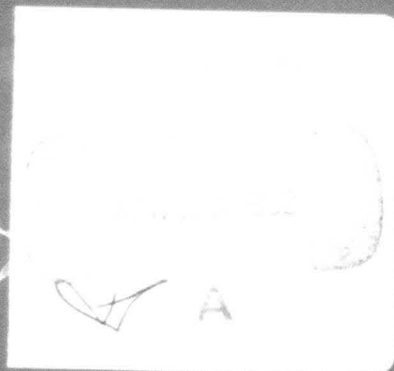
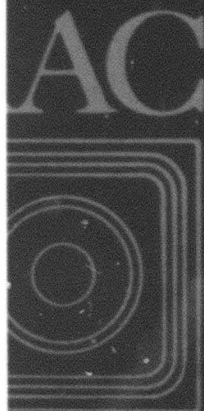


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AD A113992

Microcircuit Device Reliability
**DIGITAL FAILURE RATE
DATA**

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Summer 1981

Reliability Analysis Center
ROME AIR DEVELOPMENT CENTER

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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.

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) This report concerns itself with the presentation and analysis of digital microcircuit reliability data, which has been compiled from a wide spectrum of military and commercial sources. The individual data elements represent both component life test and equipment reliability demonstration results, as well as actual field experience. For analysis purposes, this report separates these sources into two major sections. The first section presents the summarized results of test and field data, while the second section contains			

failure information derived from failure analysis of digital devices. In each of these sections, the data summaries are followed by a detailed listing of line entries which allow the reader to make the maximum use of the information compiled in this compendium.

In addition to providing field and test results, MDR-17 presents comparisons between actual field experienced failure rates and MIL-HDBK-217C, Notice 1, predicted failure rates. The use of tables and graphs results in high visibility into the parameters which affect device failure rates, allowing correlation between observed and predicted failure rates to be made effectively.

PREFACE

This is one of a series of annual data publications dealing with microcircuit reliability which includes hybrid, linear and interface, memory and LSI devices, as well as digital SSI/MSI components. Other volumes specifically treat discrete semiconductor (including optoelectronic and microwave) and nonelectronic components.

Each document contains analyzed reliability information in addition to the detailed presentation of field, test and failure analysis results. Digital SSI/MSI microcircuit reliability is now divided into two separate publications: Digital Failure Rate Data, which presents and analyzes the results of life testing, equipment level reliability demonstration testing and field experience; and Digital Evaluation and Failure Analysis Data, which deals with the results of burn-in and environmental screening tests, as well as relates the detailed failure analysis results and distributions from thousands of failure events. This information aids in determining device fallout rates and the operational test and field reliability characteristics of devices. Life test results and their relationship to field experience as well as observed vs. MIL-HDBK-217C predicted failure rates can be reviewed. The relative risks of screening decisions may also be examined. Additionally, information is available to form the foundation for failure mode effects and criticality analyses (FMECA). Through the data presented, these publications are intended to actively complement such documents as MIL-STD-883B and MIL-HDBK-217C. The user is cautioned that the data contained herein may not be used in lieu of other contractually cited references.

The Rome Air Development Center's computer facilities and the extensive cooperation of the Reliability and Compatability Division (RADC/RB) and the Information Sciences Division (RADC/IS) and its personnel were a vital factor in the generation of this compendium.

The detailed data sections are generated directly from the Reliability Analysis Center's computerized data base utilizing a customized file system approach developed by the RAC programming staff. This system allows the generation of special reports and analyses wherein the data is categorized to match the needs of the user.

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INTRODUCTION

This microcircuit device reliability compendium features failure rate data for SSI and MSI digital microcircuits. The data used in this publication were collected, reduced and refined from a broad spectrum of government and industry sources by the Reliability Analysis Center in order to present objective and relevant information for widespread usage. This publication is divided into sections to allow for convenient referencing of a particular data summary or distribution. A brief synopsis of each section appears below to provide an overview of the contents and scope of this data publication.

Section 1 contains the definitions of terms used in the statistical analysis of failure rate data. Included in this are some common abbreviations and symbols associated with reliability estimations, as well as the underlying basis for statistical computations.

Section 2, "Digital Summarized Data," consists of a useful compilation of failure rates as they have been derived from equipment level operation and component life test results collected by the RAC. Failure rates are presented for several generic classes of devices, and subsequent comparisons are made based upon environment, operational type and other more detailed criteria. In addition, a presentation of MIL-HDBK-217C, Notice 1 predicted and observed field experience failure rates is provided.

Section 3 entitled "Digital Device Data - Detailed Listings" is comprised of a series of line-entries containing part-level reliability data. These listings present the detailed parameters pertinent to device reliability (such as complexity, package type, etc.) and associated failure information for those components. Included here are life test, field, reliability demonstration and equipment checkout data sorted by operational type, device manufacturer and part number.

INTRODUCTION (Cont'd)

The final two sections (4 and 5) concern themselves with the failure event record structure and the summarization of failure analysis results. The failure event records contain detailed information on specific devices whose failures have been verified and on which failure analysis has been performed. As such, each failure event record reveals the particular device and test characteristics, as well as associated stress values and other failure information (failure mode, failure defect cause, etc.). These detailed records are then summarized to obtain failure distributions which reveal the nature of failure trends by operation type. The distribution summaries form the basis of Section 4, while the detailed records from which they were derived are included in Section 5.

This publication contains considerably more commercial field data than any other type of field data. While this type of data is certainly useful, there are some points which should be given consideration:

- (1) In most instances, this data represents replacement rates, not failure rates. This publication assumes the two quantities to be equal as a worst case.
- (2) Much of this data is warranty data, which means that only the early life of the part is represented. Thus, the data may be vulnerable to bias due to infant mortality failure.
- (3) Actual stress levels are not usually known. Stresses are typically calculated by using a manufacturer's adopted component derating guidelines. While this will be a good estimate on the average, any individual component may vary greatly from the assumed stress.

In spite of these limitations, it is assumed that the quantities of data involved are of sufficient magnitude such that the effects of these

INTRODUCTION (Cont'd)

limitations are minimized, rendering the data useful and dependable for reliability purposes.

The data contained herein may be applied to part selection and device failure rate estimation. Through the reader's analysis of the data, operational types exhibiting higher failure rates for a given set of parametric and environmental conditions can be avoided, thereby decreasing field repair costs. System and device failure rates can then be reassessed and adjusted to ensure more accurate and realistic MTBF predictions.

**MICROCIRCUIT DEVICE RELIABILITY
DIGITAL FAILURE RATE DATA**

SECTION 1

**DEFINITION OF TERMS, STATISTICAL METHODS AND
ABBREVIATIONS USED IN THE DATA ANALYSIS**

DEFINITIONS OF TERMS AND STATISTICAL METHODS
USED IN THE DATA ANALYSIS

1. Part Hours: The number of parts tested multiplied by the operating duration in equipment or on test.
2. Point Estimate or Maximum Likelihood Estimator (λ):

$$\lambda = r/n$$

where

r = number of reported failures
n = number of reported part hours.

This number is generally normalized to failure/ 10^6 hours.

3. Confidence Interval or Limits: The confidence intervals given in this book are two-sided 60% intervals computed from the Chi-square distribution using $2r$ and $2(r+1)$ degrees of freedom, respectively. The lower limit of the interval is the 20% level, and the upper limit is the 80% level. The Chi-square 60% confidence interval is the statistical range of values which would, with a 60% probability, include the actual mean of an infinite sample.

In those instances where no failures occur, it is not possible to derive a lower limit for the confidence interval. It is possible to define an upper 80% confidence level such that there is a probability of 80% that the mean of an infinite sample will be less than this value.

4. No. Records: Gives the number of data entries which have been merged to arrive at the point estimate or maximum likelihood estimator (λ).

5. Primary Failures: A failure not caused either directly or indirectly by the failure of an associated item(s).
6. Secondary Failure: A failure which is the direct result of a primary failure - one which is caused by a failure of an associated item(s).
7. Abbreviations: Abbreviations for Operational Type (OP Type) are:

CMOS	Complementary, Metal Oxide Semiconductor
DTL	Diode - Transistor Logic
ECL	Emitter - Coupled Logic
HINIL	High Threshold Logic (High Noise Immunity Logic)
HTTL	High Speed, Transistor - Transistor Logic
IIL	Integrated - Injection Logic
L TTL	Low Power, Transistor - Transistor Logic
LSTTL	Low Power Schottky, Transistor - Transistor Logic
PMOS	P-Channel, Metal Oxide Semiconductor
RTL	Resistor - Transistor Logic
STTL	Schottky, Transistor - Transistor Logic
SUHL	Sylvania Universal High - Level Logic
TTL	Transistor - Transistor Logic

8. Data is collected by the RAC from many sources. It is common to find several data entries for a particular device which has been used in the same general environment in different systems. In the data analysis described in this book, these records are often merged to arrive at one overall failure rate. A significance test for the hypothesis that the merged records are in fact from the same distribution is applied at the 5% significance level. The test is attributable to Brownlee (see Brownlee, K.A., Statistical Theory and Methodology in Science and Engineering, pp. 142-144). When this test indicates the data entries should not be merged, there is a possibility that the system application significantly affects the failure rate for the particular device type.

**MICROCIRCUIT DEVICE RELIABILITY
DIGITAL FAILURE RATE DATA**

SECTION 2

**DIGITAL SUMMARIZED DATA
(Tables 1 through 5)**

DIGITAL SUMMARIZED DATA

Introduction

The summarized data are presented to allow a more meaningful insight into the effects of such factors as package type, logic type, device gate complexity, device junction temperature, environmental stress and screen class levels upon the failure rates of SSI and MSI digital microcircuit devices.

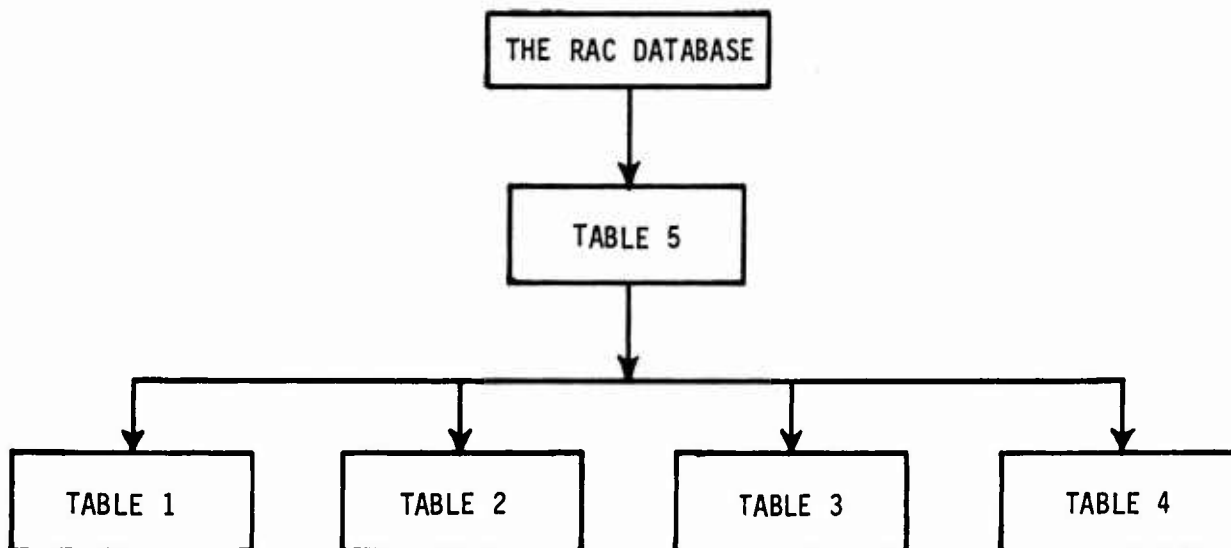
This summary section is segmented into four different subsections, the first of which is entitled "Summarized Generic Failure Rates - Field Data" and provides several cross-sections of summarized field data covering the calendar time period 1974 to the present. The second subsection, "Digital Microcircuit Observed and MIL-HDBK-217C, Notice 1 Predicted Failure Rates," analyzes the most significant relationships between the summarized field data and theoretically predicted failure rate values. The remaining two subsections represent a summarized presentation of microcircuit device failure rates as they occur during equipment-level testing and life testing and are entitled "Summarized Generic Failure Rates - Reliability Demonstration and Equipment Checkout Data" and "Summarized Generic Failure Rates - Life Test Data," respectively.

The primary purpose of Section 2 is to serve as an efficient aid to those who require generic failure rate information on digital SSI/MSI microcircuits from a varied selection of available formats. Individuals requiring a more customized approach concerning the failure rate information of these devices are invited to contact the Reliability Analysis Center directly.

SUMMARIZED GENERIC FAILURE RATES - FIELD DATA

The summarized generic field failure rates represented in Tables 1 through 5 are a compilation of detailed equipment level field experience information. The data are presented using two levels of summary and are grouped according to those parameters or operational characteristics deemed most applicable to the user's need.

The data presented herein are provided as a complement to, but not a replacement for, the failure rate information in MIL-HDBK-217C. The structured format of these field experience presentations will enable greater insight into the inherent reliability of each defined generic class and reflect the reliability influence of logic types, environmental stresses, gate complexities, quality levels, package types and junction temperatures. The user is again cautioned that the data presented in this publication may not be used in lieu of other contractually cited references and specifications. A graphic illustration of the levels of summarization of the detailed data used to derive the tables included in this section is presented below, beginning with the most detailed (least generic) of the summarized tables:



Within this hierarchy, Tables 1 through 4 represent the most generic device classifications. Each of these tables lists digital SSI/MSI failure rates for the unique categories of environment (Table 1), operational type (Table 2), screen class (Table 3), and package type (Table 4) without regard to any of the secondary influences which might affect the categorical failure rate. For instance, Table 1 ("Field Failure Rates by Environment") does not explicitly reveal the distributions and hence the effects of screen class level and/or device gate complexities between unrelated field environments. Therefore, care must be exercised in the interpretation of these failure rates. Once these limitations are understood, these four tables provide the reader with an overview of digital microcircuit reliability under actual field conditions.

Table 5 is compiled directly from the RAC data base and represents the most highly detailed of the field data summaries. Each line entry is categorized according to operational type, application environment, screen class, package type, gate complexity (specified as a range) and junction temperature (designated T_j and also specified as a range). Failure rates are calculated for each of these entries based on the total quantity of failures and part hours obtained by grouping the detailed failure data into the above device classes. The qualifications utilized for calculation of the point estimate failure rate and the 60% confidence interval failure rates (see the "Definitions of Terms, Statistical Methods and Abbreviations Used in the Data Analysis" on page 7) are based upon the following minimum data requirements:

1. 0 failures with $\geq 500,000$ accumulated part hours
1 failure with $\geq 250,000$ accumulated part hours
2 failures with $\geq 125,000$ accumulated part hours
2. The device must have had an applied power/voltage stress.

TABLE 1: FIELD FAILURE RATES BY ENVIRONMENT

APPLICATION ENVIRONMENT	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
			20% C.L.	POINT ESTIMATE	80% C.L.
AIF	7.594	9	0.85	1.19	1.65
AIT	72.237	6	0.05	0.08	0.13
AUF	264.318	78	0.27	0.30	0.33
GB	332.393	49	0.13	0.15	0.17
GBC	25513.052	5014	0.19	0.20	0.20
GF	400.171	52	0.11	0.13	0.15
GM	13.456	0	-	-	0.12
GT	1.923	0	-	-	0.84

TABLE 2: FIELD FAILURE RATES BY OPERATIONAL TYPE

OPERATIONAL TYPE	DATA SOURCE	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
				20% C.L.	POINT ESTIMATE	80% C.L.
CMOS	Combined	2960.104	595	0.19	0.20	0.21
	Military	172.538	53	0.27	0.31	0.35
	Commercial	2787.566	542	0.19	0.19	0.20
DTL	Combined	448.158	108	0.22	0.24	0.26
	Military Commercial	17.244 430.914	2 106	0.05 0.23	0.12 0.25	0.25 0.27
ECL	Combined	1677.389	252	0.14	0.15	0.16
	Military Commercial	2.205 1675.184	2 250	0.37 0.14	0.91 0.15	1.94 0.16
HTTL	Combined	587.944	140	0.22	0.24	0.26
	Military	225.569	50	0.20	0.22	0.25
	Commercial	362.375	90	0.23	0.25	0.27
LTTL	Combined	2851.233	991	0.34	0.35	0.36
	Military	70.306	5	0.04	0.07	0.11
	Commercial	2780.927	986	0.34	0.35	0.36
LSTTL	Combined	7694.512	1022	0.13	0.13	0.14
	Military	0.760	0	-	-	2.12
	Commercial	7693.752	1022	0.13	0.13	0.14
STTL	Combined	2171.343	366	0.16	0.17	0.18
	Military	182.785	3	0.01	0.02	0.03
	Commercial	1988.558	363	0.17	0.18	0.19
ITTL	Combined	8214.461	1734	0.21	0.21	0.22
	Military	420.685	79	0.17	0.19	0.21
	Commercial	7793.776	1655	0.21	0.21	0.22

TABLE 3: FIELD FAILURE RATES BY SCREEN CLASS

SCREEN CLASS	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F / 10 ⁶ HOURS)		
			20% C.L.	POINT ESTIMATE	80% C.L.
JB	16.226	2	0.05	0.12	0.26
B-1/JB	221.789	9	0.03	0.04	0.06
B-1	54.315	6	0.07	0.11	0.17
B-2	1.905	0	-	-	0.84
C-1	190.169	65	0.31	0.34	0.38
B-2/N	9.114	8	0.61	0.88	1.25
X	36.737	5	0.08	0.14	0.22
D	1838.321	327	0.17	0.18	0.19
D-1	24236.568	4786	0.19	0.20	0.20

TABLE 4: FIELD FAILURE RATES BY PACKAGE TYPE

PACKAGE TYPE	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F / 10 ⁶ HOURS)		
			20% C.L.	POINT ESTIMATE	80% C.L.
HDIP	2080.832	347	0.16	0.17	0.17
HFPK	249.009	69	0.25	0.28	0.31
PDIP	24273.305	4791	0.19	0.20	0.20
CAN	1.998	1	0.11	0.50	1.50

TABLE 5: GENERIC FAILURE RATES - FIELD DATA

OPERATIONAL TYPE	APPLICATION ENVIRONMENT	SCREEN CLASS	PACKAGE TYPE	COMPLEXITY (GATES)	Tj (°C)	PART HOURS (10 ⁶) / QTY. FAILURES	FAILURE RATES (F/10 ⁶ HOURS)				
							20 C.L.	POINT ESTIMATE	80% C.L.		
CMOS	AIF	B-1/JB	HDIP	1-10	51-75	0.785/1	0.28	1.27	2.96		
			HDIP	11-25	51-75	0.176/0	--	--	9.14		
			HDIP	51-75	51-75	0.587/0	0.38	1.70	5.10		
			HDIP	76-100	51-75	0.063/0	--	--	25.6		
			HDIP	51-75	51-75	0.021/0	--	--	76.6		
			HDIP	1-10	51-75	0.124/2	6.65	16.1	34.5		
			PDIP	1-10	51-75	0.093/0	--	--	17.3		
			HDIP	1-10	51-75	0.309/1	0.72	3.24	9.69		
			HDIP	11-25	51-75	0.097/0	--	--	16.6		
			HDIP	51-75	51-75	0.406/0	--	--	3.96		
			HDIP	76-100	51-75	0.039/0	--	--	41.3		
			HDIP	76-100	51-75	0.019/0	--	--	84.7		
			D	D	26-50	1-10	26-50	277.848/49	0.16	0.18	0.20
			D	D	26-50	11-25	26-50	133.416/43	0.28	0.32	0.37
			D	D	26-50	26-50	26-50	34.034/5	0.09	0.15	0.23
			D	D	26-50	26-50	51-75	27.431/4	0.08	0.15	0.25
	D	D	26-50	51-75	26-50	27.440/16	0.56	0.69	0.86		
	D	D	51-75	51-75	51-75	2.435/0	--	--	0.66		
	D	D	76-100	76-100	26-50	22.905/5	0.14	0.22	0.35		
	D	D	76-100	76-100	51-75	1.191/0	--	--	1.35		
	D-1	D-1	1-10	PDIP	1-10	26-50	1085.157/246	0.21	0.23	0.24	
	D-1	D-1	11-25	PDIP	11-25	26-50	370.108/83	0.20	0.22	0.25	
	D-1	D-1	11-25	PDIP	11-25	51-75	7.316/1	0.03	0.14	0.41	
	D-1	D-1	26-50	PDIP	26-50	26-50	291.719/36	0.11	0.12	0.14	
	D-1	D-1	26-50	PDIP	26-50	51-75	137.703/19	0.11	0.14	0.17	
	D-1	D-1	26-50	PDIP	51-75	26-50	94.520/8	0.06	0.08	0.12	
	D-1	D-1	51-75	PDIP	51-75	51-75	44.918/1	0.01	0.02	0.07	
	D-1	D-1	76-100	PDIP	76-100	26-50	227.682/23	0.08	0.10	0.12	
	D-1	D-1	76-100	PDIP	76-100	51-75	1.743/0	--	--	0.92	
	D	D	1-10	HDIP	1-10	26-50	96.435/30	0.26	0.31	0.37	
	D	D	11-25	HDIP	11-25	26-50	4.428/6	0.88	1.36	2.05	
	D	D	26-50	HDIP	26-50	26-50	40.154/8	0.14	0.20	0.28	
GF	GF	D	HDIP	1-10	26-50	96.435/30	0.26	0.31	0.37		
			HDIP	11-25	26-50	4.428/6	0.88	1.36	2.05		
D	D	D	HDIP	26-50	26-50	40.154/8	0.14	0.20	0.28		

TABLE 5: GENERIC FAILURE RATES - FIELD DATA (CON'T)

OPERATIONAL TYPE	APPLICATION ENVIRONMENT	SCREEN CLASS	PACKAGE TYPE	COMPLEXITY (GATES)	Tj (°C)	PART HOURS (10 ⁶)/ QTY. FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
							20% C.L.	POINT ESTIMATE	80% C.L.
CHOS (cont'd)	GF (cont'd)	D	HDIP	51-75	26-50	12.347/2	0.07	0.16	0.35
DTL	AIF	D	HDIP	76-100	26-50	16.455/2	0.05	0.12	0.26
		B-1	HFPK	11-25	51-75	0.075/0	--	--	21.5
		B-2/N	HFPK	1-10	51-75	0.210/0	--	--	7.66
		B-1	HFPK	1-10	51-75	0.075/0	--	--	21.5
		C-1	HFPK	1-10	51-75	2.069/0	--	--	0.78
		D	HDIP	1-10	26-50	0.177/1	1.26	5.65	16.9
		D-1	PDIP	1-10	26-50	1.102/1	0.20	0.91	2.72
		D-1	PDIP	11-25	26-50	0.059/0	--	--	27.3
		D	CAN	1-10	26-50	1.998/1	0.11	0.50	1.50
		D-1	PDIP	1-10	26-50	427.835/105	0.23	0.25	0.27
ECL	GM	D-1	PDIP	11-25	26-50	0.210/0	--	--	7.66
		D-1	PDIP	11-25	51-75	0.871/0	--	--	1.85
		D-1	PDIP	1-10	26-50	10.092/0	--	--	0.16
		D-1	PDIP	11-25	26-50	3.364/0	--	--	0.48
		B-2	HFPK	11-25	26-50	0.021/0	--	--	76.64
		C-1	HFPK	1-10	76-100	0.525/2	1.50	3.81	8.15
		B-2/N	HFPK	1-10	76-100	0.004/0	--	--	402.
		D	HDIP	1-10	26-50	118.636/8	0.05	0.07	0.10
		D	HDIP	1-10	51-75	88.028/12	0.10	0.14	0.18
		D	HDIP	11-25	51-75	198.501/13	0.05	0.07	0.09
HTTL	AUF	D	HDIP	26-50	51-75	72.648/5	0.04	0.07	0.11
		D	HDIP	51-75	76-100	74.875/19	0.20	0.25	0.32
		D-1	PDIP	1-10	26-50	507.489/98	0.18	0.19	0.21
		D-1	PDIP	1-10	51-75	266.685/40	0.13	0.15	0.17
		D-1	PDIP	11-25	51-75	306.753/52	0.15	0.17	0.19
		D-1	PDIP	26-50	76-100	41.569/3	0.04	0.07	0.13
		D	HDIP	1-10	26-50	1.257/0	--	--	1.28
		D	HDIP	1-10	51-75	0.419/0	--	--	3.84
		B-1	HDIP	1-10	51-75	0.038/0	--	--	42.4
		B-1	HDIP	11-25	51-75	0.113/0	--	--	14.2
B-1	HFPK	1-10	51-75	0.301/0	--	--	5.35		

TABLE 5: GENERIC FAILURE RATES - FIELD DATA (CON'T)

OPERATIONAL TYPE	APPLICATION ENVIRONMENT	SCREEN CLASS	PACKAGE TYPE	COMPLEXITY (GATES)	T _j (°C)	PART HOURS (10 ⁶) / QTY. FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
							20% C.L.	POINT ESTIMATE	80% C.L.
HTTL (cont'd)	AUF (cont'd)	B-1	HFPK	1-10	76-100	2.746/0	--	--	0.59
		B-1	HFPK	11-25	76-100	1.166/0	--	--	1.38
		C-1	HFPK	1-10	51-75	1.091/0	--	--	1.48
		C-1	HFPK	1-10	76-100	29.899/15	0.39	0.50	0.64
		C-1	HFPK	11-25	76-100	3.085/0	--	--	0.52
		B-2/N	HDIP	1-10	76-100	0.422/0	--	--	3.81
		X	PDIP	11-25	26-50	0.153/1	1.43	6.54	1.92
		D	HDIP	1-10	26-50	154.622/29	0.16	0.19	0.22
		D	HDIP	11-25	26-50	18.307/5	0.17	0.27	0.41
		D-1	PDIP	1-10	26-50	229.445/57	0.22	0.25	0.28
		D-1	PDIP	1-10	51-75	55.922/15	0.21	0.27	0.34
		D-1	PDIP	11-25	26-50	0.515/0	--	--	3.13
		D-1	PDIP	11-25	51-75	76.493/18	0.19	0.24	0.29
		B-1/JB	HDIP	1-10	26-50	7.812/0	--	--	0.21
		LTTL	AIF AIT AUF GBC GT	B-1/JB	HDIP	11-25	51-75	0.324/0	--
B-1/JB	HDIP			26-50	51-75	5.490/0	--	--	0.29
B-1/JB	HDIP			1-10	51-75	0.075/0	--	--	21.5
D	HDIP			1-10	51-75	36.252/3	0.04	0.08	0.15
D	HDIP			11-25	51-75	23.180/2	0.04	0.09	0.18
D	HDIP			26-50	51-75	6.764/0	--	--	0.24
JB	FPK			1-10	51-75	1.392/0	--	--	1.15
B-1	FPK			1-10	51-75	0.075/0	--	--	21.5
B-1	HDIP			11-25	51-75	0.602/0	--	--	2.67
B-1	HDIP			11-25	51-75	0.376/0	--	--	4.28
D	HDIP			11-25	26-50	1.733/4	1.33	2.31	3.88
D-1	PDIP			1-10	26-50	1272.966/448	0.34	0.35	0.37
D-1	PDIP			11-25	26-50	814.539/303	0.35	0.37	0.39
D-1	PDIP			11-25	51-75	7.558/1	0.03	0.13	0.40
D-1	PDIP			26-50	26-50	379.570/92	0.22	0.24	0.27
D-1	PDIP	26-50	51-75	200.263/94	0.43	0.47	0.51		
D-1	PDIP	51-75	26-50	104.298/44	0.37	0.42	0.48		
B-2	HFPK	1-10	26-50	1.025/0	--	--	1.57		

TABLE 5: GENERIC FAILURE RATES - FIELD DATA (CONT)

OPERATIONAL TYPE	APPLICATION ENVIRONMENT	SCREEN CLASS	PACKAGE TYPE	COMPLEXITY (GATES)	Tj (°C)	PART HOURS (10 ⁶) / QTY. FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
							20% C.L.	POINT ESTIMATE	80% C.L.
LSTTL	GT (cont'd)	B-2	HFPK	11-25	26-50	0.084/0	--	--	19.2
		B-2	HFPK	26-50	26-50	0.418/0	--	--	3.85
		B-2	HFPK	51-75	26-50	0.063/0	--	--	25.6
		D	HDIP	1-10	51-75	0.760/0	--	--	2.12
		X	PDIP	1-10	26-50	1.056/0	--	--	1.52
		X	PDIP	11-25	26-50	7.120/0	--	--	0.23
		X	PDIP	26-50	26-50	6.480/0	--	--	0.25
		X	PDIP	51-75	26-50	5.400/0	--	--	0.30
		D	HDIP	1-10	26-50	3.874/1	0.06	0.26	0.77
		D	HDIP	11-25	26-50	4.610/8	1.21	1.74	2.47
STTL	AIF	D-1	PDIP	1-10	26-50	3469.352/479	0.13	0.14	0.14
		D-1	PDIP	11-25	26-50	2372.018/302	0.12	0.13	0.13
		D-1	PDIP	26-50	26-50	1109.861/144	0.12	0.13	0.14
		D-1	PDIP	51-75	26-50	676.560/88	0.12	0.13	0.14
		D-1	PDIP	51-75	51-75	37.421/0	--	--	0.04
		B-1/JB	HDIP	1-10	51-75	0.043/0	--	--	37.4
		B-1/JB	HDIP	11-25	51-75	0.021/0	--	--	76.6
		B-1/JB	HDIP	1-10	51-75	0.039/0	--	--	41.3
		B-1/JB	HDIP	11-25	51-75	0.019/0	--	--	84.7
		B-1	HDIP	1-10	51-75	0.376/0	--	--	4.28
GBC	AUF	D	HDIP	1-10	26-50	8.672/0	--	--	0.19
		D-1	PDIP	1-10	26-50	59.683/2	0.01	0.034	0.07
		D-1	PDIP	11-25	26-50	32.191/0	--	--	0.05
		X	PDIP	1-10	26-50	3.807/2	0.22	0.53	1.12
		X	PDIP	11-25	26-50	1.682/0	--	--	0.96
		X	PDIP	11-25	51-75	1.964/1	0.11	0.51	1.52
		X	PDIP	26-50	51-75	0.182/0	--	--	8.84
		D	HDIP	1-10	26-50	0.377/1	0.59	2.65	7.94
		D	HDIP	11-25	51-75	54.852/8	0.10	0.15	0.21
		D	HDIP	51-75	51-75	1.504/1	0.15	0.66	1.99
GBC	GBC	D	HDIP	51-75	76-100	173.797/19	0.09	0.11	0.14
		D-1	PDIP	1-10	26-50	945.842/152	0.15	0.16	0.17

TABLE 5: GENERIC FAILURE RATES - FIELD DATA (CON'T)

OPERATIONAL TYPE	APPLICATION ENVIRONMENT	SCREEN CLASS	PACKAGE TYPE	COMPLEXITY (GATES)	T _j (°C)	PART HOURS (10 ⁶)/ QTY. FAILURES	FAILURE RATES (F/10 ⁶ HOURS)				
							20% C.L.	POINT ESTIMATE	80% C.L.		
STTL (cont'd)	GBC (cont'd)	D-1	PDIP	1-10	51-75	173.307/20	0.09	0.12	0.14		
		D-1	PDIP	11-25	26-50	18.425/2	0.05	0.11	0.23		
		D-1	PDIP	11-25	51-75	544.458/135	0.23	0.25	0.27		
		D-1	PDIP	26-50	51-75	10.405/2	0.08	0.19	0.41		
		D-1	PDIP	26-50	76-100	45.636/17	0.30	0.37	0.50		
		D-1	PDIP	51-75	26-50	2.698/1	0.08	0.37	1.11		
		D-1	PDIP	51-75	51-75	4.759/2	0.17	0.42	0.90		
		D-1	PDIP	51-75	76-100	4.653/0	--	--	0.35		
		D-1	PDIP	76-100	51-75	0.210/0	--	--	7.66		
		GF		B-1/JB	HDIP	1-10	26-50	31.173/1	0.01	0.03	0.10
				B-1/JB	HDIP	11-25	26-50	18.762/0	--	--	0.09
				B-1/JB	HDIP	11-25	51-75	4.050/0	--	--	0.40
				B-1/JB	HDIP	26-50	51-75	27.702/0	--	--	0.06
				B-1/JB	HDIP	51-75	26-50	0.054/0	--	--	29.8
				JB	HFPK	1-10	51-75	2.407/1	0.09	0.42	1.24
				JB	HFPK	11-25	51-75	0.376/0	--	--	4.28
		TTL	AIF	B-1/JB	HDIP	1-10	51-75	0.082/2	10.1	24.4	52.2
B-1/JB	HDIP			11-25	51-75	0.092/0	--	--	17.5		
B-1	HDIP			1-10	51-75	0.792/1	0.28	1.26	3.78		
B-1	HFPK			1-10	51-75	0.037/1	6.03	27.0	80.9		
B-1	HDIP			11-25	51-75	0.150/0	--	--	10.7		
B-1	HFPK			11-25	51-75	0.113/0	--	--	14.2		
B-1	HDIP			11-25	76-100	0.602/0	--	--	2.67		
B-1	HDIP			26-50	76-100	0.150/0	--	--	10.7		
B-1	HDIP			51-75	76-100	0.113/0	--	--	14.2		
B-2/N	HDIP			1-10	51-75	0.082/0	--	--	19.6		
B-2/N	HFPK	1-10	51-75	0.006/0	--	--	268.				
B-2/N	HDIP	11-25	51-75	0.015/0	--	--	107.				
B-2/N	HFPK	11-25	51-75	0.006/0	--	--	268.				
B-2/N	HFPK	51-75	76-100	0.008/0	--	--	201.				
D	HDIP	1-10	51-75	0.108/0	--	--	14.9				
D-1	PDIP	11-25	51-75	0.031/0	--	--	51.9				

TABLE 5: GENERIC FAILURE RATES - FIELD DATA (CON'T)

OPERATIONAL TYPE	APPLICATION ENVIRONMENT	SCREEN CLASS	PACKAGE TYPE	COMPLEXITY (GATES)	Tj (°C)	PART HOURS (10 ⁶) / QTY. FAILURES	FAILURE RATES (F/10 ⁶ HOURS)			
							20% C.L.	POINT ESTIMATE	80% C.L.	
TTL (cont'd)	AIT	B-1	HDIP	1-10	51-75	0.077/0	--	--	20.9	
		B-1/JB	HDIP	1-10	51-75	0.058/0	--	--	27.8	
		D	HDIP	1-10	51-75	0.380/0	--	--	4.24	
		D	HDIP	11-25	51-75	0.076/0	--	--	21.2	
		D	HDIP	26-50	51-75	0.608/0	--	--	2.65	
		D	HDIP	26-50	76-100	3.154/0	--	--	0.51	
		AUF	JB	HFPK	1-10	51-75	6.696/0	--	--	0.24
			JB	HFPK	1-10	76-100	3.234/1	0.07	0.31	0.93
			JB	HFPK	11-25	76-100	2.107/0	--	--	0.76
			B-1	HFPK	1-10	51-75	16.478/0	--	--	0.10
			B-1	HDIP	1-10	51-75	4.514/1	0.05	0.22	0.66
			B-1	HFPK	1-10	76-100	6.772/0	--	--	0.24
			B-1	HDIP	1-10	76-100	1.054/0	--	--	1.53
	B-1		HFPK	11-25	76-100	7.630/1	0.03	0.13	0.39	
	B-1		HDIP	11-25	76-100	3.574/0	--	--	0.45	
	B-1		HFPK	26-50	76-100	1.542/0	--	--	1.04	
	B-1		HDIP	26-50	76-100	0.487/2	1.69	4.11	8.79	
	B-1		HFPK	26-50	101-125	2.859/0	--	--	0.56	
	B-1		HDIP	26-50	101-125	0.075/0	--	--	7.66	
	B-1		HFPK	51-75	76-100	0.406/0	--	--	3.96	
	B-1	HDIP	51-75	76-100	0.226/0	--	--	7.12		
	B-1	HFPK	51-75	101-125	0.301/0	--	--	5.35		
	B-1	HDIP	51-75	101-125	0.301.0	--	--	5.35		
	C-1	HFPK	1-10	51-75	48.708/13	0.20	0.27	0.35		
	C-1	HFPK	1-10	76-100	24.410/17	0.55	0.70	0.88		
	C-1	HFPK	11-25	76-100	44.531/12	0.20	0.27	0.36		
	C-1	HFPK	26-50	101-125	11.586/1	0.02	0.09	0.26		
C-1	HFPK	51-75	76-100	10.119/1	0.02	0.10	0.30			
C-1	HFPK	51-75	101-125	9.742/3	0.16	0.31	0.58			
C-1	HFPK	76-100	101-125	4.401/1	0.05	0.23	0.68			
B-2/N	HDIP	1-10	51-75	3.492/3	0.44	0.86	1.23			
B-2/N	HDIP	1-10	76-100	2.152/3	0.71	1.39	2.56			

TABLE 5: GENERIC FAILURE RATES - FIELD DATA (CON'T)

OPERATIONAL TYPE	APPLICATION ENVIRONMENT	SCREEN CLASS	PACKAGE TYPE	COMPLEXITY (GATES)	T _j (°C)	PART HOURS (10 ⁶)/ QTY. FAILURES	FAILURE RATES (F / 10 ⁶ HOURS)		
							20% C.L.	POINT ESTIMATE	80% C.L.
TTL (cont'd)	AUF (cont'd)	B-2/N	HDIP	11-25	76-100	1.398/1	0.16	0.72	2.14
		B-2/N	HDIP	26-50	76-100	0.600/1	0.37	1.67	4.99
GB		B-2/N	HDIP	51-75	76-100	0.719/0	--	--	2.24
		D	HDIP	1-10	26-50	31.737/8	0.18	0.25	0.36
		D	HDIP	11-25	26-50	15.149/1	0.02	0.07	0.20
		D	HDIP	26-50	26-50	6.861/1	0.03	0.15	0.44
		D-1	PDIP	1-10	26-50	0.358/0	--	--	4.50
		D-1	PDIP	11-25	26-50	0.885/0	--	--	1.82
		D-1	PDIP	26-50	26-50	1.947/0	--	--	0.83
		D-1	PDIP	51-75	51-75	0.490/0	--	--	3.28
		X	PDIP	1-10	26-50	2.490/0	--	--	0.65
		X	PDIP	11-25	26-50	6.093/1	0.04	0.16	0.49
GBC		X	PDIP	26-50	26-50	0.128/0	--	--	12.6
		X	PDIP	51-75	51-75	0.182/0	--	--	8.84
		D	HDIP	1-10	26-50	14.079/2	0.06	0.14	0.30
		D	HDIP	11-25	51-75	6.479/0	--	--	0.25
		D	HDIP	26-50	26-50	1.885/0	--	--	0.85
		D	HDIP	26-50	51-75	0.519/0	--	--	3.10
		D	HDIP	76-100	76-100	5.100/0	--	--	0.32
		D-1	PDIP	1-10	26-50	4111.776/773	0.18	0.19	0.19
		D-1	PDIP	1-10	51-75	631.808/182	0.27	0.29	0.31
		D-1	PDIP	11-25	26-50	720.975/198	0.26	0.27	0.29
GF		D-1	PDIP	11-25	51-75	1069.972/228	0.20	0.21	0.23
		D-1	PDIP	26-50	26-50	7.101/4	0.32	0.56	0.95
		D-1	PDIP	26-50	51-75	789.319/212	0.25	0.27	0.28
		D-1	PDIP	51-75	26-50	30.282/7	0.16	0.23	0.34
		D-1	PDIP	51-75	51-75	389.816/48	0.11	0.12	0.14
		D-1	PDIP	51-75	76-100	1.154/0	--	--	1.39
		D-1	PDIP	76-100	51-75	4.618/0	--	--	0.35
		B-1/JB	HDIP	1-10	26-50	63.770/3	0.02	0.05	0.09
		B-1/JB	HDIP	1-10	51-75	12.078/0	--	--	0.13
		B-1/JB	HDIP	11-25	26-50	30.124/0	--	--	0.05

TABLE 5: GENERIC FAILURE RATES - FIELD DATA (CON'T)

OPERATIONAL TYPE	APPLICATION ENVIRONMENT	SCREEN CLASS	PACKAGE TYPE	COMPLEXITY (GATES)	Tj (°C)	PART HOURS (10 ⁶)/ QTY. FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
							20% C.L.	POINT ESTIMATE	80% C.L.
TTL (cont'd)	GF (cont'd)	B-1/JB	HDIP	26-50	51-75	11.082/0	--	--	0.15
		B-1/JB	HDIP	51-75	51-75	4.716/0	--	--	0.34
		D	HDIP	1-10	26-50	6.323/0	--	--	0.25
		D	HDIP	11-25	26-50	2.122/0	--	--	0.76
		D	HDIP	26-50	51-75	1.258/0	--	--	1.28
		JB	HDIP	11-25	26-50	0.014/0	--	--	115.
		B-1	HDIP	11-25	26-50	0.004/0	--	--	402.
		B-2	HFPK	1-10	26-50	0.021/0	--	--	76.6
		B-2	HDIP	11-25	26-50	0.084/0	--	--	19.2
		B-2	HFPK	26-50	51-75	0.063/0	--	--	25.6
		B-2	HFPK	51-75	51-75	0.126/0	--	--	12.8

DIGITAL MICROCIRCUIT OBSERVED AND MIL-HDBK-217C, NOTICE 1
PREDICTED FAILURE RATES
(Tables 6 and 7)

Tables 6 and 7 present a comparison of users' experienced field failure rates compared to those predicted by the monolithic bipolar and MOS, digital SSI/MSI microcircuit reliability prediction model specified in MIL-HDBK-217C, Notice 1, Reliability Prediction of Electronic Equipment.

Observed failure rates are based on the Chi-square distribution with a 60% confidence (20% lower and 80% upper) interval. The lower and upper limits were calculated using $2r$ and $2(r+1)$ degrees of freedom, respectively. Where failures were reported, the point estimate (maximum likelihood estimator) is given. The figures show the point estimate as a circle, while entries without failure are represented by a single "V" indicating the upper 80% Chi-square limit. For these data points the lower Chi-square limit and estimate are indeterminable.

