMENTS	N/R	N/R	JUL 79	1500	100 PF	10	GN	FAIL	15000	N/R	N/R
	REMARK: 50% FAILURE RATE WITH ARCING BETWEEN LEADS FAILURE CRITERIA: CHANGE IN RESISTANCE OF 2%												
072	10	BECKMAN INSTRUMENTS	N/R	N/R	JUL 79	1500	100 PF	10	GN	PASS	2000	1	N/R
	FAILURE CRITERIA: CHANGE IN RESISTANCE OF 2%												
072	11	BECKMAN INSTRUMENTS	N/R	N/R	JUL 79	1500	100 PF	10	GN	PASS	2000	1	N/R
	FAILURE CRITERIA: CHANGE IN RESISTANCE OF 2%												
073	10	BECKMAN INSTRUMENTS	N/R	N/R	JUL 79	1500	100 PF	10	GN	PASS	170	1	N/R
	FAILURE CRITERIA: CHANGE IN RESISTANCE OF 2%												
073	11	BECKMAN INSTRUMENTS	N/R	N/R	JUL 79	1500	100 PF	10	GN	PASS	170	1	N/R
	FAILURE CRITERIA: CHANGE IN RESISTANCE OF 2%												
899-1-R		THIN FILM				10K LADDER NETWORK							
026	27	BECKMAN INSTRUMENTS	N/R	N/R	FEB 81	100	200 PF	1	SS	FAIL	665	12	N/R
	REMARK: VOLTAGE IS AN AVERAGE OF 12 RESISTORS. MEAN ENERGY OF 48UJ. FAILURE CRITERIA: RESISTANCE CHANGE OF 1%												

SECTION 3

Detailed Device Classification Data

PRECEDING PAGE BLANK-NOT FILMED

DETAILED DEVICE CLASSIFICATION DATA

The following tables consist of all the electronic parts RAC has ESD susceptibility test data on. The devices have been classified in accordance with DOD-STD-1686 and DOD-HDBK-263. It is important to note that the majority of the devices have not actually been tested in accordance with the test method of DOD-STD-1686 but instead the failure thresholds were determined from the available data on that part and classified accordingly. If the data was taken using a model other than the standard 100 pF, 1500 ohm human body model then the threshold voltage was converted, using the formulae given in Section 1, to an approximate value consistent with the 100 pF, 1500 ohm model. Derivation of these formulae may be found in Appendix A.

The voltage susceptibility levels found in this printout are divided into four classes defined as follows:

Class 1	0 - 1000V
Class 2	1001 - 4000V
Class 3	4001 - 15000V
N	> 15000V

N is used in this listing to indicate that a device is sensitive only above 15,000 volts and therefore is not considered to be sensitive in accordance with DOD-STD-1686 or DOD-HDBK-263.

If a device's sensitivity is not well-defined or is borderline between two classes, it is depicted with a dash (i.e., 1-2, 2-3, 3-N).

This section is divided into four parts:

Section	Description
3A	Microcircuits in Generic Part Number Order
3B	Microcircuits in Military Part Number Order
3C	Discrete Components in Generic Part Number Order
3D	Discrete Components in Military Part Number Order

NOTES FOR USE OF CLASSIFICATION INFORMATION

(1) If data was obtained on a commercial part, it may be listed with an associated MIL-M-38510 slash number. Although the commercial devices cannot be on a slash sheet, they are listed as such since commercial devices are electrically equivalent to military ones as far as ESD is concerned.

(2) The device description is only intended to provide a very brief description to distinguish between different parts that may have the same basic part number. A more complete description can be found in the Detailed Data section.

(3) If no date exists for a certain part it is suggested that a military or commercial equivalent device be located since they should be essentially the same for ESD considerations, i.e., 5400 series vs. 7400 series.

SECTION 3A

MICROCIRCUITS IN GENERIC PART NUMBER ORDER

PRECEDING PAGE BLANK-NOT FILMED

BASE PART NUMBER	MIL-M-38510	DEVICE	DESCRIPTION	CLASS
XC401		IIL	GATE	2-3
XC402		IIL	GATE	2-3
XC404		IIL	FLIP-FLOP	2-3
045B0		PMOS	SSI/MSI	3
100		CMOS	CONVERTER (D/A A/D)	2
101		BIPOLAR	OP AMP	1
101A	10103	BIPOLAR	OP AMP	1-2
10102		ECL	GATE	1
10130		ECL	LATCH	1
10146		ECL	RAM	1
103	14X01	BIPOLAR	VOLTAGE REGULATOR	3
105		BIPOLAR	VOLTAGE REGULATOR	2
10501	06001	ECL	GATE	2
10518		ECL	GATE	2
108		BIPOLAR	OP AMP	1
109	10701	BIPOLAR	VOLTAGE REGULATOR	3
11011		PMOS	STATIC RAM	2
111	10304	BIPOLAR	COMPARATOR	1
11201		JFET	SWITCH	3
11331		JFET	SWITCH	3
117		BIPOLAR	VOLTAGE REGULATOR	3
118	10107	BIPOLAR	OP AMP	3
119		BIPOLAR	COMPARATOR	2
120		BIPOLAR	VOLTAGE REGULATOR	3
124	11005	BIPOLAR	OP AMP	2
13201		JFET	SWITCH	3
139	11201	BIPOLAR	COMPARATOR	2
140		TTL	GATE	N
140	10706	BIPOLAR	VOLTAGE REGULATOR	3
14000		CMOS	GATE	2
14001A	05202	CMOS	GATE	1
14001B	05252	CMOS	GATE	2
14013A	05101	CMOS	FLIP-FLOP	2
14013B	05151	CMOS	FLIP-FLOP	2
14018		CMOS	COUNTER	2
14021		PMOS	SHIFT REGISTER	2-3
14046		CMOS	PHASE LOCK LOOP	1
14049		CMOS	BUFFER/INVERTER	1
14049A	05503	CMOS	BUFFER/INVERTER	1
14049B		CMOS	BUFFER/INVERTER	1
14050		CMOS	BUFFER/INVERTER	1
14053B	1XX02	CMOS	SWITCH	1-2
14069B		CMOS	BUFFER/INVERTER	1
1408		BIPOLAR	CONVERTER (D/A A/D)	3
14511		CMOS	DECODER	2
14519		CMOS	GATE	2
1458		BIPOLAR	OP AMP	2
1463		BIPOLAR	VOLTAGE REGULATOR	3
148	11001	BIPOLAR	OP AMP	2
1488		BIPOLAR	DRIVER	3
1489		BIPOLAR	RECEIVER	2-3
1494		BIPOLAR	LINEAR	2
1496		BIPOLAR	LINEAR	2
1506		BIPOLAR	CONVERTER (D/A A/D)	2
1508		BIPOLAR	CONVERTER (D/A A/D)	3
1530		BIPOLAR	OP AMP	2
1533		BIPOLAR	OP AMP	1-2
155	11401	BIFET	OP AMP	3
1558	10108	BIPOLAR	OP AMP	2
156	11402	BIFET	OP AMP	2
1563		BIPOLAR	VOLTAGE REGULATOR	2
157	11403	BIFET	OP AMP	3
1590		BIPOLAR	OP AMP	3
1594		BIPOLAR	LINEAR	2
15946		DTL	GATE	N
1596		BIPOLAR	LINEAR	2
1678		ECL	COUNTER	3
180		DTL	GATE	3
1802		CMOS	MICROPROCESSOR	1
1822	47102	CMOS	RAM	2
1852	47301	CMOS	SSI/MSI	1
190		JFET	SWITCH	2
198	12501	BIFET	LINEAR	2

BASE PART NUMBER	MIL-M-38510	DEVICE	DESCRIPTION	CLASS
2001		TTL	SHIFT REGISTER	3
201	12302	CMOS	SWITCH	1-2
201	12304	CMOS	SWITCH	2
2051		MNOS	EAPROM	1
2102		NMOS	STATIC RAM	1
211		BIPOLAR	COMPARATOR	3
2111		NMOS	STATIC RAM	1
2114	23802	MOS	STATIC RAM	1
2141	2XX03	NMOS	STATIC RAM	1
2147	23801	MOS	STATIC RAM	1
2255		CMOS	GATE	1
2401	2XX01	NMOS	ROM	1
2516	22101	NMOS	EPROM	1
26LS31	14X01	LSTTL	DRIVER	1-2
26LS32	14X02	LSTTL	RECEIVER	1-2
2622		BIPOLAR	OP AMP	2
2650		BIPOLAR	OP AMP	1-2
27S13		STTL	PROM	1
27S19C		STTL	PROM	1
27S20		STTL	PROM	1-2
2702		BIPOLAR	VOLTAGE REFERENCE	1
2708	22001	NMOS	EPROM	1
2716	22101	NMOS	EPROM	1
2732	22202	NMOS	EPROM	1
2901		LSTTL	MICROPROCESSOR	1
2909		LSTTL	MICROPROCESSOR	1-2
2910	44501	TTL	MICROPROCESSOR	1-2
2930		LSTTL	MICROPROCESSOR	1-2
301		BIPOLAR	OP AMP	1-2
301		ECL	GATE	N
3015		BIPOLAR	OP AMP	2
302		BIPOLAR	OP AMP	3
304		ECL	DRIVER	3
308		ECL	FLIP-FLOP	3
308		BIPOLAR	OP AMP	1-2
309		BIPOLAR	VOLTAGE REGULATOR	3
3101		STTL	STATIC RAM	3
311		CCD	SHIFT REGISTER	1
311		BIPOLAR	COMPARATOR	3
317		ECL	CONVERTER (D/A A/D)	3
317		BIPOLAR	VOLTAGE REGULATOR	3
318		BIPOLAR	OP AMP	3
319		BIPOLAR	COMPARATOR	1-2
320		BIPOLAR	VOLTAGE REGULATOR	3
324		BIPOLAR	OP AMP	1-2
331		CMOS	CONVERTER (D/A A/D)	1
339	11201	BIPOLAR	COMPARATOR	2
340		BIPOLAR	VOLTAGE REGULATOR	3
3400		CMOS	EAPROM	1
34001		BIFET	OP AMP	1
34001		CMOS	GATE	1-2
3403		BIPOLAR	OP AMP	1
34049B		CMOS	BUFFER/INVERTER	1-2
344		BIPOLAR	OP AMP	2
348	11001	BIPOLAR	OP AMP	2
351		ECL	GATE	2
355	11401	BIFET	OP AMP	3
356	11402	BIFET	OP AMP	3
357		BIFET	OP AMP	3
3600		BIPOLAR	CONVERTER (D/A A/D)	3
3870		NMOS	MICROCOMPUTER	1
3873		NMOS	MICROCOMPUTER	1
398	12501	BIFET	LINEAR	2
4000		CMOS	GATE	1-2
4001		CMOS	GATE	1-2
4001A	05202	CMOS	GATE	1
4001B	05252	CMOS	GATE	2
40014		CMOS	SSI/MSI	2
4002B	05253	CMOS	GATE	1
4006		TTL	DECODER	3
4006B	05751	CMOS	SHIFT REGISTER	1
4007	05351	CMOS	BUFFER/INVERTER	1
4007B		CMOS	BUFFER/INVERTER	1

BASE PART NUMBER	MIL-M-38510	DEVICE	DESCRIPTION	CLASS
4008B	05451	CMOS	SSI/MSI	1
40101B		CMOS	SSI/MSI	1
4011		CMOS	GATE	1
4011A	05001	CMOS	GATE	2
4011B	05051	CMOS	GATE	1-2
4012	05002	CMOS	GATE	2
4012B	05052	CMOS	GATE	1
4013		CMOS	FLIP-FLOP	2
4013A	05101	CMOS	FLIP-FLOP	1-2
4013B	05151	CMOS	FLIP-FLOP	1
4014B	05752	CMOS	SHIFT REGISTER	1
4015B	05753	CMOS	SHIFT REGISTER	1
40160B	18001	CMOS	COUNTER	1
40161B	18002	CMOS	COUNTER	1
40161BC		CMOS	COUNTER	1
40162B	18003	CMOS	COUNTER	1
40163B	18004	CMOS	COUNTER	1
4017B	05651	CMOS	COUNTER	1
40174B	17505	CMOS	FLIP-FLOP	1
4018		CMOS	COUNTER	2
4019		CMOS	GATE	1-2
4019B	05352	CMOS	GATE	1
40194B	17906	CMOS	SHIFT REGISTER	1
40195B		CMOS	SHIFT REGISTER	1
4020		CMOS	COUNTER	2
4020B	05653	CMOS	COUNTER	1
4021		CMOS	SHIFT REGISTER	1
4021A	05704	CMOS	SHIFT REGISTER	2
4021B	05754	CMOS	SHIFT REGISTER	1
4023A	05003	CMOS	GATE	1
4023B	05053	CMOS	GATE	1
4023D		CMOS	GATE	1
4024		CMOS	COUNTER	1-2
4024B	05655	CMOS	COUNTER	1
4025B	05254	CMOS	GATE	1
4027B	05152	CMOS	FLIP-FLOP	2
4028B	05951	CMOS	DECODER	1
4029		CMOS	COUNTER	1
4029B	18X02	CMOS	COUNTER	1
4030B	05353	CMOS	GATE	1
4031B	05755	CMOS	SHIFT REGISTER	1
4033B		CMOS	COUNTER	1
4034B	05756	CMOS	SHIFT REGISTER	1
4035		CMOS	SHIFT REGISTER	1
4035B	18X01	CMOS	SHIFT REGISTER	1
4040		CMOS	COUNTER	1
4040B	1XX01	CMOS	COUNTER	1
4042B	18X02	CMOS	LATCH	1
4043		TTL	DRIVER	3
4043B	05153	CMOS	LATCH	1
4044	2XX02	CMOS	LATCH	1
4046B		CMOS	PHASE LOCK LOOP	1
4049	05553	CMOS	BUFFER/INVERTER	1
4049A	05503	CMOS	BUFFER/INVERTER	2
4049UB	05553	CMOS	BUFFER/INVERTER	1
4050		CMOS	BUFFER/INVERTER	1
4050B	05554	CMOS	BUFFER/INVERTER	1
4051B		CMOS	LINEAR MULTIPLEXER	1
4052B		CMOS	LINEAR MULTIPLEXER	1
4053		CMOS	SWITCH	1
4053B	1XX01	CMOS	SWITCH	1
4053B	1XX01	CMOS	SWITCH	2
4066		CMOS	SWITCH	3
4066B	05852	CMOS	SWITCH	1
4067B	17801	CMOS	LINEAR MULTIPLEXER	1
4068B		CMOS	GATE	1
4069	17401	CMOS	BUFFER/INVERTER	1
4069B		CMOS	BUFFER/INVERTER	1-2
4069UB	17401	CMOS	BUFFER/INVERTER	1
4070		CMOS	GATE	1
4071B	17101	CMOS	GATE	1
4073B	17003	CMOS	GATE	1
4076B	17501	CMOS	FLIP-FLOP	1

BASE PART NUMBER	MIL-M-38510	DEVICE	DESCRIPTION	CLASS
4077B	17204	CMOS	GATE	1
4081B	17001	CMOS	GATE	1
4082B	17002	CMOS	GATE	1
4085B	17201	CMOS	GATE	1
4086B	17202	CMOS	GATE	1
4093		CMOS	GATE	1-2
4093B	17701	CMOS	GATE	1
4099B	17601	CMOS	LATCH	1
4116	24001	NMOS	DYNAMIC RAM	1
4131		BIPOLAR	OP AMP	2
416		NMOS	DYNAMIC RAM	1
4502B	17403	CMOS	BUFFER/INVERTER	1
4503B		CMOS	BUFFER/INVERTER	1
4508B	17602	CMOS	LATCH	1
4511		CMOS	DECODER	1-2
4511B		CMOS	DECODER	1
4512B		CMOS	MULTIPLEXER	1
4514B	17301	CMOS	DECODER	1
4515B		CMOS	DECODER	1
4516B	18106	CMOS	COUNTER	1
4518B	18107	CMOS	COUNTER	1
4519B		CMOS	GATE	1
4520B	18108	CMOS	COUNTER	1
4528B	1XX01	CMOS	MULTIVIBRATOR	1
4539B		CMOS	MULTIPLEXER	1
4555B	17304	JFET	DECODER	1
4558		BIPOLAR	OP AMP	2
4581B		CMOS	SSI/MSI	1
4585B	1XX01	CMOS	COMPARATOR	1
4716		NMOS	DYNAMIC RAM	1
4724		CMOS	LATCH	1
506	19001	CMOS	LINEAR MULTIPLEXER	1
508	19007	CMOS	LINEAR MULTIPLEXER	1
520		MOS	CONSUMER	1
532	13X01	BIPOLAR	LINEAR	1-2
54H00	02304	HTTL	GATE	3
54H183		HTTL	SSI/MSI	3
54LS00	30001	LSTTL	GATE	1-2
54LS02	30301	LSTTL	GATE	1-2
54LS03	30002	LSTTL	GATE	1-2
54LS04	30003	LSTTL	BUFFER/INVERTER	1-2
54LS05	30004	LSTTL	BUFFER/INVERTER	2
54LS08	31004	LSTTL	GATE	1-2
54LS09	31005	LSTTL	GATE	1-2
54LS10	30005	LSTTL	GATE	1-2
54LS107	30108	LSTTL	FLIP-FLOP	1-2
54LS109	30109	LSTTL	FLIP-FLOP	1-2
54LS11	31001	LSTTL	GATE	1-2
54LS112	30103	LSTTL	FLIP-FLOP	1-2
54LS12	30006	LSTTL	GATE	1-2
54LS123	31401	LSTTL	MULTIVIBRATOR	1-2
54LS125	32301	LSTTL	BUFFER/INVERTER	1-2
54LS126	32302	LSTTL	BUFFER/INVERTER	1-2
54LS138	30701	LSTTL	DECODER	1-2
54LS139	30702	LSTTL	DECODER	1-2
54LS14	31302	LSTTL	SSI/MSI	1-2
54LS148	36001	LSTTL	ENCODER	1-2
54LS15	31002	LSTTL	GATE	1-2
54LS151	30901	LSTTL	MULTIPLEXER	1-2
54LS153	30902	LSTTL	MULTIPLEXER	1-2
54LS154		LSTTL	DECODER	1-2
54LS155	32601	LSTTL	DECODER	1-2
54LS157	30903	LSTTL	MULTIPLEXER	2
54LS160	31503	LSTTL	COUNTER	1-2
54LS161	31504	LSTTL	COUNTER	1-2
54LS162	31511	LSTTL	COUNTER	1-2
54LS163	31512	LSTTL	COUNTER	1-2
54LS164	30605	LSTTL	SHIFT REGISTER	1-2
54LS165	30608	LSTTL	SHIFT REGISTER	1-2
54LS166	30609	LSTTL	SHIFT REGISTER	1-2
54LS173		LSTTL	FLIP-FLOP	1-2
54LS174	30106	LSTTL	FLIP-FLOP	1-2
54LS175	30107	LSTTL	FLIP-FLOP	1-2