Tables 6 and 7 present those factors used in computing device failure rates according to the reliability prediction model of MIL-HDBK-217C, Notice 1. The junction temperatures were calculated (as in the Detailed Listing) by the formula:

$$T_J = \theta_{JA} \cdot P_{TYP} + T_A$$

where T_J is the junction temperature, T_A is the ambient temperature, P_{TYP} is the typical power dissipation for the device and θ_{JA} is the thermal resistance (junction to ambient) of the package. When the necessary parameters were not available, the junction temperature was determined using the method set forth in MIL-HDBK-217C, Notice 1, Table 2.1.5-4.

Tables 6 and 7 along with Figures 1 through 16 present the military and commercial equipment observed vs. predicted failure rates for digital SSI/MSI devices. The data is presented in ascending order by device complexity.

TABLE 6: DIGITAL MICROCIRCUIT OBSERVED AND MIL-HDBK-217C, Notice 1
PREDICTED FAILURE RATES FOR MILITARY EQUIPMENT
(GROUPED BY COMPLEXITY)

OBS NO.	DEVICE DESCRIPTION		APPLICATION				FAILURE DATA			FAILURE RATES (F/10 ⁶ HOURS)		
	OPERATIONAL TYPE	COMPLEX. (GATES)	PACKAGE TYPE	T _J (°C)	SCREEN CLASS	APPL. ENV.	PART HOUPS (10 ⁶)	QUANTITY FAILURES	20 C.L.	OPERAVLD POINT ESTIMATE	FOR C.L.	EXPEDITED MIL-HDBK-217C NOTICE 1
1	HTTL	1	HDIP-14	27	D	GB	14.925	0	-	0.11	0.09	
2	STTL	1	HDIP-16	27	B-1/JB	GF	1.458	1	0.15	0.69	0.05	
3	TTL	1	HFPK-14	71	C-1	AUF	5.906	0	-	0.27	0.41	
4	HTTL	2	HDIP-14	30	D	GB	24.365	3	0.06	0.12	0.09	
5	HTTL	2	HDIP-14	35	D	GB	16.931	1	0.01	0.06	0.09	
6	HTTL	2	HFPK-14	79	C-1	AUF	15.947	4	0.14	0.25	0.43	
7	LTTL	2	HDIP-14	56	D	AIT	3.002	1	0.07	0.33	0.32	
8	STTL	2	HDIP-14	35	B-1/JB	GF	12.438	0	-	0.13	0.04	
9	TTL	2	HDIP-14	30	B-1/JB	GF	6.499	0	-	0.25	0.04	
10	TTL	2	HFPK-14	73	C-1	AUF	6.393	4	0.36	0.63	0.43	
11	CMOS	3	HDIP-14	41	D	GF	9.120	6	0.43	0.66	0.25	
12	HTTL	3	HDIP-14	30	D	GB	12.409	3	0.12	0.24	0.09	
13	HTTL	3	HDIP-14	37	D	GB	17.993	2	0.05	0.11	0.10	
14	HTTL	3	HFPK-14	79	C-1	AUF	2.407	2	0.34	0.83	0.44	
15	LTTL	3	HDIP-14	56	D	AIT	6.346	1	0.04	0.16	0.33	
16	TTL	3	HFPK-14	74	B-1	AUF	4.100	0	-	0.39	0.10	
17	TTL	3	HFPK-14	74	C-1	AUF	10.082	1	0.02	0.10	0.43	
18	CMOS	4	HDIP-14	41	D	GF	54.000	6	0.07	0.11	0.25	
19	HTTL	4	HDIP-14	35	D	GB	21.928	1	0.01	0.05	0.10	
20	HTTL	4	HFPK-14	81	C-1	AUF	4.851	5	0.64	1.03	0.46	
21	LTTL	4	HDIP-14	57	D	AIT	15.390	1	0.01	0.06	0.34	
22	TTL	4	HDIP-14	31	B-1/JB	GF	22.320	1	0.01	0.04	0.04	
23	TTL	4	HFPK-14	75	B-1	AUF	11.248	0	-	0.14	0.10	
24	TTL	4	HFPK-14	75	C-1	AUF	25.388	8	0.22	0.32	0.45	
25	TTL	4	HDIP-14	75	B-2/NONE	AUF	2.212	3	0.69	1.36	0.76	
26	HTTL	5	HDIP-14	35	D	GB	7.846	10	0.93	1.27	0.10	
27	CMOS	6	HDIP-14	41	D	GF	19.941	15	0.59	0.75	0.26	
28	HTTL	6	HDIP-14	39	D	GB	26.400	7	0.18	0.27	0.10	
29	HTTL	6	HFPK-14	88	C-1	AUF	5.754	3	0.27	0.52	0.48	
30	LTTL	6	HDIP-14	56	D	AIT	10.906	0	-	0.15	0.34	
31	STTL	6	HDIP-14	36	B-1/JB	GF	7.632	0	-	0.21	0.04	
32	TTL	6	HDIP-14	31	B-1/JB	GF	11.754	2	0.07	0.17	0.04	
33	TTL	6	HFPK-14	63	JB	AUF	0.602	1	0.37	1.66	0.03	

TABLE 6: DIGITAL MICROCIRCUIT OBSERVED AND MIL-HDBK-217C, Notice 1
 PREDICTED FAILURE RATES FOR MILITARY EQUIPMENT
 (GROUPED BY COMPLEXITY) (CONTINUED)

OBS NO.	DEVICE DESCRIPTION		APPLICATION			FAILURE DATA			FAILURE RATES (F/10 ⁶ HOURS)			
	OPERATIONAL TYPE	COMPLEX. (GATES)	PACKAGE TYPE	T _j (°C)	SCREEN CLASS	APPL. ENV.	PART HOURS (10 ⁶)	QUANTITY FAILURES	70% C.L.	OBSERVED POINT ESTIMATE	80% C.L.	PREDICTED MIL-HDBK-217C NOTICE 1
34	TTL	6	HDIP-14	75	B-1	AUF	4.138	1	0.05	0.24	0.72	0.13
35	TTL	6	HFPK-14	75	C-1	AUF	21.068	1	0.01	0.05	0.14	0.46
36	TTL	6	HFPK-14	78	JB	AUF	2.557	1	0.09	0.39	1.17	0.04
37	TTL	7	HDIP-16	54	B-1/JB	GF	10.998	0	-	-	0.15	0.05
38	TTL	8	HDIP-14	35	B-1/JB	GF	19.080	0	-	-	0.08	0.04
39	TTL	8	HFPK-14	76	C-1	AUF	1.201	4	1.91	3.33	5.60	0.47
40	TTL	8	HFPK-14	83	C-1	AUF	1.092	3	1.41	2.75	5.05	0.49
41	HTTL	12	HDIP-14	45	D	GB	11.700	0	-	-	0.14	0.11
42	L TTL	12	HDIP-14	56	D	AIT	13.186	1	0.02	0.08	0.23	0.36
43	STTL	12	HDIP-14	35	B-1/JB	GF	6.066	0	-	-	0.27	0.04
44	TTL	12	HDIP-14	34	B-1/JB	GF	5.922	0	-	-	0.27	0.04
45	TTL	12	HFPK-14	81	C-1	AUF	2.971	1	0.08	0.34	1.01	0.50
46	L TTL	14	HDIP-16	58	D	AIT	6.118	0	-	-	0.26	0.44
47	TTL	15	HFPK-16	81	C-1	AUF	0.903	1	0.25	1.11	3.32	0.62
48	HTTL	16	HDIP-16	43	D	GB	6.608	5	0.47	0.76	1.20	0.13
49	STTL	16	HDIP-16	45	B-1/JB	GF	4.662	0	-	-	0.35	0.05
50	TTL	16	HDIP-16	41	B-1/JB	GF	10.098	0	-	-	0.16	0.05
51	TTL	16	HFPK-14	79	C-1	AUF	5.340	1	0.04	0.19	0.56	0.51
52	TTL	16	HDIP-16	79	B-2/NONE	AUF	0.937	1	0.24	1.07	3.20	1.03
53	TTL	17	HFPK-16	85	C-1	AUF	11.473	2	0.07	0.17	0.37	0.64
54	TTL	18	HFPK-16	87	C-1	AUF	11.730	5	0.26	0.43	0.67	0.65
55	TTL	19	HDIP-16	39	B-1/JB	GF	5.094	0	-	-	0.32	0.05
56	CMOS	20	HDIP-16	42	D	GF	1.249	3	1.23	2.40	4.42	0.33
57	TTL	21	HFPK-14	92	C-1	AUF	5.154	1	0.04	0.19	0.58	0.58
58	CMOS	23	HDIP-16	47	D	GF	3.180	3	0.48	0.94	1.73	0.35
59	STTL	24	HDIP-16	52	B-1/JB	GF	4.030	0	-	-	0.40	0.05
60	TTL	24	HDIP-16	39	B-1/JB	GF	7.236	0	-	-	0.22	0.05
61	L TTL	25	HDIP-24	60	D	AIT	3.040	1	0.07	0.33	0.99	0.78
62	CMOS	30	HDIP-16	50	D	GF	10.200	2	0.08	0.20	0.42	0.38
63	CMOS	31	HDIP-16	42	D	GF	7.085	3	0.22	0.42	0.78	0.34
64	TTL	31	HDIP-16	50	B-1/JB	GF	0.774	1	0.29	1.29	3.87	0.06
65	CMOS	32	HDIP-16	45	D	GF	3.754	2	0.22	0.53	1.14	0.35

TABLE 6: DIGITAL MICROCIRCUIT OBSERVED AND MIL-HDBK-217C, Notice 1
 PREDICTED FAILURE RATES FOR MILITARY EQUIPMENT
 (GROUPED BY COMPLEXITY) (CONTINUED)

OBS NO.	DEVICE DESCRIPTION		APPLICATION		FAILURE DATA		FAILURE RATES (F/10 ⁶ HOURS)				
	OPERATIONAL TYPE	COMPLEX. (GATES)	T _j (°C)	SCREEN CLASS	APPL. ENV.	PART HOURS (10 ⁶)	QUANTITY FAILURES	20% C.L.	OBSERVED POINT ESTIMATE	80% C.L.	PREDICTED MIL-HDBK-217C NOTICE 1
66	CMOS	36	41	D	GF	29.315	3	0.05	0.10	0.19	0.33
67	STTL	36	66	B-1/JB	GF	9.552	0	-	-	0.17	0.06
68	TTL	36	61	B-1/JB	GF	26.370	0	-	-	0.06	0.06
69	L TTL	37	57	D	AIT	5.168	0	-	-	0.31	0.42
70	TTL	39	92	B-1	AUF	0.224	2	3.68	8.93	19.1	0.20
71	TTL	40	106	C-1	AUF	7.561	1	0.03	0.13	0.40	0.87
72	TTL	48	99	B-2/N	AUF	0.600	1	0.37	1.67	4.99	1.31
73	CMOS	56	42	D	GF	12.347	2	0.07	0.16	0.35	0.35
74	TTL	57	89	C-1	AUF	10.119	1	0.02	0.10	0.30	0.81
75	TTL	63	115	C-1	AUF	4.401	1	0.05	0.23	0.68	1.67
76	TTL	66	107	C-1	AUF	7.297	3	0.21	0.41	0.76	1.58
77	CMOS	86	47	D	GF	16.455	2	0.05	0.12	0.26	0.40

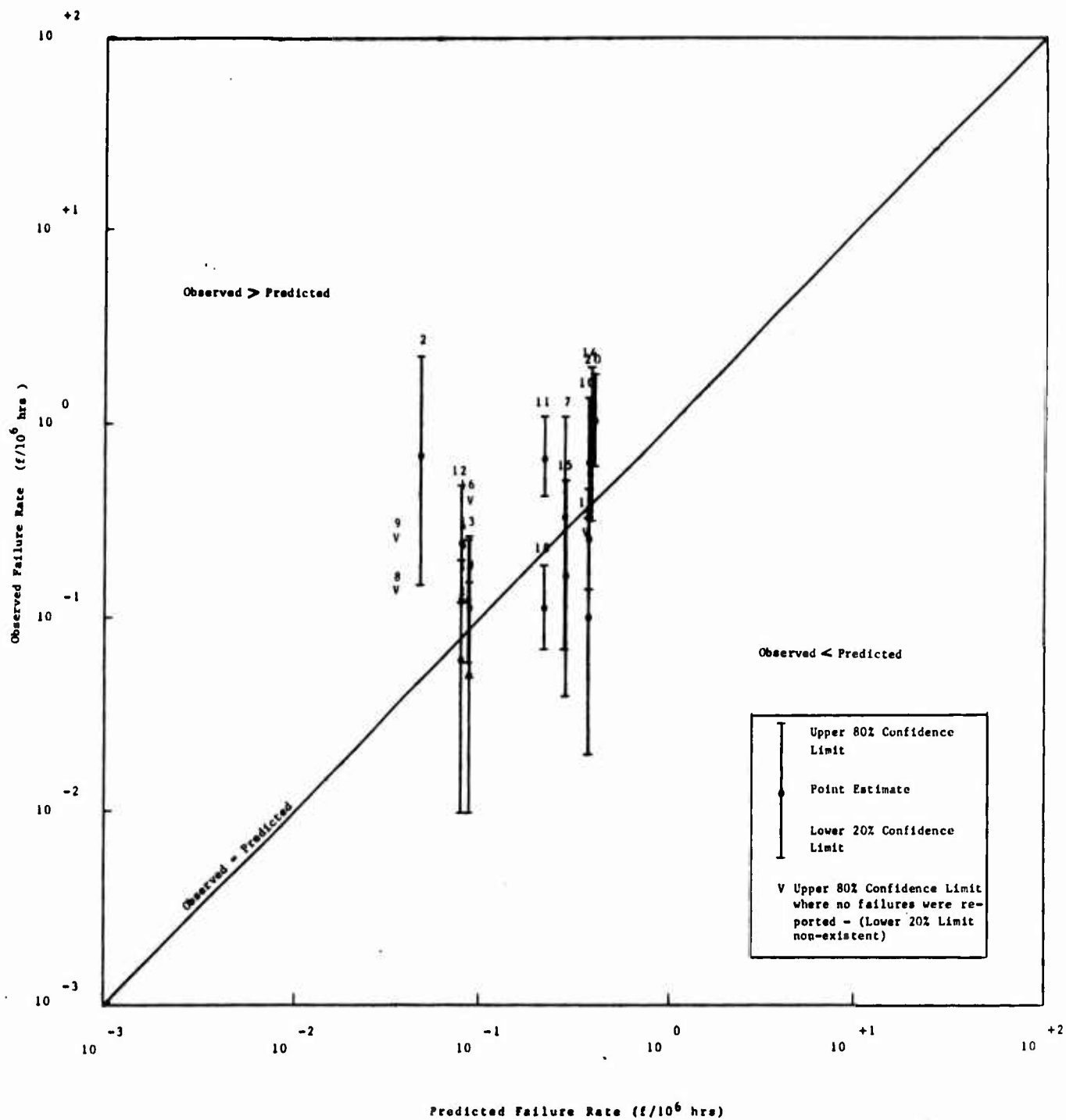


Figure 1: Digital Microcircuit Observed and MIL-HDBK-217C, Notice 1 Predicted Failure Rates from Military Equipment, Part I (Observations 1-20)

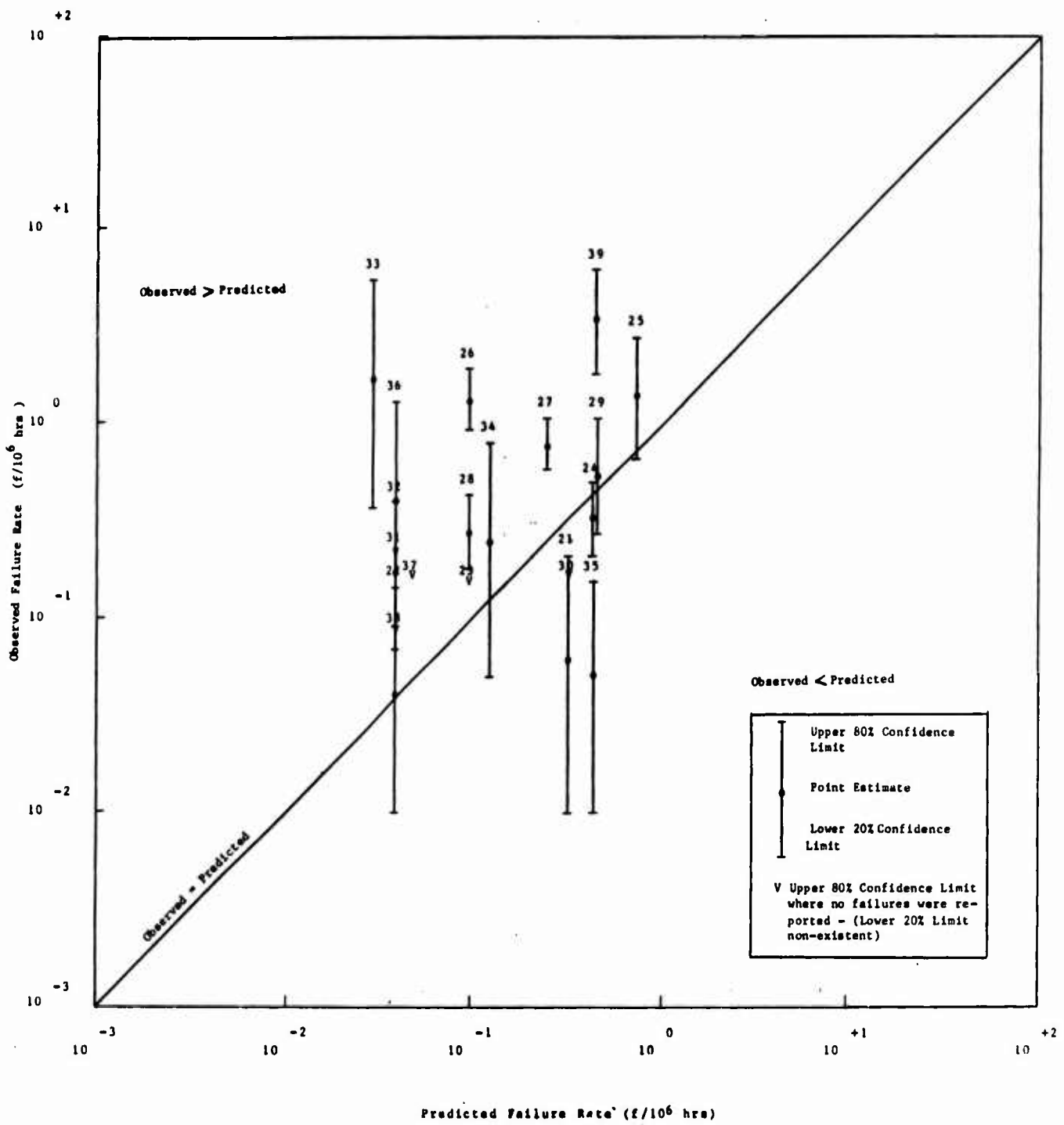


Figure 2: Digital Microcircuit Observed and MIL-HDBK-217C, Notice 1 Predicted Failure Rates from Military Equipment, Part II (Observations 21-39)

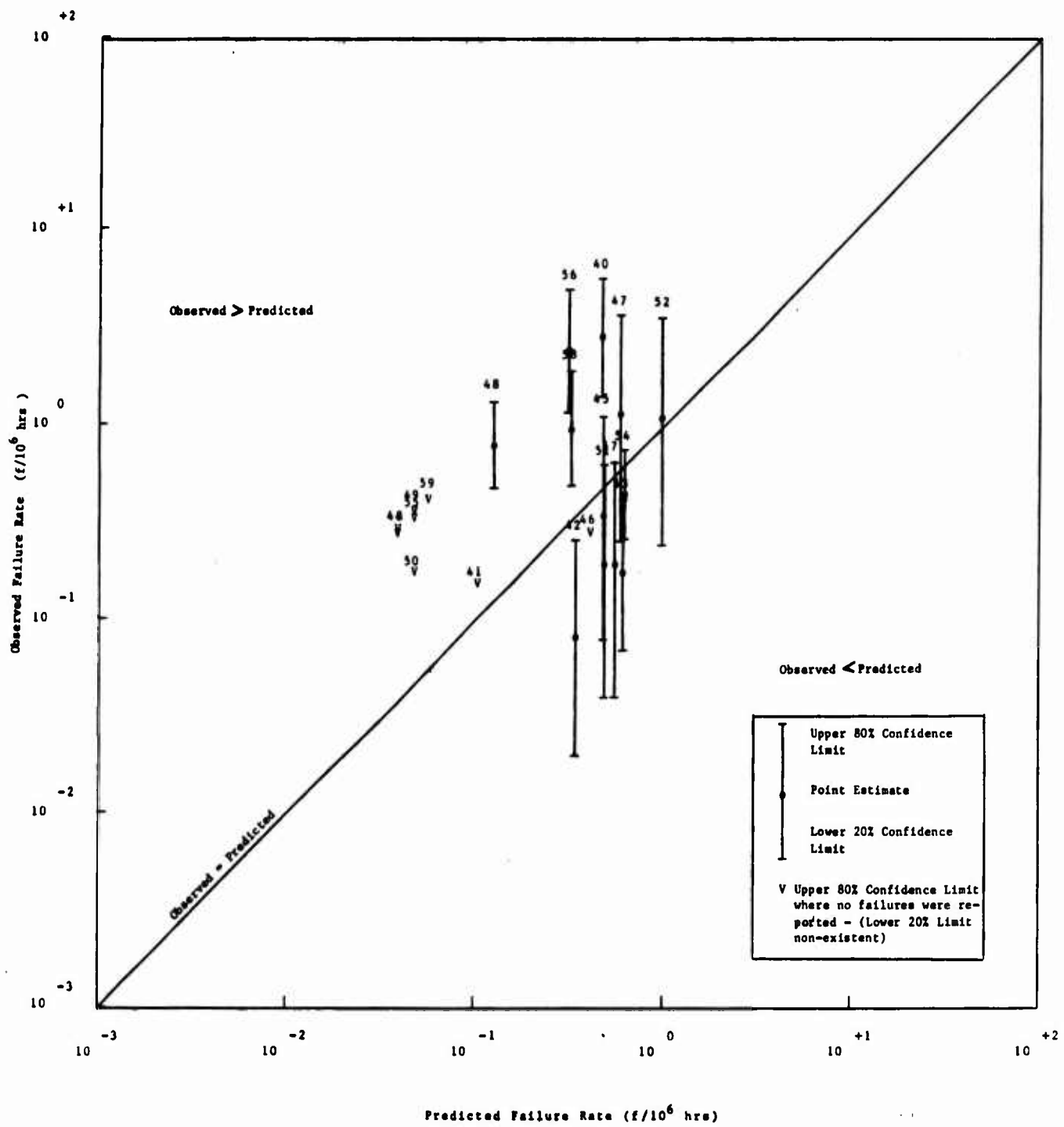


Figure 3: Digital Microcircuit Observed and MIL-HDBK-217C, Notice 1 Predicted Failure Rates from Military Equipment, Part III (Observations 40-59)

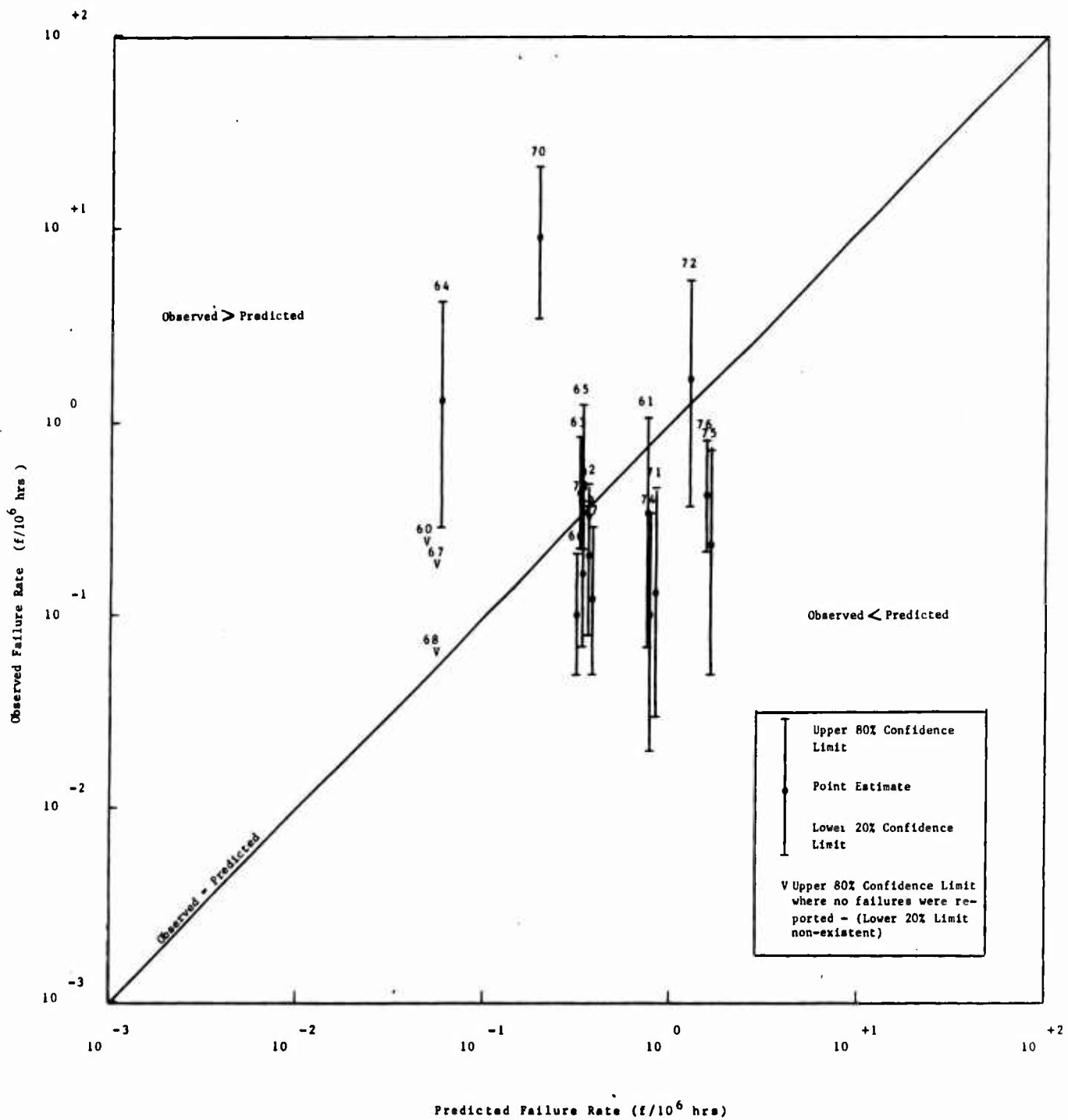


Figure 4: Digital Microcircuit Observed and MIL-HDBK-217C, Notice 1 Predicted Failure Rates from Military Equipment, Part IV (Observations 60-77)

TABLE 7: DIGITAL MICROCIRCUIT OBSERVED AND MIL-HDBK-217C, Notice 1
 PREDICTED FAILURE RATES FOR COMMERCIAL EQUIPMENT
 (GROUPED BY COMPLEXITY)

OBS NO.	DEVICE DESCRIPTION		APPLICATION			FAILURE DATA		FAILURE RATES (F/10 ⁶ HOURS)			PREDICTED MIL-HDBK-217C NOTICE 1	
	OPERATIONAL TYPE	COMPLEX. (GATES)	PACKAGE TYPE	T _j (°C)	SCREEN CLASS	APPL. ENV.	PART HOURS (10 ⁶)	QUANTITY FAILURES	20% C.L.	OBSERVED POINT ESTIMATE		80% C.L.
1	CMOS	1	PDIP-14	42	D-1	GBC	1.242	1	0.18	0.81	2.41	0.24
2	LSTTL	1	PDIP-14	41	D-1	GBC	66.603	4	0.03	0.06	0.08	0.19
3	STTL	1	PDIP-16	43	D-1	GBC	27.674	7	0.17	0.25	0.37	0.23
4	TTL	1	PDIP-14	41	D-1	GBC	137.729	28	0.17	0.20	0.24	0.19
5	CMOS	2	PDIP-14	41	D-1	GBC	27.423	5	0.11	0.18	0.29	0.25
6	ECL	2	PDIP-14	50	D-1	GBC	49.404	25	0.42	0.51	0.61	0.21
7	ECL	2	PDIP-16	50	D-1	GBC	90.978	20	0.18	0.22	0.27	0.24
8	ECL	2	HDIP-16	55	D	GBC	11.766	2	0.07	0.17	0.36	0.12
9	LSTTL	2	PDIP-14	41	D-1	GBC	143.641	5	0.02	0.03	0.06	0.20
10	L TTL	2	PDIP-14	41	D-1	GBC	39.688	15	0.29	0.38	0.48	0.20
11	STTL	2	PDIP-14	48	D-1	GBC	65.698	4	0.03	0.06	0.10	0.21
12	TTL	2	PDIP-14	44	D-1	GBC	221.918	50	0.20	0.23	0.26	0.20
13	TTL	2	PDIP-16	45	D-1	GBC	87.464	24	0.23	0.27	0.33	0.24
14	CMOS	3	HDIP-14	41	D	GBC	23.023	5	0.13	0.22	0.34	0.12
15	CMOS	3	PDIP-14	42	D-1	GBC	166.874	40	0.21	0.24	0.28	0.27
16	ECL	3	PDIP-16	49	D-1	GBC	67.620	9	0.10	0.13	0.19	0.25
17	ECL	3	HDIP-16	63	D	GBC	1.531	2	0.54	1.31	2.79	0.13
18	HTTL	3	PDIP-14	43	D-1	GBC	22.065	2	0.04	0.09	0.19	0.20
19	HTTL	3	PDIP-14	50	D-1	GBC	66.384	4	0.03	0.06	0.10	0.21
20	LSTTL	3	PDIP-14	41	D-1	GBC	311.084	24	0.06	0.08	0.09	0.21
21	L TTL	3	PDIP-14	41	D-1	GBC	135.151	72	0.48	0.53	0.59	0.20
22	STTL	3	PDIP-14	48	D-1	GBC	155.281	26	0.14	0.17	0.20	0.21
23	TTL	3	PDIP-14	34	D-1	GBC	60.819	13	0.16	0.21	0.28	0.20
24	TTL	3	PDIP-14	44	D-1	GBC	137.680	32	0.20	0.23	0.27	0.21
25	CMOS	4	PDIP-14	42	D-1	GBC	576.966	146	0.24	0.25	0.27	0.28
26	CMOS	4	HDIP-14	42	D	GBC	126.220	17	0.11	0.13	0.17	0.12
27	ECL	4	PDIP-16	50	D-1	GBC	387.472	49	0.11	0.13	0.14	0.25
28	ECL	4	HDIP-16	51	D	GBC	49.598	4	0.05	0.08	0.14	0.12
29	ECL	4	PDIP-14	54	D-1	GBC	7.342	1	0.03	0.14	0.41	0.23
30	ECL	4	HDIP-16	65	D	GBC	20.534	5	0.15	0.24	0.39	0.13
31	HTTL	4	PDIP-14	52	D-1	GBC	76.173	26	0.28	0.34	0.41	0.22
32	LSTTL	4	PDIP-14	43	D-1	GBC	1951.673	275	0.13	0.14	0.15	0.22

TABLE 7: DIGITAL MICROCIRCUIT OBSERVED AND MIL-HDBK-217C, Notice 1
 PREDICTED FAILURE RATES FOR COMMERCIAL EQUIPMENT
 (GROUPED BY COMPLEXITY) (CONTINUED)

OBS NO.	DEVICE DESCRIPTION		APPLICATION		FAILURE DATA		FAILURE RATES (F/10 ⁶ HOURS)			PREDICTED MIL-HDBK-217C NOTICE 1		
	OPERATIONAL TYPE	COMPLEX. (GATES)	PACKAGE TYPE	T _J (°C)	SCREEN CLASS	APPL. ENV.	PART HOURS (10 ³)	QUANTITY FAILURES	20% C.L.		OBSERVED POINT ESTIMATE	80% C.L.
33	L TTL	4	PDIP-14	31	D-1	GBC	101.746	80	0.71	0.79	0.87	0.20
34	L TTL	4	PDIP-14	41	D-1	GBC	674.339	187	0.26	0.28	0.30	0.21
35	S TTL	4	PDIP-14	35	D-1	GBC	57.144	2	0.01	0.03	0.07	0.21
36	S TTL	4	PDIP-14	54	D-1	GBC	355.333	31	0.07	0.09	0.10	0.23
37	S TTL	4	PDIP-14	68	D-1	GBC	18.330	2	0.04	0.11	0.23	0.27
38	T TL	4	HDIP-14	30	D	GBC	9.498	1	0.02	0.11	0.32	0.10
39	T TL	4	PDIP-14	35	D-1	GBC	10.175	9	0.63	0.88	1.23	0.21
40	T TL	4	PDIP-14	43	D-1	GBC	1855.787	323	0.16	0.17	0.18	0.21
41	T TL	4	PDIP-14	50	D-1	GBC	565.891	122	0.20	0.22	0.23	0.22
42	T TL	4	PDIP-14	57	D-1	GBC	139.714	31	0.19	0.22	0.26	0.23
43	T TL	4	PDIP-16	52	D-1	GBC	135.291	40	0.26	0.30	0.34	0.26
44	H TTL	5	PDIP-14	45	D-1	GBC	30.190	16	0.42	0.53	0.67	0.22
45	L STTL	5	PDIP-14	41	D-1	GBC	42.174	2	0.02	0.05	0.10	0.22
46	L TTL	5	PDIP-14	41	D-1	GBC	17.700	2	0.05	0.11	0.24	0.21
47	S TTL	5	PDIP-14	44	D-1	GBC	309.437	63	0.18	0.20	0.23	0.22
48	T TL	5	PDIP-14	43	D-1	GBC	48.754	5	0.06	0.10	0.16	0.21
49	CMOS	6	PDIP-14	42	D-1	GBC	19.701	12	0.46	0.61	0.81	0.29
50	CMOS	6	PDIP-16	42	D-1	GBC	271.691	39	0.12	0.14	0.17	0.32
51	CMOS	6	HDIP-14	42	D	GBC	13.990	1	0.02	0.07	0.21	0.12
52	CMOS	6	HDIP-16	42	D	GBC	36.285	21	0.47	0.58	0.71	0.14
53	ECL	6	PDIP-14	65	D-1	GBC	8.340	7	0.57	0.84	1.23	0.26
54	H TTL	6	PDIP-14	50	D-1	GBC	48.450	21	0.35	0.43	0.53	0.23
55	L STTL	6	PDIP-14	44	D-1	GBC	856.421	151	0.16	0.18	0.19	0.22
56	L TTL	6	PDIP-14	31	D-1	GBC	10.175	8	0.55	0.79	1.12	0.21
57	L TTL	6	PDIP-14	41	D-1	GBC	242.034	67	0.25	0.28	0.31	0.22
58	S TTL	6	PDIP-14	50	D-1	GBC	183.449	37	0.17	0.20	0.23	0.23
59	T TL	6	HDIP-14	31	D	GBC	17.481	2	0.05	0.11	0.24	0.10
60	T TL	6	PDIP-14	45	D-1	GBC	783.401	142	0.17	0.18	0.20	0.22
61	T TL	6	PDIP-14	57	D-1	GBC	300.909	84	0.25	0.28	0.31	0.24
62	ECL	7	HDIP-16	63	D	GBC	4.547	1	0.05	0.22	0.66	0.14
63	T TL	7	PDIP-16	70	D-1	GBC	14.835	5	0.21	0.34	0.53	0.32
64	CMOS	8	PDIP-16	42	D-1	GBC	14.445	3	0.11	0.21	0.38	0.34

TABLE 7: DIGITAL MICROCIRCUIT OBSERVED AND MIL-HDBK-217C, Notice 1
 PREDICTED FAILURE RATES FOR COMMERCIAL EQUIPMENT
 (GROUPED BY COMPLEXITY) (CONTINUED)

OBS NO.	DEVICE DESCRIPTION		APPLICATION			FAILURE DATA			FAILURE RATES (F/10 ⁶ HOURS)			PREDICTED MIL-HDBK-217C NOTICE 1
	OPERATIONAL TYPE	COMPLEX. (GATES)	PACKAGE TYPE	T _j (°C)	SCREEN CLASS	APPL. ENV.	PART HOURS (10 ⁶)	QUANTITY FAILURES	20% C.L.	OBSERVED POINT ESTIMATE	80% C.L.	
65	CMOS	8	HDIP-16	41	D	GBC	25.565	1	0.01	0.04	0.12	0.14
66	HTTL	8	PDIP-14	49	D-1	GBC	3.886	2	0.21	0.51	1.10	0.23
67	LSTTL	8	PDIP-16	42	D-1	GBC	20.797	3	0.07	0.14	0.27	0.26
68	L TTL	8	PDIP-14	35	D-1	GBC	10.175	5	0.30	0.49	0.78	0.22
69	L TTL	8	PDIP-14	43	D-1	GBC	19.731	11	0.41	0.56	0.75	0.23
70	TTL	8	PDIP-14	49	D-1	GBC	71.994	25	0.29	0.35	0.42	0.23
71	TTL	8	PDIP-16	50	D-1	GBC	62.868	11	0.13	0.17	0.24	0.27
72	TTL	8	PDIP-16	70	D-1	GBC	22.329	2	0.04	0.09	0.19	0.33
73	ECL	10	PDIP-14	53	D-1	GBC	109.792	17	0.12	0.15	0.20	0.25
74	ECL	10	PDIP-14	65	D-1	GBC	34.804	9	0.18	0.26	0.36	0.29
75	HTTL	10	PDIP-14	50	D-1	GBC	25.870	1	0.01	0.04	0.12	0.24
76	LSTTL	10	PDIP-14	44	D-1	GBC	23.980	12	0.38	0.50	0.66	0.24
77	LSTTL	10	PDIP-20	46	D-1	GBC	43.711	3	0.04	0.07	0.13	0.35
78	L TTL	10	PDIP-14	46	D-1	GBC	11.603	1	0.02	0.09	0.26	0.24
79	STTL	10	PDIP-14	50	D-1	GBC	2.579	2	0.32	0.78	1.66	0.25
80	TTL	10	PDIP-14	53	D-1	GBC	24.236	6	0.16	0.25	0.37	0.25
81	TTL	11	PDIP-14	47	D-1	GBC	28.141	3	0.05	0.11	0.20	0.24
82	CMOS	12	PDIP-14	43	D-1	GBC	15.841	2	0.05	0.13	0.27	0.33
83	ECL	12	HDIP-16	67	D	GBC	14.663	7	0.32	0.48	0.70	0.16
84	HTTL	12	PDIP-14	60	D-1	GBC	16.635	1	0.01	0.06	0.18	0.28
85	LSTTL	12	PDIP-14	42	D-1	GBC	636.315	83	0.12	0.13	0.14	0.24
86	L TTL	12	PDIP-14	31	D-1	GBC	30.524	38	1.07	1.24	1.45	0.22
87	L TTL	12	PDIP-14	42	D-1	GBC	304.831	134	0.40	0.44	0.47	0.24
88	STTL	12	PDIP-14	57	D-1	GBC	259.698	50	0.17	0.19	0.22	0.28
89	TTL	12	PDIP-14	35	D-1	GBC	2.617	2	0.32	0.76	1.64	0.22
90	TTL	12	PDIP-14	50	D-1	GBC	485.628	142	0.27	0.29	0.32	0.25
91	CMOS	14	PDIP-14	43	D-1	GBC	4.571	2	0.18	0.44	0.94	0.34
92	ECL	14	PDIP-16	65	D-1	GBC	256.910	39	0.13	0.15	0.18	0.35
93	HTTL	14	PDIP-14	68	D-1	GBC	5.603	1	0.04	0.18	0.53	0.33
94	L TTL	14	PDIP-14	42	D-1	GBC	55.430	15	0.21	0.27	0.35	0.24
95	L TTL	14	PDIP-16	52	D-1	GBC	45.845	17	0.29	0.37	0.47	0.31
96	STTL	14	PDIP-16	64	D-1	GBC	10.946	3	0.14	0.27	0.50	0.38
97	TTL	14	PDIP-16	57	D-1	GBC	97.144	5	0.03	0.05	0.08	0.28

TABLE 7: DIGITAL MICROCIRCUIT OBSERVED AND MIL-HDBK-217C, Notice 1
 PREDICTED FAILURE RATES FOR COMMERCIAL EQUIPMENT
 (GROUPED BY COMPLEXITY) (CONTINUED)

OBS NO.	DEVICE DESCRIPTION		APPLICATION			FAILURE DATA		FAILURE RATES (F/10 ⁶ HOURS)				
	OPERATIONAL TYPE	COMPLEX. (GATES)	PACKAGE TYPE	Tj (°C)	SCREEN CLASS	APPL. ENV.	PART HOURS (10 ⁶)	QUANTITY FAILURES	OBSERVED		PREDICTED MIL-HDBK-217C NOTICE 1	
									20% C.L.	POINT ESTIMATE		80% C.L.
98	LSTTL	15	PDIP-16	45	D-1	GBC	352.841	35	0.08	0.10	0.12	0.29
99	LITL	15	PDIP-14	44	D-1	GBC	24.274	3	0.06	0.12	0.23	0.25
100	STTL	15	PDIP-16	60	D-1	GBC	6.551	2	0.13	0.31	0.65	0.35
101	TTL	15	PDIP-14	57	D-1	GBC	145.297	55	0.34	0.38	0.43	0.29
102	ECL	16	PDIP-14	54	D-1	GBC	19.122	5	0.16	0.26	0.41	0.28
103	ECL	16	PDIP-16	59	D-1	GBC	27.628	8	0.20	0.29	0.39	0.33
104	HTTL	16	PDIP-14	51	D-1	GBC	22.487	3	0.07	0.13	0.25	0.27
105	HTTL	16	PDIP-16	60	D-1	GBC	19.595	13	0.51	0.66	0.87	0.34
106	LSTTL	16	PDIP-16	45	D-1	GBC	453.217	83	0.17	0.18	0.20	0.30
107	LITL	16	PDIP-16	44	D-1	GBC	76.009	5	0.04	0.07	0.10	0.29
108	STTL	16	HDIP-16	54	D	GBC	54.852	8	0.10	0.15	0.21	0.13
109	STTL	16	PDIP-16	54	D-1	GBC	217.578	74	0.31	0.34	0.38	0.29
110	STTL	16	PDIP-16	65	D-1	GBC	20.770	3	0.07	0.14	0.27	0.40
111	TTL	16	PDIP-14	50	D-1	GBC	176.415	43	0.21	0.24	0.28	0.26
112	TTL	16	PDIP-16	55	D-1	GBC	53.173	7	0.09	0.13	0.19	0.32
113	LSTTL	17	PDIP-16	43	D-1	GBC	82.472	13	0.12	0.16	0.21	0.29
114	LITL	17	PDIP-16	45	D-1	GBC	90.687	37	0.35	0.41	0.48	0.29
115	STTL	17	PDIP-16	52	D-1	GBC	2.548	1	0.09	0.39	1.18	0.32
116	TTL	17	PDIP-16	54	D-1	GBC	53.468	15	0.22	0.28	0.36	0.32
117	CMOS	18	PDIP-16	43	D-1	GBC	14.677	1	0.02	0.07	0.20	0.39
118	CMOS	18	HDIP-16	43	D	GBC	4.369	1	0.05	0.23	0.69	0.16
119	LSTTL	18	PDIP-16	44	D-1	GBC	64.817	8	0.09	0.12	0.18	0.30
120	LITL	18	PDIP-16	45	D-1	GBC	42.489	5	0.07	0.12	0.19	0.29
121	STTL	18	PDIP-16	70	D-1	GBC	4.982	1	0.04	0.20	0.60	0.46
122	TTL	18	PDIP-16	54	D-1	GBC	123.301	40	0.28	0.32	0.38	0.32
123	TTL	18	PDIP-16	60	D-1	GBC	86.590	24	0.23	0.28	0.34	0.34
124	CMOS	19	PDIP-16	42	D-1	GBC	29.765	4	0.08	0.13	0.23	0.37
125	LSTTL	19	PDIP-14	44	D-1	GBC	81.088	17	0.17	0.21	0.26	0.26
126	LITL	19	PDIP-16	45	D-1	GBC	87.121	26	0.25	0.30	0.36	0.30
127	TTL	19	PDIP-16	55	D-1	GBC	92.716	9	0.07	0.10	0.14	0.33
128	CMOS	20	PDIP-16	42	D-1	GBC	8.831	2	0.09	0.23	0.48	0.38
129	LSTTL	20	PDIP-16	46	D-1	GBC	106.403	24	0.19	0.23	0.27	0.31

TABLE 7: DIGITAL MICROCIRCUIT OBSERVED AND MIL-HDBK-217C, Notice 1
 PREDICTED FAILURE RATES FOR COMMERCIAL EQUIPMENT
 (GROUPED BY COMPLEXITY) (CONTINUED)

OBS NO.	DEVICE DESCRIPTION		APPLICATION			FAILURE DATA			FAILURE RATES (F/10 ⁶ HOURS)			
	OPERATIONAL TYPE	COMPLEX. (GATES)	PACKAGE TYPE	Tj (°C)	SCREEN CLASS	APPL. ENV.	PART HOURS (10 ⁶)	QUANTITY FAILURES	20% C.L.	OBSERVED POINT ESTIMATE	80% C.L.	PREDICTED MIL-HDBK-217C NOTICE 1
130	L TTL	20	PDIP-16	41	D-1	GBC	10.175	5	0.30	0.49	0.78	0.29
131	L TTL	20	PDIP-16	51	D-1	GBC	7.558	1	0.03	0.13	0.40	0.33
132	TTL	20	PDIP-14	64	D-1	GBC	80.098	19	0.19	0.24	0.30	0.34
133	CMOS	23	PDIP-16	43	D-1	GBC	16.418	8	0.34	0.49	0.69	0.40
134	CMOS	24	PDIP-14	49	D-1	GBC	234.731	64	0.24	0.27	0.31	0.52
135	CMOS	24	HDIP-14	49	D	GBC	29.309	10	0.25	0.34	0.47	0.17
136	ECL	24	HDIP-16	65	D	GBC	105.160	4	0.02	0.04	0.06	0.18
137	LS TTL	24	PDIP-14	43	D-1	GBC	141.001	9	0.05	0.06	0.09	0.27
138	LS TTL	24	PDIP-16	45	D-1	GBC	242.154	20	0.07	0.08	0.10	0.32
139	L TTL	24	PDIP-16	55	D-1	GBC	137.162	28	0.17	0.20	0.24	0.36
140	TTL	24	PDIP-16	54	D-1	GBC	234.120	43	0.16	0.18	0.21	0.34
141	LS TTL	25	PDIP-14	45	D-1	GBC	64.272	11	0.13	0.17	0.23	0.28
142	L TTL	25	PDIP-14	42	D-1	GBC	19.181	8	0.29	0.42	0.59	0.27
143	L TTL	25	PDIP-16	45	D-1	GBC	17.937	6	0.20	0.33	0.51	0.31
144	TTL	25	PDIP-14	56	D-1	GBC	96.636	12	0.09	0.12	0.16	0.32
145	CMOS	26	PDIP-16	42	D-1	GBC	5.847	1	0.04	0.17	0.51	0.39
146	CMOS	26	HDIP-16	42	D	GBC	7.386	1	0.03	0.14	0.41	0.16
147	LS TTL	26	PDIP-14	45	D-1	GBC	29.498	2	0.03	0.07	0.15	0.29
148	TTL	26	PDIP-14	54	D-1	GBC	88.306	22	0.20	0.25	0.30	0.31
149	L TTL	27	PDIP-16	45	D-1	GBC	83.134	26	0.26	0.31	0.38	0.32
150	ECL	28	HDIP-16	63	D	GBC	1.184	1	0.19	0.84	2.53	0.18
151	CMOS	29	PDIP-16	43	D-1	GBC	3.708	1	0.06	0.27	0.81	0.42
152	TTL	29	PDIP-16	57	D-1	GBC	2.189	1	0.10	0.46	1.37	0.37
153	CMOS	30	PDIP-16	42	D-1	GBC	62.657	8	0.09	0.13	0.18	0.40
154	CMOS	30	HDIP-16	50	D	GBC	4.966	1	0.04	0.20	0.60	0.20
155	L TTL	30	PDIP-16	45	D-1	GBC	46.438	6	0.08	0.13	0.20	0.32
156	CMOS	31	PDIP-16	41	D-1	GBC	56.364	11	0.14	0.20	0.26	0.39
157	CMOS	31	PDIP-14	65	D-1	GBC	81.744	7	0.06	0.09	0.13	1.83
158	CMOS	32	PDIP-16	42	D-1	GBC	57.470	14	0.19	0.24	0.32	0.41
159	TTL	32	PDIP-16	60	D-1	GBC	29.033	3	0.05	0.10	0.19	0.40
160	L TTL	33	PDIP-16	43	D-1	GBC	10.532	1	0.02	0.09	0.28	0.32
161	TTL	34	PDIP-14	65	D-1	GBC	12.833	7	0.37	0.55	0.80	0.41

TABLE 7: DIGITAL MICROCIRCUIT OBSERVED AND MIL-HDBK-217C, Notice 1
 PREDICTED FAILURE RATES FOR COMMERCIAL EQUIPMENT
 (GROUPED BY COMPLEXITY) (CONTINUED)

OBS NO.	DEVICE DESCRIPTION			APPLICATION			FAILURE DATA			FAILURE RATES (F/10 ⁶ HOURS)		
	OPERATIONAL TYPE	COMPLEX. (GATES)	PACKAGE TYPE	T _j (°C)	SCREEN CLASS	APPL. ENV.	PART HOURS (10 ⁶)	QUANTITY FAILURES	20% C.L.	OBSERVED POINT ESTIMATE	80% C.L.	PREDICTED MIL-HDBK-217C NOTICE 1
162	CMOS	35	PDIP-16	41	D-1	GBC	28.120	6	0.14	0.21	0.32	0.40
163	CMOS	35	HDIP-16	41	D	GBC	5.704	2	0.14	0.35	0.75	0.16
164	TTL	35	PDIP-16	57	D-1	GBC	29.019	26	0.75	0.90	1.08	0.39
165	LSTTL	36	PDIP-14	48	D-1	GBC	737.154	112	0.14	0.15	0.17	0.34
166	LTL	36	PDIP-14	50	D-1	GBC	31.120	12	0.29	0.39	0.51	0.33
167	STTL	36	PDIP-16	70	D-1	GBC	1.144	2	0.72	1.75	3.74	0.60
168	TTL	36	PDIP-14	60	D-1	GBC	60.305	14	0.18	0.23	0.30	0.38
169	TTL	36	PDIP-16	60	D-1	GBC	112.814	46	0.36	0.41	0.47	0.41
170	CMOS	37	PDIP-16	58	D-1	GBC	10.488	3	0.15	0.29	0.53	1.14
171	LTL	37	PDIP-14	43	D-1	GBC	14.809	2	0.06	0.14	0.29	0.29
172	TTL	37	PDIP-14	60	D-1	GBC	19.989	3	0.08	0.15	0.28	0.38
173	LTL	38	PDIP-16	48	D-1	GBC	47.067	11	0.17	0.23	0.31	0.36
174	CMOS	39	HDIP-16	42	D	GBC	10.817	1	0.02	0.09	0.28	0.17
175	LSTTL	39	PDIP-14	49	D-1	GBC	77.037	15	0.15	0.19	0.25	0.35
176	STTL	39	PDIP-14	78	D-1	GBC	3.672	1	0.06	0.27	0.82	0.75
177	TTL	39	PDIP-14	65	D-1	GBC	127.560	36	0.24	0.28	0.33	0.43
178	TTL	39	PDIP-16	65	D-1	GBC	28.958	19	0.53	0.66	0.82	0.47
179	LTL	40	PDIP-16	48	D-1	GBC	6.164	4	0.04	0.07	0.11	0.36
180	LSTTL	41	PDIP-16	47	D-1	GBC	43.082	4	0.05	0.09	0.16	0.37
181	ECL	42	PDIP-16	87	D-1	GBC	40.401	3	0.04	0.07	0.14	0.85
182	TTL	43	PDIP-14	61	D-1	GBC	6.240	1	0.04	0.16	0.48	0.41
183	CMOS	44	PDIP-14	60	D-1	GBC	10.144	5	0.30	0.49	0.78	1.36
184	STTL	44	PDIP-14	76	D-1	GBC	21.215	15	0.55	0.71	0.91	0.74
185	TTL	44	PDIP-14	48	D-1	GBC	6.642	2	0.12	0.30	0.64	0.32
186	TTL	44	PDIP-14	60	D-1	GBC	57.721	8	0.10	0.14	0.20	0.41
187	CMOS	45	PDIP-16	58	D-1	GBC	22.266	4	0.10	0.18	0.30	1.21
188	CMOS	45	HDIP-16	60	D	GBC	27.431	4	0.08	0.15	0.25	0.32
189	LSTTL	45	PDIP-16	48	D-1	GBC	18.000	1	0.01	0.06	0.17	0.39
190	LTL	45	PDIP-16	45	D-1	GBC	40.131	23	0.47	0.57	0.70	0.35
191	TTL	45	PDIP-16	65	D-1	GBC	41.074	4	0.06	0.10	0.16	0.49
192	CMOS	46	PDIP-16	50	D-1	GBC	10.166	2	0.08	0.20	0.42	0.68
193	CMOS	47	PDIP-16	47	D-1	GBC	13.107	2	0.06	0.15	0.33	0.57

TABLE 7: DIGITAL MICROCIRCUIT OBSERVED AND MIL-HDBK-217C, Notice 1
 PREDICTED FAILURE RATES FOR COMMERCIAL EQUIPMENT
 (GROUPED BY COMPLEXITY) (CONTINUED)

OBS NO.	DEVICE DESCRIPTION		APPLICATION				FAILURE DATA			FAILURE RATES (F/10 ⁶ HOURS)		
	OPERATIONAL TYPE	COMPLEX. (GATES)	PACKAGE TYPE	T _j (°C)	SCREEN CLASS	APPL. ENV.	PART HOURS (10 ⁶)	QUANTITY FAILURES	20% C.L.	OBSERVED POINT ESTIMATE	80% C.L.	PREDICTED MIL-HDBK-217C NOTICE 1
194	STTL	47	PDIP-16	83	D-1	GBC	6.725	1	0.03	0.15	0.45	1.02
195	TTL	47	PDIP-16	58	D-1	GBC	21.978	2	0.04	0.09	0.19	0.43
196	CMOS	48	HDIP-16	50	D	GBC	3.241	2	0.25	0.62	1.32	0.22
197	LSTTL	48	PDIP-16	49	D-1	GBC	66.227	11	0.12	0.17	0.22	0.41
198	L TTL	48	PDIP-16	40	D-1	GBC	41.314	59	1.27	1.43	1.61	0.33
199	TTL	48	PDIP-16	56	D-1	GBC	14.446	3	0.11	0.21	0.38	0.42
200	TTL	48	PDIP-16	73	D-1	GBC	18.664	6	0.21	0.32	0.49	0.61
201	CMOS	49	PDIP-16	52	D-1	GBC	7.193	6	0.54	0.83	1.26	0.78
202	LSTTL	50	PDIP-16	49	D-1	GBC	208.475	25	0.10	0.12	0.14	0.41
203	L TTL	50	PDIP-16	45	D-1	GBC	21.787	7	0.22	0.32	0.47	0.36
204	TTL	50	PDIP-16	73	D-1	GBC	70.745	10	0.10	0.14	0.19	0.62
205	LSTTL	51	PDIP-16	46	D-1	GBC	29.093	4	0.08	0.14	0.23	0.39
206	L TTL	51	PDIP-16	43	D-1	GBC	21.220	3	0.07	0.14	0.26	0.35
207	TTL	51	PDIP-16	58	D-1	GBC	25.503	2	0.03	0.08	0.17	0.44
208	CMOS	52	HDIP-24	42	D	GBC	4.538	6	0.86	1.32	2.00	0.26
209	CMOS	52	PDIP-16	53	D-1	GBC	5.441	1	0.04	0.18	0.55	0.86
210	CMOS	53	PDIP-16	51	D-1	GBC	37.080	1	0.01	0.03	0.08	0.76
211	STTL	53	PDIP-16	83	D-1	GBC	3.721	2	0.22	0.54	1.15	1.09
212	LSTTL	54	PDIP-16	49	D-1	GBC	67.623	6	0.06	0.09	0.13	0.42
213	L TTL	54	PDIP-16	45	D-1	GBC	58.855	27	0.38	0.46	0.55	0.37
214	STTL	54	HDIP-16	77	D	GBC	158.855	16	0.08	0.10	0.13	0.37
215	TTL	54	PDIP-16	72	D-1	GBC	9.979	16	1.26	1.60	2.04	0.64
216	TTL	56	PDIP-24	65	D-1	GBC	20.302	1	0.01	0.05	0.15	0.52
217	LSTTL	57	PDIP-16	49	D-1	GBC	228.895	16	0.05	0.07	0.09	0.43
218	TTL	57	PDIP-14	44	D-1	GBC	29.491	7	0.16	0.24	0.35	0.32
219	TTL	57	PDIP-16	70	D-1	GBC	119.046	10	0.06	0.08	0.11	0.59
220	CMOS	58	PDIP-16	45	D-1	GBC	32.009	4	0.07	0.12	0.21	0.53
221	CMOS	58	HDIP-16	45	D	GBC	7.623	8	0.73	1.01	1.49	0.19
222	STTL	58	PDIP-20	36	D-1	GBC	2.467	1	0.09	0.41	1.21	0.58
223	ECL	59	HDIP-16	77	D	GBC	59.519	16	0.21	0.27	0.34	0.31
224	L TTL	59	PDIP-16	47	D-1	GBC	4.077	2	0.20	0.49	1.05	0.35
225	TTL	59	PDIP-16	74	D-1	GBC	12.766	3	0.12	0.23	0.43	0.70

TABLE 7: DIGITAL MICROCIRCUIT OBSERVED AND MIL-HDBK-217C, Notice 1
 PREDICTED FAILURE RATES FOR COMMERCIAL EQUIPMENT
 (GROUPED BY COMPLEXITY) (CONTINUED)

OBS NO.	DEVICE DESCRIPTION		APPLICATION			FAILURE DATA			FAILURE RATES (F/10 ⁶ HOURS)			
	OPERATIONAL TYPE	COMPLEX. (GATES)	PACKAGE TYPE	T _j (°C)	SCREEN CLASS	APPL. ENV.	PART HOURS (10 ⁶)	QUANTITY FAILURES	OBSERVED		PREDICTED MIL-HDBK-217C NOTICE 1	
									20% C.L.	POINT ESTIMATE		80% C.L.
226	LSTTL	60	PDIP-16	49	D-1	GBC	101.662	16	0.12	0.16	0.20	0.44
227	L TTL	60	PDIP-24	50	D-1	GBC	14.008	8	0.40	0.57	0.81	0.56
228	TTL	60	PDIP-16	70	D-1	GBC	50.030	6	0.08	0.12	0.18	0.62
229	CMOS	62	PDIP-16	47	D-1	GBC	43.945	4	0.05	0.09	0.15	0.60
230	ECL	62	HDIP-16	76	D	GBC	1.275	1	0.17	0.78	2.35	0.51
231	LSTTL	62	PDIP-16	49	D-1	GBC	61.902	5	0.05	0.08	0.13	0.44
232	TTL	62	PDIP-16	65	D-1	GBC	107.562	9	0.06	0.08	0.12	0.53
233	LSTTL	63	PDIP-24	48	D-1	GBC	38.060	12	0.24	0.32	0.42	0.57
234	CMOS	64	HDIP-16	45	D	GBC	12.793	5	0.24	0.39	0.62	0.20
235	L TTL	65	PDIP-16	46	D-1	GBC	6.139	6	0.64	0.98	1.48	0.39
236	LSTTL	66	PDIP-14	50	D-1	GBC	11.712	1	0.02	0.09	0.26	0.43
237	STTL	66	HDIP-16	86	D	GBC	9.838	3	0.16	0.30	0.55	0.53
238	TTL	66	PDIP-16	73	D-1	GBC	17.728	16	0.71	0.90	1.15	0.71
239	LSTTL	70	PDIP-16	50	D-1	GBC	23.088	1	0.01	0.04	0.13	0.47
240	STTL	73	HDIP-28	65	D	GBC	1.492	1	0.15	0.67	2.01	0.43
241	CMOS	77	PDIP-16	45	D-1	GBC	33.212	6	0.12	0.18	0.27	0.55
242	CMOS	80	PDIP-16	48	D-1	GBC	13.601	4	0.17	0.29	0.49	0.66
243	CMOS	86	PDIP-16	48	D-1	GBC	60.224	12	0.15	0.20	0.26	0.70

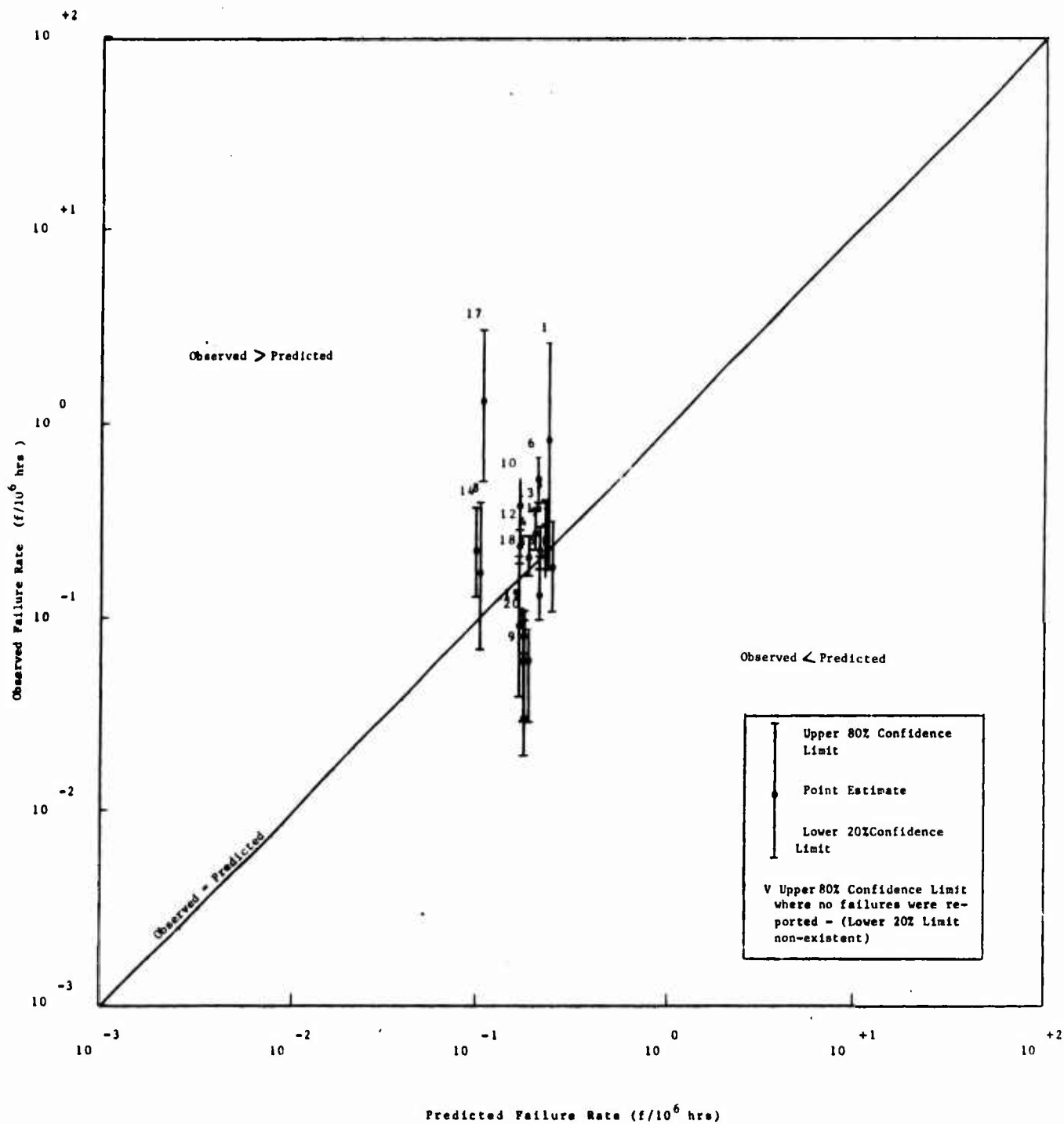


Figure 5: Digital Microcircuit Observed and MIL-HDBK-217C, Notice 1 Predicted Failure Rates from Commercial Equipment, Part I (Observations 1-20)

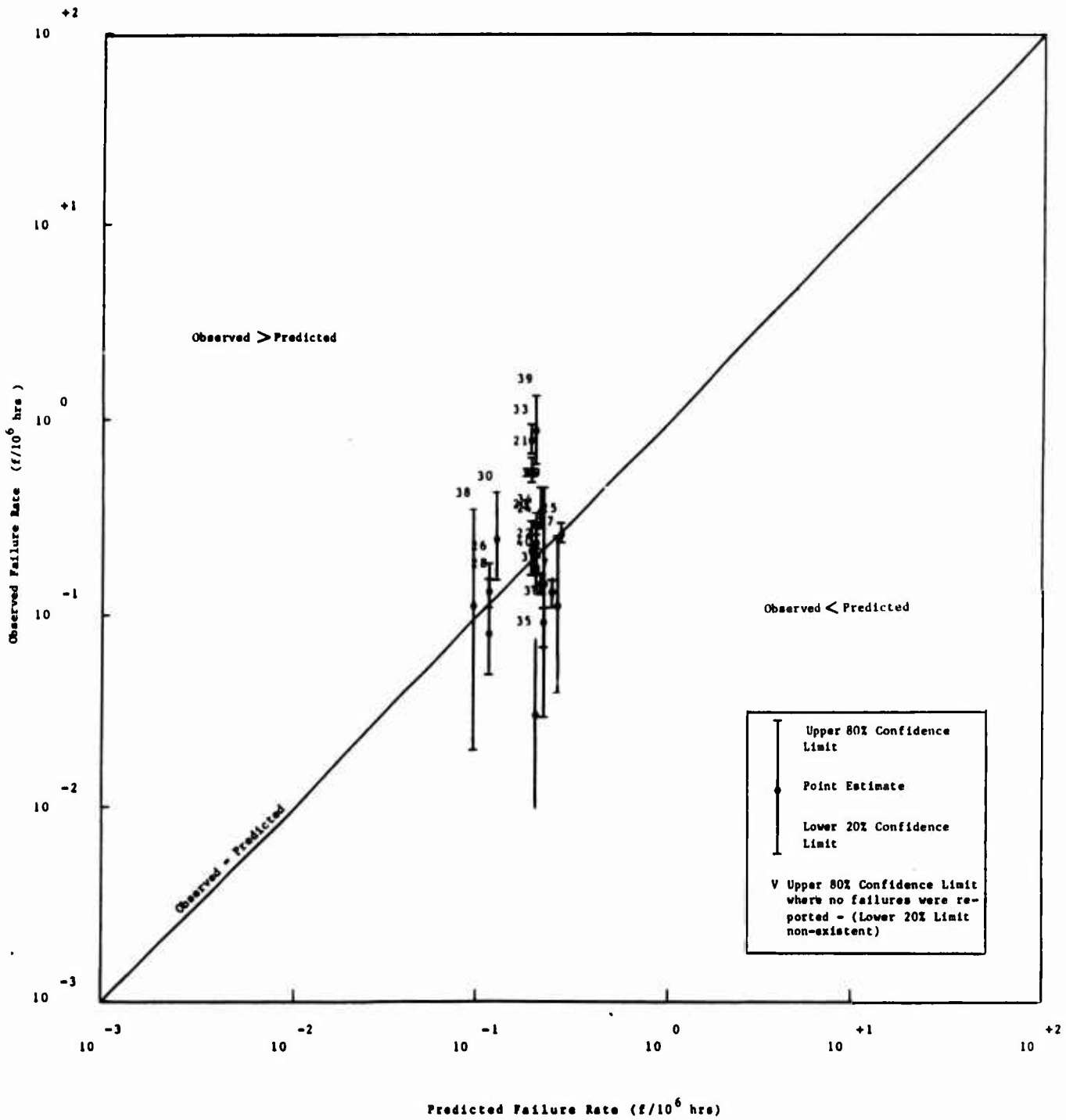


Figure 6: Digital Microcircuit Observed and MIL-HDBK-217C, Notice 1 Predicted Failure Rates from Commercial Equipment, Part II (Observations 21-40)

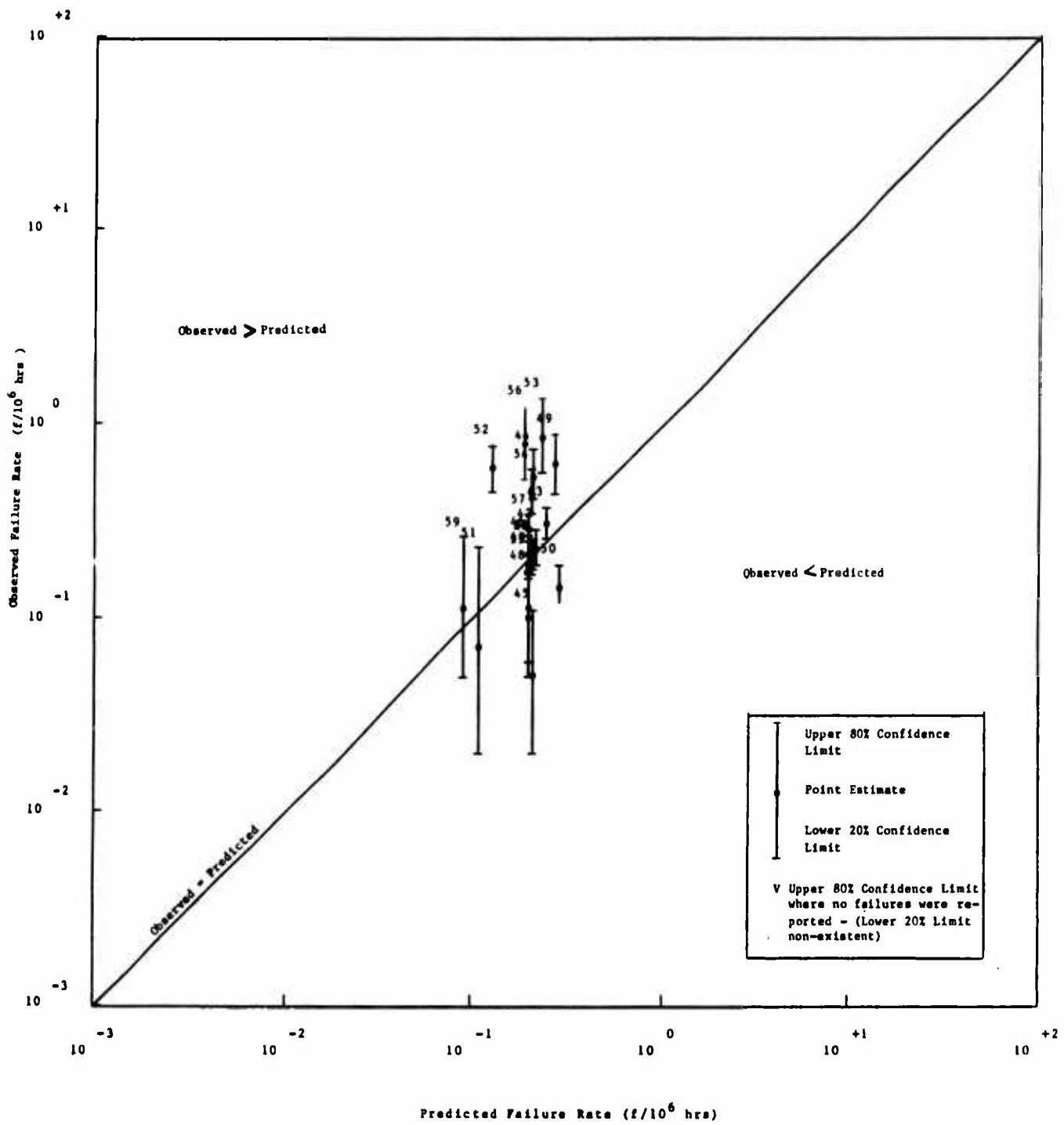


Figure 7: Digital Microcircuit Observed and MIL-HDBK-217C, Notice 1 Predicted Failure Rates from Commercial Equipment, Part III (Observations 41-60)

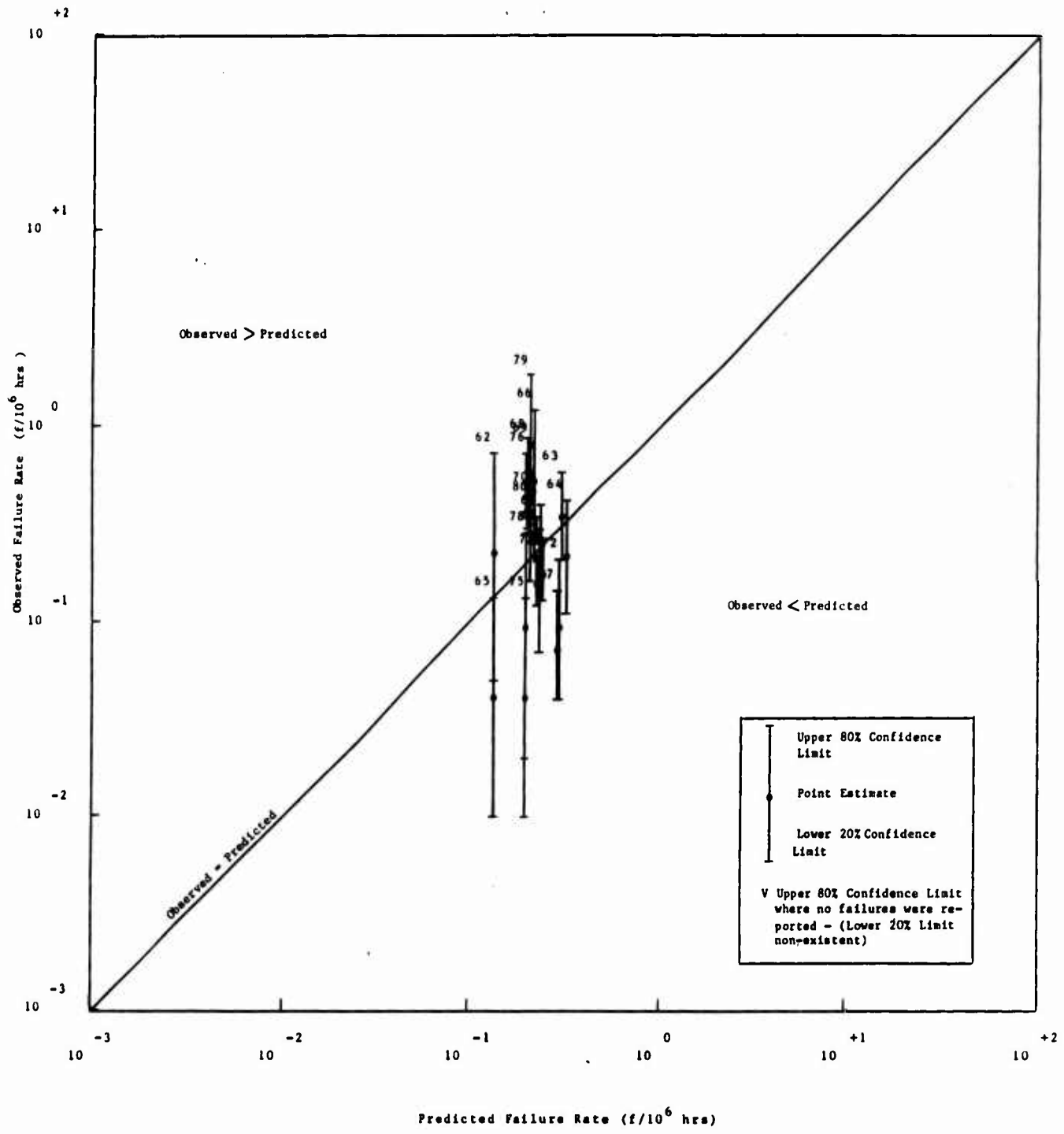


Figure 8: Digital Microcircuit Observed and MIL-HDBK-217C, Notice 1 Predicted Failure Rates from Commercial Equipment, Part IV (Observations 61-80)

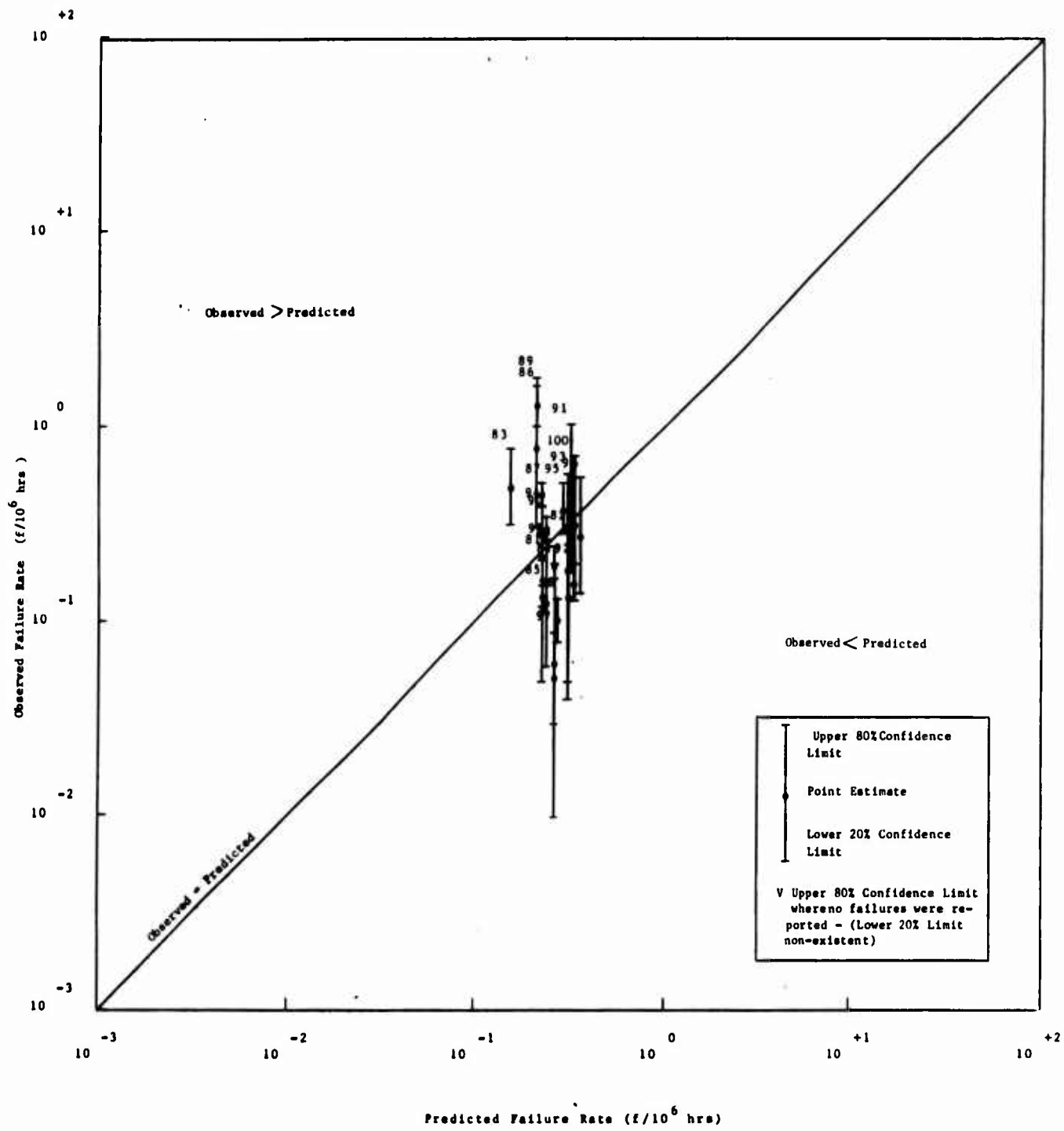


Figure 9: Digital Microcircuit Observed and MIL-HDBK-217C, Notice 1 Predicted Failure Rates from Commercial Equipment, Part V (Observations 81-100)

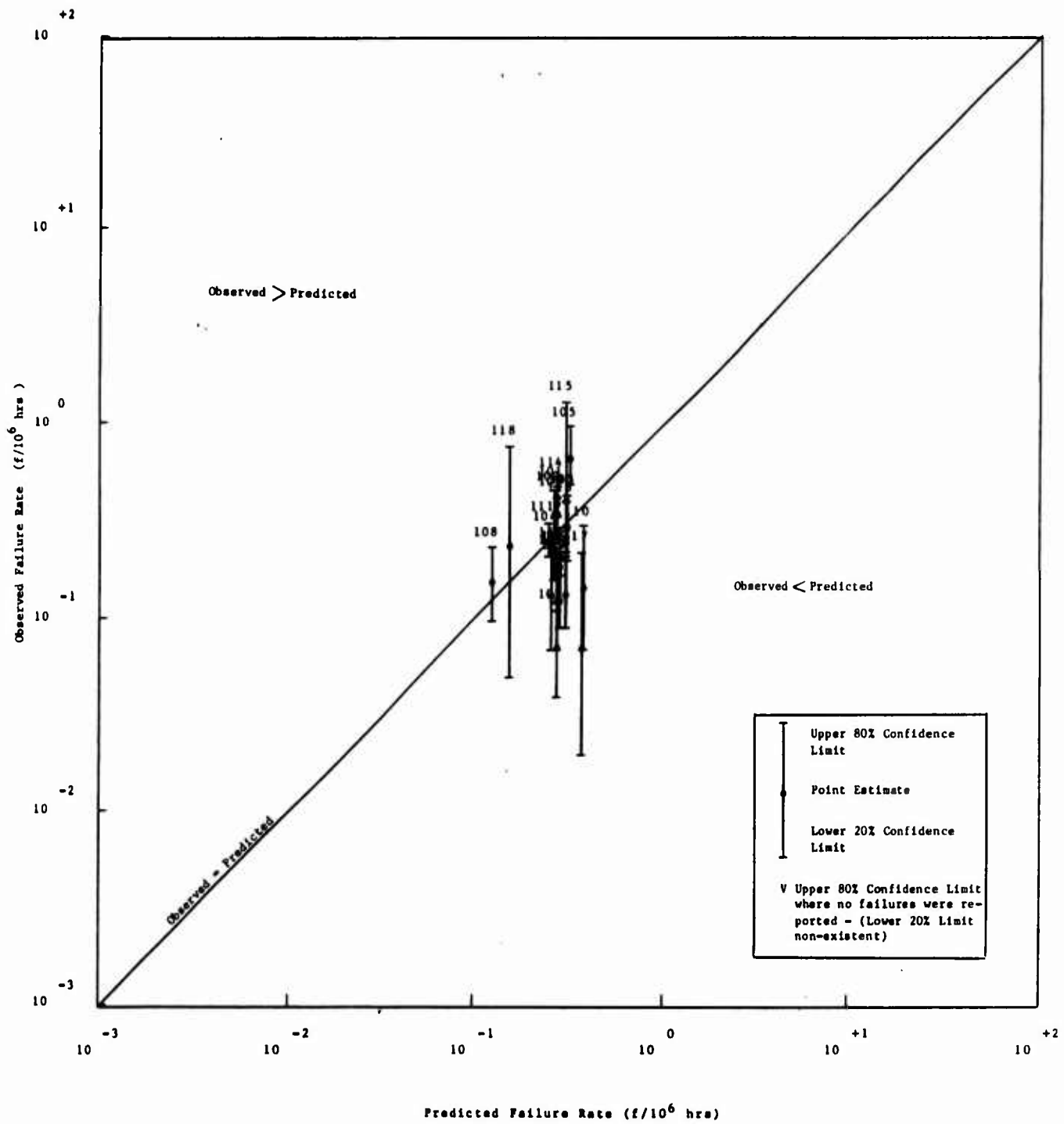


Figure 10: Digital Microcircuit Observed and MIL-HDBK-217C, Notice 1 Predicted Failure Rates from Commercial Equipment, Part VI (Observations 101-120)