BASE PART NUMBER	MIL-M-38510	DEVICE	DESCRIPTION	CLASS
54LS181	30801	LSTTL	SSI/MSI	1-2
54LS192	31507	LSTTL	COUNTER	1-2
54LS193	31508	LSTTL	COUNTER	1-2
54LS194	30601	LSTTL	SHIFT REGISTER	1-2
54LS196	32001	LSTTL	COUNTER	1-2
54LS197	32002	LSTTL	COUNTER	1-2
54LS20	30007	LSTTL	GATE	1-2
54LS21	31003	LSTTL	GATE	1-2
54LS221	31402	LSTTL	MULTIVIBRATOR	1-2
54LS240	32401	LSTTL	DRIVER	1-2
54LS244	32403	LSTTL	DRIVER	1-2
54LS245	32803	LSTTL	TRANSCEIVER	1-2
54LS251	30905	LSTTL	MULTIPLEXER	1-2
54LS253	30908	LSTTL	MULTIPLEXER	1-2
54LS257	30906	LSTTL	MULTIPLEXER	1-2
54LS259	31603	LSTTL	LATCH	1-2
54LS266	30303	LSTTL	GATE	1-2
54LS27	30302	LSTTL	GATE	1-2
54LS279	31602	LSTTL	LATCH	1-2
54LS280	32901	LSTTL	SSI/MSI	1-2
54LS283	31202	LSTTL	SSI/MSI	1-2
54LS295		LSTTL	SHIFT REGISTER	1-2
54LS298	30909	LSTTL	MULTIPLEXER	1-2
54LS299	3XX01	LSTTL	SHIFT REGISTER	1-2
54LS30	30009	LSTTL	GATE	1-2
54LS32	30501	LSTTL	GATE	1-2
54LS353		LSTTL	MULTIPLEXER	1-2
54LS367	32203	LSTTL	BUFFER/INVERTER	1-2
54LS368	32204	LSTTL	BUFFER/INVERTER	1-2
54LS37	30302	LSTTL	GATE	1-2
54LS373	32502	LSTTL	LATCH	1-2
54LS374	32503	LSTTL	FLIP-FLOP	1-2
54LS38	30203	LSTTL	GATE	1-2
54LS390	32701	LSTTL	COUNTER	1-2
54LS393	32702	LSTTL	COUNTER	1-2
54LS40	30201	LSTTL	GATE	1-2
54LS42	30703	LSTTL	ENCODER	1-2
54LS51	30401	LSTTL	GATE	1-2
54LS54	30402	LSTTL	GATE	1-2
54LS670	31901	LSTTL	SSI/MSI	1
54LS74	30102	LSTTL	FLIP-FLOP	1-2
54LS75	31601	LSTTL	LATCH	1-2
54LS85	31101	LSTTL	SSI/MSI	1-2
54LS86	30502	LSTTL	GATE	1
54LS90	31501	LSTTL	COUNTER	1-2
54LS92	31510	LSTTL	COUNTER	1
54L00	02004	LTTL	GATE	2
54L04	02005	LTTL	BUFFER/INVERTER	3
54L74	02105	LTTL	FLIP-FLOP	1
54S02	07301	STTL	GATE	1
54S03	07002	STTL	GATE	1
54S04	07003	STTL	BUFFER/INVERTER	1
54S05	07004	STTL	BUFFER/INVERTER	1
54S08	08003	STTL	GATE	1
54S10	07005	STTL	GATE	1
54S11	08001	STTL	GATE	1
54S112	07102	STTL	FLIP-FLOP	1
54S135	07502	STTL	GATE	1
54S138	07701	STTL	DECODER	1
54S151	07901	STTL	MULTIPLEXER	1
54S153	07902	STTL	MULTIPLEXER	1
54S157	07903	STTL	MULTIPLEXER	1
54S160		STTL	COUNTER	1
54S161		STTL	COUNTER	1
54S174	07105	STTL	FLIP-FLOP	1
54S175	07106	STTL	FLIP-FLOP	1
54S181	07801	STTL	SSI/MSI	1
54S189		STTL	STATIC RAM	1
54S20	07006	STTL	GATE	1
54S200		STTL	RAM	1
54S22	07007	STTL	GATE	1
54S251	07905	STTL	MULTIPLEXER	1
54S257	07906	STTL	MULTIPLEXER	1

BASE PART NUMBER	MIL-M-38510	DEVICE	DESCRIPTION	CLASS
54S258	07907	STTL	MULTIPLEXER	1
54S287		STTL	PROM	1
54S288		STTL	PROM	1
54S30	07008	STTL	GATE	1
54S32		STTL	GATE	1
54S471		STTL	PROM	1
54S472		STTL	PROM	1
54S51	07401	STTL	GATE	1
54S573		STTL	PROM	1
54S74	07101	STTL	FLIP-FLOP	1
54S85	08201	STTL	SSI/MSI	1
54S86	07501	STTL	GATE	1
5400	00104	TTL	GATE	2
5404	00105	TTL	BUFFER/INVERTER	2
5406	00801	TTL	DRIVER	2
5407	00803	TTL	DRIVER	2
54120		TTL	DRIVER	2
54128		TTL	DRIVER	2
54153	01403	TTL	MULTIPLEXER	3
54154	15201	TTL	DECODER	2
54182	01102	TTL	SSI/MSI	1
5420	00102	TTL	GATE	2
5421		TTL	GATE	2
5425	00403	TTL	GATE	2
5437	00302	TTL	GATE	2
5438	00303	TTL	GATE	2
5445	01004	TTL	DECODER	2
5446	01006	TTL	DRIVER	2
5483	00602	TTL	SSI/MSI	3
55104	10401	BIPOLAR	RECEIVER	3
55109	13X01	BIPOLAR	DRIVER	3
55461	12907	TTL	DRIVER	2
55462	12908	TTL	DRIVER	2
55463	12909	TTL	DRIVER	2
55464	12910	TTL	DRIVER	2
555	10901	BIPOLAR	LINEAR	2
556	10902	BIPOLAR	LINEAR	2
5710		IIL	COMPARATOR	3
6514	24502	CMOS	STATIC RAM	1-2
6518	23902	CMOS	RAM	1
6800	40001	NMOS	MICROPROCESSOR	1
6802	40X01	NMOS	MICROPROCESSOR	1
6821		NMOS	MICROPROCESSOR	1
6828		NMOS	MICROPROCESSOR	1
6844	40X01	NMOS	MICROPROCESSOR	1
6845	40X01	NMOS	MICROPROCESSOR	1
6850	40X01	NMOS	MICROPROCESSOR	1
6875	40X01	NMOS	MICROPROCESSOR	1
7040		MNOS	EAPROM	2
709		BIPOLAR	OP AMP	2
710		BIPOLAR	COMPARATOR	1-2
715		BIPOLAR	OP AMP	3-N
723		BIPOLAR	VOLTAGE REGULATOR	1-2
72709		BIPOLAR	OP AMP	N
733		BIPOLAR	AMP	1-2
74F00	33001	ADVANCED S	GATE	1
74F04	33002	ADVANCED S	BUFFER/INVERTER	1
74F175	34104	ADVANCED S	FLIP-FLOP	1
74F20	33004	ADVANCED S	GATE	1
74H00	02304	HTTL	GATE	2
74H05		HTTL	BUFFER/INVERTER	N
74H106		HTTL	FLIP-FLOP	1
74LS00	30001	LSTTL	GATE	1
74LS02	30301	LSTTL	GATE	1-2
74LS03	30002	LSTTL	GATE	1-2
74LS05	30004	LSTTL	BUFFER/INVERTER	1-2
74LS08	31004	LSTTL	GATE	1-2
74LS09	31005	LSTTL	GATE	1-2
74LS10	30005	LSTTL	GATE	1-2
74LS107	30108	LSTTL	FLIP-FLOP	1-2
74LS109	30109	LSTTL	FLIP-FLOP	1-2
74LS11	31001	LSTTL	GATE	1-2
74LS112	30103	LSTTL	FLIP-FLOP	1-2

BASE PART NUMBER	MIL-M-38510	DEVICE	DESCRIPTION	CLASS
74LS12	30006	LSTTL	GATE	1-2
74LS125	32301	LSTTL	BUFFER/INVERTER	1-2
74LS126	32302	LSTTL	BUFFER/INVERTER	1-2
74LS138	30701	LSTTL	DECODER	1-2
74LS139	30702	LSTTL	DECODER	1-2
74LS14	31302	LSTTL	SSI/MSI	1-2
74LS148	36001	LSTTL	ENCODER	1-2
74LS15	31002	LSTTL	GATE	1-2
74LS151	30901	LSTTL	MULTIPLEXER	1-2
74LS153	30902	LSTTL	MULTIPLEXER	1-2
74LS154		LSTTL	DECODER	1-2
74LS155	32601	LSTTL	DECODER	1-2
74LS157	30903	LSTTL	MULTIPLEXER	1-2
74LS160	31503	LSTTL	COUNTER	1-2
74LS161	31504	LSTTL	COUNTER	1-2
74LS162	31511	LSTTL	COUNTER	1-2
74LS163	31512	LSTTL	COUNTER	1-2
74LS164	30605	LSTTL	SHIFT REGISTER	1-2
74LS165	30608	LSTTL	SHIFT REGISTER	1-2
74LS166	30609	LSTTL	SHIFT REGISTER	1-2
74LS173		LSTTL	FLIP-FLOP	1-2
74LS174	30106	LSTTL	FLIP-FLOP	1-2
74LS175	30107	LSTTL	FLIP-FLOP	2
74LS181	30801	LSTTL	SSI/MSI	1-2
74LS192	31507	LSTTL	COUNTER	1-2
74LS193	31508	LSTTL	COUNTER	1-2
74LS194	30601	LSTTL	SHIFT REGISTER	1-2
74LS196	32001	LSTTL	COUNTER	1-2
74LS197	32002	LSTTL	COUNTER	1-2
74LS20	30007	LSTTL	GATE	1-2
74LS21	31003	LSTTL	GATE	1-2
74LS221	31402	LSTTL	MULTIVIBRATOR	1-2
74LS240	32401	LSTTL	DRIVER	1-2
74LS244	32403	LSTTL	DRIVER	1-2
74LS245	32803	LSTTL	TRANSCEIVER	1-2
74LS251	30905	LSTTL	MULTIPLEXER	1-2
74LS253	30908	LSTTL	MULTIPLEXER	1-2
74LS257	30906	LSTTL	MULTIPLEXER	1-2
74LS259	31603	LSTTL	LATCH	1-2
74LS266	30303	LSTTL	GATE	1-2
74LS27	30302	LSTTL	GATE	1-2
74LS279	31602	LSTTL	LATCH	1-2
74LS280	32901	LSTTL	SSI/MSI	1-2
74LS283	31202	LSTTL	SSI/MSI	1-2
74LS295		LSTTL	SHIFT REGISTER	1-2
74LS298	30909	LSTTL	MULTIPLEXER	1-2
74LS299	3XX01	LSTTL	SHIFT REGISTER	1
74LS30	30009	LSTTL	GATE	1-2
74LS32	30501	LSTTL	GATE	1-2
74LS353		LSTTL	MULTIPLEXER	1-2
74LS367	32203	LSTTL	BUFFER/INVERTER	1-2
74LS368	32204	LSTTL	BUFFER/INVERTER	1-2
74LS37	30202	LSTTL	GATE	1-2
74LS373	32502	LSTTL	LATCH	1-2
74LS374	32503	LSTTL	FLIP-FLOP	1-2
74LS38	30203	LSTTL	GATE	1-2
74LS390	32701	LSTTL	COUNTER	1-2
74LS393	32702	LSTTL	COUNTER	1-2
74LS40	30201	LSTTL	GATE	1-2
74LS42	30703	LSTTL	ENCODER	1-2
74LS51	30401	LSTTL	GATE	1-2
74LS54	30402	LSTTL	GATE	1-2
74LS670	31901	LSTTL	SSI/MSI	1-2
74LS74	30102	LSTTL	FLIP-FLOP	1-2
74LS75	31601	LSTTL	LATCH	1-2
74LS86	30502	LSTTL	GATE	1-2
74LS92	31510	LSTTL	COUNTER	1-2
74L00	02004	LTTL	GATE	2-3
74L71	02101	LTTL	FLIP-FLOP	2-3
74L73	02103	LTTL	FLIP-FLOP	2
74L95	02801	LTTL	SHIFT REGISTER	2-3
74S00	07001	STTL	GATE	1
74S02	07301	STTL	GATE	1

BASE PART NUMBER	MIL-M-38510	DEVICE	DESCRIPTION	CLASS
74S03	07002	STTL	GATE	1
74S04	07003	STTL	BUFFER/INVERTER	1
74S05	07004	STTL	BUFFER/INVERTER	1
74S08	08003	STTL	GATE	1
74S10	07005	STTL	GATE	1
74S11	08001	STTL	GATE	1
74S112	07102	STTL	FLIP-FLOP	1
74S133	07009	STTL	GATE	1
74S135	07502	STTL	GATE	1
74S140	08101	STTL	GATE	1
74S151	07901	STTL	MULTIPLEXER	1
74S153	07902	STTL	MULTIPLEXER	1
74S157	07903	STTL	MULTIPLEXER	1
74S160		STTL	COUNTER	1
74S161		STTL	COUNTER	1
74S174	07105	STTL	FLIP-FLOP	1
74S175	07106	STTL	FLIP-FLOP	1
74S181	07801	STTL	SSI/MSI	1
74S182	07802	STTL	SSI/MSI	1
74S189		STTL	STATIC RAM	1
74S20	07006	STTL	GATE	1
74S200		STTL	RAM	1
74S22	07007	STTL	GATE	1
74S251	07905	STTL	MULTIPLEXER	1
74S257	07906	STTL	MULTIPLEXER	1
74S258	07907	STTL	MULTIPLEXER	1
74S30	07008	STTL	GATE	1
74S32		STTL	GATE	1
74S472		STTL	PROM	1
74S51	07401	STTL	GATE	1
74S74	07101	STTL	FLIP-FLOP	1
74S85	08201	STTL	SSI/MSI	1
74S86	07501	STTL	GATE	1
740		BIFET	OP AMP	3
7400	00104	TTL	GATE	2
7402	00401	TTL	GATE	3
7404	00105	TTL	BUFFER/INVERTER	2
7406	00801	TTL	DRIVER	2
7407	00803	TTL	DRIVER	2
741	10101	BIPOLAR	OP AMP	1
74120		TTL	DRIVER	2
74128		TTL	DRIVER	2
7413	15101	TTL	SSI/MSI	3
74154	15201	TTL	DECODER	2
74163	01304	TTL	COUNTER	1
74173		TTL	FLIP-FLOP	2
74175	01702	TTL	FLIP-FLOP	2
74182	01102	TTL	SSI/MSI	2
7425	00403	TTL	GATE	2
7437	00302	TTL	GATE	2
7438	00303	TTL	GATE	2
7445	01004	TTL	DECODER	2
7446	01006	TTL	DRIVER	2
747		BIPOLAR	OP AMP	2
7490	01307	TTL	COUNTER	3
75LS85		LSTTL	SSI/MSI	1-2
75107		TTL	RECEIVER	3
7520		CMOS	CONVERTER (D/A A/D)	1
7521		CMOS	CONVERTER (D/A A/D)	1
7522		CMOS	CONVERTER (D/A A/D)	1
75461		TTL	DRIVER	2
75462		TTL	DRIVER	2
75463		TTL	DRIVER	2
75464		TTL	DRIVER	2
7552		MOS	STATIC RAM	2
76161	21002	STTL	PROM	2
7620	20401	STTL	PROM	3
776		BIPOLAR	OP AMP	2
78H05		BIPOLAR	VOLTAGE REGULATOR	3
78M05	10702	BIPOLAR	VOLTAGE REGULATOR	3
78M12	10703	BIPOLAR	VOLTAGE REGULATOR	3
78M15	10704	BIPOLAR	VOLTAGE REGULATOR	3
7805	10706	BIPOLAR	VOLTAGE REGULATOR	3

BASE PART NUMBER	MIL-M-38510	DEVICE	DESCRIPTION	CLASS
7812	10707	BIPOLAR	VOLTAGE REGULATOR	3
7815	10708	BIPOLAR	VOLTAGE REGULATOR	3
79M12	11502	BIPOLAR	VOLTAGE REGULATOR	3
79M15	11503	BIPOLAR	VOLTAGE REGULATOR	3
7905	11505	BIPOLAR	VOLTAGE REGULATOR	3
7912	11506	BIPOLAR	VOLTAGE REGULATOR	3
7915	11507	BIPOLAR	VOLTAGE REGULATOR	3
7924	11508	BIPOLAR	VOLTAGE REGULATOR	3
8T26		STTL	TRANSCEIVER	1
8T26C		STTL	TRANSCEIVER	1
8X01		IIL	LSI	1
8039		NMOS	MICROCOMPUTER	1
8048	49001	NMOS	MICROCOMPUTER	1
8080		NMOS	MICROPROCESSOR	1
8085	4XX01	NMOS	MICROPROCESSOR	1
8155		NMOS	STATIC RAM	1
82S114		STTL	PROM	1
82S123	20702	STTL	PROM	1
82S129	20302	STTL	PROM	1
82S131	20402	STTL	PROM	1
82S137	20602	STTL	PROM	1
82S141	20802	STTL	PROM	1
82S181	20904	STTL	PROM	1
82S185	20902	STTL	PROM	1
82S191	21002	STTL	PROM	1
82S2708	20905	STTL	PROM	1
82S34		STTL	MULTIPLEXER	2
82S67		STTL	MULTIPLEXER	3
82288		STTL	ROM	1-2
8253	42X01	NMOS	LSI	1-2
84S133	07009	STTL	GATE	1
8481		DTL	GATE	*
8755		NMOS	EPROM	1
8820		BIPOLAR	RECEIVER	2
9093	03304	DTL	FLIP-FLOP	3
9102		NMOS	STATIC RAM	1-2
914		RTL	GATE	3
930	03001	DTL	GATE	2-3
933	03105	DTL	SSI/MSI	3
93415	23101	TTL	STATIC RAM	1
93449		TTL	SSI/MSI	3
94459		DTL	GATE	3
946	03004	DTL	GATE	1
948	03302	DTL	FLIP-FLOP	3
9614	10403	BIPOLAR	DRIVER	2
9615	10404	BIPOLAR	RECEIVER	1-2
9616		BIPOLAR	DRIVER	3
9900		IIL	MICROPROCESSOR	1
9908		DTL	SSI/MSI	3
9909		RTL	GATE	3
9910		RTL	GATE	3
9911		RTL	GATE	3
9912		RTL	SSI/MSI	3
9930		DTL	GATE	2
9932		DTL	GATE	2
9944		DTL	GATE	2
9945		DTL	FLIP-FLOP	2
9946		DTL	GATE	3
9948		DTL	FLIP-FLOP	2-3