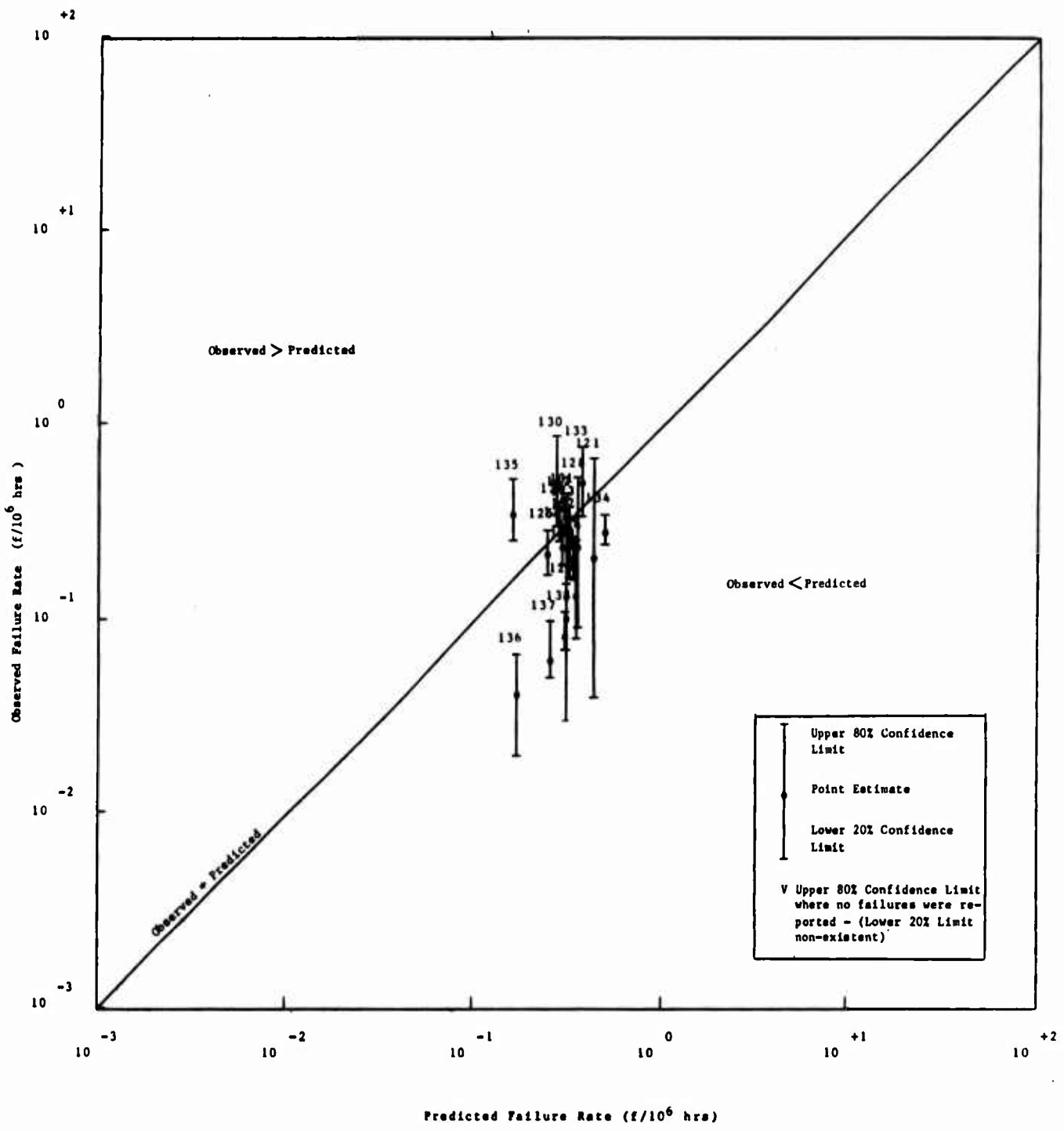


Figure 11: Digital Microcircuit Observed and MIL-HDBK-217C, Notice 1 Predicted Failure Rates from Commercial Equipment, Part VII (Observations 121-140)

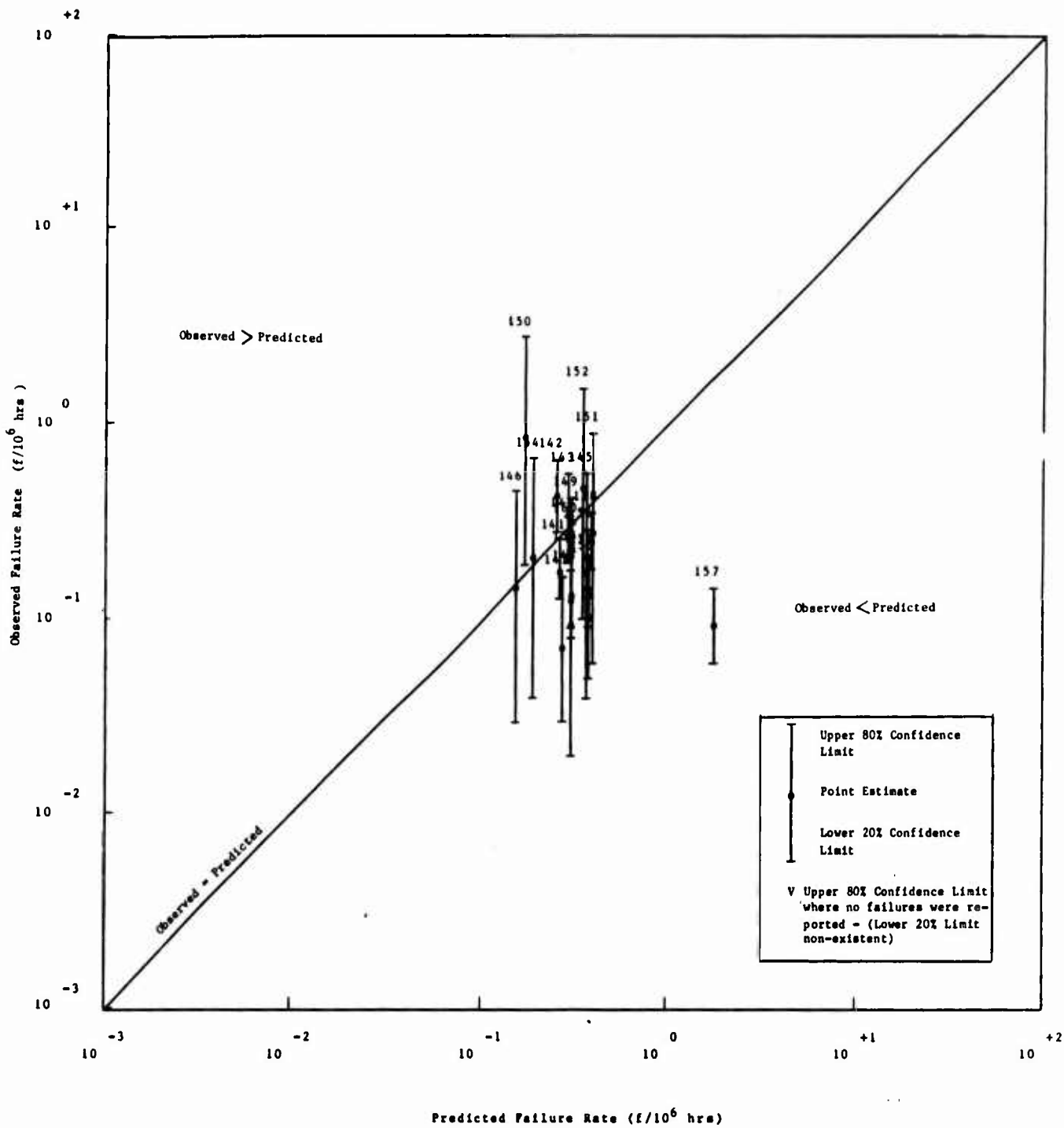


Figure 12: Digital Microcircuit Observed and MIL-HDBK-217C, Notice 1 Predicted Failure Rates from Commercial Equipment, Part VIII (Observations 141-160)

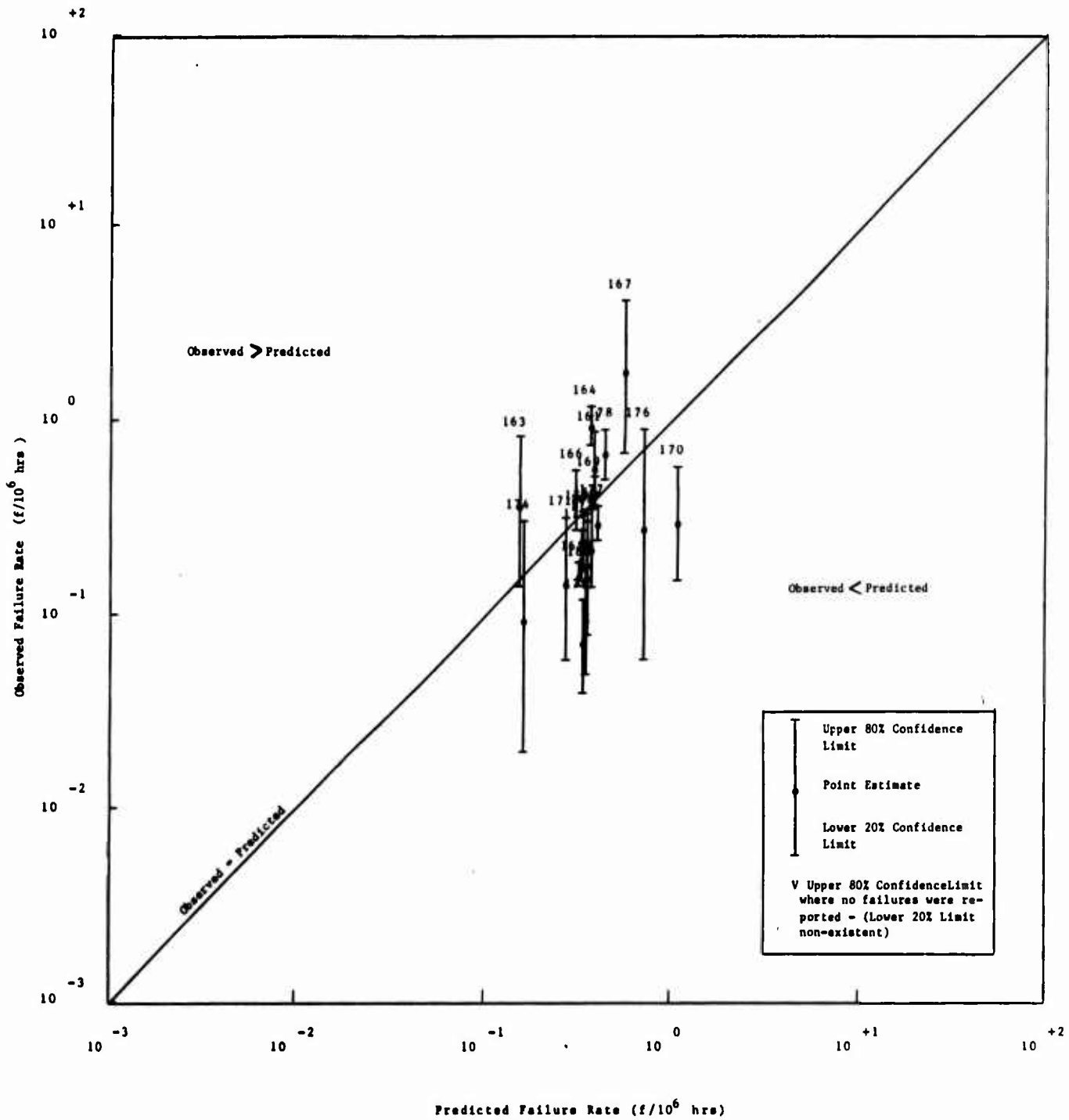


Figure 13: Digital Microcircuit Observed and MIL-HDBK-217C, Notice 1 Predicted Failure Rates from Commercial Equipment, Part IX (Observations 161-180)

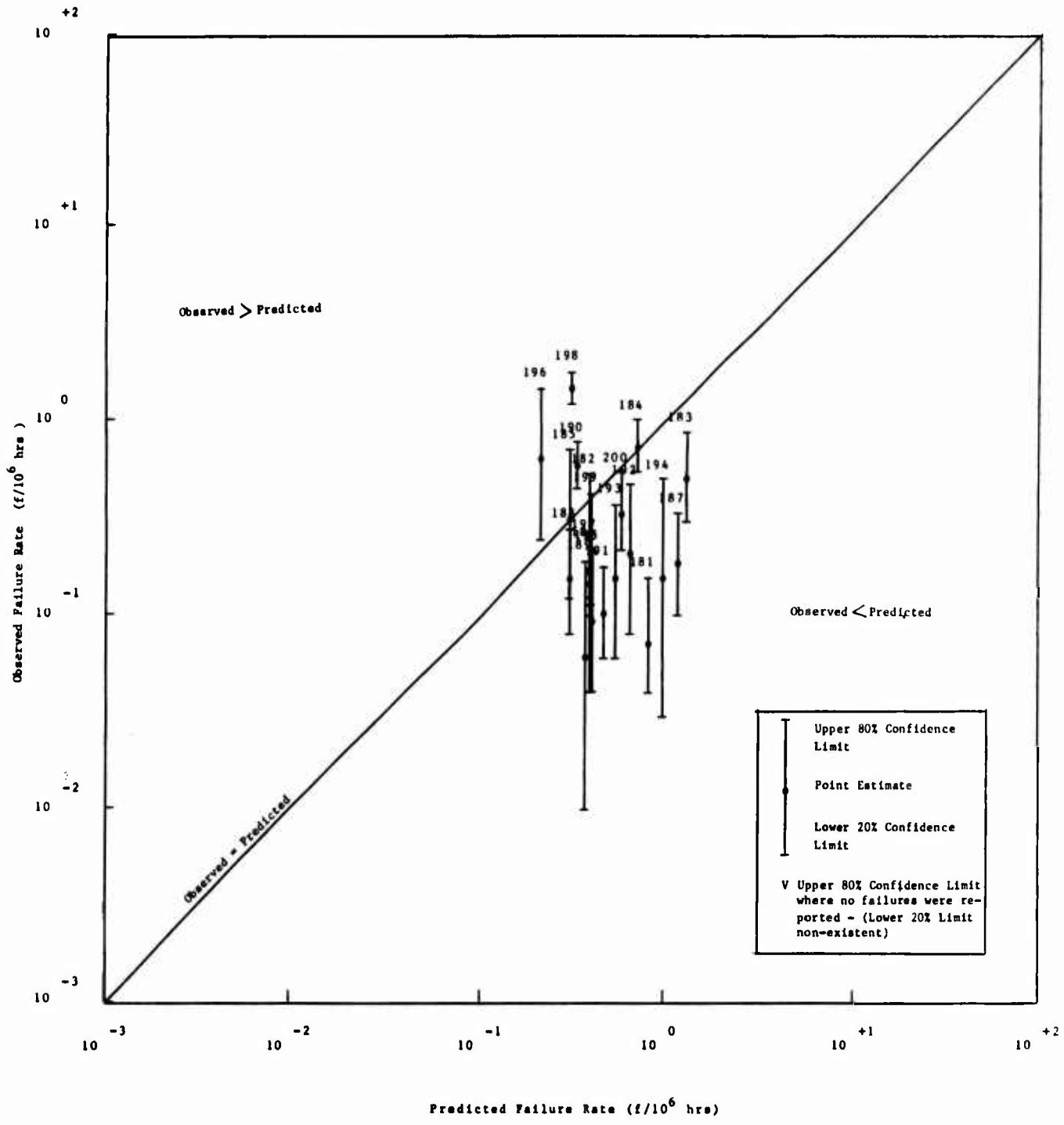


Figure 14: Digital Microcircuit Observed and MIL-HDBK-217C, Notice 1 Predicted Failure Rates from Commercial Equipment, Part I (Observations 181-200)

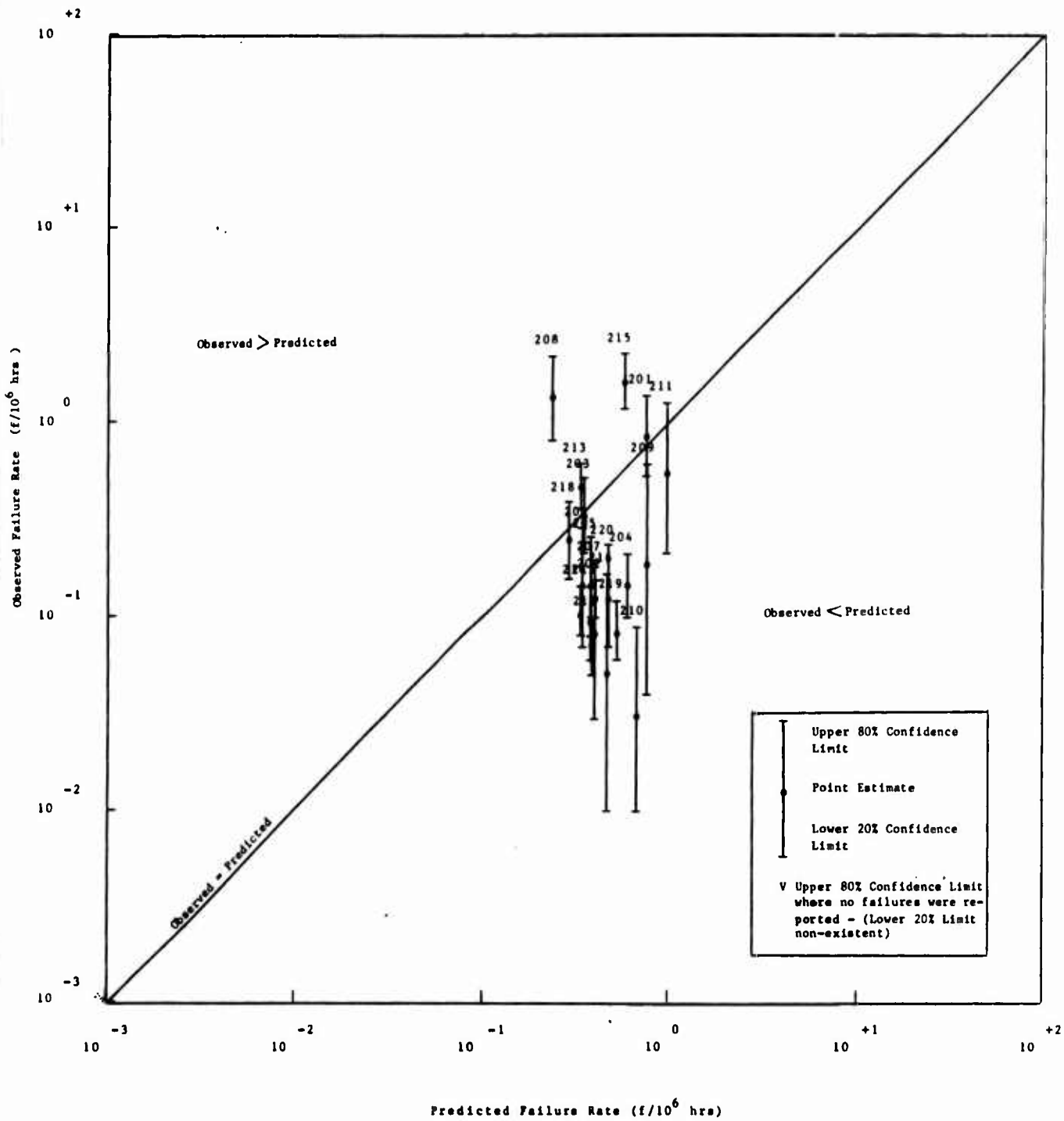


Figure 15: Digital Microcircuit Observed and MIL-HDBK-217C, Notice 1 Predicted Failure Rates from Commercial Equipment, Part XI (Observations 201-220)

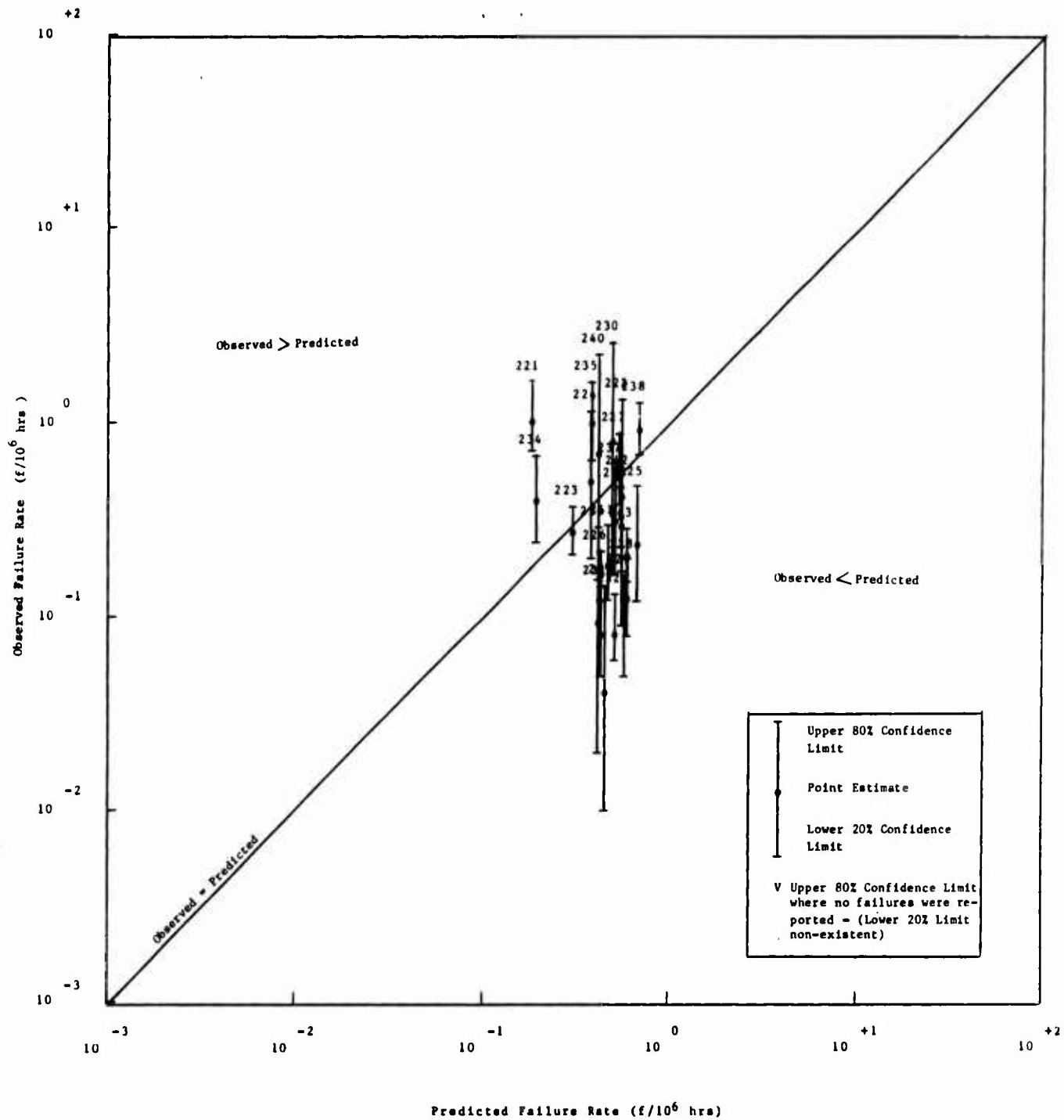


Figure 16: Digital Microcircuit Observed and MIL-HDBK-217C, Notice 1 Predicted Failure Rates from Commercial Equipment, Part XII (Observations 221-243)

SUMMARIZED GENERIC FAILURE RATES -
RELIABILITY DEMONSTRATION AND EQUIPMENT CHECKOUT DATA

The data summarized within Tables 8 through 15 reflect failure rates for devices which have undergone in-house equipment-level testing, primarily under the guidelines established by MIL-STD-781B. As with the field data, a structured hierarchy has been established to permit both general and detailed evaluation of the operational and device characteristics which influence the results at this level of testing.

Specifically, Table 8 has been derived from Tables 10 through 15 to illustrate microcircuit failure rates based upon the test conditions defined by the various levels of MIL-STD-781B as an inherent function of operation logic type and screening quality levels. In the same fashion, Table 9 is also condensed from Tables 10 through 15, and groups its failure rate listings by gate complexities, as a function of both package type and MIL-STD-781B test levels. Careful analysis of Tables 8 and 9 will help to reveal the relationships between specific degrees of environmental stresses (temperature cycling, random and sinusoidal vibration, power cycling) and component failure rate for the generic class of tested devices and associated device characteristics.

Tables 10 through 15 represent a more detailed presentation of the reliability performance of digital SSI/MSI microcircuits. These tables, which are categorized by operational type, gate complexity, junction temperature, and screen class level, allow a closer examination into the failure rates of devices which are subjected into a unique set of MIL-STD-781B test conditions. The specifics of these test conditions are briefly outlined in the following table:

SUMMARY OF MIL-STD-781B TEST LEVELS

Test Level	Temperature °C	Temperature Cycling	Vibration	Equipment Power Cycling
A	25 \pm 5	None	Yes	Yes
A-1	25 \pm 5	None	None	None
B	40 \pm 5	None	Yes	Yes
C	50 \pm 5 - 0	None	Yes	Yes
D	65 \pm 5	None	Yes	Yes
E	-54 to +55	Yes	Yes	Yes
F	-54 to +71	Yes	Yes	Yes
G	-54 to +95	Yes	Yes	Yes
H	-65 to +71	Yes	Yes	Yes
J	-54 to +125	Yes	Yes	Yes
TCVPC*	As Defined	Yes	Yes	Yes

*Defined as Temperature Cycling, Vibration and Power Cycling Test, this category does not signify a defined MIL-STD-781B test level.

Of the data presented in this publication, test level A-1 will typically apply to equipments where the intended environment is Ground, Fixed (as defined by MIL-HDBK-217C), while levels E and F are generally associated with Airborne, Inhabited (Fighter and Transport) and Airborne, Uninhabited (Fighter and Transport) environments, respectively. The frequency spectrum and vibration amplitudes, as well as temperature and power cycling durations, are established by guidelines within each level of test. The incorporation of MI-STD-781C has pre-empted the use of these defined categories as such, allowing a more customized set of testing guidelines, and additional emphasis has been placed on the application of random vibrational test patterns to more closely reflect the vibration expected in field operation.

The results found within this subsection should prove useful as a relative comparison of anticipated digital microcircuit fallout rates of different logic types for those who are performing equipment-level tests such as Product Acceptable Testing (P.A.T.) or Reliability Acceptable Testing (R.A.T.). It should be noted, however, that these types of tests are intended to approximate the expected environmental extremes which might be encountered in the field and, hence, comparisons made between Reliability Demonstration/Equipment Checkout Data and actual field usage data should not be expected to yield a high degree of correlation.

TABLE 8: SUMMARIZED GENERIC FAILURE RATES
 RELIABILITY DEMONSTRATION AND EQUIPMENT CHECKOUT DATA
 (BY MIL-STD-781B TEST LEVEL)

TEST LEVEL	OPERATIONAL TYPE	SCREEN CLASS	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
					20% C.L.	POINT ESTIMATE	80% C.L.
A-1	COMBINED PMOS	COMBINED	703.197	3	0.0022	0.0043	0.0078
		COMBINED	0.095	0	-	-	-
		B-2	0.095	0	-	-	-
	DTL	COMBINED	2.280	0	-	-	0.71
		B-1	2.243	0	-	-	0.72
	ECL	B-2	0.037	0	-	-	-
		COMBINED	0.196	0	-	-	-
		B-1	0.032	0	-	-	-
	HTTL	N	0.164	0	-	-	-
		COMBINED	64.444	0	-	-	0.025
		B-1	64.005	0	-	-	0.025
	LTTL	B-2	0.384	0	-	-	-
		N	0.055	0	-	-	-
		COMBINED	1.872	0	-	-	0.86
	STTL	JB	0.013	0	-	-	-
B-1		0.093	0	-	-	-	
B-2		1.766	0	-	-	0.91	
SUHL	COMBINED	167.428	0	-	-	0.0096	
	B-1	167.428	0	-	-	0.0096	
	COMBINED	2.675	1	0.083	0.37	1.1	
TTL	B-1	0.006	0	-	-	-	
	B-2	2.669	1	0.084	0.37	1.1	
	COMBINED	464.207	2	0.0018	0.0043	0.0092	
D	COMBINED	0.356	0	-	-	-	
	B-1	347.627	2	0.0024	0.0058	0.012	
	B-2	62.219	0	-	-	0.026	
E	COMBINED	13.409	0	-	-	0.12	
	DTL	40.596	0	-	-	0.040	
	COMBINED	0.683	0	-	-	2.4	
E	COMBINED	0.683	0	-	-	2.4	
	C-1	0.683	0	-	-	2.4	
	COMBINED	44.877	274	5.8	6.1	6.4	

TABLE 8: SUMMARIZED GENERIC FAILURE RATES
 RELIABILITY DEMONSTRATION AND EQUIPMENT CHECKOUT DATA
 (BY MIL-STD-781B TEST LEVEL) (CONTINUED)

TEST LEVEL	OPERATIONAL TYPE	SCREEN CLASS	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
					20% C.L.	POINT ESTIMATE	80% C.L.
E (cont'd)	CMOS	COMBINED	22.183	49	1.9	2.2	2.5
		B-1/JB	18.777	32	1.4	1.7	2.0
		B-1	3.406	17	4.0	5.0	6.3
	PMOS	COMBINED	0.358	1	0.62	2.8	8.4
		B-2 to N	0.358	1	0.62	2.8	8.4
		COMBINED	0.460	0	-	-	-
	DTL	B-1	0.037	0	-	-	-
		B-2 to N	0.423	0	-	-	-
		COMBINED	0.034	0	-	-	-
	ECL	B-1	0.031	0	-	-	-
		B-2 to N	0.003	0	-	-	-
		COMBINED	0.510	2	1.6	3.9	8.4
	HTTL	JB	0.010	0	-	-	-
		B-1	0.281	0	-	-	-
		B-2 to N	0.219	2	3.8	9.1	20.
	LTTL	COMBINED	1.039	1	0.21	0.96	2.9
		JB	0.273	0	-	-	-
		B 1	0.758	1	0.29	1.3	4.0
	STTL	B-2 to N	0.008	0	-	-	-
		COMBINED	2.049	1	0.11	0.49	1.5
		B-1/JB	1.392	1	0.16	0.72	2.2
	SUHL	B-1	0.657	0	-	-	-
		COMBINED	2.667	3	0.58	1.1	2.1
		B-1/JB	1.047	3	1.5	2.9	5.3
	TTL	B-1	1.620	0	-	-	-
		COMBINED	15.577	217	13.	14.	15.
		JB	0.691	0	-	-	-
		B-1/JB	1.766	13	5.6	7.4	9.6
		B-1	4.974	0	-	-	-
		B-2	0.777	89	104.	115.	126.
		B-2 to N	6.733	115	15.7	17.1	18.6

TABLE 8: SUMMARIZED GENERIC FAILURE RATES
 RELIABILITY DEMONSTRATION AND EQUIPMENT CHECKOUT DATA
 (BY MIL-STD-781B TEST LEVEL) (CONTINUED)

TEST LEVEL	OPERATIONAL TYPE	SCREEN CLASS	PART HOURS (10 ⁶)	QUANTITY C ^F FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
					20% C.L.	POINT ESTIMATE	80% C.L.
E (cont'd)	TTL (cont'd)	N	0.636	0	-	-	-
F	COMBINED	COMBINED	83.073	29	0.29	0.35	2.5
	DTL	COMBINED	5.850	0	-	-	0.42
		JB	0.036	0	-	-	0.28
		B-1	5.796	0	-	-	-
		O-1	0.018	0	-	-	0.28
	HTTL	COMBINED	1.639	2	0.50	1.2	-
		JB	0.219	0	-	-	2.6
		B-1	1.154	2	0.71	1.7	-
		JB and B-2	0.072	0	-	-	3.7
		B-2	0.003	0	-	-	-
		C-1	0.126	0	-	-	-
		B-2 to N	0.058	0	-	-	-
		N/R	0.007	0	-	-	-
	L TTL	COMBINED	1.533	1	0.15	0.65	2.0
		JB	0.009	0	-	-	-
		B-1	1.133	0	-	-	1.4
		JB and B-2	0.233	0	-	-	-
		B-2 to N	0.158	1	-	-	-
	STTL	COMBINED	38.685	0	-	-	0.042
		B-1	38.662	0	-	-	0.042
		JB and B-2	0.014	0	-	-	-
		B-2	0.002	0	-	-	-
		N/R	0.007	0	-	-	-
	LSTTL	COMBINED	0.014	0	-	-	-
		JB and B-2	0.014	0	-	-	-
	SUHL	COMBINED	0.325	0	-	-	-
		B-1	0.089	0	-	-	-
		JB and B-2	0.236	0	-	-	-
	TTL	COMBINED	35.027	26	0.62	0.74	0.89
		JB	7.097	4	0.32	0.56	0.95
		B-1/JB	0.482	2	1.7	4.1	8.9

TABLE 8: SUMMARIZED GENERIC FAILURE RATES
 RELIABILITY DEMONSTRATION AND EQUIPMENT CHECKOUT DATA
 (BY MIL-STD-781B TEST LEVEL) (CONT'D)

TEST LEVEL	OPERATIONAL TYPE	SCREEN CLASS	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
					20% C.L.	POINT ESTIMATE	80% C.L.
F (cont'd)	TTL (cont'd)	B-1	19.327	16	0.65	0.83	1.1
		JB and B-2	2.254	2	0.37	0.89	1.9
		C-1	0.696	1	0.32	1.4	4.3
		B-2 to N	1.027	1	0.22	0.97	2.9
		N	2.508	0	-	-	0.64
		N/R	1.636	0	-	-	0.98
		COMBINED	3.221	0	-	-	0.50
		COMBINED	0.018	0	-	-	-
		C-1	0.018	0	-	-	-
		COMBINED	0.213	0	-	-	-
H	COMBINED DTL HTTL STTL	B-1	0.079	0	-	-	-
		C-1	0.134	0	-	-	-
		COMBINED	2.012	0	-	-	0.80
		B-1	2.012	0	-	-	0.80
		COMBINED	0.978	0	-	-	1.6
		B-1	0.450	0	-	-	-
		C-1	0.528	0	-	-	-
		COMBINED	0.575	0	-	-	3.0
		COMBINED	0.003	0	-	-	2.8
		B-1	0.003	0	-	-	-
TCVPC	COMBINED DTL HTTL LTTL STTL TTL	COMBINED	0.004	0	-	-	-
		B-1	0.004	0	-	-	-
		COMBINED	0.189	0	-	-	-
		B-1	0.189	0	-	-	-
		COMBINED	0.114	0	-	-	-
		B-1	0.114	0	-	-	-
		COMBINED	0.265	0	-	-	-
		B-1	0.265	0	-	-	-

TABLE 9: SUMMARIZED GENERIC FAILURE RATES
 RELIABILITY DEMONSTRATION AND EQUIPMENT CHECKOUT DATA
 (BY COMPLEXITY)

COMPLEXITY (GATES)	PACKAGE TYPE	TEST LEVEL	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
					20% C.L.	POINT ESTIMATE	80% C.L.
1-10	COMBINED HDIP	COMBINED	550.816	150	0.25	0.27	0.29
		COMBINED	129.887	138	0.99	1.1	1.1
	A-1	93.431	0	-	-	0.017	
	D	0.683	0	-	-	2.4	
	E	20.988	124	5.5	5.9	6.4	
	F	14.575	14	0.74	0.96	1.2	
	TCVPC	0.210	0	-	-	-	
	COMBINED	420.865	12	0.021	0.029	0.038	
	A-1	364.750	3	0.0042	0.0082	0.015	
	E	1.631	0	-	-	0.99	
	F	51.655	9	0.12	0.17	0.24	
	H	2.829	0	-	-	0.57	
	COMBINED	0.034	0	-	-	-	
	E	0.031	0	-	-	-	
11-25	COMBINED HDIP	TCVPC	0.003	0	-	-	-
		COMBINED	206.907	83	0.36	0.40	0.44
	COMBINED	65.063	81	1.1	1.2	1.4	
	A-1	47.480	0	-	-	0.034	
	E	9.192	76	7.5	8.3	9.2	
	F	8.243	5	0.37	0.61	0.96	
	H	0.004	0	-	-	-	
	TCVPC	0.144	0	-	-	-	
	COMBINED	141.844	2	0.0058	0.014	0.030	
	A-1	137.634	0	-	-	0.012	
	E	0.116	2	-	-	-	
	F	4.040	0	-	-	0.40	
	H	0.054	0	-	-	-	
	26-50	COMBINED HDIP	COMBINED	63.223	5	0.049	0.079
COMBINED			31.310	5	0.099	0.16	0.25
A-1		26.020	0	-	-	0.062	
E		2.813	5	1.1	1.8	2.8	
F		2.324	0	-	-	0.69	

TABLE 9: SUMMARIZED GENERIC FAILURE RATES
 RELIABILITY DEMONSTRATION AND EQUIPMENT CHECKOUT DATA
 (BY COMPLEXITY) (CONTINUED)

COMPLEXITY (GATES)	PACKAGE TYPE	TEST LEVEL	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
					20% C.L.	POINT ESTIMATE	80% C.L.
26-50 (cont'd)	HDIP (cont'd)	TCVPC	0.153	0	-	-	-
	HFPK	COMBINED	31.913	0	-	-	0.050
		A-1	30.374	0	-	-	0.053
		E	0.179	0	-	-	-
		F	1.141	0	-	-	1.4
		H	0.219	0	-	-	-
		COMBINED	14.215	65	4.1	4.6	5.1
		COMBINED	12.877	65	4.5	5.0	5.6
		A-1	2.936	0	-	-	0.55
		E	9.481	64	6.0	6.8	7.6
51-75		F	0.395	1	0.56	2.5	7.6
		TCVPC	0.065	0	-	-	-
		COMBINED	0.002	0	-	-	-
		E	0.002	0	-	-	-
		COMBINED	1.336	0	-	-	1.2
		A-1	0.536	0	-	-	3.0
		E	0.044	0	-	-	-
		F	0.641	0	-	-	2.5
		H	0.115	0	-	-	-
		COMBINED	0.459	3	3.3	6.5	12.
76-100	COMBINED	COMBINED	0.459	3	3.3	6.5	12.
	HDIP	E	0.400	3	3.8	7.5	14.
		F	0.059	0	-	-	-

TABLE 10: SUMMARIZED GENERIC FAILURE RATES
 RELIABILITY DEMONSTRATION AND EQUIPMENT CHECKOUT DATA
 MIL-STD-781B, LEVEL A-1

OPERATIONAL TYPE	SCREEN CLASS	PACKAGE TYPE	COMPLEXITY (GATES)	T _j (°C)	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
							20% C.L.	POINT ESTIMATE	80% C.L.
PMOS	B-2	HDIP	11-25	26-50	0.095	0	-	-	-
	B-1	HDIP	1-10	26-50	0.128	0	-	-	-
DTL	B-1	HFPK	1-10	26-50	1.983	0	-	-	0.81
	B-1	HFPK	11-25	26-50	0.132	0	-	-	-
B-2	B-2	HFPK	1-10	26-50	0.021	0	-	-	-
	B-2	HFPK	1-10	51-75	0.016	0	-	-	-
ECL	B-1	HDIP	11-25	76-100	0.016	0	-	-	-
	B-1	HFPK	1-10	51-75	0.016	0	-	-	-
HTTL	N	HDIP	1-10	26-50	0.164	0	-	-	-
	B-1	HFPK	1-10	26-50	57.735	0	-	-	0.028
B-1	B-1	HFPK	11-25	26-50	6.270	0	-	-	0.26
	B-2	HDIP	1-10	26-50	0.075	0	-	-	-
B-2	B-2	HDIP	11-25	26-50	0.309	0	-	-	-
	B-2	HDIP	11-25	51-75	0.055	0	-	-	-
L TTL	N	HDIP	1-10	26-50	0.012	0	-	-	-
	JB	HDIP	11-25	26-50	0.001	0	-	-	-
B-1	B-1	HDIP	11-25	26-50	0.007	0	-	-	-
	B-1	HDIP	26-50	26-50	0.086	0	-	-	-
B-2	B-2	HDIP	1-10	26-50	0.023	0	-	-	-
	B-2	HFPK	1-10	26-50	1.363	0	-	-	1.2
B-2	B-2	HFPK	11-25	26-50	0.174	0	-	-	-
	B-2	HFPK	26-50	26-50	0.174	0	-	-	-
B-2	B-2	HFPK	51-75	26-50	0.032	0	-	-	-
	B-1	HDIP	1-10	26-50	0.842	0	-	-	1.9
B-1	B-1	HDIP	11-25	26-50	0.663	0	-	-	2.4
	B-1	HDIP	51-75	26-50	0.019	0	-	-	-
B-1	B-1	HFPK	1-10	26-50	118.850	0	-	-	0.014
	B-1	HFPK	11-25	26-50	46.801	0	-	-	0.034
B-1	B-1	HFPK	11-25	51-75	0.253	0	-	-	-
	B-1	HFPK	11-25	26-50	0.006	0	-	-	-
B-2	B-2	HFPK	1-10	26-50	2.059	1	0.11	0.49	1.5
	B-2	HFPK	11-25	26-50	0.393	0	-	-	-

TABLE 10: SUMMARIZED GENERIC FAILURE RATES
 RELIABILITY DEMONSTRATION AND EQUIPMENT CHECKOUT DATA
 MIL-STD-781B, LEVEL A-1 (CONTINUED)

OPERATIONAL TYPE	SCREEN CLASS	PACKAGE TYPE	COMPLEXITY (GATES)	T _j (°C)	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
							20% C.L.	POINT ESTIMATE	80% C.L.
SUHL (cont'd)	B-2	HFPK	11-25	51-75	0.217	0	-	-	-
TTL	JB	HDIP	1-10	26-50	0.193	0	-	-	-
	JB	HDIP	11-25	26-50	0.082	0	-	-	-
	JB	HDIP	26-50	26-50	0.045	0	-	-	-
	JB	HDIP	51-75	26-50	0.036	0	-	-	-
	B-1	HDIP	1-10	26-50	31.665	0	-	-	0.051
	B-1	HDIP	1-10	51-75	0.008	0	-	-	-
	B-1	HDIP	11-25	26-50	15.390	0	-	-	0.10
	B-1	HDIP	26-50	26-50	1.565	0	-	-	1.0
	B-1	HDIP	26-50	51-75	0.198	0	-	-	-
	B-1	HDIP	51-75	26-50	0.172	0	-	-	-
	B-1	HDIP	51-75	51-75	2.745	0	-	-	0.59
	B-1	HFPK	1-10	26-50	182.269	2	0.0045	0.011	0.023
	B-1	HFPK	11-25	26-50	74.896	0	-	-	0.021
	B-1	HFPK	11-25	51-75	8.191	0	-	-	0.20
	B-1	HFPK	26-50	51-75	21.735	0	-	-	0.074
	B-1	HFPK	26-50	76-100	8.384	0	-	-	0.19
	B-1	HFPK	51-75	51-75	0.409	0	-	-	-
	B-2	HDIP	1-10	26-50	40.438	0	-	-	0.040
	B-2	HDIP	11-25	26-50	0.049	0	-	-	-
	B-2	HDIP	26-50	26-50	0.002	0	-	-	-
	B-2	HDIP	26-50	51-75	18.145	0	-	-	0.089
	B-2	HDIP	26-50	76-100	2.670	0	-	-	0.60
	B-2	HFPK	1-10	26-50	0.438	0	-	-	-
	B-2	HFPK	11-25	26-50	0.174	0	-	-	-
	B-2	HFPK	11-25	51-75	0.127	0	-	-	-
	B-2	HFPK	26-50	51-75	0.081	0	-	-	-
	B-2	HFPK	51-75	76-100	0.095	0	-	-	-
	C-1	HDIP	1-10	51-75	3.871	0	-	-	0.42
	C-1	HDIP	1-10	76-100	3.251	0	-	-	0.50
	C-1	HDIP	11-25	51-75	0.898	0	-	-	1.8
	C-1	HDIP	11-25	76-100	2.246	0	-	-	0.72

TABLE 10: SUMMARIZED GENERIC FAILURE RATES
 RELIABILITY DEMONSTRATION AND EQUIPMENT CHECKOUT DATA
 MIL-STD-781B, LEVEL A-1 (CONTINUED)

OPERATIONAL TYPE	SCREEN CLASS	PACKAGE TYPE	COMPLEXITY (GATES)	T _J (°C)	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
							20% C.L.	POINT ESTIMATE	80% C.L.
TTL (cont'd)	C-1	HDIP	26-50	26-50	0.278	0	-	-	-
	C-1	HDIP	26-50	76-100	2.395	0	-	-	0.67
	C-1	HDIP	26-50	101-125	0.470	0	-	-	-
	N	HDIP	1-10	26-50	12.761	0	-	-	0.13
	N	HDIP	11-25	26-50	27.669	0	-	-	0.058
	N	HDIP	26-50	51-75	0.166	0	-	-	-

TABLE 11: SUMMARIZED GENERIC FAILURE RATES
 RELIABILITY DEMONSTRATION AND EQUIPMENT CHECKOUT DATA
 MIL-STD-781B, LEVEL D

OPERATIONAL TYPE	SCREEN CLASS	PACKAGE TYPE	COMPLEXITY (GATES)	Tj (°C)	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
							20% C.L.	POINT ESTIMATE	80% C.L.
DTL	C-1	HDIP	1-10	51-75	0.063	0	-	-	-
	C-1	HDIP	1-10	76-100	0.620	0	-	-	2.6

TABLE 12: SUMMARIZED GENERIC FAILURE RATES
 RELIABILITY DEMONSTRATION AND EQUIPMENT CHECKOUT DATA
 MIL-STD-781, LEVEL E

OPERATIONAL TYPE	SCREEN CLASS	PACKAGE TYPE	COMPLEXITY (GATES)	T _j (°C)	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
							20% C.L.	POINT ESTIMATE	80% C.L.
CMOS	B-1/JB	HDIP	1-10	51-75	8.638	6	0.45	0.69	1.1
	B-1/JB	HDIP	11-25	51-75	2.761	3	0.56	1.1	2.0
	B-1/JB	HDIP	51-75	76-100	7.074	20	2.3	2.8	3.5
	B-1/JB	HDIP	76-100	76-100	0.304	3	5.0	9.9	18.3
	B-1	HDIP	1-10	51-75	0.899	1	0.25	1.1	3.3
	B-1	HDIP	11-25	51-75	0.642	2	1.3	3.1	6.7
	B-1	HDIP	26-50	51-75	0.091	0	-	-	-
	B-1	HDIP	51-75	51-75	1.277	11	6.4	8.6	11.6
	B-1	HDIP	51-75	76-100	0.437	3	3.5	6.9	12.7
	B-1	HDIP	76-100	51-75	0.058	0	-	-	-
	B-1	HFPK	11-25	51-75	0.002	0	-	-	-
	B-2 to N	HDIP	11-25	51-75	0.358	1	0.62	2.8	8.4
	B-1	HDIP	1-10	51-75	0.037	0	-	-	-
	B-2 to N	HDIP	1-10	51-75	0.190	0	-	-	-
	B-2 to N	HFPK	1-10	51-75	0.216	0	-	-	-
B-2 to N	HFPK	26-50	51-75	0.017	0	-	-	-	
ECL	B-1	CAN	1-10	51-75	0.031	0	-	-	-
	B-2 to N	HFPK	1-10	51-75	0.003	0	-	-	-
HTTL	JB	HDIP	1-10	51-75	0.010	0	-	-	-
	B-1	HDIP	1-10	51-75	0.129	0	-	-	-
L TTL	B-1	HDIP	1-10	76-100	0.059	0	-	-	-
	B-1	HDIP	11-25	51-75	0.021	0	-	-	-
	B-1	HDIP	11-25	76-100	0.072	0	-	-	-
	B-2 to N	HDIP	1-10	51-75	0.211	2	3.9	9.5	20.0
	B-2 to N	HDIP	11-25	51-75	0.008	0	-	-	-
	JB	HDIP	1-10	51-75	0.142	0	-	-	-
	JB	HDIP	11-25	51-75	0.002	0	-	-	-
	JB	HFPK	1-10	51-75	0.066	0	-	-	-
	JB	HFPK	26-50	76-100	0.063	0	-	-	-
	B-1	HDIP	1-10	51-75	0.331	0	-	-	-
	B-1	HDIP	11-25	51-75	0.046	0	-	-	-
	B-1	HDI ^o	26-50	51-75	3.174	0	-	-	-

TABLE 12: SUMMARIZED GENERIC FAILURE RATES
 RELIABILITY DEMONSTRATION AND EQUIPMENT CHECKOUT DATA
 MIL-STD-781B, LEVEL E (CONTINUED)

OPERATIONAL TYPE	SCREEN CLASS	PACKAGE TYPE	COMPLEXITY (GATES)	T _j (°C)	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
							20% C.L.	POINT ESTIMATE	80% C.L.
LTLT (cont'd)	B-1	HDIP	51-75	76-100	0.015	0	-	-	-
	B-1	HFPK	11-25	51-75	0.084	1	-	-	-
	B-1	HFPK	26-50	51-75	0.078	0	-	-	-
	B-1	HFPK	51-75	76-100	0.030	0	-	-	-
STTL	B-2	HDIP	26-50	76-100	0.008	0	-	-	-
	B-1/JB	HDIP	1-10	51-75	0.843	0	-	-	1.9
	B-1/JB	HDIP	11-25	51-75	0.549	1	0.41	1.8	5.5
	B-1	HDIP	11-25	51-75	0.311	0	-	-	-
SUHL	B-1	HDIP	26-50	51-75	0.345	0	-	-	-
	B-1	HDIP	51-75	76-100	0.001	0	-	-	-
	B-1/JB	HDIP	1-10	51-75	1.047	3	1.5	2.9	5.3
	B-1	HDIP	1-10	51-75	0.309	0	-	-	-
TTL	B-1	HDIP	11-25	51-75	1.145	0	-	-	1.4
	B-1	HDIP	26-50	51-75	0.166	0	-	-	-
	B-1	HDIP	1-10	51-75	0.355	0	-	-	-
	B-1	HDIP	11-25	51-75	0.169	0	-	-	-
	B-1	HDIP	26-50	76-100	0.061	0	-	-	-
	B-1	HDIP	51-75	76-100	0.002	0	-	-	-
	B-1	HFPK	1-10	51-75	0.079	0	-	-	-
	B-1	HFPK	11-25	51-75	0.004	0	-	-	-
	B-1	HFPK	26-50	76-100	0.021	0	-	-	-
	B-1/JB	HDIP	1-10	51-75	1.766	13	5.6	7.4	9.6
	B-1	HDIP	1-10	51-75	1.050	0	-	-	1.5
	B-1	HDIP	11-25	51-75	1.466	0	-	-	1.1
B-1	HDIP	11-25	76-100	0.074	0	-	-	-	
B-1	HDIP	26-50	51-75	0.389	0	-	-	-	
B-1	HDIP	26-50	76-100	0.527	0	-	-	3.1	
B-1	HDIP	26-50	101-125	0.004	0	-	-	-	
B-1	HDIP	51-75	76-100	0.148	0	-	-	-	
B-1	HDIP	51-75	101-125	0.006	0	-	-	-	
B-1	HDIP	76-100	101-125	0.038	0	-	-	-	
B-1	PDIP	51-75	76-100	0.002	0	-	-	-	

TABLE 12: SUMMARIZED GENERIC FAILURE RATES
 RELIABILITY DEMONSTRATION AND EQUIPMENT CHECKOUT DATA
 MIL-STD-781B, LEVEL E (CONTINUED)

OPERATIONAL TYPE	SCREEN CLASS	PACKAGE TYPE	COMPLEXITY (GATES)	T _j (°C)	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
							20% C.L.	POINT ESTIMATE	80% C.L.
TTL (cont'd)	B-1	HFPK	1-10	51-75	1.261	0	-	-	1.3
	B-1	HFPK	11-25	51-75	0.009	0	-	-	-
	B-2	HDIP	1-10	51-75	0.777	89	104.	115.	126.
	B-2 to N	HDIP	1-10	51-75	4.169	10	1.7	2.4	3.3
	B-2 to N	HDIP	11-25	51-75	1.402	48	30.	34.	39.
	B-2 to N	HDIP	11-25	76-100	0.166	21	103.	126.	155.
	B-2 to N	HDIP	26-50	51-75	0.490	5	6.3	10.	16.
	B-2 to N	HDIP	51-75	76-100	0.469	30	54.	64.	76.
	B-2 to N	HFPK	1-10	51-75	0.006	0	-	-	-
	B-2 to N	HFPK	11-25	51-75	0.017	1	-	-	-
	B-c to N	HFPK	51-75	76-100	0.014	0	-	-	-
	N	HDIP	1-10	51-75	0.013	0	-	-	-
	N	HDIP	1-10	76-100	0.013	0	-	-	-
	N	HDIP	26-50	76-100	0.558	0	-	-	2.9
	N	HDIP	51-75	76-100	0.052	0	-	-	-

TABLE 13: SUMMARIZED GENERIC FAILURE RATES
 RELIABILITY DEMONSTRATION AND EQUIPMENT CHECKOUT DATA
 MIL-STD-781B, LEVEL F

OPERATIONAL TYPE	SCREEN CLASS	PACKAGE TYPE	COMPLEXITY (GATES)	Tj (°C)	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)			
							20% C.L.	POINT ESTIMATE	80% C.L.	
DTL	JB	HFPK	1-10	76-100	0.036	0	-	-	-	
	B-1	HDIP	1-10	76-100	0.009	0	-	-	-	
	B-1	HDIP	11-25	76-100	0.138	0	-	-	-	
	B-1	HFPK	1-10	51-75	3.954	0	-	-	0.41	
	B-1	HFPK	1-10	76-100	0.037	0	-	-	-	
	B-1	HFPK	11-25	51-75	1.658	0	-	-	0.97	
	C-1	HFPK	1-10	51-75	0.007	0	-	-	-	
	C-1	HFPK	1-10	76-100	0.009	0	-	-	-	
	C-1	HFPK	1-10	101-125	0.002	0	-	-	-	
	HTTL	JB	HDIP	1-10	76-100	0.219	0	-	-	-
		B-1	HDIP	1-10	51-75	0.046	0	-	-	-
		B-1	HDIP	1-10	76-100	0.147	2	5.5	13.6	29.
		B-1	HDIP	11-25	76-100	0.228	0	-	-	-
		B-1	HFPK	1-10	51-75	0.151	0	-	-	-
		B-1	HFPK	1-10	76-100	0.449	0	-	-	-
B-1		HFPK	11-25	76-100	0.133	0	-	-	-	
JB and B-2		HDIP	1-10	76-100	0.043	0	-	-	-	
JB and B-2		HDIP	11-25	76-100	0.029	0	-	-	-	
B-2		HFPK	1-10	76-100	0.001	0	-	-	-	
LTTL	B-2	HFPK	11-25	76-100	0.002	0	-	-	-	
	C-1	HFPK	1-10	51-75	0.004	0	-	-	-	
	C-1	HFPK	1-10	76-100	0.122	0	-	-	-	
	B-2 to N	HDIP	1-10	76-100	0.058	0	-	-	-	
	N/R	HDIP	1-10	76-100	0.007	0	-	-	-	
	JB	HDIP	1-10	76-100	0.003	0	-	-	-	
	JB	HFPK	1-10	76-100	0.006	0	-	-	-	
	B-1	HDIP	1-10	51-75	0.010	0	-	-	-	
	B-1	HDIP	1-10	76-100	0.181	0	-	-	-	
	B-1	HDIP	11-25	51-75	0.024	0	-	-	-	
	B-1	HDIP	11-25	76-100	0.152	0	-	-	-	
	B-1	HDIP	26-50	76-100	0.100	0	-	-	-	
	B-1	HDIP	51-75	76-100	0.055	0	-	-	-	

TABLE 13: SUMMARIZED GENERIC FAILURE RATES
 RELIABILITY DEMONSTRATION AND EQUIPMENT CHECKOUT DATA
 MIL-STD-781B, LEVEL F (CONTINUED)

OPERATIONAL TYPE	SCREEN CLASS	PACKAGE TYPE	COMPLEXITY (GATES)	T _J (°C)	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
							20% C.L.	POINT ESTIMATE	80% C.L.
LTTL (cont'd)	B-1	HFPK	1-10	76-100	0.148	0	-	-	-
	B-1	HFPK	11-25	76-100	0.200	0	-	-	-
	B-1	HFPK	26-50	76-100	0.082	0	-	-	-
	B-1	HFPK	51-75	76-100	0.181	0	-	-	-
	JB and B-2	HDIP	11-25	76-100	0.101	0	-	-	-
	JB and B-2	HDIP	51-75	76-100	0.132	0	-	-	-
	B-2 to N	HDIP	11-25	51-75	0.078	0	-	-	-
	B-2 to N	HDIP	51-75	76-100	0.080	0	-	-	-
	B-1	HDIP	1-10	51-75	0.023	0	-	-	-
	B-1	HDIP	1-10	76-100	0.004	0	-	-	-
STTL	B-1	HDIP	11-25	76-100	0.024	0	-	-	-
	B-1	HFPK	1-10	51-75	38.611	0	-	-	0.042
	JB and B-2	HDIP	1-10	76-100	0.014	0	-	-	-
	B-2	HFPK	1-10	76-100	0.001	0	-	-	-
	B-2	HFPK	11-25	76-100	0.001	0	-	-	-
	N/R	HDIP	11-25	76-100	0.007	0	-	-	-
	JB and B-2	HDIP	11-25	76-100	0.014	0	-	-	-
	B-1	HFPK	1-10	76-100	0.014	0	-	-	-
	B-1	HFPK	11-25	76-100	0.075	0	-	-	-
	JB and B-2	HDIP	1-10	76-100	0.236	0	-	-	-
LTTL	JB	HDIP	1-10	76-100	5.251	2	0.16	0.38	0.82
	JB	HDIP	11-25	76-100	1.434	2	0.57	1.4	3.0
	JB	HDIP	26-50	76-100	0.012	0	-	-	-
	JB	HFPK	1-10	76-100	0.007	0	-	-	-
	JB	HFPK	11-25	76-100	0.389	0	-	-	-
	JB	HFPK	26-50	76-100	0.004	0	-	-	-
	B-1/JB	HFPK	1-10	76-100	0.482	2	1.7	4.2	8.9
	B-1	HDIP	1-10	51-75	1.452	1	0.15	0.69	2.1
	B-1	HDIP	1-10	76-100	5.101	8	1.1	1.6	2.2
	B-1	HDIP	11-25	76-100	3.301	1	0.068	0.30	0.91
LSTTL SUNL	B-1	HDIP	11-25	101-125	0.026	0	-	-	-
	B-1	HDIP	26-50	76-100	1.734	0	-	-	0.93

TABLE 13: SUMMARIZED GENERIC FAILURE RATES
 RELIABILITY DEMONSTRATION AND EQUIPMENT CHECKOUT DATA
 MIL-STD-781B, LEVEL F (CONTINUED)

OPERATIONAL TYPE	SCREEN CLASS	PACKAGE TYPE	COMPLEXITY (GATES)	T _j (°C)	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
							20% C.L.	POINT ESTIMATE	80% C.L.
TTL (cont'd)	B-1	HDIP	26-50	101-125	0.024	0	-	-	-
	B-1	HDIP	51-75	76-100	0.053	0	-	-	-
	B-1	HDIP	51-75	101-125	0.066	0	-	-	-
	B-1	HDIP	76-100	76-100	0.059	0	-	-	-
	B-1	HFPK	1-10	51-75	0.123	0	-	-	-
	B-1	HFPK	1-10	76-100	5.098	6	0.77	1.2	1.8
	B-1	HFPK	1-10	126-150	0.055	0	-	-	-
	B-1	HFPK	11-25	76-100	0.962	0	-	-	1.7
	B-1	HFPK	11-25	101-125	0.072	0	-	-	-
	B-1	HFPK	26-50	76-100	0.441	0	-	-	-
	B-1	HFPK	26-50	101-125	0.383	0	-	-	-
	B-1	HFPK	26-50	126-150	0.032	0	-	-	-
	B-1	HFPK	51-75	76-100	0.320	0	-	-	-
	B-1	HFPK	51-75	101-125	0.025	0	-	-	-
	JB and B-2	HDIP	1-10	76-100	0.259	1	0.86	3.9	12.
	JB and B-2	HDIP	11-25	76-100	1.865	1	0.11	0.54	1.6
	JB and B-2	HDIP	26-50	76-100	0.130	0	-	-	-
	C-1	HDIP	11-25	76-100	0.004	0	-	-	-
	C-1	HFPK	1-10	51-75	0.053	0	-	-	-
	C-1	HFPK	1-10	76-100	0.277	1	0.81	3.6	11.
	C-1	HFPK	11-25	76-100	0.155	0	-	-	-
	C-1	HFPK	11-25	101-125	0.046	0	-	-	-
	C-1	HFPK	26-50	101-125	0.010	0	-	-	-
	C-1	HFPK	26-50	126-150	0.036	0	-	-	-
	C-1	HFPK	51-75	101-125	0.077	0	-	-	-
	C-1	HFPK	51-75	126-150	0.038	0	-	-	-
	B-2 to N	HDIP	1-10	76-100	0.484	0	-	-	-
	B-2 to N	HDIP	11-25	76-100	0.369	1	0.60	2.7	8.2
	B-2 to N	HDIP	26-50	76-100	0.174	0	-	-	-
	N	HFPK	1-10	51-75	0.564	0	-	-	-
	N	HFPK	1-10	76-100	1.444	0	-	-	2.9
	N	HFPK	11-25	76-100	0.347	0	-	-	1.1

TABLE 13: SUMMARIZED GENERIC FAILURE RATES
 RELIABILITY DEMONSTRATION AND EQUIPMENT CHECKOUT DATA
 MIL-STD-781B, LEVEL F (CONTINUED)

OPERATIONAL TYPE	SCREEN CLASS	PACKAGE TYPE	COMPLEXITY (GATES)	T _j (°C)	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
							20% C.L.	POINT ESTIMATE	80% C.L.
TTL (cont'd)	N	HFPK	26-50	101-125	0.153	0	-	-	-
	N/R	HDIP	1-10	76-100	1.028	0	-	-	1.6
	N/R	HDIP	11-25	76-100	0.449	0	-	-	-
	N/R	HDIP	26-50	76-100	0.150	0	-	-	-
	N/R	HDIP	51-75	76-100	0.009	0	-	-	-

TABLE 14: SUMMARIZED GENERIC FAILURE RATES
 RELIABILITY DEMONSTRATION AND EQUIPMENT CHECKOUT DATA
 MIL-STD-781B, LEVEL H

OPERATIONAL TYPE	SCREEN CLASS	PACKAGE TYPE	COMPLEXITY (GATES)	Tj (°C)	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
							20% C.L.	POINT ESTIMATE	80% C.L.
DTL	C-1	HFPK	1-10	51-75	0.007	0	-	-	-
	C-1	HFPK	1-10	76-100	0.009	0	-	-	-
HTTL	C-1	HFPK	1-10	101-125	0.002	0	-	-	-
	B-1	HFPK	1-10	51-75	0.079	0	-	-	-
	C-1	HFPK	1-10	51-75	0.004	0	-	-	-
	C-1	HFPK	1-10	76-100	0.122	0	-	-	-
STTL TTL	C-1	HFPK	11-25	76-100	0.008	0	-	-	-
	B-1	HFPK	1-10	51-75	2.012	0	-	-	0.80
	B-1	HFPK	1-10	51-75	0.277	0	-	-	-
	B-1	HFPK	26-50	76-100	0.173	0	-	-	-
	C-1	HDIP	11-25	76-100	0.004	0	-	-	-
	C-1	HFPK	1-10	51-75	0.053	0	-	-	-
	C-1	HFPK	1-10	76-100	0.264	0	-	-	-
	C-1	HFPK	11-25	101-125	0.046	0	-	-	-
	C-1	HFPK	26-50	101-125	0.010	0	-	-	-
	C-1	HFPK	26-50	126-150	0.036	0	-	-	-
	C-1	HFPK	51-75	101-125	0.077	0	-	-	-
	C-1	HFPK	51-75	126-150	0.038	0	-	-	-

TABLE 15: GENERIC FAILURE RATES
RELIABILITY DEMONSTRATION AND EQUIPMENT CHECKOUT DATA
TCVPC

OPERATIONAL TYPE	SCREEN CLASS	PACKAGE TYPE	COMPLEXITY (GATES)	Tj (°C)	PART HOURS (10 ⁶) QTY. FAILURES	STRESS LEVELS	FAILURE RATES (F/10 ⁶ HOURS)		
							20% C.L.	POINT ESTIMATE	80% C.L.
DTL	B-1	CAN	1-10	51-75	0.003/0	4°C/51°C 24CYC 95%	-	-	-
HTTL	B-1	HDIP	1-10	51-75	0.003/0	4°C/51°C 24 CYC 95%	-	-	-
	B-1	HDIP	11-25	51-75	0.001/0	4°C/51°C 24CYC 95%	-	-	-
L TTL	B-1	HDIP	11-25	51-75	0.028/0	4°C/51°C 24CYC 95%	-	-	-
	B-1	HDIP	26-50	51-75	0.088/0	4°C/51°C 24CYC 95%	-	-	-
	B-1	HDIP	26-50	76-100	0.030/0	4°C/51°C 24CYC 95%	-	-	-
	B-1	HDIP	51-75	76-100	0.043/0	4°C/51°C 24CYC 95%	-	-	-
STTL	B-1	HDIP	1-10	51-75	0.071/0	4°C/51°C 24CYC 95%	-	-	-
	B-1	HDIP	11-25	51-75	0.033/0	4°C/51°C 24CYC 95%	-	-	-
	B-1	HDIP	51-75	76-100	0.010/0	4°C/51°C 24CYC 95%	-	-	-
TTL	B-1	HDIP	1-10	51-75	0.136/0	4°C/51°C 24CYC 95%	-	-	-
	B-1	HDIP	11-25	51-75	0.082/0	4°C/51°C 24CYC 95%	-	-	-
	B-1	HDIP	26-50	76-100	0.035/0	4°C/51°C 24CYC 95%	-	-	-
	B-1	HDIP	51-75	76-100	0.012/0	4°C/51°C 24CYC 95%	-	-	-

SUMMARIZED GENERIC FAILURE RATES - LIFE TEST DATA

Whereas the previous subsections have dealt exclusively with in-house, equipment-level testing (Tables 8 through 15) and observed field failure rate experience (Tables 1-8) as a comparative base for digital SSI/MSI microcircuits, the following subsection is designed to present insight into those factors influencing device lot reliability through part level life (including accelerated life) testing. Evaluation of this information will facilitate the understanding of temperature and bias effects on long-term microcircuit reliability.

The data summarized herein have been obtained from the detailed computer listings of Section 3 of this publication. This detailed listing represents collective material from numerous microcircuit vendors and users. Definitions for the conventions and abbreviations found in these tables may be reviewed by consulting the section entitled "Definitions of Terms, Statistical Methods and Abbreviations Used in the Data Analysis," found on page 7.

Table 16, "Summarized Generic Failure Rates (By Test Type) - Life Test Data," partitions life test types into four distinct classifications: Dynamic, Reverse Bias, Static Forward Bias and Storage. Each of the device fallout rates are represented as a function of operational type and gate complexity in an effort to better facilitate comparisons between logic types and their performance under each set of life test parameters. As an example, CMOS devices are found to be particularly susceptible to the thermal and voltage stresses of elevated Reverse Bias testing, while ECL microcircuits appear to be generally immune to Dynamic Life Tests and more responsive to Static Forward Bias Tests than other bipolar device categories. Bipolar microcircuits in these data appear to have had failures activated more frequently under Reverse Bias conditions than under the other conditions listed. A much more thorough discussion of part-level

life and screening tests is available from the document entitled "Micro-circuit Screening Effectiveness," RAC No. TRS-1, by H.C. Rickers. Details regarding this publication may be obtained by contacting the Reliability Analysis Center directly.

Table 17 groups summarized life test data by screen class level and is presented such that it may illustrate the distribution of microcircuit package types and their associated failure rates for each of the four previously defined life tests types at various stress levels within each quality grade. This table is more effectively used to examine the package susceptibility for a specific test type or over a specific operating temperature range. Comparisons may also be made between integrated circuit performance within a given screen class type and the performance of that same class of device, under similar stress levels, at a higher or lower screen class. Analysis of data within Table 17 indicates that, independent of the screen class, package type, or life test characteristics, device fallout rates increase dramatically at test temperatures in excess of 150°C.

Tables 18 through 21, which serve as the foundation for the summarization of the two tables just discussed, provide the complete generic test results for each of the four major test categories: Dynamic (Table 18), Reverse Bias (Table 19), Static Forward Bias (Table 20) and Storage (Table 21). The listed line entries of each table are sorted according to operational type, screen class level, package type, complexity and operating test conditions. Within each test category, these tables will supply the reader with optimum visibility into the interdependencies between each operational logic type failure rate, and its physical construction characteristics, with the appropriate life test parameters as guide.

TABLE 16: SUMMARIZED GENERIC FAILURE RATES (BY TEST TYPE)
LIFE TEST DATA

TEST TYPE	OPERATIONAL TYPE	COMPLEXITY (GATES)	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
					20% C.L.	POINT ESTIMATE	80% C.L.
DYNAMIC	COMBINED CMOS	COMBINED	286.730	401	1.3	1.4	1.5
		COMBINED	7.698	128	15.	17.	18.
		1-10	6.605	111	15.	17.	18.
	PMOS	26-50	0.960	17	14.	18.	22.
		51-75	0.133	0	-	-	-
		COMBINED	0.945	2	0.87	2.1	4.5
	DTL	1-10	0.281	2	2.9	7.1	15.
		11-25	0.664	0	-	-	2.4
		COMBINED	90.447	99	1.0	1.1	1.2
	ECL	1-10	87.784	52	0.52	0.59	0.67
		11-25	1.917	46	21.	24.	27.
		26-50	0.747	1	0.30	1.3	4.0
	HTTL	COMBINED	68.843	17	0.20	0.25	0.31
		1-10	68.345	3	0.022	0.044	0.081
		11-25	0.452	14	24.	31.	40.
	L TTL	COMBINED	4.053	0	-	-	-
		1-10	3.443	3	0.38	0.74	1.4
		11-25	0.610	0	0.45	0.87	1.6
	STTL	COMBINED	1.658	30	-	-	2.6
		1-10	0.896	10	15.	18.	21.
		11-25	0.658	14	8.1	11.	15.
	LSTTL	COMBINED	0.104	6	16.	21.	28.
		1-10	2.786	5	-	-	-
		11-25	2.402	4	1.1	1.8	2.8
	TTL	COMBINED	3.400	6	0.96	1.7	2.9
		1-10	3.318	6	0.58	2.6	7.8
		51-75	0.082	0	1.1	1.8	2.7
	COMBINED	COMBINED	106.901	111	1.2	1.8	2.7
		1-10	81.699	70	-	-	-
		11-25	19.931	35	0.95	1.0	1.1
						0.77	0.95
						1.5	2.1

TABLE 16: SUMMARIZED GENERIC FAILURE RATES (BY TEST TYPE)
LIFE TEST DATA (CONTINUED)

TEST TYPE	OPERATIONAL TYPE	COMPLEXITY (GATES)	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
					20% C.L.	POINT ESTIMATE	80% C.L.
DYNAMIC (cont'd) REVERSE BIAS	TTL (cont'd)	26-50	4.718	5	0.65	1.1	1.7
	COMBINED	51-75	0.553	1	0.40	1.8	5.4
		COMBINED	72.499	862	12.	12.	12.
	CMOS	COMBINED	11.396	508	43.	45.	46.
		1-10	9.188	502	53.	55.	57.
	PMOS	11-25	0.418	4	5.5	9.6	16.
		26-50	1.170	1	0.19	0.85	2.6
	DTL	51-75	0.335	1	0.67	3.0	8.9
		76-99	0.285	0	-	-	-
	ECL	COMBINED	2.411	1	0.093	0.41	1.2
		1-10	2.245	1	0.099	0.45	1.3
	HTTL	11-25	0.165	0	-	-	-
		COMBINED	10.016	45	3.9	4.5	5.2
	LSTTL	1-10	7.957	40	4.4	5.0	5.8
		11-25	0.459	1	0.49	2.2	6.5
	STTL	26-50	1.600	4	1.4	2.5	4.2
		COMBINED	6.302	14	1.7	2.2	2.9
	LSTTL	1-10	5.936	12	1.5	2.0	2.7
		11-25	0.366	2	2.3	5.5	12.
	HTTL	COMBINED	0.612	1	0.36	1.6	4.9
		1-10	0.510	0	-	-	3.2
LSTTL	11-25	0.102	1	-	-	-	
	COMBINED	4.703	15	2.5	3.2	4.1	
STTL	1-10	3.420	15	3.4	4.4	5.6	
	11-25	0.576	0	-	-	2.8	
LSTTL	26-50	0.575	0	-	-	2.8	
	51-75	0.132	0	-	-	-	
STTL	COMBINED	1.534	31	17.	20.	24.	
	1-10	1.097	19	14.	17.	22.	
LSTTL	11-25	0.457	12	20.	26.	35.	
	COMBINED	2.372	9	2.7	3.8	5.3	
LSTTL	1-10	2.261	6	1.7	2.7	4.0	
	11-25	0.111	3	-	-	-	

TABLE 16: SUMMARIZED GENERIC FAILURE RATES (BY TEST TYPE)
LIFE TEST DATA (CONTINUED)

TEST TYPE	OPERATIONAL TYPE	COMPLEXITY (GATES)	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
					20% C.L.	POINT ESTIMATE	80% C.L.
REVERSE BIAS (cont'd)	TTL	COMBINED	33.064	229	6.5	6.9	7.3
		1-10	18.841	211	11.	11.	12.
		11-25	8.575	11	0.95	1.3	1.7
		26-50	3.482	5	0.89	1.4	2.3
		51-75	2.167	2	0.38	0.92	2.0
		COMBINED	56.404	155	2.6	2.7	2.9
		COMBINED	1.014	1	0.22	0.99	3.0
		1-10	1.014	1	0.22	0.99	3.0
		COMBINED	0.158	0	-	-	-
		26-50	0.158	0	-	-	-
STATIC FORWARD BIAS	COMBINED	COMBINED	0.231	0	-	-	-
		1-10	0.231	0	-	-	-
		COMBINED	10.320	132	12.	13.	14.
		1-10	6.770	103	14.	15.	17.
		11-25	3.460	29	7.1	8.4	10.
		51-75	0.090	0	-	-	-
		COMBINED	1.171	0	-	-	-
		1-10	0.800	0	-	-	-
		11-25	0.371	0	-	-	-
		COMBINED	0.130	2	6.4	15.	33.
STTL	COMBINED	1-10	0.054	2	-	-	-
		26-50	0.076	0	-	-	-
		COMBINED	35.380	0	-	-	-
		1-10	35.380	0	-	-	-
		COMBINED	0.061	0	-	-	-
		1-10	0.061	0	-	-	-
		COMBINED	7.940	20	2.0	2.5	3.1
		1-10	5.985	14	1.8	2.3	3.0
		11-25	0.936	1	0.24	1.1	3.2
		26-50	0.615	3	2.5	4.9	9.0
STTL	COMBINED	1-10	0.405	2	2.0	11.	
		COMBINED	73.443	100	1.2	1.4	
STTL	COMBINED	1-10	0.045	0	-	-	
		COMBINED	0.045	0	-	-	
		1-10	0.045	0	-	-	
		COMBINED	0.045	0	-	-	
		1-10	0.045	0	-	-	
		COMBINED	0.045	0	-	-	
		1-10	0.045	0	-	-	
		COMBINED	0.045	0	-	-	
		1-10	0.045	0	-	-	
		COMBINED	0.045	0	-	-	
LSTTL	COMBINED	1-10	0.045	0	-	-	
		COMBINED	0.045	0	-	-	
		1-10	0.045	0	-	-	
		COMBINED	0.045	0	-	-	
		1-10	0.045	0	-	-	
		COMBINED	0.045	0	-	-	
		1-10	0.045	0	-	-	
		COMBINED	0.045	0	-	-	
		1-10	0.045	0	-	-	
		COMBINED	0.045	0	-	-	
TTL	COMBINED	1-10	0.045	0	-	-	
		COMBINED	0.045	0	-	-	
		1-10	0.045	0	-	-	
		COMBINED	0.045	0	-	-	
		1-10	0.045	0	-	-	
		COMBINED	0.045	0	-	-	
		1-10	0.045	0	-	-	
		COMBINED	0.045	0	-	-	
		1-10	0.045	0	-	-	
		COMBINED	0.045	0	-	-	
HTTL	COMBINED	1-10	0.045	0	-	-	
		COMBINED	0.045	0	-	-	
		1-10	0.045	0	-	-	
		COMBINED	0.045	0	-	-	
		1-10	0.045	0	-	-	
		COMBINED	0.045	0	-	-	
		1-10	0.045	0	-	-	
		COMBINED	0.045	0	-	-	
		1-10	0.045	0	-	-	
		COMBINED	0.045	0	-	-	
LTL	COMBINED	1-10	0.045	0	-	-	
		COMBINED	0.045	0	-	-	
		1-10	0.045	0	-	-	
		COMBINED	0.045	0	-	-	
		1-10	0.045	0	-	-	
		COMBINED	0.045	0	-	-	
		1-10	0.045	0	-	-	
		COMBINED	0.045	0	-	-	
		1-10	0.045	0	-	-	
		COMBINED	0.045	0	-	-	
ECL	COMBINED	1-10	0.045	0	-	-	
		COMBINED	0.045	0	-	-	
		1-10	0.045	0	-	-	
		COMBINED	0.045	0	-	-	
		1-10	0.045	0	-	-	
		COMBINED	0.045	0	-	-	
		1-10	0.045	0	-	-	
		COMBINED	0.045	0	-	-	
		1-10	0.045	0	-	-	
		COMBINED	0.045	0	-	-	
PMOS	COMBINED	1-10	0.045	0	-	-	
		COMBINED	0.045	0	-	-	
		1-10	0.045	0	-	-	
		COMBINED	0.045	0	-	-	
		1-10	0.045	0	-	-	
		COMBINED	0.045	0	-	-	
		1-10	0.045	0	-	-	
		COMBINED	0.045	0	-	-	
		1-10	0.045	0	-	-	
		COMBINED	0.045	0	-	-	
DTL	COMBINED	1-10	0.045	0	-	-	
		COMBINED	0.045	0	-	-	
		1-10	0.045	0	-	-	
		COMBINED	0.045	0	-	-	
		1-10	0.045	0	-	-	
		COMBINED	0.045	0	-	-	
		1-10	0.045	0	-	-	
		COMBINED	0.045	0	-	-	
		1-10	0.045	0	-	-	
		COMBINED	0.045	0	-	-	
STORAGE	COMBINED	1-10	0.045	0	-	-	
		COMBINED	0.045	0	-	-	
		1-10	0.045	0	-	-	
		COMBINED	0.045	0	-	-	
		1-10	0.045	0	-	-	
		COMBINED	0.045	0	-	-	
		1-10	0.045	0	-	-	
		COMBINED	0.045	0	-	-	
		1-10	0.045	0	-	-	
		COMBINED	0.045	0	-	-	

TABLE 16: SUMMARIZED GENERIC FAILURE RATES (BY TEST TYPE)
LIFE TEST DATA (CONTINUED)

TEST TYPE	OPERATIONAL TYPE	COMPLEXITY (GATES)	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
					20% C.L.	POINT ESTIMATE	80% C.L.
STORAGE (cont'd)	CMOS	COMBINED	0.639	7	7.4	11.	16.
		1-10	0.474	7	10.	15.	22.
DTL	DTL	11-25	0.110	0	-	-	-
		26-50	0.055	0	-	-	-
		COMBINED	18.094	12	0.50	0.66	0.88
		1-10	17.973	12	0.50	0.67	0.88
ECL	ECL	11-25	0.036	0	-	-	-
		26-50	0.085	0	-	-	-
		COMBINED	3.884	7	1.2	1.8	2.6
		1-10	3.140	5	0.98	1.6	2.5
HTTL	HTTL	11-25	0.604	1	0.37	1.7	5.0
		26-50	0.092	0	-	-	-
		51-75	0.049	1	-	-	-
		COMBINED	3.029	8	1.8	2.6	3.8
LTTL	LTTL	1-10	2.519	5	1.2	2.0	3.1
		11-25	0.510	3	3.0	5.9	11.
		COMBINED	3.970	1	0.056	0.25	0.75
		1-10	3.228	1	0.069	0.31	0.93
STTL	STTL	11-25	0.413	0	-	-	-
		26-50	0.186	0	-	-	-
		51-75	0.143	0	-	-	-
		COMBINED	1.215	12	7.4	9.9	13.
LSTTL	LSTTL	1-10	0.932	6	4.2	6.4	9.7
		11-25	0.284	6	14.	21.	32.
		COMBINED	3.571	4	0.64	1.1	1.9
		1-10	3.313	3	0.46	0.91	1.7
TTL	TTL	11-25	0.212	1	-	-	-
		51-75	0.046	0	-	-	-
		COMBINED	39.039	49	1.1	1.3	1.4
		1-10	26.450	33	1.1	1.2	1.5
TTL	TTL	11-25	8.340	15	1.4	1.8	2.3
		26-50	2.482	0	-	-	0.65
		51-75	1.767	1	0.13	0.57	1.7

TABLE 17: SUMMARIZED GENERIC FAILURE RATES (BY SCREEN CLASS)
LIFE TEST DATA

SCREEN CLASS	PACKAGE TYPE	T _j (°C)	TEST TYPE	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
						20% C.L.	POINT ESTIMATE	80% C.L.
A-1	COMBINED HDIP	COMBINED	COMBINED	0.191	0	-	-	-
		COMBINED	COMBINED	0.133	0	-	-	-
	HFPK	101-125	DYNAMIC	0.133	0	-	-	-
		COMBINED	COMBINED	0.058	0	-	-	-
		COMBINED	REV BIAS	0.058	0	-	-	-
A-2	COMBINED HFPK	COMBINED	COMBINED	1.121	0	-	-	1.4
		COMBINED	COMBINED	1.121	0	-	-	1.4
	HFPK	101-125	DYNAMIC	0.040	0	-	-	-
		126-150	DYNAMIC	0.151	0	-	-	-
		126-150	STORAGE	0.930	0	-	-	1.7
B-1	COMBINED HDIP	COMBINED	COMBINED	26.601	201	7.1	7.6	8.0
		COMBINED	COMBINED	14.007	95	6.2	6.8	7.4
	HFPK	101-125	REV BIAS	0.129	1	-	-	-
		126-150	DYNAMIC	6.515	31	4.0	4.8	5.6
		126-150	STAT.FORM.BIAS	2.110	4	1.1	1.9	3.2
		126-150	STORAGE	4.562	8	1.2	1.8	2.5
		151-175	DYNAMIC	0.360	3	4.3	8.3	15.
		151-175	STAT.FORM.BIAS	0.223	2	3.7	9.0	19.
		201-225	REV BIAS	0.109	46	-	-	-
		COMBINED	COMBINED	12.594	106	7.7	8.4	9.2
B-2	COMBINED HDIP	126-150	DYNAMIC	7.405	80	9.8	11.	12.
		126-150	STAT.FORM.BIAS	0.619	1	0.36	1.6	4.8
	HFPK	126-150	STORAGE	3.369	2	0.24	0.59	1.3
		151-175	DYNAMIC	0.794	0	-	-	2.0
	HFPK	201-225	REV BIAS	0.276	2	3.0	7.2	16.
		276-300	REV BIAS	0.131	21	130.	160.	197.
	HFPK	COMBINED	COMBINED	3.763	3	0.41	0.80	1.5
		COMBINED	COMBINED	1.715	2	0.48	1.2	2.5
		126-150	DYNAMIC	0.951	2	0.87	2.1	4.5
		126-150	STORAGE	0.764	2	-	-	2.1
HFPK	COMBINED	COMBINED	1.793	2	0.12	0.56	1.7	
	101-125	DYNAMIC	0.087	2	-	-	-	

TABLE 17: SUMMARIZED GENERIC FAILURE RATES (BY SCREEN CLASS)
LIFE TEST DATA (CONTINUED)

SCREEN CLASS	PACKAGE TYPE	T _j (°C)	TEST TYPE	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
						20% C.L.	POINT ESTIMATE	80% C.L.
B-2 (cont'd)	HFPAK (cont'd)	126-150	DYNAMIC	0.522	0	-	-	3.1
		126-150	STORAGE	1.054	1	0.21	0.95	2.8
		151-175	DYNAMIC	0.132	0	-	-	-
		COMBINED	COMBINED	0.255	0	-	-	-
		126-150	DYNAMIC	0.154	0	-	-	-
		126-150	STORAGE	0.101	0	-	-	-
		COMBINED	COMBINED	24.385	565	22.	23.	24.
		COMBINED	COMBINED	15.254	542	34.	36.	37.
		101-125	DYNAMIC	0.604	91	137.	151.	166.
		101-125	REV BIAS	0.521	0	-	-	3.1
C-1	COMBINED HDIP	126-150	DYNAMIC	8.026	7	0.59	0.87	1.3
		126-150	STAT. FORM. BIAS	0.181	1	-	-	-
		126-150	STORAGE	4.970	4	0.46	0.80	1.4
		151-175	STAT. FORM. BIAS	0.443	0	-	-	-
		176-200	REV BIAS	0.117	141	-	-	-
		201-225	REV BIAS	0.230	160	649.	695.	745.
		201-225	STORAGE	0.122	7	-	-	-
		226-250	REV BIAS	0.040	131	-	-	-
		COMBINED	COMBINED	9.131	23	2.1	2.5	3.1
		101-125	DYNAMIC	1.409	2	0.59	1.4	3.0
C-2	COMBINED HDIP	126-150	DYNAMIC	3.218	3	0.48	0.93	1.7
		126-150	STORAGE	2.348	1	0.095	0.43	1.3
		176-200	REV BIAS	0.687	3	2.2	4.4	8.0
		201-225	REV BIAS	0.830	2	0.99	2.4	5.2
		226-250	REV BIAS	0.380	12	24.	32.	42.
		251-275	REV BIAS	0.170	0	-	-	-
		276-300	STORAGE	0.090	0	-	-	-
		COMBINED	COMBINED	2.151	11	3.8	5.1	6.9
		COMBINED	COMBINED	1.759	9	3.7	5.1	7.1
		126-150	DYNAMIC	1.277	9	5.0	7.0	9.8
126-150	STORAGE	0.482	0	-	-	-		
COMBINED	COMBINED	0.392	2	2.1	5.1	11.		