SECTION 3B

MICROCIRCUITS IN MILITARY PART NUMBER ORDER

MIL-M-38510	BASE PART NUMBER	DEVICE	DESCRIPTION	CLASS
00102	5420	TTL	GATE	2
00104	5400	TTL	GATE	2
00104	7400	TTL	GATE	2
00105	5404	TTL	BUFFER/INVERTER	2
00105	7404	TTL	BUFFER/INVERTER	2
00302	5437	TTL	GATE	2
00302	7437	TTL	GATE	2
00303	5438	TTL	GATE	2
00303	7438	TTL	GATE	2
00401	7402	TTL	GATE	3
00403	5425	TTL	GATE	2
00403	7425	TTL	GATE	2
00602	5483	TTL	SSI/MSI	3
00801	5406	TTL	DRIVER	2
00801	7406	TTL	DRIVER	2
00803	5407	TTL	DRIVER	2
00803	7407	TTL	DRIVER	2
01004	5445	TTL	DECODER	2
01004	7445	TTL	DECODER	2
01006	5446	TTL	DRIVER	2
01006	7446	TTL	DRIVER	2
01102	54182	TTL	SSI/MSI	1
01102	74182	TTL	SSI/MSI	2
01304	74163	TTL	COUNTER	1
01307	7490	TTL	COUNTER	3
01403	54153	TTL	MULTIPLEXER	3
01702	74175	TTL	FLIP-FLOP	2
02004	54L00	LTTL	GATE	1
02004	74L00	LTTL	GATE	2-3
02005	54L04	LTTL	BUFFER/INVERTER	2
02101	74L71	LTTL	FLIP-FLOP	2-3
02103	74L73	LTTL	FLIP-FLOP	2
02105	54L74	LTTL	FLIP-FLOP	3
02304	74H00	HTTL	GATE	2
02304	54H00	HTTL	GATE	3
02801	74L95	LTTL	SHIFT REGISTER	2-3
03001	930	DTL	GATE	2-3
03004	946	DTL	GATE	1
03105	933	DTL	SSI/MSI	3
03302	948	DTL	FLIP-FLOP	3
03304	9093	DTL	FLIP-FLOP	3
05001	4011A	CMOS	GATE	2
05002	4012	CMOS	GATE	2
05003	4023A	CMOS	GATE	1
05051	4011B	CMOS	GATE	1-2
05052	4012B	CMOS	GATE	1
05053	4023B	CMOS	GATE	1
05101	14013A	CMOS	FLIP-FLOP	2
05101	4013A	CMOS	FLIP-FLOP	1-2
05151	14013B	CMOS	FLIP-FLOP	2
05151	4013B	CMOS	FLIP-FLOP	1
05152	4027B	CMOS	FLIP-FLOP	2
05153	4043B	CMOS	LATCH	1
05202	14001A	CMOS	GATE	1
05202	4001A	CMOS	GATE	1
05252	14001B	CMOS	GATE	2
05252	4001B	CMOS	GATE	2
05253	4002B	CMOS	GATE	1
05254	4025B	CMOS	GATE	1
05351	4007	CMOS	BUFFER/INVERTER	1
05352	4019B	CMOS	GATE	1
05353	4030B	CMOS	GATE	1
05451	4008B	CMOS	SSI/MSI	1
05503	14049A	CMOS	BUFFER/INVERTER	1
05503	4049A	CMOS	BUFFER/INVERTER	2
05553	4049	CMOS	BUFFER/INVERTER	1
05553	4049UB	CMOS	BUFFER/INVERTER	1
05554	4050B	CMOS	BUFFER/INVERTER	1
05651	4017B	CMOS	COUNTER	1
05653	4020B	CMOS	COUNTER	1
05655	4024B	CMOS	COUNTER	1
05704	4021A	CMOS	SHIFT REGISTER	2
05751	4006B	CMOS	SHIFT REGISTER	1

MIL-M-38510	BASE PART NUMBER	DEVICE	DESCRIPTION	CLASS
05752	4014B	CMOS	SHIFT REGISTER	1
05753	4015B	CMOS	SHIFT REGISTER	1
05754	4021B	CMOS	SHIFT REGISTER	1
05755	4031B	CMOS	SHIFT REGISTER	1
05756	4034B	CMOS	SHIFT REGISTER	1
05852	4066B	CMOS	SWITCH	1
05951	4028B	CMOS	DECODER	1
06001	10501	ECL	GATE	2
07001	74S00	STTL	GATE	1
07002	54S03	STTL	GATE	1
07002	74S03	STTL	GATE	1
07003	54S04	STTL	BUFFER/INVERTER	1
07003	74S04	STTL	BUFFER/INVERTER	1
07004	54S05	STTL	BUFFER/INVERTER	1
07004	74S05	STTL	BUFFER/INVERTER	1
07005	54S10	STTL	GATE	1
07005	74S10	STTL	GATE	1
07006	54S20	STTL	GATE	1
07006	74S20	STTL	GATE	1
07007	54S22	STTL	GATE	1
07007	74S22	STTL	GATE	1
07008	54S30	STTL	GATE	1
07008	74S30	STTL	GATE	1
07009	84S133	STTL	GATE	1
07009	74S133	STTL	GATE	1
07101	54S74	STTL	GATE	1
07101	74S74	STTL	FLIP-FLOP	1
07102	54S112	STTL	FLIP-FLOP	1
07102	74S112	STTL	FLIP-FLOP	1
07105	54S174	STTL	FLIP-FLOP	1
07105	74S174	STTL	FLIP-FLOP	1
07106	54S175	STTL	FLIP-FLOP	1
07106	74S175	STTL	FLIP-FLOP	1
07301	54S02	STTL	FLIP-FLOP	1
07301	74S02	STTL	GATE	1
07401	54S51	STTL	GATE	1
07401	74S51	STTL	GATE	1
07501	54S86	STTL	GATE	1
07501	74S86	STTL	GATE	1
07502	54S135	STTL	GATE	1
07502	74S135	STTL	GATE	1
07701	54S138	STTL	GATE	1
07801	54S181	STTL	DECODER	1
07801	74S181	STTL	SSI/MSI	1
07802	74S182	STTL	SSI/MSI	1
07901	54S151	STTL	SSI/MSI	1
07901	74S151	STTL	MULTIPLEXER	1
07902	54S153	STTL	MULTIPLEXER	1
07902	74S153	STTL	MULTIPLEXER	1
07903	54S157	STTL	MULTIPLEXER	1
07903	74S157	STTL	MULTIPLEXER	1
07905	54S251	STTL	MULTIPLEXER	1
07905	74S251	STTL	MULTIPLEXER	1
07906	54S257	STTL	MULTIPLEXER	1
07906	74S257	STTL	MULTIPLEXER	1
07907	54S258	STTL	MULTIPLEXER	1
07907	74S258	STTL	MULTIPLEXER	1
08001	54S11	STTL	MULTIPLEXER	1
08001	74S11	STTL	GATE	1
08003	54S08	STTL	GATE	1
08003	74S08	STTL	GATE	1
08101	74S140	STTL	GATE	1
08201	54S85	STTL	GATE	1
08201	74S85	STTL	SSI/MSI	1
1XX01	4040B	CMOS	SSI/MSI	1
1XX01	4053B	CMOS	COUNTER	1
1XX01	4053B	CMOS	SWITCH	1
1XX01	4528B	CMOS	SWITCH	2
1XX01	4585B	CMOS	MULTIVIBRATOR	1
1XX02	14053B	CMOS	COMPARATOR	1
10101	741	BIPOLAR	SWITCH	1-2
10103	101A	BIPOLAR	OP AMP	1
10107	118	BIPOLAR	OP AMP	1-2
			OP AMP	3

MIL-M-38510	BASE PART NUMBER	DEVICE	DESCRIPTION	CLASS
10108	1558	BIPOLAR	OP AMP	2
10304	111	BIPOLAR	COMPARATOR	1
10401	55104	BIPOLAR	RECEIVER	3
10403	9614	BIPOLAR	DRIVER	2
10404	9615	BIPOLAR	RECEIVER	1-2
10701	109	BIPOLAR	VOLTAGE REGULATOR	3
10702	78M05	BIPOLAR	VOLTAGE REGULATOR	3
10703	78M12	BIPOLAR	VOLTAGE REGULATOR	3
10704	78M15	BIPOLAR	VOLTAGE REGULATOR	3
10706	140	BIPOLAR	VOLTAGE REGULATOR	3
10706	7805	BIPOLAR	VOLTAGE REGULATOR	3
10707	7812	BIPOLAR	VOLTAGE REGULATOR	3
10708	7815	BIPOLAR	VOLTAGE REGULATOR	3
10901	555	BIPOLAR	LINEAR	2
10902	556	BIPOLAR	LINEAR	2
11001	348	BIPOLAR	OP AMP	2
11001	148	BIPOLAR	OP AMP	2
11005	124	BIPOLAR	OP AMP	2
11201	339	BIPOLAR	COMPARATOR	2
11201	139	BIPOLAR	COMPARATOR	2
11401	355	BIFET	OP AMP	3
11401	155	BIFET	OP AMP	3
11402	356	BIFET	OP AMP	3
11402	156	BIFET	OP AMP	2
11403	157	BIFET	OP AMP	3
11502	79M12	BIPOLAR	VOLTAGE REGULATOR	3
11503	79M15	BIPOLAR	VOLTAGE REGULATOR	3
11505	7905	BIPOLAR	VOLTAGE REGULATOR	3
11506	7912	BIPOLAR	VOLTAGE REGULATOR	3
11507	7915	BIPOLAR	VOLTAGE REGULATOR	3
11508	7924	BIPOLAR	VOLTAGE REGULATOR	3
12302	201	CMOS	SWITCH	1-2
12304	201	CMOS	SWITCH	2
12501	398	BIFET	LINEAR	2
12501	198	BIFET	LINEAR	2
12907	55461	TTL	DRIVER	2
12908	55462	TTL	DRIVER	2
12909	55463	TTL	DRIVER	2
12910	55464	TTL	DRIVER	2
13X01	532	BIPOLAR	LINEAR	1-2
13X01	55109	BIPOLAR	DRIVER	3
14X01	103	BIPOLAR	VOLTAGE REGULATOR	3
14X01	26LS31	LSTTL	DRIVER	1-2
14X02	26LS32	LSTTL	RECEIVER	1-2
15101	7413	TTL	SSI/MSI	3
15201	54154	TTL	DECODER	2
15201	74154	TTL	DECODER	2
17001	4081B	CMOS	GATE	1
17002	4082B	CMOS	GATE	1
17003	4073B	CMOS	GATE	1
17101	4071B	CMOS	GATE	1
17201	4085B	CMOS	GATE	1
17202	4086B	CMOS	GATE	1
17204	4077B	CMOS	GATE	1
17301	4514B	CMOS	DECODER	1
17304	4555B	JFET	DECODER	1
17401	4069	CMOS	BUFFER/INVERTER	1
17401	4069UB	CMOS	BUFFER/INVERTER	1
17403	4502B	CMOS	BUFFER/INVERTER	1
17501	4076B	CMOS	FLIP-FLOP	1
17505	40174B	CMOS	FLIP-FLOP	1
17601	4099B	CMOS	LATCH	1
17602	4508B	CMOS	LATCH	1
17701	4093B	CMOS	GATE	1
17801	4067B	CMOS	LINEAR MULTIPLEXER	1
17906	40194B	CMOS	SHIFT REGISTER	1
18X01	4035B	CMOS	SHIFT REGISTER	1
18X02	4029B	CMOS	COUNTER	1
18X02	4042B	CMOS	LATCH	1
18001	40160B	CMOS	COUNTER	1
18002	40161B	CMOS	COUNTER	1
18003	40162B	CMOS	COUNTER	1
18004	40163B	CMOS	COUNTER	1

MIL-M-38510	BASE PART NUMBER	DEVICE	DESCRIPTION	CLASS
18106	4516B	CMOS	COUNTER	1
18107	4518B	CMOS	COUNTER	1
18108	4520B	CMOS	COUNTER	1
19001	506	CMOS	LINEAR MULTIPLEXER	1
19007	508	CMOS	LINEAR MULTIPLEXER	1
2XX01	2401	NMOS	ROM	1
2XX02	4044	CMOS	LATCH	1
2XX03	2141	NMOS	STATIC RAM	1
20302	82S129	STTL	PROM	1
20401	7620	STTL	PROM	3
20402	82S131	STTL	PROM	1
20602	82S137	STTL	PROM	1
20702	82S123	STTL	PROM	1
20802	82S141	STTL	PROM	1
20902	82S185	STTL	PROM	1
20904	82S181	STTL	PROM	1
20905	82S2708	STTL	PROM	1
21002	76161	STTL	PROM	2
21002	82S191	STTL	PROM	1
22001	2708	NMOS	EPROM	1
22101	2516	NMOS	EPROM	1
22101	2716	NMOS	EPROM	1
22202	2732	NMOS	EPROM	1
23101	93415	TTL	STATIC RAM	1
23801	2147	MOS	STATIC RAM	1
23802	2114	MOS	STATIC RAM	1
23902	6518	CMOS	RAM	1
24001	4116	NMOS	DYNAMIC RAM	1
24502	6514	CMOS	STATIC RAM	1-2
3XX01	54LS299	LSTTL	SHIFT REGISTER	1-2
3XX01	74LS299	LSTTL	SHIFT REGISTER	1
30001	54LS00	LSTTL	GATE	1-2
30001	74LS00	LSTTL	GATE	1
30002	54LS03	LSTTL	GATE	1-2
30002	74LS03	LSTTL	GATE	1-2
30003	54LS04	LSTTL	BUFFER/INVERTER	1-2
30004	54LS05	LSTTL	BUFFER/INVERTER	2
30004	74LS05	LSTTL	BUFFER/INVERTER	1-2
30005	54LS10	LSTTL	GATE	1-2
30005	74LS10	LSTTL	GATE	1-2
30006	54LS12	LSTTL	GATE	1-2
30006	74LS12	LSTTL	GATE	1-2
30007	54LS20	LSTTL	GATE	1-2
30007	74LS20	LSTTL	GATE	1-2
30009	54LS30	LSTTL	GATE	1-2
30009	74LS30	LSTTL	GATE	1-2
30102	54LS74	LSTTL	FLIP-FLOP	1
30102	74LS74	LSTTL	FLIP-FLOP	1-2
30103	54LS112	LSTTL	FLIP-FLOP	1-2
30103	74LS112	LSTTL	FLIP-FLOP	1-2
30106	54LS174	LSTTL	FLIP-FLOP	1-2
30106	74LS174	LSTTL	FLIP-FLOP	1-2
30107	74LS175	LSTTL	FLIP-FLOP	2
30107	54LS175	LSTTL	FLIP-FLOP	1-2
30108	54LS107	LSTTL	FLIP-FLOP	1-2
30108	74LS107	LSTTL	FLIP-FLOP	1-2
30109	54LS109	LSTTL	FLIP-FLOP	1-2
30109	74LS109	LSTTL	FLIP-FLOP	1-2
30201	54LS40	LSTTL	GATE	1-2
30201	74LS40	LSTTL	GATE	1-2
30202	74LS37	LSTTL	GATE	1-2
30203	54LS38	LSTTL	GATE	1-2
30203	74LS38	LSTTL	GATE	1-2
30301	54LS02	LSTTL	GATE	1-2
30301	74LS02	LSTTL	GATE	1-2
30302	54LS27	LSTTL	GATE	1-2
30302	54LS37	LSTTL	GATE	1-2
30302	74LS27	LSTTL	GATE	1-2
30303	54LS266	LSTTL	GATE	1-2
30303	74LS266	LSTTL	GATE	1-2
30401	54LS51	LSTTL	GATE	1-2
30401	74LS51	LSTTL	GATE	1-2
30402	54LS54	LSTTL	GATE	1-2

MIL-M-38510	BASE PART NUMBER	DEVICE	DESCRIPTION	CLASS
30402	74LS54	LSTTL	GATE	1-2
30501	54LS32	LSTTL	GATE	1-2
30501	74LS32	LSTTL	GATE	1-2
30502	54LS86	LSTTL	GATE	1-2
30502	74LS86	LSTTL	GATE	1-2
30601	54LS194	LSTTL	SHIFT REGISTER	1-2
30601	74LS194	LSTTL	SHIFT REGISTER	1-2
30605	54LS164	LSTTL	SHIFT REGISTER	1-2
30605	74LS164	LSTTL	SHIFT REGISTER	1-2
30608	54LS165	LSTTL	SHIFT REGISTER	1-2
30608	74LS165	LSTTL	SHIFT REGISTER	1-2
30609	54LS166	LSTTL	SHIFT REGISTER	1-2
30609	74LS166	LSTTL	SHIFT REGISTER	1-2
30701	54LS138	LSTTL	DECODER	1-2
30701	74LS138	LSTTL	DECODER	1-2
30702	54LS139	LSTTL	DECODER	1-2
30702	74LS139	LSTTL	DECODER	1-2
30703	54LS42	LSTTL	ENCODER	1-2
30703	74LS42	LSTTL	ENCODER	1-2
30801	54LS181	LSTTL	SSI/MSI	1-2
30801	74LS181	LSTTL	SSI/MSI	1-2
30901	54LS151	LSTTL	MULTIPLEXER	1-2
30901	74LS151	LSTTL	MULTIPLEXER	1-2
30902	54LS153	LSTTL	MULTIPLEXER	1-2
30902	74LS153	LSTTL	MULTIPLEXER	1-2
30903	54LS157	LSTTL	MULTIPLEXER	2
30903	74LS157	LSTTL	MULTIPLEXER	1-2
30905	54LS251	LSTTL	MULTIPLEXER	1-2
30905	74LS251	LSTTL	MULTIPLEXER	1-2
30906	54LS257	LSTTL	MULTIPLEXER	1-2
30906	74LS257	LSTTL	MULTIPLEXER	1-2
30908	54LS253	LSTTL	MULTIPLEXER	1-2
30908	74LS253	LSTTL	MULTIPLEXER	1-2
30909	54LS298	LSTTL	MULTIPLEXER	1-2
30909	74LS298	LSTTL	MULTIPLEXER	1-2
31001	54LS11	LSTTL	GATE	1-2
31001	74LS11	LSTTL	GATE	1-2
31002	54LS15	LSTTL	GATE	1-2
31002	74LS15	LSTTL	GATE	1-2
31003	54LS21	LSTTL	GATE	1-2
31003	74LS21	LSTTL	GATE	1-2
31004	54LS08	LSTTL	GATE	1-2
31004	74LS08	LSTTL	GATE	1-2
31005	54LS09	LSTTL	GATE	1-2
31005	74LS09	LSTTL	GATE	1-2
31101	54LS85	LSTTL	SSI/MSI	1-2
31202	54LS283	LSTTL	SSI/MSI	1-2
31202	74LS283	LSTTL	SSI/MSI	1-2
31302	54LS14	LSTTL	SSI/MSI	1-2
31302	74LS14	LSTTL	SSI/MSI	1-2
31401	54LS123	LSTTL	MULTIVIBRATOR	1-2
31402	54LS221	LSTTL	MULTIVIBRATOR	1-2
31402	74LS221	LSTTL	MULTIVIBRATOR	1-2
31501	54LS90	LSTTL	COUNTER	1
31503	54LS160	LSTTL	COUNTER	1-2
31503	74LS160	LSTTL	COUNTER	1-2
31504	54LS161	LSTTL	COUNTER	1-2
31504	74LS161	LSTTL	COUNTER	1-2
31507	54LS192	LSTTL	COUNTER	1-2
31507	74LS192	LSTTL	COUNTER	1-2
31508	54LS193	LSTTL	COUNTER	1-2
31508	74LS193	LSTTL	COUNTER	1-2
31510	54LS92	LSTTL	COUNTER	1-2
31510	74LS92	LSTTL	COUNTER	1-2
31511	54LS162	LSTTL	COUNTER	1-2
31511	74LS162	LSTTL	COUNTER	1-2
31512	54LS163	LSTTL	COUNTER	1-2
31512	74LS163	LSTTL	COUNTER	1-2
31601	54LS75	LSTTL	LATCH	1-2
31601	74LS75	LSTTL	LATCH	1-2
31602	54LS279	LSTTL	LATCH	1-2
31602	74LS279	LSTTL	LATCH	1-2
31603	54LS259	LSTTL	LATCH	1-2

MIL-M-38510	BASE PART NUMBER	DEVICE	DESCRIPTION	CLASS
31603	74LS259	LSTTL	LATCH	1-2
31901	54LS670	LSTTL	SSI/MSI	1-2
31901	74LS670	LSTTL	SSI/MSI	1-2
32001	54LS196	LSTTL	COUNTER	1-2
32001	74LS196	LSTTL	COUNTER	1-2
32002	54LS197	LSTTL	COUNTER	1-2
32002	74LS197	LSTTL	COUNTER	1-2
32203	54LS367	LSTTL	BUFFER/INVERTER	1-2
32203	74LS367	LSTTL	BUFFER/INVERTER	1-2
32204	54LS368	LSTTL	BUFFER/INVERTER	1-2
32204	74LS368	LSTTL	BUFFER/INVERTER	1-2
32301	54LS125	LSTTL	BUFFER/INVERTER	1-2
32301	74LS125	LSTTL	BUFFER/INVERTER	1-2
32302	54LS126	LSTTL	BUFFER/INVERTER	1-2
32302	74LS126	LSTTL	BUFFER/INVERTER	1-2
32401	54LS240	LSTTL	DRIVER	1-2
32401	74LS240	LSTTL	DRIVER	1-2
32403	54LS244	LSTTL	DRIVER	1-2
32403	74LS244	LSTTL	DRIVER	1-2
32502	54LS373	LSTTL	LATCH	1-2
32502	74LS373	LSTTL	LATCH	1-2
32503	54LS374	LSTTL	FLIP-FLOP	1-2
32503	74LS374	LSTTL	FLIP-FLOP	1-2
32601	54LS155	LSTTL	DECODER	1-2
32601	74LS155	LSTTL	DECODER	1-2
32701	54LS390	LSTTL	COUNTER	1-2
32701	74LS390	LSTTL	COUNTER	1-2
32702	54LS393	LSTTL	COUNTER	1-2
32702	74LS393	LSTTL	COUNTER	1-2
32803	54LS245	LSTTL	TRANSCEIVER	1-2
32803	74LS245	LSTTL	TRANSCEIVER	1-2
32901	54LS280	LSTTL	SSI/MSI	1-2
32901	74LS280	LSTTL	SSI/MSI	1-2
33001	74F00	ADVANCED S	GATE	1
33002	74F04	ADVANCED S	BUFFER/INVERTER	1
33004	74F20	ADVANCED S	GATE	1
34104	74F175	ADVANCED S	FLIP-FLOP	1
36001	54LS148	LSTTL	ENCODER	1-2
36001	74LS148	LSTTL	ENCODER	1-2
4XX01	8085	NMOS	MICROPROCESSOR	1
40X01	6802	NMOS	MICROPROCESSOR	1
40X01	6844	NMOS	MICROPROCESSOR	1
40X01	6845	NMOS	MICROPROCESSOR	1
40X01	6850	NMOS	MICROPROCESSOR	1
40X01	6875	NMOS	MICROPROCESSOR	1
40001	6800	NMOS	MICROPROCESSOR	1
42X01	8253	NMOS	LSI	1-2
44501	2910	TTL	MICROPROCESSOR	1-2
47102	1822	CMOS	RAM	2
47301	1852	CMOS	SSI/MSI	1
49001	8048	NMOS	MICROCOMPUTER	1

SECTION 3C

DISCRETE COMPONENTS IN GENERIC PART NUMBER ORDER

PRECEDING PAGE BLANK-NOT FILMED

BASE PART NUMBER	MIL-S-19500	DEVICE DESCRIPTION	CLASS
FD777F		SWITCHING DIODE	1-2
FLV104		LIGHT EMITTING DIODE	3
FLV152		LIGHT EMITTING DIODE	3
IRL60		INFRARED EMITTING DIODE	2-3
LNA351		VOLTAGE REFERENCE DIODE	N
LVA356		VOLTAGE REFERENCE DIODE	N
LVA51A		VOLTAGE REFERENCE DIODE	N
LVA91A		VOLTAGE REFERENCE DIODE	N
MCT2		PHOTOTRANSISTOR OUTPUT	3
ME60		INFRARED EMITTING DIODE	2-3
MLED900		INFRARED EMITTING DIODE	3
MR501		POWER RECTIFIER	3
MV-108		LIGHT EMITTING DIODE	3
RNC55H		METAL FILM	3-N
RNC55H3322		FILM RESISTOR	2
RNC55H68		FILM RESISTOR	N
RN50H1692		FILM RESISTOR	2
RN50H4532		FILM RESISTOR	2
SD241		SCHOTTKY POWER RECTIFIER	2-3
SKA4504		TRANSISTORS	2
SKA6516		TRANSISTORS	2
SM692-1		PNP LOW POWER TRANSISTOR	2
TI551		SWITCHING DIODE	2
0181A00361		METAL FILM	2
0181A00362		METAL FILM	2
0181A00371		METAL FILM	2
0181A00373		METAL FILM	2-3
1N1095		POWER RECTIFIER	3
1N1124A	104	POWER RECTIFIER	N
1N1126A	104	POWER RECTIFIER	N
1N1202A	260	POWER RECTIFIER	N
1N1202A		POWER RECTIFIER	N
1N1204A	260	POWER RECTIFIER	N
1N1206		POWER RECTIFIER	N
1N1614	162	POWER RECTIFIER	N
1N1615	162	POWER RECTIFIER	N
1N1733A	142	HIGH VOLTAGE RECTIFIER	N
1N21B		MICROWAVE DIODES	1-2
1N21C		MICROWAVE DIODES	2
1N21F		MICROWAVE DIODES	2
1N21WE	232	MICROWAVE DIODES	2
1N2158		RECTIFIER	N
1N23B		MICROWAVE DIODES	1-2
1N23D		MICROWAVE DIODES	1-2
1N23E		MICROWAVE DIODES	2
1N23F		MICROWAVE DIODES	1
1N23G		MICROWAVE DIODES	1
1N23RE		MICROWAVE DIODES	1
1N23WE	322	POINT CONTACT DIODE	1
1N25	234	MICROWAVE DIODES	3
1N25A		MICROWAVE DIODES	2
1N251	188	SWITCHING DIODE	2
1N253	194	POWER RECTIFIER	N
1N2701		RECTIFIER	2
1N277	201	GERMANIUM DIODE	2
1N2804B	114	VOLTAGE REGULATOR DIODE	N
1N2813B	114	VOLTAGE REGULATOR DIODE	N
1N2816B	114	VOLTAGE REGULATOR DIODE	N
1N2929A		TUNNEL DIODE	3
1N2970B	124	VOLTAGE REGULATOR DIODE	N
1N2984B	124	VOLTAGE REGULATOR DIODE	N
1N2985B	124	VOLTAGE REGULATOR DIODE	N
1N2985RB	124	VOLTAGE REGULATOR DIODE	N
1N2988B	124	VOLTAGE REGULATOR DIODE	N
1N2989B	124	VOLTAGE REGULATOR DIODE	N
1N2991B	124	VOLTAGE REGULATOR DIODE	N
1N3015B	124	VOLTAGE REGULATOR DIODE	N
1N3017B	115	VOLTAGE REGULATOR DIODE	N
1N3019B	115	VOLTAGE REGULATOR DIODE	N
1N3022B	115	VOLTAGE REGULATOR DIODE	N
1N3025B	115	VOLTAGE REGULATOR DIODE	N
1N3031B	115	VOLTAGE REGULATOR DIODE	N
1N3035B	115	VOLTAGE REGULATOR DIODE	N

BASE PART NUMBER	MIL-S-19500	DEVICE DESCRIPTION	CLASS
1N3037B	115	VOLTAGE REGULATOR DIODE	N
1N3040B	115	VOLTAGE REGULATOR DIODE	N
1N3047B	115	VOLTAGE REGULATOR DIODE	N
1N3064	144	SWITCHING DIODE	3
1N3064	144	SWITCHING DIODE	N
1N3155	158	VOLTAGE REFERENCE DIODE	N
1N3157	158	VOLTAGE REFERENCE DIODE	N
1N3189	155	POWER RECTIFIER	N
1N3191	155	POWER RECTIFIER	N
1N3323B	358	VOLTAGE REGULATOR DIODE	N
1N34A		GERMANIUM DIODE	2
1N3595	241	SWITCHING DIODE	2-3
1N3600	231	SWITCHING DIODE	2
1N3821A	115	VOLTAGE REGULATOR DIODE	N
1N3828A	115	VOLTAGE REGULATOR DIODE	N
1N3910	308	FAST RECOVERY RECTIFIER	3
1N4003		POWER RECTIFIER	N
1N4004		POWER RECTIFIER	3
1N4005		POWER RECTIFIER	2
1N4006		POWER RECTIFIER	3
1N4099	435	VOLTAGE REGULATOR DIODE	3
1N4100	435	VOLTAGE REGULATOR DIODE	3
1N4101	435	VOLTAGE REGULATOR DIODE	3
1N4103	435	VOLTAGE REGULATOR DIODE	3
1N4112	435	VOLTAGE REGULATOR DIODE	3
1N4114	435	VOLTAGE REGULATOR DIODE	3
1N4116	435	VOLTAGE REGULATOR DIODE	3
1N4120	435	VOLTAGE REGULATOR DIODE	3
1N4121	435	VOLTAGE REGULATOR DIODE	3
1N4123	435	VOLTAGE REGULATOR DIODE	3
1N4124	435	VOLTAGE REGULATOR DIODE	3
1N4125	435	VOLTAGE REGULATOR DIODE	3
1N4126	435	VOLTAGE REGULATOR DIODE	3
1N4127	435	VOLTAGE REGULATOR DIODE	3
1N4129	435	VOLTAGE REGULATOR DIODE	3
1N4130	435	VOLTAGE REGULATOR DIODE	3
1N4131	435	VOLTAGE REGULATOR DIODE	3
1N4132	435	VOLTAGE REGULATOR DIODE	3
1N4134	435	VOLTAGE REGULATOR DIODE	3
1N4148	116	SWITCHING DIODE	1-2
1N4148-1	116	SWITCHING DIODE	2-3
1N4150	231	SWITCHING DIODE	2
1N4150-1	231	SWITCHING DIODE	2-3
1N4151		SWITCHING DIODE	N
1N4152		SWITCHING DIODE	2-3
1N4153-1	337	SWITCHING DIODE	2
1N4154		SWITCHING DIODE	2
1N416G		MICROWAVE DIODES	2
1N4244		SWITCHING DIODE	1-2
1N429	299	VOLTAGE REGULATOR DIODE	N
1N4370		VOLTAGE REFERENCE DIODE	N
1N4385	365	POWER RECTIFIER	N
1N4450		SWITCHING DIODE	3
1N4454	144	SWITCHING DIODE	2
1N4465	406	VOLTAGE REGULATOR DIODE	N
1N4467	406	VOLTAGE REGULATOR DIODE	N
1N4469	406	VOLTAGE REGULATOR DIODE	N
1N4471	406	VOLTAGE REGULATOR DIODE	N
1N4474	406	VOLTAGE REGULATOR DIODE	N
1N4476	406	VOLTAGE REGULATOR DIODE	N
1N456A-1	127	VOLTAGE REGULATOR DIODE	N
1N4561	114	VOLTAGE REGULATOR DIODE	3
1N457	193	RECTIFIER	3
1N459	193	RECTIFIER	3-N
1N459A		GENERAL PURPOSE DIODE	N
1N4614	435	VOLTAGE REGULATOR DIODE	3
1N4624	435	VOLTAGE REGULATOR DIODE	N
1N4625	435	VOLTAGE REGULATOR DIODE	N
1N4626	435	VOLTAGE REGULATOR DIODE	N
1N4627	435	VOLTAGE REGULATOR DIODE	N
1N4679		VOLTAGE REGULATOR DIODE	N
1N4683		VOLTAGE REGULATOR DIODE	3
1N4686		VOLTAGE REGULATOR DIODE	N

BASE PART NUMBER	MIL-S-19500	DEVICE DESCRIPTION	CLASS
1N4689		VOLTAGE REGULATOR DIODE	N
1N4691		VOLTAGE REGULATOR DIODE	N
1N4693		VOLTAGE REGULATOR DIODE	N
1N4696		VOLTAGE REGULATOR DIODE	N
1N4697		VOLTAGE REGULATOR DIODE	N
1N4727		SWITCHING DIODE	3
1N482A		GENERAL PURPOSE DIODE	N
1N4821		RECTIFIER	3
1N483B	118	SWITCHING DIODE	N
1N484A		GENERAL PURPOSE DIODE	3
1N486		GENERAL PURPOSE DIODE	3
1N486B	118	SWITCHING DIODE	2
1N4905A		VOLTAGE REFERENCE DIODE	3
1N4937		SWITCHING DIODE	3
1N4938	169	SWITCHING DIODE	3
1N4942	359	FAST RECOVERY RECTIFIER	N
1N4944	359	FAST RECOVERY RECTIFIER	N
1N4946	359	FAST RECOVERY RECTIFIER	N
1N4948	359	FAST RECOVERY RECTIFIER	N
1N4954	356	VOLTAGE REGULATOR DIODE	N
1N4955	356	VOLTAGE REGULATOR DIODE	N
1N4956	356	VOLTAGE REGULATOR DIODE	N
1N4957	356	VOLTAGE REGULATOR DIODE	N
1N4958	356	VOLTAGE REGULATOR DIODE	N
1N4960	356	VOLTAGE REGULATOR DIODE	N
1N4962	356	VOLTAGE REGULATOR DIODE	N
1N4964	356	VOLTAGE REGULATOR DIODE	N
1N4967	356	VOLTAGE REGULATOR DIODE	N
1N4969	356	VOLTAGE REGULATOR DIODE	N
1N4971	356	VOLTAGE REGULATOR DIODE	N
1N4972	356	VOLTAGE REGULATOR DIODE	N
1N4974	356	VOLTAGE REGULATOR DIODE	N
1N4976	356	VOLTAGE REGULATOR DIODE	N
1N4979	356	VOLTAGE REGULATOR DIODE	N
1N5139A	383	VARIABLE CAPACITANCE DIODE (VARACTOR)	2
1N5140A	383	VARIABLE CAPACITANCE DIODE (VARACTOR)	3
1N5144A	383	VARIABLE CAPACITANCE DIODE (VARACTOR)	3
1N5148A	383	VARIABLE CAPACITANCE DIODE (VARACTOR)	N
1N5187	424	FAST RECOVERY RECTIFIER	N
1N5188	424	FAST RECOVERY RECTIFIER	N
1N5190	424	FAST RECOVERY RECTIFIER	N
1N5233		ZENER DIODE	N
1N5285	463	CURRENT REGULATOR DIODE	1-2
1N5287	463	CURRENT REGULATOR DIODE	N
1N5291	463	CURRENT REGULATOR DIODE	N
1N5356		ZENER DIODE	N
1N537		RECTIFIER	N
1N5378		ZENER DIODE	N
1N538B		GENERAL PURPOSE DIODE	N
1N5391		RECTIFIER	3-N
1N540	202	LOW POWER RECTIFIER	3
1N541B		SWITCHING DIODE	N
1N5416	411	FAST RECOVERY RECTIFIER	N
1N5417	411	FAST RECOVERY RECTIFIER	3
1N5418	411	FAST RECOVERY RECTIFIER	N
1N5420	411	FAST RECOVERY RECTIFIER	3
1N5463B	436	VARIABLE CAPACITANCE DIODE (VARACTOR)	3
1N5467B	436	VARIABLE CAPACITANCE DIODE (VARACTOR)	3
1N547	202	LOW POWER RECTIFIER	N
1N5476B	436	VARIABLE CAPACITANCE DIODE (VARACTOR)	N
1N5523B	437	VOLTAGE REGULATOR DIODE	3
1N553		RECTIFIER	N
1N5550	420	POWER RECTIFIER	N
1N5552	420	POWER RECTIFIER	3
1N5554	420	POWER RECTIFIER	N
1N5555	434	TRANSIENT SUPPRESSOR DIODE	N
1N5556	434	TRANSIENT SUPPRESSOR DIODE	N
1N5558	434	TRANSIENT SUPPRESSOR DIODE	N
1N5614	427	POWER RECTIFIER	N
1N5615	429	FAST RECOVERY RECTIFIER	3
1N5616	427	POWER RECTIFIER	3
1N5617	429	FAST RECOVERY RECTIFIER	N
1N5618	427	POWER RECTIFIER	N

BASE PART NUMBER	MIL-S-19500	DEVICE DESCRIPTION	CLASS
1N5619	429	FAST RECOVERY RECTIFIER	N
1N5622	427	POWER RECTIFIER	3-N
1N5623	429	FAST RECOVERY RECTIFIER	N
1N5711	444	SCHOTTKY BARRIER (HOT CARRIER) DIODE	1
1N5712	445	SWITCHING DIODE	1-2
1N64		GENERAL PURPOSE DIODE	2-3
1N643A		SWITCHING DIODE	2
1N645	240	LOW POWER RECTIFIER	3
1N645-1	240	LOW POWER RECTIFIER	2
1N646		LOW POWER RECTIFIER	N
1N647	240	LOW POWER RECTIFIER	N
1N647-1	240	LOW POWER RECTIFIER	2
1N6471	552	TRANSIENT SUPPRESSOR DIODE	N
1N649	240	LOW POWER RECTIFIER	3
1N658	257	SWITCHING DIODE	N
1N6601		SWITCHING DIODE	3
1N661	285	SWITCHING DIODE	3
1N6621		SWITCHING DIODE	3
1N702A		ZENER DIODE	N
1N711A		ZENER DIODE	N
1N746A	127	VOLTAGE REGULATOR DIODE	N
1N750A	127	VOLTAGE REGULATOR DIODE	N
1N751A	127	VOLTAGE REGULATOR DIODE	N
1N752A	127	VOLTAGE REGULATOR DIODE	N
1N753A	127	VOLTAGE REGULATOR DIODE	N
1N753A-1	127	VOLTAGE REGULATOR DIODE	N
1N754A	127	VOLTAGE REGULATOR DIODE	N
1N754A-1	127	VOLTAGE REGULATOR DIODE	N
1N755A	127	VOLTAGE REGULATOR DIODE	N
1N755A-1	127	VOLTAGE REGULATOR DIODE	N
1N756		VOLTAGE REGULATOR DIODE	N
1N756A	127	VOLTAGE REGULATOR DIODE	N
1N757A	127	VOLTAGE REGULATOR DIODE	N
1N757A-1	127	VOLTAGE REGULATOR DIODE	N
1N758A	127	VOLTAGE REGULATOR DIODE	N
1N758A-1	127	VOLTAGE REGULATOR DIODE	N
1N759A	127	VOLTAGE REGULATOR DIODE	N
1N759A-1	127	VOLTAGE REGULATOR DIODE	N
1N763-2		ZENER DIODE	N
1N78B		MICROWAVE DIODES	1
1N78CR	130	MICROWAVE DIODES	3
1N78D		MICROWAVE DIODES	1-2
1N781		MICROWAVE DIODES	1
1N816	199	VOLTAGE REGULATOR DIODE	N
1N82A		POINT CONTACT DIODE	1
1N82A1		POINT CONTACT DIODE	1-2
1N821	159	VOLTAGE REFERENCE DIODE	N
1N823	159	VOLTAGE REFERENCE DIODE	N
1N827	159	VOLTAGE REFERENCE DIODE	N
1N829	159	VOLTAGE REFERENCE DIODE	3
1N914	116	SWITCHING DIODE	3
1N916		SWITCHING DIODE	N
1N933J		GENERAL PURPOSE DIODE	3
1N938B	156	VOLTAGE REFERENCE DIODE	3
1N941B	157	VOLTAGE REFERENCE DIODE	3
1N943B	157	VOLTAGE REFERENCE DIODE	N
1N944B	157	VOLTAGE REFERENCE DIODE	N
1N945B	157	VOLTAGE REFERENCE DIODE	N
1N956B		VARIABLE CAPACITANCE DIODE (VARACTOR)	N
1N963B	117	VOLTAGE REGULATOR DIODE	N
1N964B	117	VOLTAGE REGULATOR DIODE	N
1N965B	117	VOLTAGE REGULATOR DIODE	N
1N965B-1	117	VOLTAGE REGULATOR DIODE	N
1N967		VOLTAGE REGULATOR DIODE	N
1N967B-1	117	VOLTAGE REGULATOR DIODE	N
1N968B	117	VOLTAGE REGULATOR DIODE	3
1N970B	117	VOLTAGE REGULATOR DIODE	N
1N972B	117	VOLTAGE REGULATOR DIODE	N
1N973B	117	VOLTAGE REGULATOR DIODE	N
1N974B	117	VOLTAGE REGULATOR DIODE	N
1N981B	117	VOLTAGE REGULATOR DIODE	N
2N1016B	102	NPN HIGH POWER TRANSISTOR	N
2N1039	089	PNP LOW POWER TRANSISTOR, GERMANIUM	N