TABLE 17: SUMMARIZED GENERIC FAILURE RATES (BY SCREEN CLASS)
LIFE TEST DATA (CONTINUED)

SCREEN CLASS	PACKAGE TYPE	T _j (°C)	TEST TYPE	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
						20% C.L.	POINT ESTIMATE	80% C.L.
C-1 (cont'd)	HFPK (cont'd)	126-150	DYNAMIC	0.149	2	5.5	13.	29.
		126-150	STORAGE	0.166	0	-	-	-
N	COMBINED HDIP	176-200	DYNAMIC	0.077	0	-	-	-
		COMBINED	COMBINED	421.178	731	1.7	1.7	1.8
		COMBINED	COMBINED	104.799	334	3.0	3.2	3.3
		26-50	REV BIAS	4.950	17	2.7	3.4	4.3
		51-75	REV BIAS	1.292	2	0.64	1.5	3.3
		76-100	DYNAMIC	2.594	4	0.89	1.5	2.6
		76-100	REV BIAS	0.838	3	1.8	3.6	6.6
		76-100	STAT. FORM. BIAS	3.679	4	0.62	1.1	1.8
		101-125	DYNAMIC	4.800	47	8.6	9.8	11.
		101-125	REV BIAS	24.793	41	1.4	1.7	1.9
		101-125	STAT. FORM. BIAS	6.465	6	0.60	0.93	1.4
		101-125	STORAGE	0.419	0	-	-	-
		126-150	DYNAMIC	29.416	16	0.43	0.54	0.69
		126-150	REV BIAS	0.508	3	3.0	5.9	11.
		126-150	STAT. FORM. BIAS	0.555	0	-	-	2.9
		126-150	STORAGE	16.926	17	0.80	1.0	1.3
		151-175	DYNAMIC	2.557	0	-	-	0.63
151-175	STAT. FORM. BIAS	0.920	1	0.24	1.1	3.3		
151-175	STORAGE	0.117	0	-	-	-		
176-200	REV BIAS	0.723	5	4.3	6.9	11.		
176-200	STAT. FORM. BIAS	0.350	26	62.	74.	89.		
176-200	STORAGE	0.177	0	-	-	-		
201-225	DYNAMIC	0.077	0	-	-	-		
201-225	REV BIAS	0.154	4	15.	25.	24.		
201-225	STAT. FORM. BIAS	0.104	14	-	-	-		
226-250	DYNAMIC	0.072	1	-	-	-		
226-250	REV BIAS	0.252	13	39.	52.	68.		
226-250	STAT. FORM. BIAS	0.265	60	202.	226.	255.		
226-250	STORAGE	0.821	7	5.8	8.5	12.		
251-275	DYNAMIC	0.072	0	-	-	-		

TABLE 17: SUMMARIZED GENERIC FAILURE RATES (BY SCREEN CLASS)
LIFE TEST DATA (CONTINUED)

SCREEN CLASS	PACKAGE TYPE	T _J (°C)	TEST TYPE	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
						20% C.L.	POINT ESTIMATE	80% C.L.
N (cont'd)	HDIP (cont'd)	251-275	REV BIAS	0.180	13	55.	72.	95.
		251-275	STAT.FORM.BIAS	0.061	24	-	-	-
PDIP	PDIP	276-300	STORAGE	0.663	6	5.9	9.0	14.
		COMBINED	281.840	339	1.1	1.2	1.3	
		26-50	DYNAMIC	137.223	0	-	-	0.012
		26-50	REV BIAS	8.525	152	17.	18.	19.
		51-75	REV BIAS	0.656	8	8.5	12.	17.
		76-100	DYNAMIC	0.080	0	-	-	-
		76-100	REV BIAS	1.153	4	2.0	3.5	5.8
		76-100	STAT.FORM.BIAS	0.174	0	-	-	-
		101-125	DYNAMIC	10.456	47	3.9	4.5	5.1
		101-125	REV BIAS	7.616	32	3.6	4.2	5.0
		101-125	STAT.FORM.BIAS	1.573	1	0.14	0.64	1.9
		126-150	DYNAMIC	53.749	43	0.70	0.80	0.92
		126-150	STAT.FORM.BIAS	1.724	9	3.7	5.2	7.3
		126-150	STORAGE	23.576	43	1.6	1.8	2.1
		151-175	DYNAMIC	0.030	0	-	-	-
		151-175	STAT.FORM.BIAS	35.305	0	-	-	0.046
HFPK	HFPK	COMBINED	COMBINED	32.508	58	1.6	1.8	2.0
		26-50	DYNAMIC	0.740	0	-	-	2.2
		26-50	REV BIAS	1.150	36	27.	31.	37.
		51-75	REV BIAS	0.015	0	-	-	-
		76-100	DYNAMIC	0.046	1	-	-	-
		101-125	DYNAMIC	0.961	1	0.23	1.0	3.1
		101-125	REV BIAS	14.579	10	0.50	0.69	0.94
		101-125	STAT.FORM.BIAS	1.106	1	0.20	0.90	2.7
		101-125	STORAGE	0.208	0	-	-	-
		126-150	DYNAMIC	2.929	5	1.1	1.7	2.7
		126-150	REV BIAS	0.315	0	-	-	-
		126-150	STAT.FORM.BIAS	0.485	1	0.46	2.1	6.2
		126-150	STORAGE	9.233	2	0.089	0.22	0.46
		151-175	DYNAMIC	0.566	1	0.39	1.8	5.3

TABLE 17: SUMMARIZED GENERIC FAILURE RATES (BY SCREEN CLASS)
LIFE TEST DATA (CONTINUED)

SCREEN CLASS	PACKAGE TYPE	T _j (°C)	TEST TYPE	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
						20% C.L.	POINT ESTIMATE	80% C.L.
M (cont'd)	HFPK (cont'd)	151-175	STORAGE	0.015	0	-	-	-
		201-225	DYNAMIC	0.064	0	-	-	-
	CAN	201-225	STAT.FORM.BIAS	0.064	0	-	-	-
		276-300	STORAGE	0.032	0	-	-	-
	COMBINED	76-100	COMBINED	2.031	0	-	-	0.79
			DYNAMIC	0.196	0	-	-	-
	COMBINED	101-125	DYNAMIC	0.046	0	-	-	-
			REV BIAS	1.123	0	-	-	1.4
	COMBINED	126-150	STORAGE	0.666	0	-	-	2.4
			COMBINED	9.686	7	0.49	0.72	1.1
	COMBINED	101-125	COMBINED	9.207	7	0.51	0.76	1.1
			DYNAMIC	7.660	5	0.40	0.65	1.0
	COMBINED	126-150	STORAGE	1.547	2	0.53	1.3	2.8
			COMBINED	0.228	0	-	-	-
COMBINED	101-125	DYNAMIC	0.221	0	-	-	-	
		STORAGE	0.007	0	-	-	-	
COMBINED	101-125	COMBINED	0.251	0	-	-	-	
		DYNAMIC	0.174	0	-	-	-	
COMBINED	126-150	STORAGE	0.077	0	-	-	-	
		STORAGE						

X

TABLE 18: GENERIC FAILURE RATES
DYNAMIC LIFE TESTS

OPERATIONAL TYPE	SCREEN CLASS	PACKAGE TYPE	COMPLEXITY (GATES)	Tj (°C)	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
							20% C.L.	POINT ESTIMATE	80% C.L.
CMOS	A-1	HDIP	51-75	101-125	0.133	0	-	-	-
	C-1	HDIP	1-10	101-125	0.604	91	137.	151.	166.
	N	HDIP	1-10	101-125	1.480	1	0.15	0.68	2.0
	N	HDIP	1-10	126-150	0.678	0	-	-	2.4
	N	HDIP	26-50	101-125	0.710	15	16.	21.	27.
	N	PDIP	1-10	101-125	3.747	19	4.1	5.1	6.3
	N	PDIP	26-50	101-125	0.249	2	3.3	8.0	17.
	X	HDIP	1-10	101-125	0.096	0	-	-	-
	N	HDIP	1-10	126-150	0.281	2	2.9	7.1	15.
	N	HDIP	11-25	126-150	0.468	0	-	-	-
PMOS	N	CAN	11-25	76-100	0.196	0	-	-	-
	A-2	HFPK	1-10	126-150	0.038	0	-	-	-
	B-1	HFPK	1-10	126-150	2.289	25	9.1	11.	13.
	B-1	HFPK	11-25	126-150	0.409	44	94.	108.	124.
	B-1	HFPK	26-50	126-150	0.038	0	-	-	-
	B-2	HDIP	1-10	126-150	0.158	0	-	-	-
	B-2	HDIP	11-25	126-150	0.105	1	-	-	-
	B-2	HDIP	26-50	126-150	0.055	0	-	-	-
	B-2	HFPK	1-10	101-125	0.040	0	-	-	-
	B-2	HFPK	1-10	126-150	0.023	0	-	-	-
DTL	B-2	CAN	1-10	126-150	0.143	0	-	-	-
	B-2	CAN	11-25	126-150	0.011	0	-	-	-
	C-1	HDIP	1-10	126-150	4.648	4	0.49	0.86	1.5
	C-1	HDIP	11-25	126-150	0.794	1	0.28	1.3	3.8
	C-1	HDIP	26-50	126-150	0.315	0	-	-	-
	C-1	HFPK	1-10	126-150	2.204	2	0.37	0.91	1.9
	C-1	HFPK	11-25	126-150	0.316	0	-	-	-
	C-2	HDIP	1-10	126-150	0.591	4	3.9	6.8	11.
	C-2	HDIP	26-50	126-150	0.105	0	-	-	-
	C-2	HFPK	1-10	126-150	0.063	0	-	-	-
N	HDIP	1-10	126-150	13.395	6	0.29	0.45	0.68	
N	HDIP	11-25	126-150	0.100	0	-	-	-	
N	HDIP	26-50	126-150	0.234	0	-	-	-	

TABLE 18: GENERIC FAILURE RATES (CONTINUED)
DYNAMIC LIFE TESTS

OPERATIONAL TYPE	SCREEN CLASS	PACKAGE TYPE	COMPLEXITY (GATES)	T _j (°C)	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
							20% C.L.	POINT ESTIMATE	80% C.L.
DTL (cont'd)	N	HDIP	1-10	26-50	50.504	0	-	-	0.031
	N	PDIP	1-10	126-150	12.082	7	0.39	0.58	0.85
	N	PDIP	11-25	126-150	0.105	0	-	-	-
	N	HFPK	1-10	101-125	0.651	0	-	-	2.5
	N	HFPK	1-10	126-150	0.909	4	2.5	4.4	7.4
	N	HFPK	11-25	126-150	0.077	0	-	-	-
	N	CAN	1-10	101-125	0.046	0	-	-	-
	N	HDIP	1-10	101-125	0.141	1	-	-	-
	N	HDIP	1-10	126-150	0.198	2	4.2	10.	22.
	N	HDIP	11-25	101-125	0.452	14	4.	31.	40.
	N	HDIP	26-50	101-125	0.046	0	-	-	-
HTTL	N	PDIP	1-10	26-50	68.006	0	-	-	0.024
	B-1	HDIP	1-10	126-150	0.528	1	0.42	1.9	5.7
	B-1	HFPK	1-10	126-150	0.397	0	-	-	-
	B-2	HFPK	1-10	126-150	0.055	0	-	-	-
	C-1	HDIP	1-10	126-150	0.182	0	-	-	-
	C-2	HDIP	1-10	126-150	0.239	0	-	-	-
	N	HDIP	1-10	101-125	0.045	0	-	-	-
	N	HDIP	1-10	126-150	0.820	2	1.0	2.4	5.2
	N	HDIP	11-25	126-150	0.105	0	-	-	-
	X	HDIP	1-10	101-125	1.177	0	-	-	-
	X	HDIP	11-25	101-125	0.505	0	-	-	-
L TTL	B-1	HDIP	1-10	126-150	0.305	6	13.	20.	30.
	B-1	HDIP	11-25	126-150	0.129	10	57.	78.	106.
	B-1	HFPK	1-10	126-150	0.189	0	-	-	-
	B-1	HFPK	11-25	126-150	0.077	1	-	-	-
	N	HDIP	1-10	101-125	0.402	4	5.7	10.	17.
	N	HDIP	11-25	101-125	0.232	3	6.6	13.	24.
	N	HDIP	26-50	101-125	0.058	5	-	-	-
	N	HFPK	11-25	126-150	0.220	0	-	-	-
	N	HFPK	26-50	76-100	0.046	1	-	-	-
	N	HDIP	1-10	101-125	0.115	0	-	-	-

TABLE 18: GENERIC FAILURE RATES
DYNAMIC LIFE TESTS (CONTINUED)

OPERATIONAL TYPE	SCREEN CLASS	PACKAGE TYPE	COMPLEXITY (GATES)	T _j (°C)	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
							20% C.L.	POINT ESTIMATE	80% C.L.
STTL (cont'd)	N	HDIP	1-10	126-150	0.025	0	-	-	-
	N	HDIP	1-10	76-100	0.080	0	-	-	-
	N	PDIP	1-10	101-125	0.715	1	0.31	1.4	4.2
	N	PDIP	1-10	126-150	0.345	1	0.65	2.9	8.7
	N	PDIP	11-25	101-125	0.284	1	0.79	3.5	11.
	N	PDIP	11-25	126-150	0.100	0	-	-	-
	X	HDIP	1-10	101-125	1.122	2	0.73	1.8	3.8
	N	HDIP	1-10	101-125	0.102	1	-	-	-
	N	HDIP	1-10	201-225	0.077	0	-	-	-
	N	HDIP	1-10	226-250	0.072	1	-	-	-
	N	HDIP	1-10	251-275	0.072	0	-	-	-
	LSTTL	N	PDIP	1-10	101-125	1.645	3	0.93	1.8
N		PDIP	1-10	126-150	0.385	1	0.58	2.6	7.8
N		PDIP	51-75	101-125	0.082	0	-	-	-
X		HDIP	1-10	101-125	0.965	0	-	-	1.7
A-2		HFPK	1-10	101-125	0.040	0	-	-	-
A-2		HFPK	1-10	126-150	0.084	0	-	-	-
A-2		HFPK	11-25	126-150	0.029	0	-	-	-
B-1		HDIP	1-10	126-150	3.462	10	2.1	2.9	3.9
B-1		HDIP	1-10	151-175	0.010	0	-	-	-
B-1		HDIP	11-25	126-150	1.868	4	1.2	2.1	3.6
B-1		HDIP	26-50	126-150	0.223	0	-	-	-
TTL		B-1	HDIP	26-50	151-175	0.350	3	4.4	8.6
	B-1	HFPK	1-10	126-150	3.475	9	1.9	2.6	3.6
	B-1	HFPK	1-10	151-175	0.397	0	-	-	-
	B-1	HFPK	11-25	126-150	0.532	1	0.42	1.9	5.6
	B-1	HFPK	11-25	151-175	0.397	0	-	-	-
	B-2	HDIP	1-10	126-150	0.504	1	0.44	2.0	5.9
	B-2	HDIP	11-25	126-150	0.129	1	-	-	-
	B-2	HFPK	1-10	126-150	0.378	0	-	-	-
	B-2	HFPK	11-25	101-125	0.045	0	-	-	-
	B-2	HFPK	11-25	126-150	0.055	0	-	-	-

TABLE 18: GENERIC FAILURE RATES
DYNAMIC LIFE TESTS (CONTINUED)

OPERATIONAL TYPE	SCREEN CLASS	PACKAGE TYPE	COMPLEXITY (GATES)	Tj (°C)	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
							20% C.L.	POINT ESTIMATE	80% C.L.
TTL (cont'd)	B-2	HFPK	11-25	151-175	0.132	0	-	-	-
	B-2	HFPK	51-75	126-150	0.110	0	-	-	-
	C-1	HDIP	1-10	126-150	1.300	0	-	-	1.2
	C-1	HDIP	11-25	126-150	0.682	2	1.2	2.9	6.3
	C-1	HFPK	26-50	126-150	0.105	0	-	-	-
	C-1	HFPK	1-10	101-125	1.409	2	0.59	1.4	3.0
	C-1	HFPK	1-10	126-150	0.698	1	0.32	1.4	4.3
	C-2	HFPK	1-10	126-150	0.290	3	5.3	10.	19.
	C-2	HDIP	11-25	126-150	0.052	2	-	-	-
	C-2	HFPK	1-10	126-150	0.086	2	-	-	-
	C-2	HFPK	51-75	176-200	0.077	0	-	-	-
	N	HDIP	1-10	76-100	2.594	4	0.89	1.5	2.6
	N	HDIP	1-10	101-125	0.635	2	1.3	3.2	6.7
	N	HDIP	1-10	126-150	12.671	3	0.12	0.24	0.44
	N	HDIP	11-25	101-125	0.136	0	-	-	-
	N	HDIP	11-25	126-150	0.336	0	-	-	-
	N	HDIP	26-50	101-125	0.246	1	-	-	-
	N	HDIP	26-50	126-150	0.105	0	-	-	-
	N	HDIP	26-50	151-175	2.505	0	-	-	0.65
	N	HDIP	51-75	151-175	0.052	0	-	-	-
	N	PDIP	1-10	26-50	18.713	0	-	-	0.086
	N	PDIP	1-10	101-125	2.663	15	4.4	5.6	7.2
	N	PDIP	1-10	126-150	27.764	17	0.49	0.61	0.77
	N	PDIP	1-10	151-175	0.030	0	-	-	-
	N	PDIP	11-25	101-125	0.664	5	4.6	7.5	12.
	N	PDIP	11-25	126-150	12.923	17	1.0	1.3	1.7
	N	PDIP	26-50	101-125	0.214	0	-	-	-
	N	PDIP	26-50	126-150	0.045	0	-	-	-
	N	PDIP	51-75	101-125	0.191	1	-	-	-
	N	HFPK	1-10	26-50	0.740	0	-	-	-
	N	HFPK	1-10	126-150	1.683	1	0.13	0.59	2.2
	N	HFPK	1-10	151-175	0.526	0	-	-	1.8
									3.1

TABLE 18: GENERIC FAILURE RATES
DYNAMIC LIFE TESTS (CONTINUED)

OPERATIONAL TYPE	SCREEN CLASS	PACKAGE TYPE	COMPLEXITY (GATES)	T _j (°C)	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
							20% C.L.	POINT ESTIMATE	80% C.L.
TTL (cont'd)	N	HFPK	1-10	201-225	0.064	0	-	-	-
	N	HFPK	11-25	101-125	0.310	1	0.72	3.2	9.7
	N	HFPK	11-25	126-150	0.040	0	-	-	-
	N	HFPK	11-25	151-175	0.040	1	-	-	-
	X	HDIP	1-10	101-125	1.263	0	-	-	1.3
	X	HDIP	11-25	101-125	1.559	2	0.53	1.3	2.7
	X	HDIP	26-50	101-125	0.751	1	0.30	1.3	4.0
	X	HDIP	51-75	101-125	0.222	0	-	-	-
	X	HFPK	1-10	101-125	0.221	0	-	-	-
	X	CAN	26-50	101-125	0.174	0	-	-	-

TABLE 19: GENERIC FAILURE RATES
REVERSE BIAS LIFE TESTS

OPERATIONAL TYPE	SCREEN CLASS	PACKAGE TYPE	COMPLEXITY (GATES)	T _j (°C)	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
							20% C.L.	POINT ESTIMATE	80% C.L.
CMOS	B-1	HDIP	1-10	201-225	0.109	46	-	-	-
	C-1	HDIP	1-10	176-200	0.117	141	-	-	-
	C-1	HDIP	1-10	201-225	0.231	160	649.	695.	745.
	C-1	HDIP	1-10	226-250	0.040	131	-	-	-
	N	HDIP	1-10	76-100	0.598	3	2.6	5.0	9.2
	N	HDIP	1-10	101-125	2.505	5	1.2	2.0	3.2
	N	HDIP	11-25	101-125	0.356	1	0.63	2.8	8.4
	N	HDIP	26-50	76-100	0.240	0	-	-	-
	N	HDIP	26-50	101-125	0.442	0	-	-	-
	N	HDIP	51-75	101-125	0.077	1	-	-	-
	N	HDIP	76-100	101-125	0.285	0	-	-	-
	N	PDIP	1-10	76-100	0.816	3	1.9	3.7	6.8
	N	PDIP	1-10	101-125	4.773	13	2.1	2.7	3.6
	N	PDIP	11-25	101-125	0.062	3	-	-	-
	PMOS	N	PDIP	26-50	76-100	0.337	1	0.66	3.0
N		PDIP	26-50	101-125	0.151	0	-	-	-
N		PDIP	51-75	101-125	0.258	0	-	-	-
N		HDIP	1-10	101-125	0.052	0	-	-	-
N		PDIP	1-10	101-125	0.060	1	-	-	-
N		PDIP	11-25	101-125	0.165	0	-	-	-
N		HFPK	1-10	101-125	1.159	0	-	-	-
N		CAN	1-10	101-125	0.974	0	-	-	1.4
N		HDIP	1-10	26-50	2.010	2	0.41	1.0	1.7
N		HDIP	1-10	101-125	2.804	5	1.1	1.8	2.1
DTL	N	HDIP	11-25	101-125	0.262	0	-	-	2.8
	N	HDIP	26-50	101-125	1.575	4	1.5	2.5	4.3
	N	PDIP	1-10	26-50	0.754	20	21.	27.	33.
	N	PDIP	1-10	51-75	0.100	2	-	-	-
	N	PDIP	1-10	101-125	0.069	11	-	-	-
	N	PDIP	26-50	51-75	0.025	0	-	-	-
	N	HFPK	1-10	101-125	2.071	0	-	-	-
	N	HFPK	11-25	101-125	0.197	1	-	-	0.78

TABLE 19: GENERIC FAILURE RATES
REVERSE BIAS LIFE TESTS (CONTINUED)

OPERATIONAL TYPE	SCREEN CLASS	PACKAGE TYPE	COMPLEXITY (GATES)	T _j (°C)	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
							20% C.L.	POINT ESTIMATE	80% C.L.
DTL (cont'd) ECL	N	CAN	1-10	101-125	0.149	0	-	-	-
	N	HDIP	1-10	51-75	1.242	2	0.66	1.6	3.4
	N	HDIP	1-10	101-125	1.645	7	2.9	4.3	6.2
	N	HDIP	1-10	176-200	0.450	2	1.8	4.4	9.5
	N	HDIP	11-25	101-125	0.366	2	2.3	5.5	12.
	N	HFPK	1-10	101-125	2.599	1	0.086	0.38	1.2
	N	HDIP	1-10	101-125	0.279	0	-	-	-
	N	PDIP	1-10	101-125	0.231	0	-	-	-
	N	PDIP	11-25	51-75	0.025	1	-	-	-
	N	PDIP	11-25	101-125	0.077	0	-	-	-
HTTL	N	HDIP	1-10	26-50	2.940	15	4.0	5.1	6.5
	N	HDIP	1-10	101-125	0.100	0	-	-	-
	N	HDIP	1-10	176-200	0.168	0	-	-	-
	N	HDIP	11-25	101-125	0.419	0	-	-	-
	N	HDIP	26-50	101-125	0.384	0	-	-	-
	N	HDIP	51-75	101-125	0.100	0	-	-	-
	N	PDIP	1-10	101-125	0.020	0	-	-	-
	N	HFPK	1-10	101-125	0.192	0	-	-	-
	N	HFPK	11-25	101-125	0.157	0	-	-	-
	N	HFPK	26-50	101-125	0.191	0	-	-	-
STTL	N	HFPK	51-75	101-125	0.032	0	-	-	-
	N	HDIP	1-10	101-125	0.950	2	0.87	2.1	4.5
	N	HDIP	1-10	201-225	0.039	3	-	-	-
	N	HDIP	1-10	226-250	0.072	6	-	-	-
	N	HDIP	1-10	251-275	0.036	8	-	-	-
	N	HDIP	11-25	101-125	0.244	0	-	-	-
	N	HDIP	11-25	176-200	0.105	3	-	-	-
	N	HDIP	11-25	226-250	0.072	6	-	-	-
	N	HDIP	11-25	251-275	0.036	3	-	-	-
	N	HDIP	1-10	101-125	1.532	2	0.54	1.3	2.8
LSSTL	N	HDIP	1-10	126-150	0.508	3	3.0	5.9	11.
	N	HDIP	1-10	201-225	0.077	0	-	-	-

TABLE 19: GENERIC FAILURE RATES
REVERSE BIAS LIFE TESTS (CONTINUED)

OPERATIONAL TYPE	SCREEN CLASS	PACKAGE TYPE	COMPLEXITY (GATES)	T _j (°C)	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)			
							20% C.L.	POINT ESTIMATE	80% C.L.	
LSTTL(cont')	N	HDIP	1-10	226-250	0.072	1	-	-	-	
	N	HDIP	1-10	251-275	0.072	0	-	-	-	
	N	HDIP	11-25	201-225	0.039	1	-	-	-	
	N	HDIP	11-25	226-250	0.036	0	-	-	-	
	N	HDIP	11-25	251-275	0.036	2	-	-	-	
	TTL	A-1	HFPK	11-25	101-125	0.058	0	-	-	-
		B-1	HDIP	51-75	101-125	0.129	1	-	-	-
		B-1	HFPK	1-10	201-225	0.276	2	3.0	7.2	16.
		B-1	HFPK	1-10	276-300	0.131	21	130.	160.	197.
		C-1	HDIP	1-10	101-125	0.521	0	-	-	3.1
C-1		HFPK	1-10	176-200	0.687	3	2.2	4.4	8.0	
C-1		HFPK	1-10	201-225	0.830	2	0.99	2.4	5.2	
C-1		HFPK	1-10	226-250	0.380	12	24.	32.	42.	
C-1		HFPK	1-10	251-275	0.170	0	-	-	-	
C-1		HDIP	1-10	101-125	3.491	5	0.89	1.4	2.3	
N	HDIP	11-25	101-125	3.477	7	1.0	2.0	2.9		
N	HDIP	26-50	101-125	2.264	0	-	-	0.71		
N	HDIP	51-75	51-75	0.050	0	-	-	-		
N	HDIP	51-75	101-125	1.185	0	-	-	1.4		
N	PDIP	1-10	26-50	7.700	123	15.	16.	17.		
N	PDIP	1-10	51-75	0.301	1	0.74	3.3	10.		
N	PDIP	1-10	101-125	0.817	2	1.0	2.5	5.2		
N	PDIP	11-25	51-75	0.100	2	-	-	-		
N	PDIP	11-25	101-125	0.731	1	0.31	1.4	4.1		
N	PDIP	26-50	51-75	0.090	2	-	-	-		
N	PDIP	26-50	101-125	0.161	1	-	-	-		
N	PDIP	51-75	51-75	0.015	0	-	-	-		
N	PDIP	51-75	101-125	0.042	0	-	-	-		
N	HFPK	1-10	26-50	1.150	36	27.	31.	37.		
N	HFPK	1-10	51-75	0.015	0	-	-	-		
N	HFPK	1-10	101-125	2.373	4	0.97	1.7	2.8		
N	HFPK	11-25	101-125	3.894	1	0.057	0.26	0.77		

TABLE 19: GENERIC FAILURE RATES
REVERSE BIAS LIFE TESTS (CONTINUED)

OPERATIONAL TYPE	SCREEN CLASS	PACKAGE TYPE	COMPLEXITY (GATES)	T _J (°C)	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
							20% C.L.	POINT ESTIMATE	80% C.L.
TTL (cont'd)	N	HFPK	11-25	126-150	0.315	0	-	-	-
	N	HFPK	26-50	101-125	0.967	2	0.85	2.1	4.4
	N	HFPK	51-75	101-125	0.746	1	0.30	1.3	4.0

TABLE 20: GENERIC FAILURE RATES
STATIC FORWARD BIAS LIFE TESTS

OPERATIONAL TYPE	SCREEN CLASS	PACKAGE TYPE	COMPLEXITY (GATES)	T _j (°C)	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)			
							20% C.L.	POINT ESTIMATE	80% C.L.	
CMOS	N	HDIP	1-10	101-125	0.762	1	0.29	1.3	3.9	
	N	HDIP	1-10	126-150	0.076	0	-	-	-	
	N	HDIP	1-10	176-200	0.002	0	-	-	-	
	N	PDIP	1-10	76-100	0.174	0	-	-	-	
	N	HDIP	26-50	151-175	0.133	0	-	-	-	
	N	PDIP	26-50	151-175	0.025	0	-	-	-	
	DTL	N	HFPK	1-10	126-150	0.231	0	-	-	-
		N	HDIP	1-10	101-125	4.494	4	0.51	0.89	1.5
	ECL	N	HDIP	1-10	176-200	0.148	0	-	-	-
		N	HDIP	1-10	201-225	0.104	14	-	-	-
N		HDIP	1-10	226-250	0.265	60	202.	226.	255.	
N		HDIP	1-10	251-275	0.061	24	-	-	-	
N		HDIP	11-25	101-125	1.180	1	0.19	0.85	2.5	
N		HDIP	11-25	126-150	0.434	0	-	-	-	
N		HDIP	11-25	151-175	0.787	1	0.28	1.3	3.8	
N		HDIP	11-25	176-200	0.200	26	108.	130.	156.	
N		PDIP	1-10	101-125	0.592	0	-	-	-	
N		PDIP	11-25	101-125	0.859	1	0.26	1.2	2.7	
HTTL	N	PDIP	51-75	101-125	0.090	0	-	-	-	
	N	HFPK	1-10	101-125	1.106	1	0.20	0.90	2.7	
	B-1	HDIP	1-10	126-150	0.502	0	-	-	-	
	B-1	HDIP	11-25	126-150	0.179	0	-	-	-	
	B-1	HFPK	1-10	126-150	0.253	0	-	-	-	
	B-1	HFPK	11-25	126-150	0.147	0	-	-	-	
	N	HDIP	11-25	126-150	0.045	0	-	-	-	
	N	PDIP	1-10	126-150	0.045	0	-	-	-	
	C-1	HDIP	26-50	126-150	0.076	0	-	-	-	
	N	PDIP	1-10	126-150	0.054	2	-	-	-	
L TTL	N	PDIP	1-10	126-150	0.100	0	-	-	-	
	N	PDIP	1-10	151-175	35.280	0	-	-	0.046	
STTL	N	PDIP	1-10	101-125	0.029	0	-	-	-	
	N	PDIP	1-10	101-125	0.032	0	-	-	-	

TABLE 20: GENERIC FAILURE RATES
 STATIC FORWARD BIAS LIFE TESTS (CONTINUED)

OPERATIONAL TYPE	SCREEN CLASS	PACKAGE TYPE	COMPLEXITY (GATES)	T _J (°C)	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
							20% C.L.	POINT ESTIMATE	80% C.L.
TTL	B-1	HDIP	1-10	126-150	0.358	1	0.62	2.8	8.4
	B-1	HDIP	11-25	126-150	0.717	0	-	-	2.2
	B-1	HDIP	26-50	126-150	0.354	3	4.3	8.5	16.
	B-1	HDIP	51-75	151-175	0.223	2	3.7	9.0	19.
	B-1	HFPK	11-25	126-150	0.219	1	-	-	-
	C-1	HDIP	1-10	126-150	0.105	1	-	-	-
	C-1	HDIP	26-50	151-175	0.261	0	-	-	-
	C-1	HDIP	51-75	151-175	0.182	0	-	-	-
	N	HDIP	1-10	76-100	3.679	4	0.62	1.1	1.8
	N	PDIP	1-10	126-150	1.525	7	3.1	4.6	6.7
	N	HFPK	1-10	126-150	0.254	1	0.88	3.9	12.
	N	HFPK	1-10	201-225	0.064	0	-	-	-

TABLE 21: GENERIC FAILURE RATES STORAGE LIFE TESTS

OPERATIONAL TYPE	SCREEN CLASS	PACKAGE TYPE	COMPLEXITY (GATES)	T _j (°C)	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
							20% C.L.	POINT ESTIMATE	80% C.L.
CMOS	C-1	HDIP	1-10	201-225	0.112	7	-	-	-
	N	HDIP	1-10	126-150	0.121	0	-	-	-
	N	HDIP	11-25	126-150	0.110	0	-	-	-
	N	HDIP	26-50	126-150	0.055	0	-	-	-
	N	PDIP	1-10	126-150	0.231	0	-	-	-
	A-2	HFPK	1-10	126-150	0.930	0	-	-	1.7
	B-1	HDIP	1-10	126-150	0.034	0	-	-	-
	B-1	HFPK	1-10	126-150	0.194	0	-	-	-
	B-2	HDIP	1-10	126-150	0.177	0	-	-	-
	B-2	HFPK	1-10	126-150	0.112	1	-	-	-
DTL	B-2	CAN	1-10	126-150	0.090	0	-	-	-
	B-2	CAN	11-25	126-150	0.011	0	-	-	-
	C-1	HDIP	1-10	126-150	3.120	2	0.26	0.64	1.4
	C-1	HFPK	1-10	126-150	1.986	1	0.11	0.50	1.5
	C-2	HDIP	1-10	126-150	0.104	0	-	-	-
	N	HDIP	1-10	126-150	1.689	2	0.49	1.2	2.5
	N	HDIP	11-25	126-150	0.025	0	-	-	-
	N	HDIP	26-50	126-150	0.085	0	-	-	-
	N	PDIP	1-10	126-150	6.299	5	0.49	0.79	1.3
	N	HFPK	1-10	101-125	0.208	0	-	-	-
ECL	N	HFPK	1-10	126-150	2.349	1	0.095	0.43	1.3
	N	HFPK	1-10	151-175	0.015	0	-	-	-
	N	CAN	1-10	126-150	0.666	0	-	-	2.4
	N	HDIP	1-10	101-125	0.419	0	-	-	-
	N	HDIP	1-10	126-150	1.723	1	0.13	0.58	1.7
	N	HDIP	1-10	151-175	0.117	0	-	-	-
	N	HDIP	1-10	176-200	0.177	0	-	-	-
	N	HDIP	1-10	226-250	0.419	3	3.7	7.2	13.
	N	HDIP	1-10	276-300	0.215	1	-	-	-
	N	HDIP	11-25	126-150	0.372	0	-	-	-
N	HDIP	11-25	226-250	0.070	0	-	-	-	
N	HDIP	11-25	276-300	0.162	1	-	-	-	

TABLE 21: GENERIC FAILURE RATES STORAGE LIFE TESTS (CONTINUED)

OPERATIONAL TYPE	SCREEN CLASS	PACKAGE TYPE	COMPLEXITY (GATES)	T _j (°C)	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
							20% C.L.	POINT ESTIMATE	80% C.L.
ECL (cont'd)	N	HDIP	26-50	126-150	0.092	0	-	-	-
	N	HDIP	51-75	276-300	0.049	1	-	-	-
	N	HFPK	1-10	126-150	0.038	0	-	-	-
	N	HFPK	1-10	276-300	0.032	0	-	-	-
	B-1	HDIP	1-10	126-150	0.561	2	1.5	3.6	7.6
	B-1	HDIP	11-25	126-150	0.080	0	-	-	-
	B-1	HFPK	1-10	126-150	0.303	1	0.74	3.3	9.9
	B-1	HFPK	11-25	126-150	0.025	0	-	-	-
	B-2	HFPK	1-10	126-150	0.055	0	-	-	-
	C-1	HDIP	1-10	126-150	0.089	0	-	-	-
	C-2	HDIP	1-10	126-150	0.215	0	-	-	-
	HTTL	C-2	HDIP	11-25	126-150	0.033	0	-	-
N		HDIP	1-10	126-150	0.222	0	-	-	-
N		HDIP	11-25	126-150	0.038	0	-	-	-
N		PDIP	1-10	126-150	0.490	1	0.46	2.0	6.1
N		PDIP	11-25	126-150	0.072	1	-	-	-
N		HFPK	1-10	126-150	0.080	0	-	-	-
N		HFPK	11-25	126-150	0.077	1	-	-	-
X		HDIP	1-10	126-150	0.504	1	0.44	2.0	5.9
X		HDIP	11-25	126-150	0.185	1	-	-	-
B-1		HDIP	1-10	126-150	0.182	0	-	-	-
B-1		HDIP	11-25	126-150	0.077	0	-	-	-
L TTL		B-1	HFPK	1-10	126-150	0.131	0	-	-
	B-1	HFPK	11-25	126-150	0.022	0	-	-	-
	C-1	HDIP	26-50	126-150	5.032	0	-	-	-
	N	HDIP	1-10	126-150	5.052	0	-	-	-
	N	HDIP	1-10	276-300	5.062	0	-	-	-
	N	HDIP	11-25	126-150	0.222	0	-	-	-
	N	HDIP	26-50	126-150	0.074	0	-	-	-
	N	HDIP	51-75	126-150	0.090	0	-	-	-
	N	PDIP	1-10	126-150	0.511	1	0.39	1.7	5.2
	N	PDIP	11-25	126-150	0.092	0	-	-	-

TABLE 21: GENERIC FAILURE RATES STORAGE LIFE TESTS (CONTINUED)

OPERATIONAL TYPE	SCREEN CLASS	PACKAGE TYPE	COMPLEXITY (GATES)	T _j (°C)	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
							20% C.L.	POINT ESTIMATE	80% C.L.
LTL (cont'd)	N	PDIP	51-75	126-150	0.046	0	-	-	-
	N	HFKK	1-10	126-150	2.290	0	-	-	0.70
	N	HFKK	26-50	126-150	0.074	0	-	-	-
	N	HFKK	51-75	126-150	0.017	0	-	-	-
	N	HDIP	1-10	126-150	0.106	0	-	-	-
	N	HDIP	1-10	226-250	0.105	0	-	-	-
	N	HDIP	1-10	276-300	0.041	0	-	-	-
	N	HDIP	11-25	226-250	0.105	4	-	-	-
	N	HDIP	11-25	276-300	0.041	2	-	-	-
	N	PDIP	1-10	126-150	0.680	6	5.7	8.8	13.
LSTTL	N	PDIP	11-25	126-150	0.138	0	-	-	-
	N	HDIP	1-10	126-150	2.599	2	0.32	0.77	1.6
	N	HDIP	1-10	226-250	0.070	0	-	-	-
	N	HDIP	1-10	276-300	0.027	0	-	-	-
	N	HDIP	11-25	226-250	0.053	0	-	-	-
	N	HDIP	11-25	276-300	0.068	1	-	-	-
	N	PDIP	1-10	126-150	0.617	1	0.36	1.6	4.9
	N	PDIP	11-25	126-150	0.092	0	-	-	-
	N	PDIP	51-75	126-150	0.046	0	-	-	-
	N	HDIP	1-10	126-150	2.096	5	1.5	2.4	3.8
TTL	B-1	HDIP	11-25	126-150	1.142	1	0.20	0.88	2.6
	B-1	HDIP	26-50	126-150	0.352	0	-	-	-
	B-1	HDIP	51-75	126-150	0.038	0	-	-	-
	B-1	HFKK	1-10	126-150	1.938	1	0.12	0.51	1.5
	B-1	HFKK	11-25	126-150	0.609	0	-	-	2.6
	B-1	HFKK	26-50	126-150	0.064	0	-	-	-
	B-1	HFKK	51-75	126-150	0.082	0	-	-	-
	B-2	HDIP	1-10	126-150	0.360	0	-	-	-
	B-2	HDIP	11-25	126-150	0.122	0	-	-	-
	B-2	HDIP	26-50	126-150	0.105	0	-	-	-
B-2	HFKK	1-10	126-150	0.570	0	-	-	2.8	
B-2	HFKK	11-25	126-150	0.272	0	-	-	-	

TABLE 21: GENERIC FAILURE RATES STORAGE LIFE TESTS (CONTINUED)

OPERATIONAL TYPE	SCREEN CLASS	PACKAGE TYPE	COMPLEXITY (GATES)	T _j (°C)	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
							20% C.L.	POINT ESTIMATE	80% C.L.
TTL (cont'd)	B-2	HFPK	26-50	126-150	0.045	0	-	-	-
	C-1	HDIP	1-10	126-150	1.089	1	0.20	0.92	2.8
	C-1	HDIP	11-25	126-150	0.414	1	0.54	2.4	7.2
	C-1	HDIP	26-50	126-150	0.165	0	-	-	-
	C-1	HDIP	51-75	126-150	0.055	0	-	-	-
	C-1	HFPK	1-10	126-150	0.362	0	-	-	-
	C-1	HFPK	1-10	276-300	0.090	0	-	-	-
	C-2	HDIP	1-10	126-150	0.108	0	-	-	-
	C-2	HDIP	26-50	126-150	0.022	0	-	-	-
	C-2	HFPK	1-10	126-150	0.111	0	-	-	-
	C-2	HFPK	51-75	126-150	0.055	0	-	-	-
	N	HDIP	1-10	126-150	6.009	7	0.79	1.2	1.7
	N	HDIP	11-25	126-150	2.139	4	1.1	1.9	3.1
	N	HDIP	26-50	126-150	0.476	0	-	-	-
	N	HDIP	51-76	126-150	0.637	1	0.35	1.6	4.7
	N	PDIP	1-10	126-150	11.960	19	1.3	1.6	2.0
	N	PDIP	11-25	126-150	1.564	9	4.1	5.8	8.0
	N	PDIP	26-50	126-150	0.515	0	-	-	3.1
	N	PDIP	51-75	126-150	0.223	0	-	-	-
	N	HFPK	1-10	126-150	1.475	0	-	-	1.1
	N	HFPK	11-25	126-150	1.689	0	-	-	0.95
	N	HFPK	26-50	126-150	0.505	0	-	-	3.2
	N	HFPK	51-75	126-150	0.639	0	-	-	2.5
	X	HDIP	1-10	126-150	0.275	0	-	-	-
	X	HDIP	11-25	126-150	0.389	0	-	-	-
	X	HDIP	26-50	126-150	0.156	0	-	-	-
	X	HDIP	51-75	126-150	0.038	0	-	-	-
	X	HFPK	1-10	126-150	0.007	0	-	-	-
	X	CAN	26-50	126-150	0.077	0	-	-	-

**MICROCIRCUIT DEVICE RELIABILITY
DIGITAL FAILURE RATE DATA**

SECTION 3

DIGITAL DEVICE DATA - DETAILED LISTINGS

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SECTION 3
DIGITAL DEVICE DATA - DETAILED LISTINGS

Introduction

The data presented in Section 3 have been extracted from reports dealing with digital microcircuit, SSI and MSI complexity devices. LSI random logic and memory devices are featured under separate cover, entitled Memory/LSI Data. The data within this section include field experience, life test results, and reliability demonstration and equipment checkout test results. The calendar time period for the listed data entries in this section is 1975 to the present. The listings are grouped according to a two level hierarchy, arranged first by operational type and next by device manufacturer (sorted alphabetically for each operational type category). Part numbers are listed in a left-hand justified numerical format and within each identical part number classification the entries are further sorted in order of decreasing screen class (A-1 down to none). Due to the left-hand justification process, care should be taken when referencing a specific part number (see Usage Guide).