BASE PART NUMBER	MIL-S-19500	DEVICE DESCRIPTION	CLASS
2N1099		PNP HIGH POWER TRANSISTOR, GERMANIUM	N
2N1115		PNP LOW POWER TRANSISTOR, GERMANIUM	N
2N1116A		NPN LOW POWER TRANSISTOR	N
2N1118	138	PNP LOW POWER TRANSISTOR	3
2N1132	177	PNP LOW POWER TRANSISTOR	3
2N1132A		PNP LOW POWER TRANSISTOR	3
2N1204		PNP LOW POWER TRANSISTOR, GERMANIUM	2
2N1308	126	NPN LOW POWER TRANSISTOR, GERMANIUM	2
2N1469	078	PNP LOW POWER TRANSISTOR, GERMANIUM	N
2N1485	180	NPN LOW POWER TRANSISTOR	N
2N1486	180	NPN LOW POWER TRANSISTOR	N
2N1596		TRIODE, POWER, REVERSE BLOCKING (SCR)	N
2N1602		TRIODE, POWER, REVERSE BLOCKING (SCR)	N
2N1613	181	NPN LOW POWER TRANSISTOR	N
2N1642		MISCELLANEOUS TRANSISTORS	3
2N1711	225	NPN LOW POWER TRANSISTOR	3
2N176		PNP HIGH POWER TRANSISTOR, GERMANIUM	N
2N1774A	168	TRIODE, POWER, REVERSE BLOCKING (SCR)	3
2N1777A	168	TRIODE, POWER, REVERSE BLOCKING (SCR)	N
2N1893	182	NPN LOW POWER TRANSISTOR	N
2N190		PNP LOW POWER TRANSISTOR, GERMANIUM	N
2N2060	270	DIFFERENTIAL AMPLIFIER-NPN	3
2N2102		NPN HIGH POWER TRANSISTOR	N
2N2151	277	NPN HIGH POWER TRANSISTOR	N
2N2198		NPN LOW POWER TRANSISTOR	N
2N2219A	251	NPN LOW POWER TRANSISTOR	3
2N2222	255	NPN LOW POWER TRANSISTOR	3
2N2222A	255	NPN LOW POWER TRANSISTOR	3
2N2297		NPN LOW POWER TRANSISTOR	N
2N2323	276	TRIODE, POWER, REVERSE BLOCKING (SCR)	3-N
2N2346		TRIODE, POWER, REVERSE BLOCKING (SCR)	N
2N2369A	317	NPN LOW POWER TRANSISTOR	2
2N2405		NPN HIGH POWER TRANSISTOR	3
2N2432	313	NPN CHOPPER TRANSISTOR-DUAL EMITTER	3
2N2432A	313	NPN CHOPPER TRANSISTOR-DUAL EMITTER	2
2N2453		NPN LOW POWER TRANSISTOR	3
2N2481	268	NPN LOW POWER TRANSISTOR	2-3
2N2483		NPN LOW POWER TRANSISTOR	3
2N2484	376	NPN LOW POWER TRANSISTOR	3
2N2540		NPN LOW POWER TRANSISTOR	3
2N2608	295	JFET P-CHANNEL	2
2N2609	296	JFET P-CHANNEL	2
2N2708	302	NPN LOW POWER TRANSISTOR	2
2N2801		PNP LOW POWER TRANSISTOR	3
2N2857	343	NPN RF TRANSISTOR	2
2N2894		PNP LOW POWER TRANSISTOR	3
2N2904A	290	PNP LOW POWER TRANSISTOR	3
2N2905	290	PNP LOW POWER TRANSISTOR	3
2N2905A	290	PNP LOW POWER TRANSISTOR	3
2N2906	291	PNP LOW POWER TRANSISTOR	3
2N2907		PNP LOW POWER TRANSISTOR	3
2N2907A	291	PNP LOW POWER TRANSISTOR	3
2N2920	355	DIFFERENTIAL AMPLIFIER-NPN	3
2N2945		PNP LOW POWER TRANSISTOR	2
2N2946A	382	PNP CHOPPER TRANSISTOR	3
2N297A	036	PNP HIGH POWER TRANSISTOR, GERMANIUM	N
2N3019	391	NPN LOW POWER TRANSISTOR	3
2N3030	419	TRIODE, POWER, REVERSE BLOCKING (SCR)	3
2N3055	407	NPN HIGH POWER TRANSISTOR	N
2N3057		NPN LOW POWER TRANSISTOR	3
2N3112		JFET P-CHANNEL	2
2N3114		NPN LOW POWER TRANSISTOR	3
2N3117		NPN LOW POWER TRANSISTOR	3
2N3250A	323	PNP LOW POWER TRANSISTOR	3
2N3251		PNP LOW POWER TRANSISTOR	3
2N3251A	323	PNP LOW POWER TRANSISTOR	2
2N3253	347	NPN HIGH POWER TRANSISTOR	3
2N329		PNP LOW POWER TRANSISTOR	3
2N335	037	NPN LOW POWER TRANSISTOR	N
2N336	037	NPN LOW POWER TRANSISTOR	N
2N336A	037	NPN LOW POWER TRANSISTOR	N
2N3375	341	NPN RF TRANSISTOR	N
2N338	069	PNP LOW POWER TRANSISTOR, GERMANIUM	3

BASE PART NUMBER	MIL-S-19500	DEVICE DESCRIPTION	CLASS
2N343	016	NPN LOW POWER TRANSISTOR	3
2N3439	368	NPN LOW POWER TRANSISTOR	3
2N3440	368	NPN LOW POWER TRANSISTOR	3
2N3468	348	PNP LOW POWER TRANSISTOR	N
2N3486A	392	PNP LOW POWER TRANSISTOR	3
2N3498	366	NPN LOW POWER TRANSISTOR	3
2N3500	366	NPN LOW POWER TRANSISTOR	3
2N3501	366	NPN LOW POWER TRANSISTOR	3
2N3503		PNP LOW POWER TRANSISTOR	3-N
2N3507	349	NPN LOW POWER TRANSISTOR	N
2N3553	341	NPN RF TRANSISTOR	N
2N3570		NPN LOW POWER TRANSISTOR	2
2N3584	384	NPN HIGH POWER TRANSISTOR	N
2N3585	384	NPN HIGH POWER TRANSISTOR	N
2N3631		MOSFET (IGFET) N-CHANNEL	1
2N3635	357	PNP LOW POWER TRANSISTOR	3
2N3636	357	PNP LOW POWER TRANSISTOR	N
2N3637	357	PNP LOW POWER TRANSISTOR	3
2N3677		PNP LOW POWER TRANSISTOR	3
2N3700	391	NPN LOW POWER TRANSISTOR	3-N
2N3715	408	NPN HIGH POWER TRANSISTOR	N
2N3716	408	NPN HIGH POWER TRANSISTOR	N
2N3735	395	NPN LOW POWER TRANSISTOR	3
2N3737	395	NPN LOW POWER TRANSISTOR	3
2N3739	402	NPN HIGH POWER TRANSISTOR	N
2N3741	441	PNP HIGH POWER TRANSISTOR	N
2N375		PNP HIGH POWER TRANSISTOR, GERMANIUM	N
2N3763	396	PNP LOW POWER TRANSISTOR	3
2N3765	396	PNP LOW POWER TRANSISTOR	3
2N3772	413	NPN HIGH POWER TRANSISTOR	N
2N3791	379	PNP HIGH POWER TRANSISTOR	N
2N3799		PNP LOW POWER TRANSISTOR	3
2N3810	336	COMPLEMENTARY PNP TRANSISTOR	3
2N3811	336	COMPLEMENTARY PNP TRANSISTOR	3
2N3821	375	MOSFET (IGFET) N-CHANNEL	2-3
2N3822	375	MOSFET (IGFET) N-CHANNEL	3
2N3823	375	MOSFET (IGFET) N-CHANNEL	2
2N3866	398	NPN RF TRANSISTOR	N
2N3866A	398	NPN RF TRANSISTOR	3
2N3868	350	PNP LOW POWER TRANSISTOR	N
2N389	173	NPN HIGH POWER TRANSISTOR	N
2N3902	371	NPN HIGH POWER TRANSISTOR	N
2N3960	399	NPN LOW POWER TRANSISTOR	2
2N3964		PNP LOW POWER TRANSISTOR	3
2N3971		JFET N-CHANNEL	1
2N3997	374	NPN HIGH POWER TRANSISTOR	2-3
2N4033	512	PNP LOW POWER TRANSISTOR	3-N
2N4036		PNP HIGH POWER TRANSISTOR	3
2N4118A		JFET N-CHANNEL	1
2N4134		NPN LOW POWER TRANSISTOR	2
2N4150	394	NPN LOW POWER TRANSISTOR	2
2N4251		NPN LOW POWER TRANSISTOR	2
2N4303		JFET N-CHANNEL	2
2N4393		JFET N-CHANNEL	N
2N4405	448	PNP LOW POWER TRANSISTOR	3
2N4416		MOSFET (IGFET) N-CHANNEL	1
2N4416A	428	MOSFET (IGFET) N-CHANNEL	3
2N463	070	PNP HIGH POWER TRANSISTOR, GERMANIUM	N
2N4856	385	MOSFET (IGFET) N-CHANNEL	3
2N4858	385	MOSFET (IGFET) N-CHANNEL	3
2N4872		PNP LOW POWER TRANSISTOR	3
2N491		UNIJUNCTION TRANSISTOR	N
2N4931	397	PNP LOW POWER TRANSISTOR	3
2N4948	388	UNIJUNCTION TRANSISTOR	2
2N495A		PNP LOW POWER TRANSISTOR	1
2N4957	426	PNP LOW POWER TRANSISTOR	2
2N498	074	PNP LOW POWER TRANSISTOR, GERMANIUM	N
2N5036		NPN LOW POWER TRANSISTOR	3
2N5038	439	NPN HIGH POWER TRANSISTOR	N
2N5109	453	NPN RF TRANSISTOR	3
2N5114	476	JFET P-CHANNEL	3
2N5154	544	NPN LOW POWER TRANSISTOR	N
2N5157	371	NPN HIGH POWER TRANSISTOR	N

BASE PART NUMBER	MIL-S-19500	DEVICE DESCRIPTION	CLASS
2N5241	414	NPN HIGH POWER TRANSISTOR	3
2N5245		JFET N-CHANNEL	2
2N526	060	PNP LOW POWER TRANSISTOR, GERMANIUM	N
2N5302	456	NPN HIGH POWER TRANSISTOR	N
2N5415	485	PNP LOW POWER TRANSISTOR	N
2N5416	485	PNP LOW POWER TRANSISTOR	3
2N5524		JFET N-CHANNEL	2-3
2N5663	454	NPN HIGH POWER TRANSISTOR	N
2N5682		NPN HIGH POWER TRANSISTOR	3
2N5745	433	PNP HIGH POWER TRANSISTOR	N
2N576A		NPN LOW POWER TRANSISTOR, GERMANIUM	3
2N598	197	PNP LOW POWER TRANSISTOR, GERMANIUM	N
2N6052	501	PNP DARLINGTON TRANSISTOR	N
2N6059	502	NPN DARLINGTON TRANSISTOR	N
2N618		PNP HIGH POWER TRANSISTOR, GERMANIUM	N
2N6212	461	PNP HIGH POWER TRANSISTOR	3-N
2N656	074	PNP LOW POWER TRANSISTOR, GERMANIUM	3
2N657	074	PNP LOW POWER TRANSISTOR, GERMANIUM	N
2N657A		NPN HIGH POWER TRANSISTOR	N
2N685	108	TRIODE, POWER, REVERSE BLOCKING (SCR)	N
2N687	108	TRIODE, POWER, REVERSE BLOCKING (SCR)	N
2N697	099	NPN LOW POWER TRANSISTOR	3
2N699		NPN LOW POWER TRANSISTOR	3
2N706	120	NPN LOW POWER TRANSISTOR	2
2N708	312	NPN LOW POWER TRANSISTOR	2-3
2N718A	181	NPN LOW POWER TRANSISTOR	3
2N736		NPN LOW POWER TRANSISTOR	3
2N760		NPN LOW POWER TRANSISTOR	3
2N834		NPN LOW POWER TRANSISTOR	2
2N859		PNP LOW POWER TRANSISTOR	3
2N869A	283	PNP LOW POWER TRANSISTOR	3
2N886A		TRIODE, POWER, REVERSE BLOCKING (SCR)	2
2N916	271	NPN LOW POWER TRANSISTOR	3
2N918	301	NPN RF TRANSISTOR	2
2N927		PNP LOW POWER TRANSISTOR	3
2N930	253	NPN LOW POWER TRANSISTOR	3
2N930A		NPN LOW POWER TRANSISTOR	2-3
2N956		NPN LOW POWER TRANSISTOR	3
3N128		MOSFET (IGFET) N-CHANNEL	1
3N170		MOSFET (IGFET) N-CHANNEL	1
5082-4885		LIGHT EMITTING DIODE	3
899-1-R		THIN FILM	2

SECTION 3D

DISCRETE COMPONENTS IN MILITARY PART NUMBER ORDER

MIL-S-19500	BASE PART NUMBER	DEVICE DESCRIPTION	CLASS
016	2N343	NPN LOW POWER TRANSISTOR	3
036	2N297A	PNP HIGH POWER TRANSISTOR, GERMANIUM	N
037	2N335	NPN LOW POWER TRANSISTOR	N
037	2N336	NPN LOW POWER TRANSISTOR	N
037	2N336A	NPN LOW POWER TRANSISTOR	N
060	2N526	PNP LOW POWER TRANSISTOR, GERMANIUM	N
069	2N338	PNP LOW POWER TRANSISTOR, GERMANIUM	3
070	2N463	PNP HIGH POWER TRANSISTOR, GERMANIUM	N
074	2N498	PNP LOW POWER TRANSISTOR, GERMANIUM	N
074	2N656	PNP LOW POWER TRANSISTOR, GERMANIUM	3
074	2N657	PNP LOW POWER TRANSISTOR, GERMANIUM	N
078	2N1469	PNP LOW POWER TRANSISTOR, GERMANIUM	N
089	2N1039	PNP LOW POWER TRANSISTOR, GERMANIUM	N
099	2N697	NPN LOW POWER TRANSISTOR	3
102	2N1016B	NPN HIGH POWER TRANSISTOR	N
104	1N1124A	POWER RECTIFIER	N
104	1N1126A	POWER RECTIFIER	N
108	2N685	TRIODE, POWER, REVERSE BLOCKING (SCR)	N
108	2N687	TRIODE, POWER, REVERSE BLOCKING (SCR)	N
114	1N2804B	VOLTAGE REGULATOR DIODE	N
114	1N2813B	VOLTAGE REGULATOR DIODE	N
114	1N2816B	VOLTAGE REGULATOR DIODE	N
114	1N4561	VOLTAGE REGULATOR DIODE	3
115	1N3025B	VOLTAGE REGULATOR DIODE	N
115	1N3017B	VOLTAGE REGULATOR DIODE	N
115	1N3019B	VOLTAGE REGULATOR DIODE	N
115	1N3022B	VOLTAGE REGULATOR DIODE	N
115	1N3031B	VOLTAGE REGULATOR DIODE	N
115	1N3035B	VOLTAGE REGULATOR DIODE	N
115	1N3037B	VOLTAGE REGULATOR DIODE	N
115	1N3040B	VOLTAGE REGULATOR DIODE	N
115	1N3047B	VOLTAGE REGULATOR DIODE	N
115	1N3821A	VOLTAGE REGULATOR DIODE	N
115	1N3828A	VOLTAGE REGULATOR DIODE	N
116	1N4148	SWITCHING DIODE	1-2
116	1N4148-1	SWITCHING DIODE	2-3
116	1N914	SWITCHING DIODE	3
117	1N963B	VOLTAGE REGULATOR DIODE	N
117	1N964B	VOLTAGE REGULATOR DIODE	N
117	1N965B	VOLTAGE REGULATOR DIODE	N
117	1N965B-1	VOLTAGE REGULATOR DIODE	N
117	1N967B-1	VOLTAGE REGULATOR DIODE	N
117	1N968B	VOLTAGE REGULATOR DIODE	3
117	1N970B	VOLTAGE REGULATOR DIODE	N
117	1N972B	VOLTAGE REGULATOR DIODE	N
117	1N973B	VOLTAGE REGULATOR DIODE	N
117	1N974B	VOLTAGE REGULATOR DIODE	N
117	1N981B	VOLTAGE REGULATOR DIODE	N
118	1N483B	SWITCHING DIODE	N
118	1N486B	SWITCHING DIODE	2
120	2N706	NPN LOW POWER TRANSISTOR	2
124	1N2989B	VOLTAGE REGULATOR DIODE	N
124	1N2970B	VOLTAGE REGULATOR DIODE	N
124	1N2984B	VOLTAGE REGULATOR DIODE	N
124	1N2985B	VOLTAGE REGULATOR DIODE	N
124	1N2985RB	VOLTAGE REGULATOR DIODE	N
124	1N2988B	VOLTAGE REGULATOR DIODE	N
124	1N2991B	VOLTAGE REGULATOR DIODE	N
124	1N3015B	VOLTAGE REGULATOR DIODE	N
126	2N1308	NPN LOW POWER TRANSISTOR, GERMANIUM	2
127	1N746A	VOLTAGE REGULATOR DIODE	N
127	1N750A	VOLTAGE REGULATOR DIODE	N
127	1N751A	VOLTAGE REGULATOR DIODE	N
127	1N752A	VOLTAGE REGULATOR DIODE	N
127	1N753A	VOLTAGE REGULATOR DIODE	N
127	1N753A-1	VOLTAGE REGULATOR DIODE	N
127	1N754A	VOLTAGE REGULATOR DIODE	N
127	1N754A-1	VOLTAGE REGULATOR DIODE	N
127	1N755A	VOLTAGE REGULATOR DIODE	N
127	1N755A-1	VOLTAGE REGULATOR DIODE	N
127	1N756A	VOLTAGE REGULATOR DIODE	N
127	1N456A-1	VOLTAGE REGULATOR DIODE	N
127	1N757A	VOLTAGE REGULATOR DIODE	N

MIL-S-19500	BASE PART NUMBER	DEVICE DESCRIPTION	CLASS
127	1N757A-1	VOLTAGE REGULATOR DIODE	N
127	1N758A	VOLTAGE REGULATOR DIODE	N
127	1N758A-1	VOLTAGE REGULATOR DIODE	N
127	1N759A	VOLTAGE REGULATOR DIODE	N
127	1N759A-1	VOLTAGE REGULATOR DIODE	N
130	1N78CR	MICROWAVE DIODES	3
138	2N1118	PNP LOW POWER TRANSISTOR	3
142	1N1733A	HIGH VOLTAGE RECTIFIER	N
144	1N3064	SWITCHING DIODE	3
144	1N3064	SWITCHING DIODE	N
144	1N4454	SWITCHING DIODE	2
155	1N3189	POWER RECTIFIER	N
155	1N3191	POWER RECTIFIER	N
156	1N938B	VOLTAGE REFERENCE DIODE	3
157	1N941B	VOLTAGE REFERENCE DIODE	3
157	1N943B	VOLTAGE REFERENCE DIODE	N
157	1N944B	VOLTAGE REFERENCE DIODE	N
157	1N945B	VOLTAGE REFERENCE DIODE	N
158	1N3155	VOLTAGE REFERENCE DIODE	N
158	1N3157	VOLTAGE REFERENCE DIODE	N
159	1N821	VOLTAGE REFERENCE DIODE	N
159	1N823	VOLTAGE REFERENCE DIODE	N
159	1N827	VOLTAGE REFERENCE DIODE	N
159	1N829	VOLTAGE REFERENCE DIODE	3
162	1N1614	POWER RECTIFIER	N
162	1N1615	POWER RECTIFIER	N
168	2N1774A	TRIODE, POWER, REVERSE BLOCKING (SCR)	3
168	2N1777A	TRIODE, POWER, REVERSE BLOCKING (SCR)	N
169	1N4938	SWITCHING DIODE	3
173	2N389	NPN HIGH POWER TRANSISTOR	N
177	2N1132	PNP LOW POWER TRANSISTOR	3
180	2N1485	NPN LOW POWER TRANSISTOR	N
180	2N1486	NPN LOW POWER TRANSISTOR	N
181	2N1613	NPN LOW POWER TRANSISTOR	N
181	2N718A	NPN LOW POWER TRANSISTOR	3
182	2N1893	NPN LOW POWER TRANSISTOR	N
188	1N251	SWITCHING DIODE	2
193	1N457	RECTIFIER	3
193	1N459	RECTIFIER	3-N
194	1N253	POWER RECTIFIER	N
197	2N598	PNP LOW POWER TRANSISTOR, GERMANIUM	N
199	1N816	VOLTAGE REGULATOR DIODE	N
201	1N277	GERMANIUM DIODE	2
202	1N540	LOW POWER RECTIFIER	3
202	1N547	LOW POWER RECTIFIER	N
225	2N1711	NPN LOW POWER TRANSISTOR	3
231	1N3600	SWITCHING DIODE	2
231	1N4150	SWITCHING DIODE	2
231	1N4150-1	SWITCHING DIODE	2-3
232	1N21WE	MICROWAVE DIODES	2
234	1N25	MICROWAVE DIODES	3
240	1N645	LOW POWER RECTIFIER	3
240	1N645-1	LOW POWER RECTIFIER	2
240	1N647	LOW POWER RECTIFIER	N
240	1N647-1	LOW POWER RECTIFIER	2
240	1N649	LOW POWER RECTIFIER	3
241	1N3595	SWITCHING DIODE	2-3
251	2N2219A	NPN LOW POWER TRANSISTOR	3
253	2N930	NPN LOW POWER TRANSISTOR	3
255	2N2222	NPN LOW POWER TRANSISTOR	3
255	2N2222A	NPN LOW POWER TRANSISTOR	3
257	1N658	SWITCHING DIODE	N
260	1N1202A	POWER RECTIFIER	N
260	1N1204A	POWER RECTIFIER	N
268	2N2481	NPN LOW POWER TRANSISTOR	2-3
270	2N2060	DIFFERENTIAL AMPLIFIER-NPN	3
271	2N916	NPN LOW POWER TRANSISTOR	3
276	2N2323	TRIODE, POWER, REVERSE BLOCKING (SCR)	3-N
277	2N2151	NPN HIGH POWER TRANSISTOR	N
283	2N869A	PNP LOW POWER TRANSISTOR	3
285	1N661	SWITCHING DIODE	3
290	2N2904A	PNP LOW POWER TRANSISTOR	3
290	2N2905	PNP LOW POWER TRANSISTOR	3

MIL-S-19500	BASE PART NUMBER	DEVICE DESCRIPTION	CLASS
290	2N2905A	PNP LOW POWER TRANSISTOR	3
291	2N2906	PNP LOW POWER TRANSISTOR	3
291	2N2907A	PNP LOW POWER TRANSISTOR	3
295	2N2608	JFET P-CHANNEL	2
296	2N2609	JFET P-CHANNEL	2
299	1N429	VOLTAGE REGULATOR DIODE	N
301	2N918	NPN RF TRANSISTOR	2
302	2N2708	NPN LOW POWER TRANSISTOR	2
308	1N3910	FAST RECOVERY RECTIFIER	3
312	2N708	NPN LOW POWER TRANSISTOR	2-3
313	2N2432	NPN CHOPPER TRANSISTOR-DUAL EMITTER	3
313	2N2432A	NPN CHOPPER TRANSISTOR-DUAL EMITTER	2
317	2N2369A	NPN LOW POWER TRANSISTOR	2
322	1N23WE	POINT CONTACT DIODE	1
323	2N3250A	PNP LOW POWER TRANSISTOR	3
323	2N3251A	PNP LOW POWER TRANSISTOR	2
336	2N3810	COMPLEMENTARY PNP TRANSISTOR	3
336	2N3811	COMPLEMENTARY PNP TRANSISTOR	3
337	1N4153-1	SWITCHING DIODE	2
341	2N3375	NPN RF TRANSISTOR	N
341	2N3553	NPN RF TRANSISTOR	N
343	2N2857	NPN RF TRANSISTOR	2
347	2N3253	NPN HIGH POWER TRANSISTOR	3
348	2N3468	PNP LOW POWER TRANSISTOR	N
349	2N3507	NPN LOW POWER TRANSISTOR	N
350	2N3868	PNP LOW POWER TRANSISTOR	N
355	2N2920	DIFFERENTIAL AMPLIFIER-NPN	3
356	1N4955	VOLTAGE REGULATOR DIODE	N
356	1N4954	VOLTAGE REGULATOR DIODE	N
356	1N4956	VOLTAGE REGULATOR DIODE	N
356	1N4957	VOLTAGE REGULATOR DIODE	N
356	1N4958	VOLTAGE REGULATOR DIODE	N
356	1N4960	VOLTAGE REGULATOR DIODE	N
356	1N4962	VOLTAGE REGULATOR DIODE	N
356	1N4964	VOLTAGE REGULATOR DIODE	N
356	1N4967	VOLTAGE REGULATOR DIODE	N
356	1N4969	VOLTAGE REGULATOR DIODE	N
356	1N4971	VOLTAGE REGULATOR DIODE	N
356	1N4972	VOLTAGE REGULATOR DIODE	N
356	1N4974	VOLTAGE REGULATOR DIODE	N
356	1N4976	VOLTAGE REGULATOR DIODE	N
356	1N4979	VOLTAGE REGULATOR DIODE	N
357	2N3635	PNP LOW POWER TRANSISTOR	3
357	2N3636	PNP LOW POWER TRANSISTOR	N
357	2N3637	PNP LOW POWER TRANSISTOR	3
358	1N3323B	VOLTAGE REGULATOR DIODE	N
359	1N4942	FAST RECOVERY RECTIFIER	N
359	1N4944	FAST RECOVERY RECTIFIER	N
359	1N4946	FAST RECOVERY RECTIFIER	N
359	1N4948	FAST RECOVERY RECTIFIER	N
365	1N4385	POWER RECTIFIER	N
366	2N3498	NPN LOW POWER TRANSISTOR	3
366	2N3500	NPN LOW POWER TRANSISTOR	3
366	2N3501	NPN LOW POWER TRANSISTOR	3
368	2N3439	NPN LOW POWER TRANSISTOR	3
368	2N3440	NPN LOW POWER TRANSISTOR	3
371	2N3902	NPN HIGH POWER TRANSISTOR	N
371	2N5157	NPN HIGH POWER TRANSISTOR	N
374	2N3997	NPN HIGH POWER TRANSISTOR	2-3
375	2N3821	MOSFET (IGFET) N-CHANNEL	2-3
375	2N3822	MOSFET (IGFET) N-CHANNEL	3
375	2N3823	MOSFET (IGFET) N-CHANNEL	2
376	2N2484	NPN LOW POWER TRANSISTOR	3
379	2N3791	PNP HIGH POWER TRANSISTOR	N
382	2N2946A	PNP CHOPPER TRANSISTOR	3
383	1N5139A	VARIABLE CAPACITANCE DIODE (VARACTOR)	2
383	1N5140A	VARIABLE CAPACITANCE DIODE (VARACTOR)	3
383	1N5144A	VARIABLE CAPACITANCE DIODE (VARACTOR)	3
383	1N5148A	VARIABLE CAPACITANCE DIODE (VARACTOR)	N
384	2N3584	NPN HIGH POWER TRANSISTOR	N
384	2N3585	NPN HIGH POWER TRANSISTOR	N
385	2N4856	MOSFET (IGFET) N-CHANNEL	3
385	2N4858	MOSFET (IGFET) N-CHANNEL	3

MIL-S-19500	BASE PART NUMBER	DEVICE DESCRIPTION	CLASS
388	2N4948	UNIJUNCTION TRANSISTOR	2
391	2N3019	NPN LOW POWER TRANSISTOR	3
391	2N3700	NPN LOW POWER TRANSISTOR	3-N
392	2N3486A	PNP LOW POWER TRANSISTOR	3
394	2N4150	NPN LOW POWER TRANSISTOR	2
395	2N3735	NPN LOW POWER TRANSISTOR	3
395	2N3737	NPN LOW POWER TRANSISTOR	3
396	2N3763	PNP LOW POWER TRANSISTOR	3
396	2N3765	PNP LOW POWER TRANSISTOR	3
397	2N4931	PNP LOW POWER TRANSISTOR	3
398	2N3866	NPN RF TRANSISTOR	N
398	2N3866A	NPN RF TRANSISTOR	3
399	2N3960	NPN LOW POWER TRANSISTOR	2
402	2N3739	NPN HIGH POWER TRANSISTOR	N
406	1N4465	VOLTAGE REGULATOR DIODE	N
406	1N4467	VOLTAGE REGULATOR DIODE	N
406	1N4469	VOLTAGE REGULATOR DIODE	N
406	1N4471	VOLTAGE REGULATOR DIODE	N
406	1N4474	VOLTAGE REGULATOR DIODE	N
406	1N4476	VOLTAGE REGULATOR DIODE	N
407	2N3055	NPN HIGH POWER TRANSISTOR	N
408	2N3715	NPN HIGH POWER TRANSISTOR	N
408	2N3716	NPN HIGH POWER TRANSISTOR	N
411	1N5416	FAST RECOVERY RECTIFIER	N
411	1N5417	FAST RECOVERY RECTIFIER	3
411	1N5418	FAST RECOVERY RECTIFIER	N
411	1N5420	FAST RECOVERY RECTIFIER	3
413	2N3772	NPN HIGH POWER TRANSISTOR	N
414	2N5241	NPN HIGH POWER TRANSISTOR	3
419	2N3030	TRIODE, POWER, REVERSE BLOCKING (SCR)	3
420	1N5550	POWER RECTIFIER	N
420	1N5552	POWER RECTIFIER	3
420	1N5554	POWER RECTIFIER	N
424	1N5187	FAST RECOVERY RECTIFIER	N
424	1N5188	FAST RECOVERY RECTIFIER	N
424	1N5190	FAST RECOVERY RECTIFIER	N
426	2N4957	PNP LOW POWER TRANSISTOR	2
427	1N5614	POWER RECTIFIER	N
427	1N5616	POWER RECTIFIER	3
427	1N5618	POWER RECTIFIER	N
427	1N5622	POWER RECTIFIER	3-N
428	2N4416A	MOSFET (IGFET) N-CHANNEL	3
429	1N5615	FAST RECOVERY RECTIFIER	3
429	1N5617	FAST RECOVERY RECTIFIER	N
429	1N5619	FAST RECOVERY RECTIFIER	N
429	1N5623	FAST RECOVERY RECTIFIER	N
433	2N5745	PNP HIGH POWER TRANSISTOR	N
434	1N5555	TRANSIENT SUPPRESSOR DIODE	N
434	1N5556	TRANSIENT SUPPRESSOR DIODE	N
434	1N5558	TRANSIENT SUPPRESSOR DIODE	N
435	1N4099	VOLTAGE REGULATOR DIODE	3
435	1N4100	VOLTAGE REGULATOR DIODE	3
435	1N4101	VOLTAGE REGULATOR DIODE	3
435	1N4103	VOLTAGE REGULATOR DIODE	3
435	1N4112	VOLTAGE REGULATOR DIODE	3
435	1N4114	VOLTAGE REGULATOR DIODE	3
435	1N4116	VOLTAGE REGULATOR DIODE	3
435	1N4120	VOLTAGE REGULATOR DIODE	3
435	1N4121	VOLTAGE REGULATOR DIODE	3
435	1N4123	VOLTAGE REGULATOR DIODE	3
435	1N4124	VOLTAGE REGULATOR DIODE	3
435	1N4125	VOLTAGE REGULATOR DIODE	3
435	1N4126	VOLTAGE REGULATOR DIODE	3
435	1N4127	VOLTAGE REGULATOR DIODE	3
435	1N4129	VOLTAGE REGULATOR DIODE	3
435	1N4130	VOLTAGE REGULATOR DIODE	3
435	1N4131	VOLTAGE REGULATOR DIODE	3
435	1N4132	VOLTAGE REGULATOR DIODE	3
435	1N4134	VOLTAGE REGULATOR DIODE	3
435	1N4614	VOLTAGE REGULATOR DIODE	3
435	1N4624	VOLTAGE REGULATOR DIODE	N
435	1N4625	VOLTAGE REGULATOR DIODE	N
435	1N4626	VOLTAGE REGULATOR DIODE	N

MIL-S-19500	BASE PART NUMBER	DEVICE DESCRIPTION	CLASS
435	1N4627	VOLTAGE REGULATOR DIODE	N
436	1N5463B	VARIABLE CAPACITANCE DIODE (VARACTOR)	3
436	1N5467B	VARIABLE CAPACITANCE DIODE (VARACTOR)	3
436	1N5476B	VARIABLE CAPACITANCE DIODE (VARACTOR)	N
437	1N5523B	VOLTAGE REGULATOR DIODE	3
439	2N5038	NPN HIGH POWER TRANSISTOR	N
441	2N3741	PNP HIGH POWER TRANSISTOR	N
444	1N5711	SCHOTTKY BARRIER (HOT CARRIER) DIODE	1
445	1N5712	SWITCHING DIODE	1-2
448	2N4405	PNP LOW POWER TRANSISTOR	3
453	2N5109	NPN RF TRANSISTOR	3
454	2N5663	NPN HIGH POWER TRANSISTOR	N
456	2N5302	NPN HIGH POWER TRANSISTOR	N
461	2N6212	PNP HIGH POWER TRANSISTOR	3-N
463	1N5287	CURRENT REGULATOR DIODE	N
463	1N5285	CURRENT REGULATOR DIODE	1-2
463	1N5291	CURRENT REGULATOR DIODE	N
476	2N5114	JFET P-CHANNEL	3
485	2N5415	PNP LOW POWER TRANSISTOR	N
485	2N5416	PNP LOW POWER TRANSISTOR	3
501	2N6052	PNP DARLINGTON TRANSISTOR	N
502	2N6059	NPN DARLINGTON TRANSISTOR	N
512	2N4033	PNP LOW POWER TRANSISTOR	3-N
544	2N5154	NPN LOW POWER TRANSISTOR	N
552	1N6471	TRANSIENT SUPPRESSOR DIODE	N

SECTION 4

Data Sources

SECTION 4
DATA SOURCES

The following section contains brief descriptions of the various data sources. They are presented in order of the source code which is found in field No. 3 in the detailed data of Section 2. Note that there may be a series of source codes associated with one data source if different test methods were used in that source.

001 Three Fairchild 2102LI ICs were tested using the standard human body model. The voltage was applied to each input with the positive voltage on the input and the minus on V_{SS} or V_{DD}. Pulsing started at 200 volts and incremented in 100-volt steps until failure. Three pulses were given at each voltage. Out of a total of 39 inputs tested, 7 were damaged at 300 volts, 22 at 400 volts, 9 at 500 volts and 1 at 600 volts.

002 Type 6514 Static RAMS from RCA and Monolithic Memories were the devices tested. The inputs were step-stressed until failure in both polarities. A positive potential at the input was found to be the more destructive condition.

003 Devices of various technologies were stressed using a 100 pF and 0 ohm model. The inputs were step-stressed with one supply lead grounded. The voltage was increased in 100-volt steps until failure.

004 MOS, STTL, and TTL devices were stressed using 125 pF capacitor and 0 resistance. The inputs were stressed with no

004 (Cont'd)

other pins grounded (i.e., floating device model). In this situation, it is the capacitance of the device itself which allows energy to be dissipated causing device damage (see discussion on floating device model in Testing Techniques and Models, Section 1).

005 A sampling of multiplying digital to analog converters from 6 different manufacturers were tested. Step-stress comparative testing was done using the standard human body model. A change in any electrical parameter of 10% or more was considered a failure. The following devices were tested:

Analog Devices	AD 7533
Micro Power Systems	AD 7520
Analog Devices	AD 7520
Intersil	AD 7520
Hybrid Systems	DAC 331
Raytheon	AD 7521
National	AD 7521

006 Various CMOS devices were tested using the standard human body model. A sample of four devices were step-stressed on a different pin combination for every voltage. The pin combinations used were:

(+)	(-)
V_{DD}	Input
Input	V_{SS}
Input	Associated Output
Associated Output	Input

006 (Cont'd)

The voltage stepping increments were 200 volts starting at 400 volts. An out-of-spec current leakage was used as the failure criterion.

007-013 Various CMOS devices from two different manufacturers were tested in accordance with the applicable MIL-M-38510 slash sheet. This requires the device to withstand a stressing voltage of 400 volts. To obtain comparative data on the devices, a sample of 5 devices were also tested at 200, 400, and 600 volts with each device subjected to only one voltage.

014-025 (Published paper, Ref. 10)

Various technologies (CMOS, TTL, STTL, LSTTL, ECL, transistors, diodes) were tested to determine the relative failure voltages. Each technology was tested using the human body model with various resistances and capacitances (100 to 10K ohm and 100 to 500 pF, respectively). Specific part numbers are not known.

026 These tests were performed with an "in-house"-built VZAP tester utilizing a 200 pF capacitor and a 100 ohm resistor. Average failure voltages for a sampling of 4 devices was given using step-stressing.

027 Tests were conducted on various bipolar devices both digital and linear using an Electro-tech Systems 900 ESD tester (100 pF, 1500 ohm). A sample of 15 of each device type was tested

027 (Cont'd)

at 1000 volts. The failure criterion was an out-of-spec DC parameter.

028 (Published paper, Ref. 8)

Various semiconductor devices were step-stressed with a circuit similar to the MIL-M-38510 slash sheet spec (117 pF, 1500 ohm). Step voltages of 250, 500, 1000, 1500 and 2500 volts were used with 30 pulses applied at each voltage. A DC parameter change of 10% or more was used as the failure criterion. Devices were also stressed at 75% of the threshold and then burned in to detect possible ESD-induced latent failures (the 75% pulsing data is not included in the detailed data section of this book).

029 (Published report, Ref. 11)

The data in the detailed data section under the 029 source code was theoretically derived from data contained in the SUPERSAP2 database, which contains parametric data on many electronic devices including diodes, transistors, and microcircuits. The parameters are derived theoretically and empirically from EMP test data.

030 This document contains worst-case failure voltages for many different microcircuits, diodes and transistors referenced to the 100 pF, 1500 ohm human body model. Details of the test procedure were not known.

031-047 This document contains a study to evaluate various NMOS and CMOS devices from various manufacturers for their ESD susceptibility. Various resistances and capacitances were used in the discharge circuit. Devices which were step-stressed (source codes 042-045) were stepped from 400 volts in 100-volt increments. Multiple pulsing was also carried out. For devices that were step-stressed (source code 045) four pulses were applied at each voltage. Multiple pulsing was also carried out at discrete voltages of 1000 volts (source code 046) or 500 volts (source code 047) until failure occurred. One input of the devices was stressed to V_{SS}, V_{PP} or V_{DD} in both polarities.

048 (Published paper, Ref. 15)

In this paper, several bipolar transistors, diodes, and JFETs were stressed with a 218 pF, 100 ohm discharge model. All devices were step-stressed with the stressing voltage increasing by 20% with every pulse. The starting voltage for MOS devices was 16 volts and for all others 70 volts. The maximum stressing voltage was 3000 volts.

049-060 ESD susceptibility testing was conducted on various transistors and ICs. Comparative data is given on the 741 op amp from three different manufacturers. Two advanced Schottky parts were also tested (the 74F00 and 74F04). For devices which were step-stressed the source code and associated step levels are as follows:

051	4000, 10000
052	50, 100, 200, 300, 400, 500, 600
053	500, 1000, 1500
054	1000, 2000

061-066 Tests were carried out on the following NMOS 16K dynamic RAMs:

TI	4116
NEC	416
Mostek	4116
Intel	(Part number not reported)

The source codes and associated voltage step levels for devices which were step-stressed are as follows:

061	500, 1000
063	200, 400, 600, 800, 1000

Two different resistances were used and multiple pulse testing was conducted.

067-070 This document presents data on an STTL device (74S00) and a TTL device (7437). The voltages given are those required to cause 30% of the devices to fail. The inputs of the devices were tested using four different capacitances and no resistance. Findings indicate that, on the average, the energy required to cause failure in the Schottky device is 25% that of the standard TTL device.

071-073 Resistance networks were tested for resistance change after stressing a sample of devices at either 170, 2000 or 15,000 volts using the standard human body model. A change in resistance of 2% was used as the failure criterion. Various resistance values were stressed with up to 10 pulses or until failure.

074-086 RNC 50 type 0.1% resistors in various resistance values were tested for their ESD susceptibility. Devices were stressed with a 200 pF, 1000 ohm human body model (except for devices with source code 074 and 083 which used no resistance in the test circuit). For devices which were step-stressed, the source code and associated stressing voltages are as follows:

074	50, 100, 200
075	300, 400, 500, 600, 700, 800, 900, 1000
076	1000, 1500, 2000
077	500, 800, 1000, 1200, 1500, 2000, 2500
078	500, 1000
079	500, 1000, 1500, 2000
080	500, 1000, 1500
081	2000, 3000, 4000, 5000
083	500, 1000, 1500, 2000, 2500, 3000
084	500, 1000, 1500, 2000, 2500, 3000, 3500, 4000
085	100, 200, 325, 400, 500, 1100
086	1000, 1500, 2000, 2500, 3000, 4000, 4500, 5000, 6000, 8000, 10000, 15000

A change in resistance of 0.1% was used as the failure criterion.

087-126 (Published paper, Ref. 4)

This report documents an extensive study by Hewlett Packard of the effects of ESD on various CMOS devices and investigates the possibility of ESD-induced latent failures. The data associated with these source codes were obtained primarily from Weibull plots, i.e., the voltages which would cause 10%,

087-126 (Cont'd)

50% and 90% of the devices to fail are given as cumulative failures. Since the sample size was known (25 for each device), the approximate number failing at each specified voltage can be calculated via the following formula:

$$\frac{i - .3}{N + .4} = \% \text{ failed } (\div 100)$$

where

i = number failed

N = sample size

Therefore, at the 10% voltage approximately 3 devices failed, at 50% 10 more devices, and at 90% 10 more, with approximately 2 devices passing the test at the 90% voltage.

Multiple pulsing was also carried out at a single test voltage (indicated by a GN under test type) on the Motorola 14049. The voltages chosen were 700, 900, 1100, 4500, 6000 and 7000, and the number of pulses were incremented until device failure (source codes 098-103).

127 Three LSTTL devices (74LS09, 74LS175 and 74LS240) from various manufacturers were tested for their ESD susceptibility. The inputs were step-stressed in 200-volt increments starting at 400 volts with one pulse at each voltage. The procedure was repeated with 10 pulses at each voltage on another sampling of devices. It was noted that 90% of the failures exhibited input diode short circuits.

128 Two low-power Schottky devices (the 54LS151 from two different manufacturers and the 54LS153) and one Schottky TTL device (54S157) were tested. All inputs on all devices were step-stressed to failure with five pulses at each voltage. The voltage increments were 100 volts starting at 400 volts. The failure voltage specified is an average of all inputs of that device (with the most susceptible given in the Remarks section).

129-139 Various MOS microprocessors were tested, the Mostek 3870 and 4116, the NEC D416C, and the Hitachi 4716AP. For the Mostek 3870, a sample of 5 devices were tested at 1000 and 2000 volts and 4 devices were tested at 3500V. For the other parts tested, a sample of 5 were tested at 500, 700, 800, 1000, and 1500 volts until all 5 parts failed.

140 A sample of 40 MK3873s was tested at 300 volts with up to 3 pulses, and the survivor (only 1) was tested at 1000 volts.

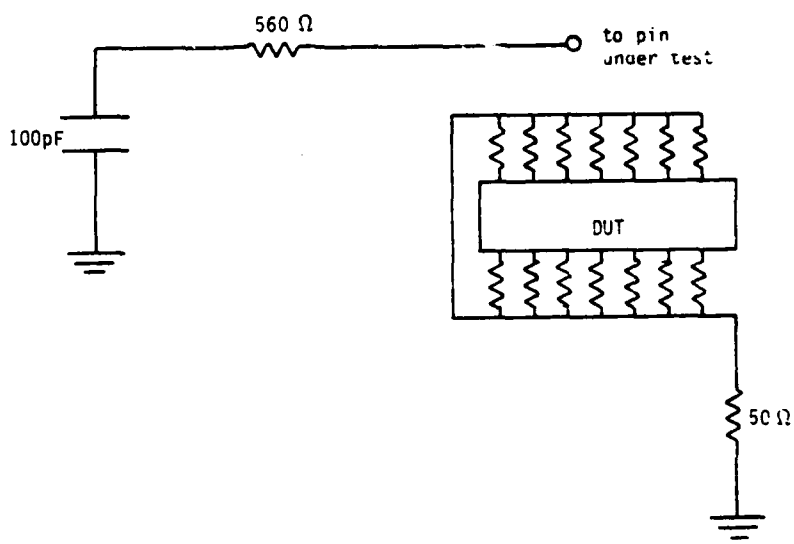
141-155 (Published paper, Ref. 17)

This extensive study evaluates the input protection on CMOS devices using various resistances and capacitances on the 4001A (source codes 143-154).

Also, the 4011 from four different manufacturers was step-stressed on twelve different pin combinations. The failure voltage is given for each manufacturer and each pin combination.

156-164 (Published paper, Ref. 18)

Testing was performed on various CMOS devices, the 4021A, 4021B, 4081B, 4011A and 4013A. To closer approximate typical resistances seen by the device under test in actual circuit operation, the tests were carried out with a resistance (20K to 5M ohms) to ground. The schematic for the discharge circuit was as follows:



The pin under test was connected directly to the 560-ohm resistor. The supply pins were connected directly to the 50-ohm resistor to ground.

For each pin and polarity of the 4021A, two devices were stressed at 500, 1000, and 1500 volts (source codes 156-159).

After pulsing, the 4021A devices were put on life test at 150°C for 308 hours. Subsequent step-stress testing was performed up to 5500 volts (4021A data with source code 160).

The 4021B was step-stressed to 4000 volts to compare with the 4021A data.

The 4081B was step-stressed to 4500 volts and the 4011A and 4013A were stepped to 4000 volts.

165 Several CMOS ICs were subjected to ESD pulses and latch-up tests. The devices were stressed at 400 volts (in accordance with the MIL-M-38510 slash sheet specification) in the following sequence:

Input (-)	VDD (+)
Input (+)	VSS (-)
Input (+)	Output (-)
Input (-)	Output (+)

166-169 A 40-pin LSI PMOS device was subjected to discharges of 4000, 7000 and 10,000 volts using the standard human body model. The device was stressed in the following four pulse sequence:

Inputs (-)	VDD (+)
Inputs (+)	VSS (-)
Inputs (+)	Outputs (-)
Inputs (-)	Outputs (+)

The device had previously passed testing to 3000 volts.

170-230 (Published paper, Ref. 26)

This report documents extensive testing on the 74F04 and the

170-230 (Cont'd)

74F175 advanced Schottky TTL devices. The testing was done in three basic parts:

(1) Classification testing in accordance with DOD-STD-1686, Appendix B
(2) Step-stress testing
(3) Multiple pulse testing

All parts of these tests were performed with the standard human body model (100 pF, 1500 ohm) and carried out by three independent test labs.

The step-stress testing was carried out in 100-volt increments from 100 to 1000 volts and 400-volt increments from 1000 to 5000 volts. One device was step-stressed on one pin (by each test lab) with all other pins tied together (APTT). This test was done in two conditions: (1) with all pins tied together grounded and (2) with all pins tied together floating (this condition is noted as such in Remarks). See Section 1 for a discussion on floating device model.

Multiple pulse testing was also done in the two conditions mentioned above where a device was stressed at only one voltage by applying numerous pulses until failure. The devices were checked after 10, 30, 100, and 300 pulses.

231 A custom LSI phone converter IC was tested for its ESD susceptibility. The inputs of the device were tested by bringing a probe 1.5 feet long up to the pin for discharge. No resistance was used in the circuit.

232 (Published paper, Ref. 34)

This document contains the damage constant (K_1) and breakdown voltage V_D for many diodes and transistors. The Wunsch model was used ($P = Kt^{-.5}$) and the failure voltage calculated as in source code 029. A bulk resistance of 30 ohm was assumed for the calculations.

233 (see source codes 156-164)

234-243 (Published paper, Ref. 19)

TTL devices 74H106, 74163, 74LS163, and 74173 were tested for their ESD susceptibility. The inputs of the devices were step-stressed with various capacitances (and no series resistance). The stepping increments were 100 volts starting at 100 volts. The charged capacitor was touched to the input of the device so that an arc discharge occurred. A curve tracer was used to detect failure.

244-245 (Published report, Ref. 20)

This document contains two kinds of test data: (1) ESD susceptibility using a 100 pF, 1500 ohm model (source code 244), and (2) system transient data using a 0.1 uF, 100 ohm model (source code 245).

For the system transient data, the failure voltage given is an average of fifteen devices.

244-245 (Cont'd)

For the ESD susceptibility data, the devices were step-stressed to a maximum of 1000 volts. For the system transient data, the devices were step-stressed to a maximum of 300 volts.

246-379 (Published paper, Ref. 13)

This report documents an extensive program undertaken by Westinghouse to study ESD-induced latent failures of various types of semiconductor devices. The study was conducted in two parts: (1) Latent Failure Study I, which studied the 2N4416, 3N170, 1N5711, CD4001A, 5404 and the 54S04, and (2) Latent Failure Study II, which studied in more detail the 3N128 and the 54L04. Both studies provided very detailed ESD susceptibility data on the parts, giving both single pulse and multiple pulse data. All testing was done with the standard human body model (100 pF, 1500 ohm).

380-382 (Published paper, Ref. 21)

This paper documents a study in which 16K NMOS EPROMs manufactured in both the United States and Japan were tested for their ESD susceptibility to various discharge models. Two human body models were used, the 100 pF, 1500 ohm model and a 200 pF, 0 ohm model. For each of the human body models used, a separate device from each vendor was step-stressed from 200 to 3000 volts in twelve steps. 10, 5, and 1 pulses were applied to each pin in both polarities.

380-382 (Cont'd)

Also, testing was done on the parts using the charged device model (see Section 1 for a discussion of the charged device model). The devices tested using this model are noted in the Remarks section. The generic part numbers of these devices were not reported.

383 (Published paper, Ref. 22)

Various ICs of several technologies were tested using a square wave step-stress test (EMP test) at pulse widths of 100 ns, 1 us, and 10 us. From these tests, the damage constants K_1 and K_2 and the breakdown voltage V_D and bulk resistance R_B were calculated. Knowing these parameters, a theoretical ESD failure voltage was calculated (see Section 1, Data Conversion Methods, for the algorithm).

384-385 (Published paper, Ref. 35)

Various ICs of several technologies (LSTTL, TTL, STTL, CMOS (B series), CMOS LSI, NMOS) were step-stressed using a 200 pF, 1000 ohm human body model. Steps were in increments of 100 volts from 100 to 5500 volts until failure. One pulse per pin was applied at each voltage.

386 (Published report, Ref. 23)

Various LEDs were tested with various pulse widths ranging from a few hundred nanoseconds to 100 us. The damage constants were calculated and converted to an ESD level (via the

386 (Cont'd)

algorithm given in Section 1). A degraded light output was observed to be the most sensitive parameter and was used as the failure criterion along with a change in the I-V characteristics. This study was based on work outlined in Ref. 24.

SECTION 5

References

PRECEDING PAGE BLANK-NOT FILMED

References

1. DOD-STD-1686, "Electrostatic Discharge Control Program for Protection of Electrical and Electronic Parts, Assemblies and Equipment (Excluding Electrically Initiated Explosive Devices)," May 2, 1980.

2. DOD-HDBK-263, "Electrostatic Discharge Control Handbook for Protection of Electrical and Electronic Parts, Assemblies, and Equipment (Excluding Electrically Initiated Explosive Devices)," May 2, 1980.

3. Analick, R.S., and G.R. Nelson (IBM), "Low Field Time Dependent Dielectric Integrity," IEEE - 17th Annual Reliability Physics Proceedings, April 24-26, 1979, pp. 8-12.

4. Branberg, G. (Hewlett-Packard), "L.I.D. Electrostatic Discharge Study," Reports I, II, III and IV, February 1978, April 1978, May 1978, June 1978, respectively.

5. Crook, D.L. (Intel), "Method of Determining Reliability Screens for Time-Dependent Dielectric Breakdown," IEEE - 17th Annual Reliability Physics Proceedings, April 24-26, 1979, pp. 1-7.

6. Gallace, L.J., and H.L. Pujol, (RCA/Solid State Division), "The Evaluation of CMOs Static-Charge Protection Networks and Failure Mechanisms Associated with Overstress Conditions as Related to Device Life," IEEE - 15th Reliability Physics Symposium, ST-6638, April 1977, 30 pp.

7. McCullough, D.T., C.H. Lane, and R.A. Blore, (RADC, Griffiss AFB, NY), "Reliability of EOS Screened Gold Doped 4002 CMOS Devices," IITRI - EOS/ESD Symposium, September 1979, RAC Publication EOS-1, pp. 36-40.

8. Schreier, L.A., "Electrostatic Damage Susceptibility of Semiconductor Devices," IEEE - 16th Annual Reliability Physics Proceedings, April 18-20, 1978, pp. 151-153.

9. Hart, A.R., J. Smyth, and S. Gorski (Hewlett-Packard), "Predicting ESD Related Reliability Effects," IEEE - 20th Annual Reliability Physics Proceedings, March 30 - April 1, 1982, pp. 233-237.

10. Zajac, H. (Tektronix, Inc.), "Study of Effects of Electrostatic Discharge on Solid State Devices," National Electronic Packaging and Products Conference, Vol. I, 1980.

11. Cooke, J.L., D.E. Duncan, J.J. Schwarz, and L.H. Skinner (Boeing Aerospace Company and BDM), "Users Manual for Supersap 2," Rept. No. AFWL-TR-75-70, Contract No. F29601-74-C-0008, D224-13047-2; BDM/A-120-74-TRR 1, March 1976, 208 pp.

12. Kahn, S.R. (IIT Research Institute), "Effects of EMP Testing on Semiconductor Long Term Reliability," Rept. No. DNA 4468F, Contract No. DNA 001-76-C-0243, NWED Subtask R99QAXEB097-61, November 1977, 80 pp.

13. McAteer, O.J. (Westinghouse), "Latent ESD Failures," IITRI - EOS/ESD Symposium, September 1982, RAC Publication EOS-4, pp. 41-48.

14. Dunn, R., and H.Y. Ho (Xerox), "Input Protection Networks on MOS Devices," Rept No. CPT-77-6811, Components and Packaging Tech. A2-29/Ext. 1730-3303, December 15, 1977, 33 pp.

15. Kirk, W.J., L.S. Carter, and M.L. Waddell (Bendix Corp.), "Eliminate Static Damage to Circuits," Electronic Design, Vol. 27, No. 7, March 29, 1976, pp. 80-85.

16. "Microcircuit Manufacturing and Control Handbook," Integrated Circuit Engineering (ICE).

17. Whelan, C.D. (RCA), "Reliability Evaluation of C/MOS Technology in Complex Integrated Circuits," Rept. No. RADC-TR-C-0282, March 1976, 210 pp.

18. Schwank, J.R., G.D. Jarell, and M.G. Armendariz (Sandia National Laboratories), "Study of Electrostatic Discharge Effects on Commercial CMOS Devices," Rept. No. SAND79-1784, February 1980, 47 pp.

19. Rutherford, D.H. (Raytheon), and J.F. Perkins (Hi-Rel Laboratories, Inc.), "Effects of Electrical Overstress on Digital Bipolar Microcircuits and Analysis Techniques for Failure Site Location," IITRI - EOS/ESD Symposium, Sept. 1979, RAC Publication EOS-1, pp. 64-77.

20. Antinone, R.J. (BDM), "Specifications for Microcircuit Electrical Overstress Tolerance, Vol. I, Rept. No. RADC-TR-78-28, Contract No. F30602-76-C-0308, March 1978, 139 pp.

21. Chase, E.W. (Bell Laboratories), "Evaluation of Electrostatic Discharge (ESD) Damage to 16K EPROMS," IITRI - EOS/ESD Symposium Proceedings, RAC Publication EOS-3, Sept. 22-24, 1981, pp. 236-241.

22. Young, P.A., R.J. Karaskiewicz (BDM Corp.) and D.R. Alexander (Sandia National Laboratories), "Electrical Overstress Investigations in Modern Integrated Circuit Technologies," IITRI-EOS/ESD Symposium Proceedings, RAC Publication EOS-3, Sept. 22-24, 1981, Contract No. F29601-77-C-0099, pp. 114-119.

23. Formanek, V.C., and I.N. Mindel (IIT Research Institute), "EMP to ESD VZAP Data Conversion and Considerations," 1979, 30 pp.

24. Kalma, A.H., and C.J. Fischer (SRT Corp.), "Electrical Pulse Burnout Testing of Light Emitting Diodes," IEEE - Transactions on Nuclear Science, Vol. NS-22, No. 6, December 1975, pp. 2510 - 2515.

25. Speakman, T.S. (Western Electric Company), "A Model for the Failure of Bipolar Silicon Integrated Circuits Subjected to Electrostatic Discharge," IEEE - 12th Reliability Physics Symposium, 1974, pp. 60-69.

26. Denson, W.K., and K.A. Dey (Reliability Analysis Center), "ESD Susceptibility Testing of Advanced Schottky TTL," IITRI - EOS/ESD Symposium Proceedings, September 1982, RAC Publication EOS-4, pp. 1-12.

27. Branberg, G. (Hewlett-Packard), "Electrostatic Discharge and CMOS Logic," IITRI - EOS/ESD Symposium, Sept. 1979, RAC Publication EOS-1, pp. 55-63.

28. Wunsch, D.C., and R.R. Bell (BDM), "Determination of Threshold Failure Levels of Semiconductor Diodes and Transistors Due to Pulse Voltages," IEEE - Transactions on Nuclear Sciences, NS-15, No. 6, December 1968, pp. 244-258.

29. Unger, B.A., "Electrostatic Discharge (ESD) Failure Mechanisms and Models," presented at Nepcon West, 1982.

30. Bossard, P.R., R.G. Chemelli, and B.A. Unger (Bell Laboratories), "ESD Damage from Triboelectrically Charged IC Pins," IITRI -EOS/ESD Symposium Proceedings, RAC Publication EOS-2, Sept. 9-11, 1980, pp. 17-22.

31. Unger, B.A., R. Chemelli, P. Bossard, and M. Hudock, "Evaluation of Integrated Circuit Shipping Tubes," IITRI - EOS/ESD Symposium Proceedings, RAC Publication EOS-3, Sept. 22-24, pp. 57-64.

32. Fisch, D.E. (Mostek Corp.), "A New Technique for Input Protection Testing," IEEE - 19th Annual Reliability Physics Proceedings, April 7-9, 1981, pp. 212-217.

33. Turner, T., and S. Morris (Mostek Corp.), "Electrostatic Sensitivity of Various Input Protection Networks," IITRI - EOS/ESD Symposium, Sept. 1980, RAC Publication EOS-2, pp. 95-103.

34. Shamp, R.R., and G. DeLoach (Boeing), "Guidelines for Microcircuit Selection and Qualifications, A Supplement to E-3A EMP Guidelines for Parts Selection and Qualification."

35. Enders, J. "Susceptibility of ICs in Electrostatic Damage Step-Stress Tests," IITRI - EOS/ESD Symposium Proceedings, RAC Publication EOS-3, Sept. 22-24, 1981, pp. 106-113.

36. Morris, W.L. "Microelectronics Failure Analysis Techniques, A Procedural Guide," RAC Publication MFAT-1, July 1981.

37. McAteer, O.J., R.E. Twist "ESD Failure Analysis Procedures," October 1981, 61 pp.

APPENDIX A

Derivation of Data Conversion Formulae

PRECEDING PAGE BLANK-NOT FILMED

DERIVATION OF DATA CONVERSION FORMULAE

The derivation of two data conversion methodologies are presented here:

Part I Conversion of failure voltages using a nonstandard human body model to a theoretical failure voltage consistent with the standard model (100 pF, 1500 ohm).

This is only used for calculating a failure voltage consistent with the 100 pF, 1500 ohm model so that a classification could be arrived at in accordance with DOD-STD-1686 and DOD-HDBK-263.

Part II Conversion of emperical EMP overstress data to a theoretical ESD failure voltage.

Part I: Derivation of Nonstandard Human Body Model Test Data Conversion Formula

Since there is much data on parts using a discharge model other than the standard 100 pF, 1500 ohm, there must be a method to convert the failure voltage to a level consistent with the 100 pF, 1500 ohm model for classification purposes. One way this can be accomplished is via a method similar to the EMP-to-ESD conversion method. However, for this method to work, one must know certain parameters of the device, namely the bulk resistance and breakdown voltage. Unfortunately, these parameters are seldom available, especially given the fact that for ICs the failure site is often not known.

A more direct conversion technique was therefore needed which could be used to convert data without knowing these parameters of the device. Since the failure voltage of a device (the voltage on the capacitor) is proportional to the series resistance in the stressing circuits and

inversely proportional to the capacitance in the circuit, the failure voltage, resistance, and capacitance can be approximately related as follows:

$$V = A\sqrt{\frac{R}{C}}$$

Here A is a constant dependent on the device parameters. Therefore, the ratio of failure voltages for two different RC models is in the general form:

$$\frac{V_1}{V_2} = \frac{A\sqrt{\frac{R_1}{C_1}}}{A\sqrt{\frac{R_2}{C_2}}} = \sqrt{\frac{R_1C_2}{C_1R_2}}$$

where:

V_2 = observed failure voltage using C_2 and R_2
C_2 = capacitance used in nonstandard model (in pF)
R_2 = resistance used in nonstandard model
V_1 = converted failure voltage
C_1 = capacitance of model failure voltage is to be converted to (in pF)
R_1 = resistance of model failure voltage is to be converted to

Therefore, when using 100 pF and 1500 ohm for C_1 and R_1 respectively, the following conversion equation is obtained:

$$V_1 = V_2\ (3.87)\ \sqrt{\frac{C_2}{R_2}}$$

The relationship of V, C, and R was obtained through empirical methods (regression analysis) by reviewing data in which a device was

tested with different R C models and threshold voltages were obtained for each model (Ref. 10, 14, 16, 17, 19, 25).

It must also be stressed that this relationship of V, C and R indicates an energy-dependent failure mechanism. This may not be an adequate assumption, especially for MOS devices where the failure mechanism may be voltage-dependent by nature (i.e., dielectric breakdown) but the actual failure mechanism is not known. For example, if a MOS device was tested with a capacitance greater than 100 pF and/or resistance lower than 1500 ohms the failure voltage obtained with the nonstandard values of R and C may give a good indication of the lower bound of the failure voltage; that is, the failure voltage may be greater than or equal to the observed failure rate if the standard human body model was used.

This method is necessarily approximate and was used in the classification of devices only if data using the standard human body model was not available.

Part II: Derivation of EMP-to-ESD Conversion Formula

By knowing certain parameters of a device, a theoretical ESD failure voltage can be calculated. The parameters needed for conversion of EMP overstress failure to a theoretical ESD failure voltage are:

R_0 = Bulk resistance of the device
V_D = Breakdown voltage of device
K_1 = Failure constant 1
K_2 = Failure constant 2

The basic equation used for this conversion is:

$$P_{AV} = K_1 \, t^{-K_2}$$

where:

P_{AV} = average power required for failure

t = pulse width

i = I (time dependent current)

$p = V_D\, i + R_B i^2$ (time dependent power)

$$p = V_D I_P\, e^{\frac{t}{\tau}} + R_B I_P^2\, e^{\frac{t}{\tau}}$$

Integrating and averaging the power over 5 time constants yields:

$$P_{AV} = \frac{1}{5\tau}\int_0^{5\tau} V_D I_P\, e^{-\frac{t}{\tau}}\, dt + \frac{1}{5\tau}\int_0^{5\tau} R_B I_P^2\, e^{-\frac{2t}{\tau}}\, dt$$

$$= \frac{V_D I_P}{5}\,(1 - e^{-5}) + \frac{R_B I_P^2}{10}\,(1 - e^{-10})$$

$(e^{-5}$ and $e^{-10} << 1)$

therefore:

$$P_{AV} = \frac{V_D I_P}{5} + \frac{R_B I_P^2}{10}$$

$$K_1 t^{-K_2} = \frac{V_D I_P}{5} + \frac{R_B I_P^2}{10}$$

Using the quadratic equation solution to solve for Ip:

$$I_P = \frac{-2V_D + \sqrt{4\, V_D^2 + 40\, R_B\, (K_1 t^{-K2})}}{2\, R_B}$$

$$I_P = \frac{V - V_D}{R + R_B}$$ (general equation for Ip)

(V = voltage on capacitor)

(R = source resistance of model)

$$V = I_P\,(R + R_B) + V_D$$

Assuming $t = 5\tau - 5RC - 7.675 \times 10^{-7}$ for conversion to voltage level consistent with a 100 pF, 1500 ohm model and a nominal value of 30 ohms for R_B yields:

$$V = \left[\frac{-2V_D + \sqrt{4V_D^2 + 1200\ K_1\ (7.675 \times 10^{-7})^{-K_2}}}{60} \right] 1530 + V_D$$

APPENDIX B

MIL-M-38510 Detail Specifications
Minimum VZAP Requirements

MIL-M-38510 Detail Specifications Minimum Specified VZAP Requirements

The following listing is a tabulation of MOS devices for which a minimum VZAP voltage level exists on their associated MIL-M-38510 slash sheets. The generic part number, associated MIL-M-38510 number, and VZAP requirement are given in the following order of device type:

Digital - CMOS
Analog Switch - CMOS
Analog Multiplexer/Demultiplexer - CMOS
Multiplying D/A Converter - CMOS
RAM - Digital, NMOS, Static, 4K
RAM - Digital, NMOS, Dynamic, 4K
RAM - Digital, NMOS, Dynamic, 16K
RAM - Digital, NMOS, Dynamic, 64K
RAM - Digital, CMOS, Static, 4K
RAM - Digital, CMOS, Static 1K
EPROM - Digital, CMOS, 4K
EPROM - Digital, NMOS, 8K
EPROM - Digital, NMOS, 16K
EPROM - Digital, NMOS, 32K
Microprocessor - NMOS
Microprocessor Support Chips - NMOS
Microprocessor - CMOS
Microprocessor Support Chips - CMOS

Unless otherwise specified, all voltage requirements are referenced to the 100 pF, 1500 ohm human body model.

MIL-M-38510 Minimum Specified V_{ZAP} Requirement

	MIL-M-38510/	Minimum Specified V_{ZAP}
Digital - CMOS		
4000A	05201	400V
4000B	05251	400V
4001A	05202	400V
4001B	05252	400V
4002A	05203	400V
4002B	05253	400V
4006A	05701	400V
4006B	05751	400V
4007A	05301	400V
4008A	05401	400V
4008B	05451	400V
4009A	05501	400V
4010A	05502	400V
4011A	05001	400V
4011B	05051	400V
4012A	05002	400V
4012B	05052	400V
4013A	05101	400V
4013B	05151	400V
4014A	05702	400V
4014B	05752	400V
4015A	05703	400V
4015B	05753	400V
4016A	05801	400V
4016B	05851	400V
4017A	05601	400V

MIL-M-38510 Minimum Specified V_{ZAP} Requirement (Cont'd)

	MIL-M-38510/	Minimum Specified V_{ZAP}
Digital - CMOS		
4018A	05602	400V
4019A	05302	400V
4020A	05603	400V
4021A	05704	400V
4021B	05754	400V
4022A	05604	400V
4023A	05003	400V
4023B	05053	400V
4024A	05605	400V
4025A	05204	400V
4025B	05254	400V
4027A	05102	400V
4027B	05152	400V
4028A	05901	400V
4028B	05951	400V
4030A	05303	400V
4031A	05705	400V
4031B	05755	400V
4034A	05706	400V
4034B	05756	400V
4041A	05505	400V
4043A	05103	400V
4043B	05153	400V
4048A	05304	400V
4049A	05503	400V
4050A	05504	400V

MIL-M-38510 Minimum Specified V_{ZAP} Requirement (Cont'd)

	MIL-M-38510/	Minimum Specified V_{ZAP}
Digital - CMOS		
4066A	05802	400V
4066B	05852	400V
4067B	17801	400V
4069UB	17401	400V
4070B	17203	400V
4071B	17101	400V
4072B	17102	400V
4073B	17003	400V
4075B	17103	400V
4076B	17501	400V
4077B	17204	400V
4081B	17001	400V
4082B	17002	400V
4085B	17201	400V
4086B	17202	400V
4093B	17701	400V
4095B	17502	400V
4096B	17503	400V
4097B	17802	400V
4098B	17504	400V
4099B	17601	400V
40106B	17702	400V
40107B	17402	400V
40109B	17404	400V
40160B	18001	400V
40161B	18002	400V

MIL-M-38510 Minimum Specified V_{ZAP} Requirement (Cont'd)

	MIL-M-38510/	Minimum Specified V_{ZAP}
Digital - CMOS		
40162B	18003	400V
40163B	18004	400V
40174B	17505	400V
40257B	17803	400V
4502B	17403	400V
4508B	17602	400V
4514B	17301	400V
4515B	17302	400V
4532B	17303	400V
4555B	17304	400V
4556B	17305	400V
Analog Switch - CMOS		
DG300	11601	400V
DG301	11602	400V
DG302	11603	400V
DG303	11604	400V
DG304	11605	400V
DG305	11606	400V
DG306	11607	400V
DG307	11608	400V
200*	12301	400V
201*	12302	400V
200	12303	400V
201	12304	400V

*Diode clamped input

MIL-M-38510 Minimum Specified V_{ZAP} Requirement (Cont'd)

	MIL-M-38510/	Minimum Specified V_{ZAP}
Analog Multiplexers/Demultiplexers - CMOS		
506,6116	19001	400V
506A	19002	400V
507,6216	19003	400V
507A	19004	400V
508A	19005	400V
509A	19006	400V
508,6108	19007	400V
509, 6208	19008	400V
Multiplying D/A Converter - CMOS		
7523	12701	400V
7520	12702	400V
7521	12703	400V
7541	12704	400V
1020	12705	400V
1220	12706	400V
1218	12707	400V
RAM - Digital, NMOS, Static, 4K		
2147	23801	170V
2114	23802	170V
2147H	23803	170V
2114A	23804	170V

MIL-M-38510 Minimum Specified V_{ZAP} Requirement (Cont'd)

	MIL-M-38510/	Minimum Specified V_{ZAP}
RAM - Digital, NMOS, Static, 4K (Cont'd)		
2147H-3	28305	170V
2148H	23806	170V
2148H-2	23807	170V
RAM - Digital, NMOS, Dynamic, 4K		
MK84096	23602,23604	150V
6604A	23602,23604	150V
MCM6605	23601,23603	150V
RAM - Digital, NMOS, Dynamic, 16K		
2117	24001,24002	150V
4116	24001,24002	150V
RAM - Digital, NMOS, Dynamic, 64K		
MCM6665,4564 2164,8264	24401	150V
NMC4164,F64K	24401	150V
MCM6665,4564, 2164,8264	24402	150V
NMC4164,F64K	24402	150V

MIL-M-38510 Minimum Specified V_{ZAP} Requirement (Cont'd)

	MIL-M-38510/	Minimum Specified V_{ZAP}
RAM - Digital, CMOS, Static, 4K		
6504	24501	400V
6514	24502	400V
RAM - Digital, CMOS, Static, 1K		
6508	23901	400V
6518	23902	400V
54C929	23901	400V
54C930	23902	400V
EPROM - Digital, CMOS, 4K		
6654	21901	150V
EPROM - Digital, NMOS, 8K		
2708	22001	150V
EPROM - Digital, NMOS, 16K		
21716,2516	22101	150V
EPROM - Digital, NMOS, 32K		
2532	22201	150V

MIL-M-38510 Minimum Specified V_{ZAP} Requirement (Cont'd)

	MIL-M-38510/	Minimum Specified V_{ZAP}	Remarks
Microprocessors, NMOS			
6800	40001	400V	
8080A	42001	600V	50 pf 0 ohm
8048	49001	400V	
8035L	49002	400V	
Z8001	52001	400V	
Z8002	52002	400V	
Z8001A	52003	400V	
Z8002A	52004	400V	
8086	53001	400V	
68000-6	54001	400V	
68000-8	54002	400V	
Microprocessor Support Chips, NMOS			
MC6821	40101	400V	
6810	40201	170V	
68A316E,S6831B, 9218,3516E, 2316E,MK34000, 52116,2616	40301	150V	
Z80AS10,A80S10	48101	400V	
Z80S10	48102	400V	
Z80ADMA	48201	400V	
Z80DMA	48202	400V	
Z80ACTC,A80CTC	48301	400V	
Z80AP10	48401	400V	
Z80P10	48402	400V	

MIL-M-38510 Minimum Specified V_{ZAP} Requirement (Cont'd)

	MIL-M-38510/	Minimum Specified V_{ZAP}
Microprocessors - CMOS		
1802D	47001	400V
Z80A	48001	400V
Z80	48002	400V
Z80B	48003	400V
Microprocessor Support Chips - CMOS		
1821	47101	400V
1822	47102	400V
1832	47201	400V
1852	47301	400V
1853	47401	400V
1856	47601	400V

APPENDIX C

Additional RAC Services

PRECEDING PAGE BLANK-NOT FILMED

ADDITIONAL RAC SERVICES

Search Services

Retrospective Searches are conducted at a flat fee of $125 per search. If no references are identified, a $50 service charge will be made in lieu of the above. For best results, please call or write for assistance in formulating your search question. An extra charge, based on engineering time and costs, will be made for evaluating, extracting or summarizing information from the cited references.

Consulting Services

Consulting Service fees are determined by the costs incurred in the conduct of the designed work, including staff time and overhead, materials and other expenses. Work will be initiated upon receipt of a signed purchase order. We will be pleased to prepare firm cost proposals.

Full Service Participating Plans

Two plans are offered to both government and industry

Participating Member (PM).....	**$1,600**
Participating Associate (PA).....	**400**

Services provided to a Participant in either plan are:

- Automatic receipt of one (1) copy of each RAC microcircuit and semiconductor device databook issued over twelve months at a savings of $70.
- Availability of additional copies of each of the above databooks at 20% off list price.
- Discount on registration fees for RAC sponsored training courses, seminars, workshops, etc.

In addition, the **Participating Member** may access RAC resources as needed without issuing purchase orders. Up to 50 man-hours of professional consultation are authorized.

Blanket Purchase Order

The Blanket Purchase Order option enables you to write a single Purchase Order for a stipulated maximum dollar amount (depending on your needs) and active time duration (a one-year period is suggested), but you pay only for services rendered or documents purchased.

Military Agencies: Blanket Purchase Agreement, DD Form 1155, may be useful for ordering RAC reports and/or services. Please stipulate maximum dollar amount authorized and cutoff date on your order. Also specify services (e.g., publications, search services, etc.) to be provided. Identify vendor as IIT Research Institute (Reliability Analysis Center).

Ordering Information

Place orders or obtain additional information directly from the Reliability Analysis Center. Clearly specify the publications and services desired. Except for blanket purchase orders, prepayment is required. All foreign orders must be accompanied by a check drawn on a U.S. bank. Please make checks payable to IITRI/RAC.

SERVICE FEE SCHEDULE AND ORDERING INFORMATION

March 1983

			Issue Date	Price Per Copy Domestic	Price Per Copy Foreign
Component Reliability Databooks					
( )	MDR-14	Hybrid Circuit Data	Mar. 1980	$60.00	$70.00*
( )	MDR-15	Digital Evaluation and Generic Failure Analysis Data - Vols. I and II	Aug. 1980	60.00	70.00**
( )	MDR-16	Linear/Interface Data — Complete Set: $310	Feb. 1981	60.00	70.00**
( )	MDR-17	Digital Failure Rate Data — ($360 non-U.S.)	Aug. 1981	60.00	70.00**
( )	MDR-18	Memory/LSI Data	Feb. 1982	60.00	70.00**
( )	DSR-3	Transistor/Diode Data	Jan. 1980	60.00	70.00**
( )	NPRD-2	Nonelectronic Parts Reliability Data	Aug. 1981	60.00	70.00*
( )	VZAP-1	Electrostatic Discharge Susceptibility Data	Apr. 1983	95.00	105.00**
Equipment Databooks					
( )	EERD-1	Electronic Equipment Reliability Data	Oct. 1980	60.00	70.00**
( )	EEMD-1	Electronic Equipment Maintainability Data	Oct. 1980	60.00	70.00*
Handbooks					
( )	RDH-376	Reliability Design Handbook	Mar. 1976	36.00	46.00**
( )	MFAT-1	Microelectronics Failure Analysis Techniques Procedural Guide	July 1981	125.00	135.00***
Technical Reliability Studies					
( )	TRS-1	Microcircuit Screening Effectiveness		36.00	46.00*
( )	TRS-2	Search and Retrieval Index to IRPS Proceedings-1968 to 1978		24.00	34.00**
( )	TRS-3A	EOS/ESD Technology Abstracts		36.00	46.00*
( )	SOAR-1	ESD Protective Materials and Equipment: A Critical Review		36.00	46.00*
( )	SOAR-2	Practical Statistical Analysis for the Reliability Engineer		36.00	46.00*
Symposium Proceedings					
( )	EOS-1	Electrical Overstress/Electrostatic Discharge 1979 Symposium Proceedings		24.00	34.00*
( )	EOS-2	Electrical Overstress/Electrostatic Discharge 1980 Symposium Proceedings		24.00	34.00*
( )	EOS-3	Electrical Overstress/Electrostatic Discharge 1981 Symposium Proceedings		24.00	34.00*
( )	EOS-4	Electrical Overstress/Electrostatic Discharge 1982 Symposium Proceedings		24.00	34.00*

*For air mail shipment to points outside North and Central America, add $10.00 per item
**For air mail shipment to points outside North and Central America, add $15.00 per item
***For air mail shipment to points outside North and Central America, add $35.00 per item

Quantity Purchase Discounts - Discounts (on multiple copies of a single title ordered at one time) are:

Quantity	Discount	Quantity	Discount
1-2	list	10-19	33-1/3% off list
3-6	15% off list	20-49	45% off list
6-9	20% off list	50-99	60% off list
		100 or more	negotiable

ORDER FORM

Enclosed find $_____

Send order and check to:

Reliability Analysis Center
RADC/RAC
Griffiss AFB, NY 13441

Phone: 315/330-4151 Autovon: 587-4151

Please send me the documents checked above.

Name/Title_____

Organization_____

Address_____

City/State_____Zip_____

Prepayment of orders is required. *Please make checks payable to* IITRI/RAC. Foreign orders must be accompanied by check drawn on a U.S. bank.

The Reliability Analysis Center is a DoD Information Analysis Center operated by IIT Research Institute, Chicago, IL

341 ☆U.S. GOVERNMENT PRINTING OFFICE: 1983-617-[illegible]