The information presented may be used to generate representative failure rates for various device classifications. All of the details necessary to perform an MIL-HDBK-217C reliability prediction are provided within each line entry. The means for failure rate analysis based upon considerations such as package type, operational type, etc., are also available. The use of this format facilitates failure comparisons between reliability demonstration test results and actual field experience, or between life test results and subsequent field performance, thereby providing a valuable source of back-up information for testing programs. The user is cautioned, however, that the data contained herein may not be used in lieu of other contractually cited references and/or specifications.

The listed data furnish an indication of the anticipated performance for various digital SSI/MSI microcircuit part types. As always, the user must take into account the base population of the device being considered, as well as the extent of testing (duration in hours, operating conditions, etc.) involved, prior to drawing any definitive conclusions about his own experiences.

A Usage Guide follows which should be studied by the reader prior to consulting the detailed listings. This guide illustrates the format and defines the terminology and abbreviations utilized throughout the listings which follow. Additional information may, again, be obtained by contacting the Reliability Analysis Center directly.

USAGE GUIDE

The descriptions given below define the codes and format used in the detailed listings of this section. The circled numbers shown on the tabulation form below refer to the explanatory text which follows. A few minutes spent familiarizing oneself with the information provided below will aid the user in the interpretation of the data contained herein.

MOTOROLA SEMI CMOS	MANUFACTURER ① OPERATIONAL TYPE ②	RELIABILITY ANALYSIS CENTER							
PART NO. ③	DEVICE FUNCTION ④	SCRN ⑥ CLASS	PACKAGE/ PINS ⑧	JCT. ⑩ TEMP.	EQUIP. TYPE ⑪	DATA ⑬ CLASS.	STRESS LEVEL ⑮	#TESTED/ #FAILED ⑯	MPEF REPORT NO. /QTY FAILED ⑰
CIRCUIT FUNCTION ⑤	NO. ⑦ GATES	TEST DATE ⑨	APPL. ENV. ⑫	TEST TYPE ⑭	PART HOURS ⑱				

- ① **MANUFACTURER.** Denotes the manufacturer of the device. Manufacturers are listed alphabetically within each operational type. The term "VARIOUS" is used to indicate parts produced by two or more manufacturers, where the actual manufacturer is not known. This term would most often be used where the second sourcing of equipment level parts occurs.
- ② **OPERATIONAL TYPE.** Reflects the technology of the device (CMOS, PMOS, DTL, ECL, HINIL, IIL, RTL, HTTL, LTTL, LSTTL, STTL, SUHL, TTL).
- ③ **PART NO.** This is the listing of the device part number, neglecting package and temperature rating prefixes/suffixes. Part numbers are arranged in left-hand justified numerical order. Thus a sequence of the following sort is possible: 5408, 54107, 5411, 74160, 8162.
- ④ **DEVICE FUNCTION.** Provides the basic intended generic application of the referenced PART NO.

USAGE GUIDE (Cont'd)

⑤ CIRCUIT FUNCTION. Provides additional detail concerning the parameters of the device function.

⑥ SCREEN CLASS. Screen class is listed in order of decreasing quality within each part number category. These screening codes are of the same basic form as found in MIL-HDBK-217C, with slight variations.

A-1	(Renamed S-1) MIL-STD-883B, Method 5004, Class S
A-2	(Renamed S-2) Vendor Equivalent of A-1
JB	MIL-M-38510 Class B
B-1	MIL-STD-883B, Method 5004, Class B
B-1/JB	Represents combination of JAN Class B and B-1 level parts
B-2	Vendor Equivalent of B-1
B-2/N	
B-2 to N	Reflects procurement practice of manufacturer
B-2/None	
C-1	MIL-STD-883B, Method 5004, Class C
C-2	Vendor Equivalent of C-1
D	Hermetic Package, no screening beyond normal vendor Q.C.
D-1	Non-Hermetic Package, no screening beyond normal vendor Q.C.
N or None	No screening beyond normal vendor Q.C. (Class D or D-1)
X	Screen Class N with additional screening
NR or N/R	Not Reported

⑦ NO. GATES. The MIL-HDBK-217C complexity (number of gates per part) is derived from logic diagrams or, where necessary, by dividing the number of transistors by four (see MIL-HDBK-217C, Section 2.1-1). If the gate complexity is unknown, the field will appear as a blank.

USAGE GUIDE (Cont'd)

- ⑧ PACKAGE/PINS. Indicates the generic package construction and the number of pins per package.

<u>PACKAGE PREFIXES</u>		<u>PACKAGE SUFFIXES</u>	
H	Hermetic	CAN	Metal Can
P	Plastic (or other Nonhermetic Package)	DIP	Dual-In-Line Package
N/R	Not Reported	FPK	Flat Package
		N/R	Not Reported

- ⑨ TEST DATE. The test date indicates the reported final date of test duration. Blanks indicate unknown or unreported dates. Testing completed prior to June, 1977, is excluded from the detailed listings of this publication.

- ⑩ JCT.* TEMP. Junction Temperature (T_j). The asterisk is included to remind the user that the junction temperature is based upon the estimated ambient conditions and must, therefore, be considered an estimate itself. This quantity, expressed in degrees centigrade ($^{\circ}\text{C}$), is calculated from the highest ambient temperature listed in "Stress Level" as follows:

$$T_j = T_A + \theta_{jA} \cdot P_{TYP}$$

where:

T_j = Junction Temperature ($^{\circ}\text{C}$)

T_A = Ambient Temperature ($^{\circ}\text{C}$)

θ_{jA} = Junction-to-Ambient Thermal Resistance ($^{\circ}\text{C}/\text{watt}$)

P_{TYP} = Typical Power Dissipation (watts)

Where either the thermal resistance or the typical power dissipation values are not known, the estimates of MIL-HDBK-217C, pg. 2.1.5-3, were used to obtain T_j .

USAGE GUIDE (Cont'd)

- ⑪ EQUIP. TYPE. Equipment type entries pertain to the design application of the devices at the equipment level. This information in conjunction with the application environment, "APPL. ENV.," gives a good indication of the environmental and electrical stresses to which the devices were exposed.

COMB	Combinations of Equipments
COMM	Communications
COMP	Computer Equipment
DSPY	Instrumentation and Display
INTR	Interface Equipment
NR	Not Reported or Not Applicable
NAVG	Navigational Equipment
PROC	Digital Processors (Computation)
RADR	Radar Equipment

- ⑫ APPL. ENV. Application environment abbreviations are based upon the defined environmental factors of MIL-HDBK-217C, with some modifications.

AI	Airborne, Inhabited, Carrier Unknown
AIF	Airborne, Inhabited, Fighter
AIT	Airborne, Inhabited, Transport
AIU	Airborne, Inhabited/Uninhabited, Carrier Unknown
AU	Airborne, Uninhabited, Carrier Unknown
AUF	Airborne, Uninhabited, Fighter
AUT	Airborne, Uninhabited, Transport
GB	Ground, Benign, conditions as defined by MIL-HDBK-217C
GBC	Ground, Benign, Commercial Equipment
GF	Ground, Fixed
GM	Ground, Mobile
GT	Ground, Transportable (carried by vehicle)
N/R	Not Reported or Not Applicable (part level testing)

USAGE GUIDE (Cont'd)

- ⑬ DATA CLASS. Abbreviations in this field refer to the specific mode of testing or usage conditions for the components listed.

CHECK	Equipment Level Checkout Testing
FIELD	Equipment Level Field Experience
LIFE	Long Term Part Level Life Test (>250 hours per part)
RELDDEM	Equipment Level Reliability Demonstration Testing

- ⑭ TEST TYPE. Test types within the specific mode of testing are listed below.

EM	Electrical Measurements
OP CNST	Constant Operation Life Test
OP DYN	Dynamic Operation Life Test
OPERATE	Operational Equipment
REVBIAIS	Reverse Bias Life Test
RHRB	Humidity Test with Reverse Bias
STG LIFE	High Temperature Storage Life (non-operating)
TCVPC	Temperature Cycle, Vibration, and Power Cycle

- ⑮ STRESS LEVELS. Stress levels complement "Test Type" and "Application Environment" (Fields ⑫ and ⑬) by relating the magnitudes of associated stresses in test or field environments. Abbreviations used are as follows:

"ATMOS"	-- Pressure measure in atmospheres
"AXES"	-- As defined in MIL-STD-883A
"C"	-- Degrees temperature centigrade
"CY"	-- Number of cycles
"DEG"	-- Degrees
"E"	-- Each
"FLUOR"	-- Fluorocarbon

USAGE GUIDE (Cont'd)

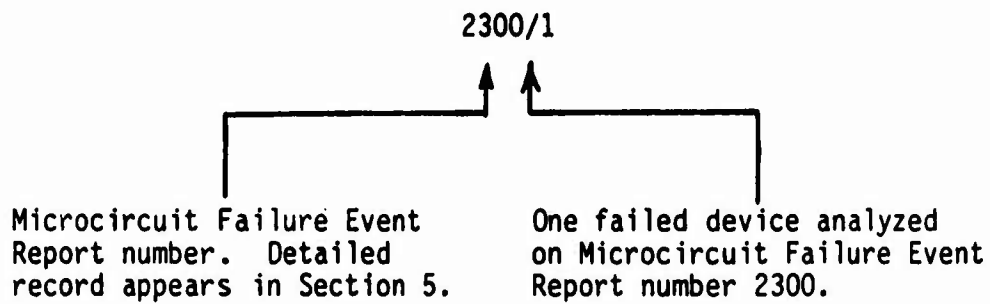
⑮ STRESS LEVEL Cont'd)

"G"	-- Gravitational constant
"GMS"	-- Grams
"GMS/MSQ"	-- Grams per square meter
"HE"	-- Helium
"HZ"	-- Hertz
"K"	-- Kilo (1000's)
"MIN"	-- Minutes
"MINOIL"	-- Mineral oil (Ethylene Glycol)
"MSEC"	-- Milliseconds
"OZ"	-- Ounces
"%"	-- Percent (usually percent rated power applied)
"PSIA"	-- Pounds per square inch, gauge (PSIG = PSIA + 15 at sea level)
"RADIS"	-- Radioisotope
"RH"	-- Relative humidity
"SEC"	-- Second
"V.CYC"	-- Voltage cycle (followed by the percent rated voltages applied)
"X"	-- Times (magnification)

- ⑯ #TESTED/#FAILED. The number tested refers to the total quantity of components under life test or the total number of components per equipment/system times the number of systems in the field based on a static configuration. The number failed represents simply the total number of components which failed in the test or operational period.
- ⑰ PART HOURS. The total number of part hours for the devices under operation, given usually by the product of the number of devices tested and the test or operational time frame.

USAGE GUIDE (Cont'd)

- ⑱ MFEF REPORT NO./QTY FAILED. This column contains a Microcircuit Failure Event File cross reference number followed by the quantity of failed devices contained in each numbered report record. For example: 2300/1 indicates an MFEF record exists in Section 5 containing failure description on one failed device. See below.



DIGITAL DEVICE DATA

MOTOROLA SEMI CMOS		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO. /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
14011A	GATE	NONE 4	N/R N/R 78/79	0	41C	DSPY GBC	FIELD	040C 55XPWR	201 / 0 261,300		
14015B	SHIFT REG	D 66	H DIP 78/79	16	53C	DSPY GBC	FIELD	040C 55XPWR	916 / 0 1,190,800		
14015B	SHIFT REG	D-1 66	P DIP 78/79	16	54C	DSPY GBC	FIELD	040C 55XPWR	42 / 0 54,600		
14017	COUNTER DECADE	D-1 47	P DIP 78/79	16	43C	DSPY GBC	FIELD	040C 55XPWR	19 / 0 24,700		
14017B	COUNTER DECADE	NONE 47	N/R N/R 78/79	0	45C	DSPY GBC	FIELD	040C 55XPWR	764 / 0 993,200		
14035	SHIFT REG	D-1 53	P DIP 77/78	16	53C	DSPY GBC	FIELD	040C 55XPWR	6264 / 0 8,143,200		
14035	SHIFT REG	D-1 53	P DIP 78/79	16	53C	DSPY GBC	FIELD	040C 55XPWR	15606 / 0 20,287,800		
14040B	COUNTER BINARY	D 79	H DIP 78/79	16	52C	DSPY GBC	FIELD	040C 55XPWR	916 / 0 1,190,800		
14528	FLIP-FLOP MONOSTABLE	D-1 32	P DIP 00/77	16	131C	NR N/R	LIFE OP DYN	125C	250 / 2 249,216		
							LIFE EM		747 / 0		
14539B	MULTIPLEXER	NONE 62	N/R N/R 78/79	0	45C	DSPY GBC	FIELD	040C 55XPWR	191 / 0 248,300		

NATIONAL SEMI CMOS		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO. /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
4009	BUFFER	D-1 6	P DIP 77/78	16	42C	DSPY GBC	FIELD	040C 55XPWR	3943 / 0 5,125,900		
4009	BUFFER	D-1 6	P DIP 78/79	16	42C	DSPY GBC	FIELD	040C 55XPWR	4332 / 1 5,631,600		
4010	BUFFER	D-1 6	P DIP 77/78	16	42C	DSPY GBC	FIELD	040C 55XPWR	1832 / 0 2,381,600		
4010	BUFFER	D-1 6	P DIP 78/79	16	42C	DSPY GBC	FIELD	040C 55XPWR	3317 / 0 4,312,100		
4019	GATE	D-1 12	P DIP 77/78	16	43C	DSPY GBC	FIELD	040C 55XPWR	13024 / 0 16,931,200		
4019	GATE	D-1 12	P DIP 78/79	16	43C	DSPY GBC	FIELD	040C 55XPWR	17240 / 0 22,412,000		
74C14	INVERTER SCHMITT TRIGGER	D 6	H DIP 77/78	14	42C	DSPY GBC	FIELD	040C 55XPWR	413 / 0 536,900		

DIGITAL DEVICE DATA

NATIONAL SEMI CMOS		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT. # TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO. /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
74C14	INVERTFR SCHMITT TRIGGER	D 6	H DIP 14 78/79	42C	DSPY GBC	FIELD	040C 55XPWR:	542 / 1 704,600:			
74C151	MULTIPLEXER	D-1 20	P DIP 16 77/78	59C	DSPY GBC	FIELD	040C 55XPWR:	272 / 0 353,600:			
74C151	MULTIPLEXER	D-1 20	P DIP 16 78/79	59C	DSPY GBC	FIELD	040C 55XPWR:	461 / 0 599,300:			
74C154	DECODER/DEMULTIPLX	D-1 48	P DIP 24 78/79	41C	DSPY GBC	FIELD	040C 55XPWR:	63 / 0 81,900:			
74C157	MULTIPLXER	D-1 19	P DIP 16 77/78	42C	DSPY GBC	FIELD	040C 55XPWR:	12504 / 1 16,255,200:			
74C157	MULTIPLXER	D-1 19	P DIP 16 78/79	42C	DSPY GBC	FIELD	040C 55XPWR:	10392 / 3 13,509,600:			
74C160	COUNTER DECADE	D-1 51	P DIP 16 77/78	52C	DSPY GBC	FIELD	040C 55XPWR:	1239 / 0 1,610,700:			
74C160	COUNTER DECADE	D-1 51	P DIP 16 78/79	52C	DSPY GBC	FIELD	040C 55XPWR:	1626 / 0 1,113,800:			
74C161	COUNTER BINARY	D-1 49	P DIP 16 77/78	52C	DSPY GBC	FIELD	040C 55XPWR:	1050 / 0 1,365,000:			
74C161	COUNTER BINARY	D-1 49	P DIP 16 78/79	52C	DSPY GBC	FIELD	040C 55XPWR:	4483 / 6 5,827,900:			
74C163	COUNTER BINARY	D-1 53	P DIP 16 78/79	52C	DSPY GBC	FIELD	040C 55XPWR:	2168 / 0 2,818,400:			
74C164	SHIFT REG	D-1 61	P DIP 14 77/78	57C	DSPY GBC	FIELD	040C 55XPWR:	168 / 0 218,400:			
74C164	SHIFT REG	D-1 61	P DIP 14 78/79	57C	DSPY GBC	FIELD	040C 55XPWR:	1546 / 0 2,009,800:			
74C173	FLIP-FLOP D	D-1 45	P DIP 16 77/78	58C	DSPY GBC	FIELD	040C 55XPWR:	6516 / 2 8,470,800:			
74C173	FLIP-FLOP D	D-1 45	P DIP 16 78/79	58C	DSPY GBC	FIELD	040C 55XPWR:	10612 / 2 13,795,600:			
74C174	FLIP-FLOP D	D-1 37	P DIP 16 78/79	58C	DSPY GBC	FIELD	040C 55XPWR:	8068 / 3 10,488,400:			
74C175	FLIP-FLOP D	D-1 52	P DIP 16 77/78	53C	DSPY GBC	FIELD	040C 55XPWR:	1119 / 0 1,454,700:			
74C175	FLIP-FLOP D	D-1 52	P DIP 16 78/79	53C	DSPY GBC	FIELD	040C 55XPWR:	3066 / 1 3,985,800:			
74C192	COUNTER DECADE	D-1 56	P DIP 16 77/78	55C	DSPY GBC	FIELD	040C 55XPWR:	150 / 0 195,000:			
74C192	COUNTER DECADE	D-1 56	P DIP 16 78/79	55C	DSPY GBC	FIELD	040C 55XPWR:	1600 / 0 2,080,000:			
74C221	FLIP-FLOP MONOSTABLE	D 20	H DIP 16 77/78	42C	DSPY GBC	FIELD	040C 55XPWR:	413 / 0 536,900:			
74C221	FLIP-FLOP MONOSTABLE	D 20	H DIP 16 78/79	42C	DSPY GBC	FIELD	040C 55XPWR:	542 / 0 704,600:			
74C221	FLIP-FLOP MONOSTABLE	D-1 20	P DIP 16 77/78	42C	DSPY GBC	FIELD	040C 55XPWR:	686 / 0 891,800:			

DIGITAL DEVICE DATA

NATIONAL SEMI CHOS		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
74C221	FLIP-FLOP MONOSTABLE	D-1 20	P DIP 16: 78/79	42C	DSPY GBC	FIELD	040C 55XPWR	6107 / 2 7,939,100		
74C30	GATE	D-1 1	P DIP 14: 77/78	42C	DSPY GBC	FIELD	040C 55XPWR	413 / 0 536,900		
74C30	GATE	D-1 1	P DIP 14: 78/79	42C	DSPY GBC	FIELD	040C 55XPWR	542 / 1 704,600		
74C42	DECODER BCD/DECIMAL	D-1 31	P DIP 16: 78/79	50C	DSPY GBC	FIELD	040C 55XPWR	1404 / 0 1,825,200		
74C74	FLIP-FLOP D	D 30	H DIP 14: 77/78	50C	DSPY GBC	FIELD	040C 55XPWR	373 / 0 484,900		
74C74	FLIP-FLOP D	D 30	H DIP 14: 78/79	50C	DSPY GBC	FIELD	040C 55XPWR	1022 / 0 1,328,600		
74C83	ADDER BINARY	D 39	H DIP 16: 77/78	42C	DSPY GBC	FIELD	040C 55XPWR	1119 / 0 1,454,700		
74C83	ADDER BINARY	D 39	H DIP 16: 78/79	42C	DSPY GBC	FIELD	040C 55XPWR	3066 / 0 3,295,800		
74C90	COUNTER DECADE	D-1 36	P DIP 14: 78/79	57C	DSPY GBC	FIELD	040C 55XPWR	480 / 0 624,000		
74C906	BUFFER	D-1 6	P DIP 14: 78/79	53C	DSPY GBC	FIELD	040C 55XPWR	38 / 0 49,400		
74C922	ENCODER	D-1 N/R	P DIP 18: 78/79	50C	DSPY GBC	FIELD	040C 55XPWR	188 / 0 244,400		
80C97	BUFFER	D 8	H DIP 16: 77/78	41C	DSPY GBC	FIELD	040C 55XPWR	3374 / 0 4,386,200		
80C97	BUFFER	D 8	H DIP 16: 78/79	41C	DSPY GBC	FIELD	040C 55XPWR	16291 / 1 21,178,300		
80C97	BUFFER	D-1 8	P DIP 16: 77/78	42C	DSPY GBC	FIELD	040C 55XPWR	3119 / 2 4,054,700		
80C97	BUFFER	D-1 8	P DIP 16: 78/79	42C	DSPY GBC	FIELD	040C 55XPWR	1609 / 0 2,091,700		

RCA CHOS		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
4002A	GATE	D-1 2	P DIP 14: 77/78	42C	DSPY GBC	FIELD	040C 55XPWR	602 / 0 782,600		
4002A	GATE	D-1 2	P DIP 14: 78/79	42C	DSPY GBC	FIELD	040C 55XPWR	7202 / 1 9,362,600		
4007A	INVERTER	D-1 3	P DIP 14: 77/78	42C	DSPY GBC	FIELD	040C 55XPWR	4769 / 0 6,199,700		

DIGITAL DEVICE DATA

RCA CMOS		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT. # TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEP REPORT NO. /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
4007A	INVERTER	D-1	P DIP 14	42C	DSPY	FIELD	040C 55XPWR	4406 / 2	5,727,800	
		3	78/79		GBC					
4012A	GATE	D-1	P DIP 14	42C	DSPY	FIELD	040C 55XPWR	1963 / 0	2,551,900	
		2	77/78		GBC					
4012A	GATE	D-1	P DIP 14	42C	DSPY	FIELD	040C 55XPWR	2975 / 1	3,867,500	
		2	78/79		GBC					
4017A	COUNTER DECADE	D-1	P DIP 16	49C	DSPY	FIELD	040C 55XPWR	761 / 1	989,300	
		47	77/78		GBC					
4017A	COUNTER DECADE	D-1	P DIP 16	45C	DSPY	FIELD	040C 55XPWR	3508 / 0	4,560,400	
		47	78/79		GBC					
4018A	COUNTER	D	H DIP 16	45C	DSPY	FIELD	040C 55XPWR	413 / 0	536,900	
		57	77/78		GBC					
4018A	COUNTER	D	H DIP 16	49C	DSPY	FIELD	040C 55XPWR	542 / 0	704,600	
		57	78/79		GBC					
4024A	COUNTER BINARY	D	H DIP 14	50C	DSPY	FIELD	040C 55XPWR	8152 / 4	10,597,600	
		81	77/78		GBC					
4024A	COUNTER BINARY	D	H DIP 14	50C	DSPY	FIELD	040C 55XPWR	8512 / 1	11,065,600	
		81	78/79		GBC					
4025A	GATE	B-1/JB	H DIP 14	56C	COMM AIF	FIELD		75 / 0	51,135	
		3	76/77							
4027A	FLIP-FLOP JK	D-1	P DIP 16	42C	DSPY	FIELD	040C 55XPWR	16005 / 4	20,806,500	
		30	77/78		GBC					
4027A	FLIP-FLOP JK	D-1	P DIP 16	42C	DSPY	FIELD	040C 55XPWR	32193 / 4	41,850,900	
		30	78/79		GBC					
4029A	COUNTER	D	H DIP 16	45C	DSPY	FIELD	040C 55XPWR	4130 / 1	5,369,000	
		64	77/78		GBC					
4029A	COUNTER	D	H DIP 16	45C	DSPY	FIELD	040C 55XPWR	5711 / 4	7,424,300	
		64	78/79		GBC					
4029A	COUNTER	D-1	P DIP 16	46C	DSPY	FIELD	040C 55XPWR	237 / 0	308,100	
		64	77/78		GBC					
4029A	COUNTER	D-1	P DIP 16	46C	DSPY	FIELD	040C 55XPWR	1605 / 0	2,086,500	
		64	78/79		GBC					
4030A	GATE	D-1	P DIP 14	42C	DSPY	FIELD	040C 55XPWR	1058 / 0	1,375,400	
		4	77/78		GBC					
4030A	GATE	D-1	P DIP 14	42C	DSPY	FIELD	040C 55XPWR	2596 / 0	3,374,800	
		4	78/79		GBC					
4035A	SHIFT REG	D-1	P DIP 16	45C	DSPY	FIELD	040C 55XPWR	2727 / 1	3,545,100	
		53	77/78		GBC					
4035A	SHIFT REG	D-1	P DIP 16	45C	DSPY	FIELD	040C 55XPWR	1758 / 0	2,285,400	
		53	78/79		GBC					
4041A	BUFFER TRUE COMPLEMENT	D-1	P DIP 14	43C	DSPY	FIELD	040C 55XPWR	5288 / 2	6,874,400	
		12	77/78		GBC					
4041A	BUFFER TRUE COMPLEMENT	D-1	P DIP 14	43C	DSPY	FIELD	040C 55XPWR	6897 / 0	8,966,100	
		12	78/79		GBC					
4043A	LATCH RS	D-1	P DIP 16	43C	DSPY	FIELD	040C 55XPWR	1910 / 1	2,483,000	
		18	77/78		GBC					

DIGITAL DEVICE DATA

RCA CMOS		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT. # TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
4043A	LATCH RS	D-1 18	P DIP 78/79	16: 43C	DSPY GBC	FIELD	040C 55XPWR:	2968 / 0 3,858,400			
4044A	LATCH RS	D 18	H DIP 77/78	16: 43C	DSPY GBC	FIELD	040C 55XPWR:	413 / 0 536,900			
4044A	LATCH RS	D 18	H DIP 78/79	16: 43C	DSPY GBC	FIELD	040C 55XPWR:	542 / 0 704,600			
4047	FLIP-FLOP MONOSTABLE	D-1 44	P DIP 77/78	14: 60C	DSPY GBC	FIELD	040C 55XPWR:	763 / 2 991,900			
4047	FLIP-FLOP MONOSTABLE	D-1 44	P DIP 78/79	14: 60C	DSPY GBC	FIELD	040C 55XPWR:	7040 / 3 9,152,000			
4059A	COUNTER PROGRAMMABLE	D N/R	H DIP 78/79	24: 50C	DSPY GBC	FIELD	040C 55XPWR:	466 / 0 605,800			
4068B	GATE	D-1 1	P DIP 78/79	14: 41C	DSPY GBC	FIELD	040C 55XPWR:	126 / 0 163,800			
4069B	INVERTER	D-1 6	P DIP 77/78	14: 42C	DSPY GBC	FIELD	040C 55XPWR:	1256 / 0 1,632,800			
4069B	INVERTER	D-1 6	P DIP 78/79	14: 42C	DSPY GBC	FIELD	040C 55XPWR:	13241 / 12 17,213,300			
4070B	GATE	D-1 4	P DIP 77/78	14: 42C	DSPY GBC	FIELD	040C 55XPWR:	13741 / 10 17,863,300			
4070B	GATE	D-1 4	P DIP 78/79	14: 42C	DSPY GBC	FIELD	040C 55XPWR:	14647 / 9 19,041,100			
4071B	GATE	D-1 4	P DIP 77/78	14: 42C	DSPY GBC	FIELD	040C 55XPWR:	4 / 0 5,200			
4071B	GATE	D-1 4	P DIP 78/79	14: 42C	DSPY GBC	FIELD	040C 55XPWR:	179 / 0 232,700			
4075B	GATE	D-1 3	P DIP 77/78	14: 42C	DSPY GBC	FIELD	040C 55XPWR:	688 / 1 894,400			
4075B	GATE	D-1 3	P DIP 78/79	14: 42C	DSPY GBC	FIELD	040C 55XPWR:	1441 / 0 1,873,300			
4078B	GATE	D-1 14	P DIP 78/79	14: 43C	DSPY GBC	FIELD	040C 55XPWR:	3516 / 2 4,570,800			
4081B	GATE	D-1 4	P DIP 77/78	14: 42C	DSPY GBC	FIELD	040C 55XPWR:	8 / 0 10,400			
4555B	DECODER/DEMUTIPLEX	D 26	H DIP 77/78	16: 42C	DSPY GBC	FIELD	040C 55XPWR:	1612 / 0 2,095,600			
4555B	DECODER/DEMUTIPLEX	D 26	H DIP 78/79	16: 42C	DSPY GBC	FIELD	040C 55XPWR:	3114 / 1 4,048,200			
4556B	DECODER/DEMUTIPLEX	D 34	H DIP 77/78	16: 43C	DSPY GBC	FIELD	040C 55XPWR:	413 / 0 536,900			
4556B	DECODER/DEMUTIPLEX	D 34	H DIP 78/79	16: 43C	DSPY GBC	FIELD	040C 55XPWR:	542 / 0 704,600			

DIGITAL DEVICE DATA

SOLID STATE SCIENTIFIC
CMOS

MANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
4011A	GATE	B-1/JB: 4	H DIP 14: 77/79	65C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	13498 / 0 368,804	
4014A	SHIFT REG	B-1/JB: 55	H DIP 16: 77/79	80C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	7648 / 0 208,480	
4014A	SHIFT REG	B-1/JB: 55	H DIP 16: 77/79	80C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	14020 / 0 387,840	
4014A	SHIFT REG	B-1/JB: 55	H DIP 16: 77/79	80C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	26996 / 0 737,608	
4049	CONVERTER BUFFER	B-1/JB: 6	H DIP 14: 77/79	65C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	13384 / 0 364,840	
4049	CONVERTER BUFFER	B-1/JB: 6	H DIP 14: 77/79	65C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	24535 / 0 678,734	
4049	CONVERTER BUFFER	B-1/JB: 6	H DIP 14: 77/79	65C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	26996 / 0 737,608	

VARIOUS
CMOS

MANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
4001A	GATE	B-1/JB: 4	H DIP 14: 77/79	65C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	19437 / 0 531,666	
4001A	GATE	B-1/JB: 4	H DIP 14: 77/79	65C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	5736 / 0 156,360	
4001A	GATE	B-1/JB: 4	H DIP 14: 77/79	65C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	10515 / 0 290,886	
4001A	GATE	B-1/JB: 4	H DIP 14: 76/77	56C	COMM AIF	FIELD		45 / 0 30,681	
4001A	GATE	B-1/JB: 4	H DIP 14: 76/77	56C	COMM AIF	FIELD		30 / 0 12,573	
4001A	GATE	B-1/JB: 4	H DIP 14: 76/77	56C	COMM AIF	FIELD		42 / 0 21,168	
4001A	GATE	B-1/JB: 4	H DIP 14: 76/77	56C	COMM AIT	FIELD		57 / 1 57,993	
4001A	GATE	D-1: 4	P DIP 14: 78/79	56C	COMM AIF	FIELD		300 / 0 92,664	
4001A	GATE	D: 4	H DIP 14: 78/78	41C	PROC GP	FIELD	040C	2000 / 2 8,640,000	
4001B	GATE	D-1: 4	P DIP 14: 77/78	41C	DSPY GBC	FIELD	040C 55XPWR	5998 / 0 7,797,400	
4001B	GATE	D-1: 4	P DIP 14: 78/79	41C	DSPY GBC	FIELD	040C 55XPWR	22965 / 3 29,854,500	

DIGITAL DEVICE DATA

VARIOUS CMOS

MANUFACTURER OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT. # TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MTEF REPORT NO./QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
4002A	GATE	B-1/JB: 2	H DIP 14: 77/79	65C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	6479 / 0 177,222	
4002A	GATE	B-1/JB: 2	H DIP 14: 77/79	65C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	1912 / 0 52,120	
4002A	GATE	B-1/JB: 2	H DIP 14: 77/79	65C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	3505 / 0 96,962	
4002A	GATE	B-1/JB: 2	H DIP 14: 76/77	56C	COMM AIF	FIELD		15 / 0 10,227	
4002A	GATE	B-1/JB: 2	H DIP 14: 76/77	56C	COMM AIF	FIELD		10 / 0 4,191	
4002A	GATE	B-1/JB: 2	H DIP 14: 76/77	56C	COMM AIF	FIELD		14 / 0 7,056	
4002A	GATE	B-1/JB: 2	H DIP 14: 76/77	56C	COMM AIT	FIELD		19 / 0 19,331	
4002A	GATE	D 2	H DIP 14: 78/79	56C	COMM AIF	FIELD		100 / 0 30,888	
4008A	ADDER FULL	B-1/JB: 58	H DIP 16: 77/79	80C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	12958 / 0 354,444	
4008A	ADDER FULL	B-1/JB: 58	H DIP 16: 77/79	80C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	3824 / 0 104,240	
4008A	ADDER FULL	B-1/JB: 58	H DIP 16: 77/79	80C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	7010 / 0 193,924	
4008A	ADDER FULL	B-1/JB: 58	H DIP 16: 76/77	57C	COMM AIF	FIELD		30 / 0 20,454	
4008A	ADDER FULL	B-1/JB: 58	H DIP 16: 76/77	57C	COMM AIF	FIELD		20 / 0 8,382	
4008A	ADDER FULL	B-1/JB: 58	H DIP 16: 76/77	57C	COMM AIF	FIELD		28 / 0 14,112	
4008A	ADDER FULL	B-1/JB: 58	H DIP 16: 76/77	57C	COMM AIT	FIELD		38 / 0 38,662	
40098/80C98	BUFFER	D-1 8	P DIP 16: 77/78	42C	DSPY GBC	FIELD	040C 55XPWR	1612 / 0 2,095,600	
40098/80C98	BUFFER	D-1 8	P DIP 16: 78/79	42C	DSPY GBC	FIELD	040C 55XPWR	4772 / 1 6,203,600	
4011A	GATE	B-1/JB: 4	H DIP 14: 77/79	65C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	12958 / 0 354,444	
4011A	GATE	B-1/JB: 4	H DIP 14: 77/79	65C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	1003 / 0 28,344	
4011A	GATE	B-1/JB: 4	H DIP 14: 76/77	56C	COMM AIF	FIELD		45 / 0 30,681	
4011A	GATE	B-1/JB: 4	H DIP 14: 76/77	56C	COMM AIF	FIELD		15 / 0 10,227	
4011A	GATE	B-1/JB: 4	H DIP 14: 76/77	56C	COMM AIF	FIELD		30 / 0 20,454	
4011A	GATE	B-1/JB: 4	H DIP 14: 76/77	56C	COMM AIF	FIELD		20 / 0 8,382	

DIGITAL DEVICE DATA

VARIOUS
CMOS

:MANUFACTURER
:OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

: PART NO. :	DEVICE FUNCTION :	SCRN. CLASS :	PACKAGE/ PINS :	JCT.* TEMP. :	EQUIP. TYPE :	DATA CLASS. :	STRESS LEVEL :	#TESTED/ #FAILED :	MFEF REPORT NO. /QTY FAILED :
:	CIRCUIT FUNCTION :	NO. GATES :	TEST DATE :	:	APPL. ENV. :	TEST TYPE :	:	PART HOURS :	:
: 4011A :	: GATE :	: B-1/JB: 4 :	: H DIP 14: 76/77 :	: 56C :	: COMM AIF :	: FIELD :	:	: 10 / 0 :	: 4,191:
: 4011A :	: GATE :	: B-1/JB: 4 :	: H DIP 14: 76/77 :	: 56C :	: COMM AIF :	: FIELD :	:	: 42 / 0 :	: 21,168:
: 4011A :	: GATE :	: B-1/JB: 4 :	: H DIP 14: 76/77 :	: 56C :	: COMM AIF :	: FIELD :	:	: 28 / 0 :	: 14,112:
: 4011A :	: GATE :	: B-1/JB: 4 :	: H DIP 14: 76/77 :	: 56C :	: COMM AIF :	: FIELD :	:	: 56 / 0 :	: 28,224:
: 4011A :	: GATE :	: B-1/JB: 4 :	: H DIP 14: 76/77 :	: 56C :	: COMM AIT :	: FIELD :	:	: 38 / 0 :	: 38,662:
: 4011A :	: GATE :	: B-1/JB: 4 :	: H DIP 14: 76/77 :	: 56C :	: COMM AIT :	: FIELD :	:	: 38 / 0 :	: 38,662:
: 4011A :	: GATE :	: D 4 :	: H DIP 14: 78/79 :	: 56C :	: COMM AIF :	: FIELD :	:	: 100 / 0 :	: 30,888:
: 4011B :	: GATE :	: D-1 4 :	: P DIP 14: 77/78 :	: 41C :	: DSPY GBC :	: FIELD :	: 040C 55XPWR:	: 6257 / 0 :	: 8,134,100:
: 4011B :	: GATE :	: D-1 4 :	: P DIP 14: 78/79 :	: 41C :	: DSPY GBC :	: FIELD :	: 040C 55XPWR:	: 18590 / 4 :	: 24,167,000:
: 4013 :	: FLIP-FLOP D :	: D-1 24 :	: P DIP 14: 77/78 :	: 56C :	: DSPY GBC :	: FIELD :	: 040C 55XPWR:	: 1866 / 1 :	: 2,425,800:
: 4013 :	: FLIP-FLOP D :	: D-1 24 :	: P DIP 14: 78/79 :	: 56C :	: DSPY GBC :	: FIELD :	: 040C 55XPWR:	: 3762 / 0 :	: 4,890,600:
: 4013A :	: FLIP-FLOP D :	: B-1/JB: 24 :	: H DIP 14: 77/79 :	: 65C :	: COMM AI :	: CHECK TCVPC :	: -054C 055C 14CY 2 22HZ:	: 25916 / 0 :	: 708,888:
: 4013A :	: FLIP-FLOP D :	: B-1/JB: 24 :	: H DIP 14: 77/79 :	: 65C :	: COMM AI :	: CHECK TCVPC :	: -054C 055C 14CY 2 22HZ:	: 5736 / 0 :	: 156,360:
: 4013A :	: FLIP-FLOP D :	: B-1/JB: 24 :	: H DIP 14: 77/79 :	: 65C :	: COMM AI :	: CHECK TCVPC :	: -054C 055C 14CY 2 22HZ:	: 10515 / 1 :	: 290,886: 2141/ 1 :
: 4013A :	: FLIP-FLOP D :	: B-1/JB: 24 :	: H DIP 14: 77/79 :	: 65C :	: COMM AI :	: CHECK TCVPC :	: -054C 055C 14CY 2 22HZ:	: 1003 / 0 :	: 28,344:
: 4013A :	: FLIP-FLOP D :	: B-1/JB: 24 :	: H DIP 14: 76/77 :	: 56C :	: COMM AIF :	: FIELD :	:	: 45 / 0 :	: 30,681:
: 4013A :	: FLIP-FLOP D :	: B-1/JB: 24 :	: H DIP 14: 76/77 :	: 56C :	: COMM AIF :	: FIELD :	:	: 15 / 0 :	: 10,227:
: 4013A :	: FLIP-FLOP D :	: B-1/JB: 24 :	: H DIP 14: 76/77 :	: 56C :	: COMM AIF :	: FIELD :	:	: 40 / 0 :	: 16,764:
: 4013A :	: FLIP-FLOP D :	: B-1/JB: 24 :	: H DIP 14: 76/77 :	: 56C :	: COMM AIF :	: FIELD :	:	: 10 / 0 :	: 4,191:
: 4013A :	: FLIP-FLOP D :	: B-1/JB: 24 :	: H DIP 14: 76/77 :	: 56C :	: COMM AIF :	: FIELD :	:	: 42 / 0 :	: 21,168:
: 4013A :	: FLIP-FLOP D :	: B-1/JB: 24 :	: H DIP 14: 76/77 :	: 56C :	: COMM AIF :	: FIELD :	:	: 28 / 0 :	: 14,112:
: 4013A :	: FLIP-FLOP D :	: B-1/JB: 24 :	: H DIP 14: 76/77 :	: 56C :	: COMM AIT :	: FIELD :	:	: 76 / 0 :	: 77,324:
: 4013B :	: FLIP-FLOP D :	: D-1 31 :	: P DIP 14: 77/78 :	: 65C :	: DSPY GBC :	: FIELD :	: 040C 55XPWR:	: 9181 / 2 :	: 11,935,300:

DIGITAL DEVICE DATA

VARIOUS
CMOS

MANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT. TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. / QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
4013B	FLIP-FLOP D	D-1 31	P DIP 14: 78/79	65C		DSPY GBC	FIELD 040C 55XPWR	53699 / 5 69,808,700		
4014A	SHIFT REG	B-1/JB 55	H DIP 16: 76/77	56C		COMM AIF	FIELD	60 / 1 40,908		
4014A	SHIFT REG	B-1/JB 55	H DIP 16: 76/77	56C		COMM AIF	FIELD	60 / 0 40,908		
4014A	SHIFT REG	B-1/JB 55	H DIP 16: 76/77	56C		COMM AIF	FIELD	56 / 0 28,224		
4014A	SHIFT REG	B-1/JB 55	H DIP 16: 76/77	56C		COMM AIF	FIELD	112 / 0 56,448		
4014A	SHIFT REG	B-1/JB 55	H DIP 16: 76/77	56C		COMM AIT	FIELD	76 / 0 77,324		
4015A	SHIFT REG	B-1/JB 58	H DIP 16: 77/79	80C		COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	25916 / 8 708,888	2142/ 4 2143/ 4
4015A	SHIFT REG	B-1/JB 58	H DIP 16: 77/79	80C		COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	6018 / 8 141,720	2145/ 5 2144/ 3
4015A	SHIFT REG	B-1/JB 58	H DIP 16: 76/77	56C		COMM AIF	FIELD	90 / 0 61,362		
4015A	SHIFT REG	B-1/JB 58	H DIP 16: 76/77	56C		COMM AIF	FIELD	40 / 0 16,764		
4015A	SHIFT REG	B-1/JB 58	H DIP 16: 76/77	56C		COMM AIF	FIELD	60 / 0 25,146		
4015A	SHIFT REG	B-1/JB 58	H DIP 16: 76/77	56C		COMM AIF	FIELD	168 / 0 84,672		
4015A	SHIFT REG	B-1/JB 58	H DIP 16: 76/77	56C		COMM AIT	FIELD	76 / 0 77,324		
4018A	DIVIDER	B-1/JB 57	H DIP 16: 77/79	80C		COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	25916 / 0 708,888	
4018A	DIVIDER	B-1/JB 57	H DIP 16: 77/79	80C		COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	6018 / 0 141,720	
4018A	DIVIDER	B-1/JB 57	H DIP 16: 76/77	56C		COMM AIF	FIELD	90 / 0 61,362		
4018A	DIVIDER	B-1/JB 57	H DIP 16: 76/77	56C		COMM AIF	FIELD	40 / 0 16,764		
4018A	DIVIDER	B-1/JB 57	H DIP 16: 76/77	56C		COMM AIF	FIELD	60 / 0 25,146		
4018A	DIVIDER	B-1/JB 57	H DIP 16: 76/77	56C		COMM AIF	FIELD	168 / 0 84,672		
4018A	DIVIDER	B-1/JB 57	H DIP 16: 76/77	56C		COMM AIT	FIELD	76 / 0 77,324		
4019A	GATE	B-1/JB 12	H DIP 16: 77/79	65C		COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	6479 / 0 177,222	

DIGITAL DEVICE DATA

VARIOUS CMOS		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO. / QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
4019A	GATE	B-1/JB: 12	H DIP 77/79	16: 65C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	1912 / 0	52,120		
4019A	GATE	B-1/JB: 12	H DIP 77/79	16: 65C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	3505 / 0	96,962		
4019A	GATE	B-1/JB: 12	H DIP 77/79	16: 65C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	2006 / 0	56,688		
4019A	GATE	B-1/JB: 12	H DIP 76/77	16: 56C	COMM AIF	FIELD		15 / 0	10,227		
4019A	GATE	B-1/JB: 12	H DIP 76/77	16: 56C	COMM AIF	FIELD		30 / 0	20,454		
4019A	GATE	B-1/JB: 12	H DIP 76/77	16: 56C	COMM AIF	FIELD		10 / 0	4,191		
4019A	GATE	B-1/JB: 12	H DIP 76/77	16: 56C	COMM AIF	FIELD		20 / 0	8,382		
4019A	GATE	B-1/JB: 12	H DIP 76/77	16: 56C	COMM AIF	FIELD		14 / 0	7,056		
4019A	GATE	B-1/JB: 12	H DIP 76/77	16: 56C	COMM AIF	FIELD		56 / 0	28,224		
4019A	GATE	B-1/JB: 12	H DIP 76/77	16: 56C	COMM AIT	FIELD		19 / 0	19,331		
4023B	GATE	D-1: 3	P DIP 77/78	14: 41C	DSPY GBC	FIELD	040C 55XPWR	1157 / 0	1,504,100		
4023B	GATE	D-1: 3	P DIP 78/79	14: 41C	DSPY GBC	FIELD	040C 55XPWR	4296 / 1	5,584,800		
4024	COUNTER BINARY	X: 81	P DIP 76/78	14: 47C	COMP GBC	FIELD	025C	10 / 0	153,068		
4024	COUNTER BINARY	X: 81	P DIP 78/78	14: 47C	COMP GBC	FIELD	025C	10 / 0	28,800		
4024A	COUNTER BINARY	B-1/JB: 81	H DIP 77/79	14: 80C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	6479 / 1	2146 / 1 177,222		
4024A	COUNTER BINARY	B-1/JB: 81	H DIP 76/77	14: 56C	COMM AIF	FIELD		30 / 0	20,454		
4024A	COUNTER BINARY	B-1/JB: 81	H DIP 76/77	14: 56C	COMM AIF	FIELD		15 / 0	10,227		
4024A	COUNTER BINARY	B-1/JB: 81	H DIP 76/77	14: 56C	COMM AIF	FIELD		10 / 0	4,191		
4024A	COUNTER BINARY	B-1/JB: 81	H DIP 76/77	14: 56C	COMM AIF	FIELD		28 / 0	14,112		
4024A	COUNTER BINARY	B-1/JB: 81	H DIP 76/77	14: 56C	COMM AIF	FIELD		28 / 0	14,112		
4024A	COUNTER BINARY	B-1/JB: 81	H DIP 76/77	14: 56C	COMM AIT	FIELD		19 / 0	19,331		
4024A	COUNTER BINARY	B-1/JB: 81	H DIP 76/77	14: 56C	COMM AIT	FIELD		19 / 0	19,331		
4025A	GATE	B-1/JB: 3	H DIP 77/79	14: 65C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	6479 / 0	177,222		

DIGITAL DEVICE DATA

VARIOUS CMOS		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEP REPORT NO. /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
4025A	GATE	B-1/JB: 3	H DIP 14: 77/79	65C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	1912 / 0 52,120			
4025A	GATE	B-1/JB: 3	H DIP 14: 77/79	65C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	3505 / 0 96,962			
4025A	GATE	B-1/JB: 3	H DIP 14: 76/77	56C	COMM AIF	FIELD		15 / 0 10,227			
4025A	GATE	B-1/JB: 3	H DIP 14: 76/77	56C	COMM AIF	FIELD		10 / 0 4,191			
4025A	GATE	B-1/JB: 3	H DIP 14: 76/77	56C	COMM AIF	FIELD		14 / 0 7,056			
4025A	GATE	B-1/JB: 3	H DIP 14: 76/77	56C	COMM AIT	FIELD		19 / 0 19,331			
4025A	GATE	D: 3	H DIP 14: 78/79	56C	COMM AIF	FIELD		100 / 1 30,888			
4027A	FLIP-FLOP JK	D: 30	H DIP 16: 77/77	50C	PROC GF	FIELD	040C	2361 / 2 10,199,520			
4027B	FLIP-FLOP JK	D-1: 30	P DIP 16: 77/78	55C	DSPY GBC	FIELD	040C 55XPWR	937 / 0 1,218,100			
4027B	FLIP-FLOP JK	D-1: 30	P DIP 16: 78/79	55C	DSPY GBC	FIELD	040C 55XPWR	3096 / 0 4,024,800			
4029A	COUNTER BINARY/BCD	B-1/JB: 72	H DIP 16: 76/77	56C	COMM AIT	FIELD		133 / 0 135,317			
4029A	COUNTER BINARY/BCD	B-1: 72	H DIP 16: 77/79	80C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	6479 / 2 177,222	2147/ 2		
4029A	COUNTER BINARY/BCD	B-1: 72	H DIP 16: 77/79	80C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	1912 / 0 52,120			
4029A	COUNTER BINARY/BCD	B-1: 72	H DIP 16: 77/79	80C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	3505 / 0 96,962			
4029A	COUNTER BINARY/BCD	B-1: 72	H DIP 16: 76/77	56C	COMM AIF	FIELD		15 / 0 10,227			
4029A	COUNTER BINARY/BCD	B-1: 72	H DIP 16: 76/77	56C	COMM AIF	FIELD		10 / 0 4,191			
4029A	COUNTER BINARY/BCD	B-1: 72	H DIP 16: 76/77	56C	COMM AIF	FIELD		14 / 0 7,056			
4029A	COUNTER BINARY/BCD	B-1: 72	H DIP 16: 76/77	56C	COMM AIT	FIELD		19 / 0 19,331			
4030A	GATE	B-1/JB: 4	H DIP 14: 77/79	65C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	2006 / 0 56,688			
4030A	GATE	B-1/JB: 4	H DIP 14: 76/77	56C	COMM AIF	FIELD		30 / 0 20,454			
4030A	GATE	B-1/JB: 4	H DIP 14: 76/77	56C	COMM AIF	FIELD		20 / 0 8,382			
4030A	GATE	B-1/JB: 4	H DIP 14: 76/77	56C	COMM AIF	FIELD		56 / 0 28,224			
4042B	LATCH D	D-1: 33	P DIP 16: 77/78	42C	DSPY GBC	FIELD	040C 55XPWR	2721 / 0 3,537,300			

DIGITAL DEVICE DATA

VARIOUS CMOS		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO. /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
4042B	LATCH D	D-1 33	P DIP 78/79	16 42C	DSPY GBC	FIELD	040C 55XPWR	24582 / 0 31,956,600			
4049	CONVERTER BUFFER	D-1 6	P DIP 77/78	16 42C	DSPY GBC	FIELD	040C 55XPWR	159 / 0 206,700			
4049	CONVERTER BUFFER	D-1 6	P DIP 78/79	16 42C	DSPY GBC	FIELD	040C 55XPWR	315 / 1 409,500			
4049A	CONVERTER BUFFER	B-1/JB 6	H DIP 77/79	14 65C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	45353 / 0 1,240,554			
4049A	CONVERTER BUFFER	B-1/JB 6	H DIP 77/79	14 65C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	3009 / 0 85,032			
4049A	CONVERTER BUFFER	B-1/JB 6	H DIP 76/77	14 57C	COMM AIF	FIELD		105 / 1 71,589			
4049A	CONVERTER BUFFER	B-1/JB 6	H DIP 76/77	14 57C	COMM AIF	FIELD		45 / 0 30,681			
4049A	CONVERTER BUFFER	B-1/JB 6	H DIP 76/77	14 57C	COMM AIF	FIELD		60 / 0 40,908			
4049A	CONVERTER BUFFER	B-1/JB 6	H DIP 76/77	14 57C	COMM AIF	FIELD		70 / 0 29,337			
4049A	CONVERTER BUFFER	B-1/JB 6	H DIP 76/77	14 57C	COMM AIF	FIELD		30 / 0 12,573			
4049A	CONVERTER BUFFER	B-1/JB 6	H DIP 76/77	14 57C	COMM AIF	FIELD		98 / 0 49,392			
4049A	CONVERTER BUFFER	B-1/JB 6	H DIP 76/77	14 57C	COMM AIF	FIELD		84 / 0 42,336			
4049A	CONVERTER BUFFER	B-1/JB 6	H DIP 76/77	14 57C	COMM AIF	FIELD		112 / 0 56,448			
4049A	CONVERTER BUFFER	B-1/JB 6	H DIP 76/77	14 57C	COMM AIT	FIELD		76 / 0 77,324			
4049A	CONVERTER BUFFER	D 6	H DIP 78/79	14 57C	COMM AIF	FIELD		50 / 0 15,444			
4050A	CONVERTER BUFFER	B-1/JB 6	H DIP 77/79	14 65C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	19437 / 3 531,666	2148/ 3		
4050A	CONVERTER BUFFER	B-1/JB 6	H DIP 77/79	14 65C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	5736 / 0 156,360			
4050A	CONVERTER BUFFER	B-1/JB 6	H DIP 77/79	14 65C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	10515 / 0 290,886			
4050A	CONVERTER BUFFER	B-1/JB 6	H DIP 77/79	14 65C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	3009 / 0 85,032			
4050A	CONVERTER BUFFER	B-1/JB 6	H DIP 76/77	14 57C	COMM AIF	FIELD		45 / 0 30,681			
4050A	CONVERTER BUFFER	B-1/JB 6	H DIP 76/77	14 57C	COMM AIF	FIELD		45 / 0 30,681			
4050A	CONVERTER BUFFER	B-1/JB 6	H DIP 76/77	14 57C	COMM AIF	FIELD		30 / 0 12,573			
4050A	CONVERTER BUFFER	B-1/JB 6	H DIP 76/77	14 57C	COMM AIF	FIELD		30 / 0 12,573			

DIGITAL DEVICE DATA

VARIOUS
CMOS

MANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
4050A	CONVERTER BUFFER	B-1/JB 6	H DIP 14 76/77	57C	COMM AIF	FIELD		42 / 0 21,168	
4050A	CONVERTER BUFFER	B-1/JB 6	H DIP 14 76/77	57C	COMM AIF	FIELD		84 / 0 42,336	
4050A	CONVERTER BUFFER	B-1/JB 6	H DIP 14 76/77	57C	COMM AIT	FIELD		57 / 0 57,993	
4050A	CONVERTER BUFFER	D 6	H DIP 14 78/79	57C	COMM AIF	FIELD		50 / 1 15,444	
4050B	CONVERTER BUFFER	D-1 6	P DIP 16 77/78	42C	DSPY GBC	FIELD	040C 55XPWR	3639 / 0 4,730,700	
4050B	CONVERTER BUFFER	D-1 6	P DIP 16 78/79	42C	DSPY GBC	FIELD	040C 55XPWR	11940 / 0 15,522,000	
4060B	COUNTER BINARY	D N/R	H DIP 16 77/77	50C	PROC GF	FIELD	040C	1700 / 2 46,224,000	
4060B	COUNTER BINARY	D N/R	H DIP 16 78/78	50C	PROC GF	FIELD	040C	723 / 2 3,123,360	
4076B	REGISTER D	D 45	H DIP 16 77/78	60C	DSPY GBC	FIELD	040C 55XPWR	1119 / 0 1,454,700	
4076B	REGISTER D	D 45	H DIP 16 78/79	60C	DSPY GBC	FIELD	040C 55XPWR	19982 / 4 25,976,600	
74C221	FLIP-FLOP MONOSTABLE	D 20	H DIP 16 78/78	42C	PROC GF	FIELD	040C	289 / 3 1,248,480	

DIGITAL DEVICE DATA

MOTOROLA SEMI
CHOS , ,ION IMPLANT

MANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MTEF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
14001	GATE	D	H DIP 14	41C	DSPY	FIELD	040C 55XPWR:	7880 / 1	10,244,000
		4	77/78		GBC				
14001	GATE	D	H DIP 14	41C	DSPY	FIELD	040C 55XPWR:	11836 / 0	15,386,800
		4	78/79		GBC				
14001	GATE	D-1	P DIP 14	41C	DSPY	FIELD	040C 55XPWR:	44184 / 25	57,439,200
		4	77/78		GBC				
14001	GATE	D-1	P DIP 14	41C	DSPY	FIELD	040C 55XPWR:	68233 / 30	88,702,900
		4	78/79		GBC				
14001B	GATE	D-1	P DIP 14	126C	NR	LIFE	125C	204 / 0	617,208
		4	00/77		N/R	OP DYN			
						LIFE		204 / 3	
						EM			
14002	GATE	D	H DIP 14	41C	DSPY	FIELD	040C 55XPWR:	1239 / 0	1,610,700
		2	77/78		GBC				
14002	GATE	D	H DIP 14	41C	DSPY	FIELD	040C 55XPWR:	1626 / 0	2,113,800
		2	78/79		GBC				
14002	GATE	D-1	P DIP 14	41C	DSPY	FIELD	040C 55XPWR:	3238 / 2	4,274,400
		2	77/78		GBC				
14002	GATE	D-1	P DIP 14	41C	DSPY	FIELD	040C 55XPWR:	2410 / 1	3,133,000
		2	78/79		GBC				
14002B	GATE	D-1	P DIP 14	41C	DSPY	FIELD	040C 55XPWR:	464 / 0	603,200
		2	77/78		GBC				
14002B	GATE	D-1	P DIP 14	41C	DSPY	FIELD	040C 55XPWR:	1219 / 0	1,584,700
		2	78/79		GBC				
14007	INVERTER	D-1	P DIP 14	126C	NR	LIFE	125C	375 / 5	358,320
		3	00/77		N/R	OP DYN			
						LIFE		354 / 0	
						EM			
14007	INVERTER	D-1	P DIP 14	41C	DSPY	FIELD	040C 55XPWR:	808 / 0	1,050,400
		3	78/79		GBC				
14007B	INVERTER	D-1	P DIP 14	126C	NR	LIFE	125C	206 / 0	623,280
		3	00/77		N/R	OP DYN			
						LIFE		206 / 2	
						EM			
14008	ADDER FULL	D	H DIP 16	42C	DSPY	FIELD	040C 55XPWR:	715 / 0	929,500
		58	77/78		GBC				
14008	ADDER FULL	D	H DIP 16	42C	DSPY	FIELD	040C 55XPWR:	1329 / 1	1,727,700
		58	78/79		GBC				
14008	ADDER FULL	D-1	P DIP 16	42C	DSPY	FIELD	040C 55XPWR:	3457 / 0	4,494,100
		58	77/78		GBC				
14008	ADDER FULL	D-1	P DIP 16	42C	DSPY	FIELD	040C 55XPWR:	3962 / 0	5,150,600
		58	78/79		GBC				
14011	GATE	D	H DIP 14	42C	DSPY	FIELD	040C 55XPWR:	11828 / 3	15,376,400
		4	77/78		GBC				
14011	GATE	D	H DIP 14	42C	DSPY	FIELD	040C 55XPWR:	18361 / 2	23,869,300
		4	78/79		GBC				

DIGITAL DEVICE DATA

MOTOROLA SEMI CMOS ,ION IMPLANT		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEP REPORT NO. /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
14011	GATE	D-1	P DIP 14	127C	NR	LIFE	125C	205 / 0		
		4	00/77		N/R	OP DYN		621,024		
						LIFE		205 / 4		
						EM				
14011	GATE	D-1	P DIP 14	42C	DSPY	FIELD	040C	55XPWR: 85397 / 16		
		4	77/78		GBC			111,016,100		
14011	GATE	D-1	P DIP 14	42C	DSPY	FIELD	040C	55XPWR: 99999 / 41		
		4	78/79		GBC			182,127,400		
						FIELD		40099 / 0		
14012	GATE	D	H DIP 14	41C	DSPY	FIELD	040C	55XPWR: 826 / 0		
		2	77/78		GBC			1,073,800		
14012	GATE	D	H DIP 14	41C	DSPY	FIELD	040C	55XPWR: 1084 / 0		
		2	78/79		GBC			1,409,200		
14012B	GATE	D-1	P DIP 14	41C	DSPY	FIELD	040C	55XPWR: 236 / 0		
		2	77/78		GBC			306,800		
14012B	GATE	D-1	P DIP 14	41C	DSPY	FIELD	040C	55XPWR: 736 / 0		
		2	78/79		GBC			956,800		
14013	FLIP-FLOP	D	H DIP 14	49C	DSPY	FIELD	040C	55XPWR: 7447 / 7		
	D	24	77/78		GBC			9,681,100		
14013	FLIP-FLOP	D	H DIP 14	49C	DSPY	FIELD	040C	55XPWR: 15098 / 3		
	D	24	78/79		GBC			19,627,400		
14013	FLIP-FLOP	D-1	P DIP 14	49C	DSPY	FIELD	040C	55XPWR: 73852 / 29		
	D	24	77/78		GBC			96,007,600		
14013	FLIP-FLOP	D-1	P DIP 14	49C	DSPY	FIELD	040C	55XPWR: 99999 / 35		
	D	24	78/79		GBC			138,723,000		
						FIELD		6711 / 0		
14015	SHIFT REG	D	H DIP 16	47C	DSPY	FIELD	040C	55XPWR: 1652 / 5		
		58	77/78		GBC			2,147,600		
14015	SHIFT REG	D	H DIP 16	47C	DSPY	FIELD	040C	55XPWR: 2168 / 2		
		58	78/79		GBC			2,818,400		
14015	SHIFT REG	D-1	P DIP 16	47C	DSPY	FIELD	040C	55XPWR: 4139 / 1		
		58	77/78		GBC			5,380,700		
14015	SHIFT REG	D-1	P DIP 16	47C	DSPY	FIELD	040C	55XPWR: 8690 / 2		
		58	78/79		GBC			11,297,000		
14018B	COUNTER	D-1	P DIP 16	45C	DSPY	FIELD	040C	55XPWR: 153 / 0		
		57	78/79		GBC			198,900		
14021	SHIFT REG	D-1	P DIP 16	48C	DSPY	FIELD	040C	55XPWR: 3921 / 0		
		55	77/78		GBC			5,097,300		
14021	SHIFT REG	D-1	P DIP 16	48C	DSPY	FIELD	040C	55XPWR: 5936 / 0		
		55	78/79		GBC			7,716,800		
14021B	SHIFT REG	D-1	P DIP 16	50C	DSPY	FIELD	040C	55XPWR: 232 / 0		
		55	77/78		GBC			301,600		
14021B	SHIFT REG	D-1	P DIP 16	50C	DSPY	FIELD	040C	55XPWR: 636 / 0		
		55	78/79		GBC			826,800		

DIGITAL DEVICE DATA

MOTOROLA SEMI CMOS , ,ION IMPLANT		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT. # TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
14022	COUNTER	D-1 39	P DIP 16: 77/78	43C	DSPY GBC	FIELD	040C 55XPWR:	955 / 0 1,241,500:		
14022	COUNTER	D-1 39	P DIP 16: 78/79	43C	DSPY GBC	FIELD	040C 55XPWR:	1484 / 0 1,929,200:		
14023	GATE	D 3	H DIP 14: 77/78	41C	DSPY GBC	FIELD	040C 55XPWR:	2811 / 2 3,654,300:		
14023	GATE	D 3	H DIP 14: 78/79	41C	DSPY GBC	FIELD	040C 55XPWR:	5587 / 0 7,263,100:		
14023	GATE	D-1 3	P DIP 14: 77/78	41C	DSPY GBC	FIELD	040C 55XPWR:	10973 / 3 14,264,900:		
14023	GATE	D-1 3	P DIP 14: 78/79	41C	DSPY GBC	FIELD	040C 55XPWR:	19118 / 2 24,853,400:		
14024	COUNTER	D-1 81	P DIP 14: 77/78	43C	DSPY GBC	FIELD	040C 55XPWR:	834 / 0 1,084,200:		
14024	COUNTER	D-1 81	P DIP 14: 78/79	43C	DSPY GBC	FIELD	040C 55XPWR:	3792 / 1 4,929,600:		
14025	GATE	D 3	H DIP 14: 77/78	41C	DSPY GBC	FIELD	040C 55XPWR:	2393 / 1 3,110,900:		
14025	GATE	D 3	H DIP 14: 78/79	41C	DSPY GBC	FIELD	040C 55XPWR:	3652 / 1 4,747,600:		
14025	GATE	D-1 3	P DIP 14: 77/78	41C	DSPY GBC	FIELD	040C 55XPWR:	23902 / 11 31,072,600:		
14025	GATE	D-1 3	P DIP 14: 78/79	41C	DSPY GBC	FIELD	040C 55XPWR:	42813 / 19 55,656,900:		
14027	FLIP-FLOP JK	D 30	H DIP 16: 77/78	50C	DSPY GBC	FIELD	040C 55XPWR:	1652 / 0 2,147,600:		
14027	FLIP-FLOP JK	D 30	H DIP 16: 78/79	50C	DSPY GBC	FIELD	040C 55XPWR:	2168 / 1 2,818,400:		
14027	FLIP-FLOP JK	D-1 30	P DIP 16: 78/79	52C	DSPY GBC	FIELD	040C 55XPWR:	111 / 0 144,300:		
14028	DECODER BCD/DECIMAL	D 35	H DIP 16: 77/78	41C	DSPY GBC	FIELD	040C 55XPWR:	1941 / 1 2,523,300:		
14028	DECODER BCD/DECIMAL	D 35	H DIP 16: 78/79	41C	DSPY GBC	FIELD	040C 55XPWR:	2447 / 1 3,181,100:		
14028	DECODER BCD/DECIMAL	D-1 35	P DIP 16: 77/78	41C	DSPY GBC	FIELD	040C 55XPWR:	5380 / 1 6,994,000:		
14028	DECODER BCD/DECIMAL	D-1 35	P DIP 16: 78/79	41C	DSPY GBC	FIELD	040C 55XPWR:	9163 / 5 11,911,900:		
14040B	COUNTER BINARY	D-1 79	P DIP 16: 78/79	52C	DSPY GBC	FIELD	040C 55XPWR:	1341 / 0 1,743,300:		
14042	LATCH	D-1 31	P DIP 16: 77/78	41C	DSPY GBC	FIELD	040C 55XPWR:	14619 / 3 19,004,700:		
14042	LATCH	D-1 31	P DIP 16: 78/79	41C	DSPY GBC	FIELD	040C 55XPWR:	28738 / 8 37,359,400:		
14042B	LATCH	D-1 29	P DIP 16: 77/78	43C	DSPY GBC	FIELD	040C 55XPWR:	112 / 0 145,600:		

DIGITAL DEVICE DATA

MOTOROLA SEMI CMOS , ,ION IMPLANT		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO. /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
14042B	LATCH	D-1 29	P DIP 16 78/79	43C	DSPY GBC	FIELD	040C 55XPWR:	188 / 0 244,400:		
14049	CONVERTER BUFFER	D 6	H DIP 16 77/78	42C	DSPY GBC	FIELD	040C 55XPWR:	6301 / 2 8,191,300:		
14049	CONVERTER BUFFER	D 6	H DIP 16 78/79	42C	DSPY GBC	FIELD	040C 55XPWR:	9311 / 4 12,104,300:		
14049	CONVERTER BUFFER	D-1 6	P DIP 16 77/78	42C	DSPY GBC	FIELD	040C 55XPWR:	23730 / 6 30,849,000:		
14049	CONVERTER BUFFER	D-1 6	P DIP 16 78/79	42C	DSPY GBC	FIELD	040C 55XPWR:	37506 / 9 48,757,800:		
14049B	CONVERTER BUFFER	D-1 6	P DIP 16 00/77	129C	NR N/R	LIFE OP DYN	125C	204 / 0 411,744:		
14049B	CONVERTER BUFFER	D-1 6	P DIP 16 77/78	44C	DSPY GBC	FIELD	040C 55XPWR:	6139 / 1 7,980,700:		
14049B	CONVERTER BUFFER	D-1 6	P DIP 16 78/79	44C	DSPY GBC	FIELD	040C 55XPWR:	27624 / 7 35,911,200:		
14050	CONVERTER BUFFER	D 6	H DIP 16 77/78	42C	DSPY GBC	FIELD	040C 55XPWR:	1773 / 1 2,304,900:		
14050	CONVERTER BUFFER	D 6	H DIP 16 78/79	42C	DSPY GBC	FIELD	040C 55XPWR:	2629 / 13 3,417,700:		
14050	CONVERTER BUFFER	D-1 6	P DIP 16 77/78	42C	DSPY GBC	FIELD	040C 55XPWR:	40270 / 6 52,351,000:		
14050	CONVERTER BUFFER	D-1 6	P DIP 16 78/79	42C	DSPY GBC	FIELD	040C 55XPWR:	36637 / 6 47,628,100:		
14069B	INVERTER	D 6	H DIP 14 77/78	41C	DSPY GBC	FIELD	040C 55XPWR:	2971 / 0 3,862,300:		
14069B	INVERTER	D 6	H DIP 14 78/79	41C	DSPY GBC	FIELD	040C 55XPWR:	5300 / 0 6,890,000:		
14069B	INVERTER	D-1 6	P DIP 14 77/78	41C	DSPY GBC	FIELD	040C 55XPWR:	254 / 0 330,200:		
14069B	INVERTER	D-1 6	P DIP 14 78/79	41C	DSPY GBC	FIELD	040C 55XPWR:	404 / 0 525,200:		
14070B	GATE	D 4	H DIP 14 77/78	41C	DSPY GBC	FIELD	040C 55XPWR:	604 / 1 785,200:		
14070B	GATE	D 4	H DIP 14 78/79	41C	DSPY GBC	FIELD	040C 55XPWR:	1574 / 0 2,046,200:		
14070B	GATE	D-1 4	P DIP 14 77/78	41C	DSPY GBC	FIELD	040C 55XPWR:	682 / 0 886,600:		
14070B	GATE	D-1 4	P DIP 14 78/79	41C	DSPY GBC	FIELD	040C 55XPWR:	3659 / 0 4,756,700:		
14071	GATE	D-1 4	P DIP 14 77/78	41C	DSPY GBC	FIELD	040C 55XPWR:	118 / 0 153,400:		
14071B	GATE	D 4	H DIP 14 77/78	41C	DSPY GBC	FIELD	040C 55XPWR:	3525 / 0 4,582,500:		

DIGITAL DEVICE DATA

MOTOROLA SEMI CMOS ,ION IMPLANT		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT. TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MVEF REPORT NO. /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
14071B	GATE	D 4	H DIP 78/79	14 41C	DSPY GBC	FIELD	040C 55XPWR	7446 / 1 9,679,800		
14071B	GATE	D-1 4	P DIP 77/78	14 41C	DSPY GBC	FIELD	040C 55XPWR	123 / 0 159,900		
14071B	GATE	D-1 4	P DIP 78/79	14 41C	DSPY GBC	FIELD	040C 55XPWR	1760 / 2 2,288,000		
14073B	GATE	D 3	H DIP 77/78	14 41C	DSPY GBC	FIELD	040C 55XPWR	302 / 0 392,600		
14073B	GATE	D 3	H DIP 78/79	14 41C	DSPY GBC	FIELD	040C 55XPWR	787 / 0 1,023,100		
14073B	GATE	D-1 3	P DIP 77/78	14 41C	DSPY GBC	FIELD	040C 55XPWR	2 / 0 2,600		
14073B	GATE	D-1 3	P DIP 78/79	14 41C	DSPY GBC	FIELD	040C 55XPWR	79 / 0 102,700		
14075B	GATE	D 3	H DIP 77/78	14 41C	DSPY GBC	FIELD	040C 55XPWR	604 / 1 785,200		
14075B	GATE	D 3	H DIP 78/79	14 41C	DSPY GBC	FIELD	040C 55XPWR	1574 / 0 2,046,200		
14077B	GATE	D 4	H DIP 77/78	14 41C	DSPY GBC	FIELD	040C 55XPWR	937 / 0 1,218,100		
14077B	GATE	D 4	H DIP 78/79	14 41C	DSPY GBC	FIELD	040C 55XPWR	11731 / 4 15,250,300		
14077B	GATE	D 4	H DIP 77/78	14 41C	DSPY GBC	FIELD	040C 55XPWR	302 / 0 392,600		
14077B	GATE	D 4	H DIP 78/79	14 41C	DSPY GBC	FIELD	040C 55XPWR	787 / 0 1,023,100		
14081B	GATE	D 4	H DIP 77/78	14 41C	DSPY GBC	FIELD	040C 55XPWR	3082 / 0 4,006,600		
14081B	GATE	D 4	H DIP 78/79	14 41C	DSPY GBC	FIELD	040C 55XPWR	4826 / 1 6,273,800		
14081B	GATE	D-1 4	P DIP 77/78	14 41C	DSPY GBC	FIELD	040C 55XPWR	2343 / 5 3,045,900		
14081B	GATE	D-1 4	P DIP 77/78	14 41C	DSPY GBC	FIELD	040C 55XPWR	110 / 0 143,000		
14081B	GATE	D-1 4	P DIP 78/79	14 41C	DSPY GBC	FIELD	040C 55XPWR	6258 / 0 8,135,400		
14081B	GATE	D-1 4	P DIP 78/79	14 41C	DSPY GBC	FIELD	040C 55XPWR	773 / 0 1,004,900		
14093B	GATE SCHMITT TRIGGER	D 4	H DIP 77/78	14 43C	DSPY GBC	FIELD	040C 55XPWR	1737 / 1 2,258,100		
14093B	GATE SCHMITT TRIGGER	D 4	H DIP 77/78	14 43C	DSPY GBC	FIELD	040C 55XPWR	373 / 0 484,900		
14093B	GATE SCHMITT TRIGGER	D 4	H DIP 78/79	14 43C	DSPY GBC	FIELD	040C 55XPWR	2604 / 2 3,385,200		
14093B	GATE SCHMITT TRIGGER	D 4	H DIP 78/79	14 43C	DSPY GBC	FIELD	040C 55XPWR	1022 / 0 1,328,600		

DIGITAL DEVICE DATA

MOTOROLA SEMI CHOS , , ION IMPLANT		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO. /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
14093B	GATE SCHMITT TRIGGER	D-1 4	P DIP 14: 77/78	43C	DSPY GBC	FIELD	040C 55XPWR	2 / 0 2,600:		
14093B	GATE SCHMITT TRIGGER	D-1 4	P DIP 14: 78/79	43C	DSPY GBC	FIELD	040C 55XPWR	79 / 0 102,700:		
14502	BUFFER	D 6	H DIP 16: 77/78	42C	DSPY GBC	FIELD	040C 55XPWR	2240 / 1 2,912,000:		
14502	BUFFER	D 6	H DIP 16: 78/79	42C	DSPY GBC	FIELD	040C 55XPWR	5657 / 0 7,354,100:		
14502	BUFFER	D-1 6	P DIP 16: 77/78	42C	DSPY GBC	FIELD	040C 55XPWR	761 / 0 989,300:		
14502	BUFFER	D-1 6	P DIP 16: 78/79	42C	DSPY GBC	FIELD	040C 55XPWR	1451 / 2 1,886,300:		
14507	GATE	D 4	H DIP 14: 77/78	42C	DSPY GBC	FIELD	040C 55XPWR	2025 / 1 2,632,500:		
14507	GATE	D 4	H DIP 14: 78/79	42C	DSPY GBC	FIELD	040C 55XPWR	3301 / 0 4,291,300:		
14507	GATE	D-1 4	P DIP 14: 77/78	42C	DSPY GBC	FIELD	040C 55XPWR	2154 / 0 2,800,200:		
14507	GATE	D-1 4	P DIP 14: 78/79	42C	DSPY GBC	FIELD	040C 55XPWR	1804 / 1 2,345,200:		
14508B	LATCH	D 52	H DIP 24: 78/79	42C	DSPY GBC	FIELD	040C 55XPWR	3491 / 6 4,538,300:		
14508B	LATCH	D-1 52	P DIP 24: 77/78	43C	DSPY GBC	FIELD	040C 55XPWR	10 / 0 13,000:		
14508B	LATCH	D-1 52	P DIP 24: 78/79	43C	DSPY GBC	FIELD	040C 55XPWR	395 / 0 513,500:		
14510	COUNTER BCD	D-1 77	P DIP 16: 77/78	45C	DSPY GBC	FIELD	040C 55XPWR	7648 / 1 9,942,400:		
14510	COUNTER BCD	D-1 77	P DIP 16: 78/79	45C	DSPY GBC	FIELD	040C 55XPWR	17900 / 5 23,270,000:		
14512	MULTIPLEXER	D-1 32	P DIP 16: 77/78	41C	DSPY GBC	FIELD	040C 55XPWR	7334 / 3 9,534,200:		
14512	MULTIPLEXER	D-1 32	P DIP 16: 78/79	41C	DSPY GBC	FIELD	040C 55XPWR	19566 / 5 25,435,800:		
14514	DECODER LATCH	D-1 86	P DIP 24: 77/78	42C	DSPY GBC	FIELD	040C 55XPWR	1196 / 0 1,554,800:		
14514	DECODER LATCH	D-1 86	P DIP 24: 78/79	42C	DSPY GBC	FIELD	040C 55XPWR	2680 / 0 3,484,000:		
14516	COUNTER BINARY	D-1 62	P DIP 16: 77/78	47C	DSPY GBC	FIELD	040C 55XPWR	13524 / 1 17,581,200:		
14516	COUNTER BINARY	D-1 62	P DIP 16: 78/79	47C	DSPY GBC	FIELD	040C 55XPWR	20280 / 3 26,364,000:		
14518B	COUNTER BCD	D 86	H DIP 16: 77/78	48C	DSPY GBC	FIELD	040C 55XPWR	413 / 0 536,900:		
14518B	COUNTER BCD	D 86	H DIP 16: 78/79	48C	DSPY GBC	FIELD	040C 55XPWR	542 / 0 704,600:		

DIGITAL DEVICE DATA

MOTOROLA SEMI CONDUCTION IMPLANT		MANUFACTURER OPERATIONAL TYPE			RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT. TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
145188	COUNTER BCD	D-1 86	P DIP 16 77/78	48C	DSPY GBC	FIELD	040C 55XPWR	14850 / 8 19,305,000	
145188	COUNTER BCD	D-1 86	P DIP 16 78/79	48C	DSPY GBC	FIELD	040C 55XPWR	30521 / 4 39,677,300	
145198	GATE	D-1 23	P DIP 16 78/79	43C	DSPY GBC	FIELD	040C 55XPWR	12629 / 8 16,417,700	
14520	COUNTER BINARY	D-1 80	P DIP 16 77/78	48C	DSPY GBC	FIELD	040C 55XPWR	3968 / 1 5,158,400	
14520	COUNTER BINARY	D-1 80	P DIP 16 78/79	48C	DSPY GBC	FIELD	040C 55XPWR	6494 / 3 8,442,200	
14522	COUNTER BCD	D 4R	H DIP 16 77/78	50C	DSPY GBC	FIELD	040C 55XPWR	1251 / 1 1,626,300	
14522	COUNTER BCD	D 4R	H DIP 16 78/79	50C	DSPY GBC	FIELD	040C 55XPWR	1242 / 1 1,614,600	
14526	COUNTER BINARY	D-1 46	P DIP 16 77/78	50C	DSPY GBC	FIELD	040C 55XPWR	1207 / 0 1,569,100	
14526	COUNTER BINARY	D-1 46	P DIP 16 78/79	50C	DSPY GBC	FIELD	040C 55XPWR	6613 / 2 8,596,900	
14527	MULTIPLIER BCD	D-1 47	P DIP 16 77/78	45C	DSPY GBC	FIELD	040C 55XPWR	3011 / 0 3,914,300	
14527	MULTIPLIER BCD	D-1 47	P DIP 16 78/79	45C	DSPY GBC	FIELD	040C 55XPWR	2783 / 1 3,617,900	
14528B	FLIP-FLOP MONOSTABLE	D 32	H DIP 16 77/78	42C	DSPY GBC	FIELD	040C 55XPWR	746 / 0 969,800	
14528B	FLIP-FLOP MONOSTABLE	D 32	H DIP 16 78/79	42C	DSPY GBC	FIELD	040C 55XPWR	2770 / 0 3,601,000	
14528B	FLIP-FLOP MONOSTABLE	D-1 32	P DIP 16 77/78	42C	DSPY GBC	FIELD	040C 55XPWR	4375 / 3 5,687,500	
14528B	FLIP-FLOP MONOSTABLE	D-1 32	P DIP 16 78/79	42C	DSPY GBC	FIELD	040C 55XPWR	12933 / 3 16,812,900	
14532	ENCODER	D 39	H DIP 16 77/78	42C	DSPY GBC	FIELD	040C 55XPWR	1567 / 1 2,037,100	
14532	ENCODER	D 39	H DIP 16 78/79	42C	DSPY GBC	FIELD	040C 55XPWR	2568 / 0 3,338,400	
14532	ENCODER	D-1 39	P DIP 16 77/78	42C	DSPY GBC	FIELD	040C 55XPWR	323 / 0 419,900	
14532	ENCODER	D-1 39	P DIP 16 78/79	42C	DSPY GBC	FIELD	040C 55XPWR	1023 / 0 1,329,900	
14538B	FLIP-FLOP MONOSTABLE	D 18	H DIP 16 77/78	43C	DSPY GBC	FIELD	040C 55XPWR	1194 / 0 1,552,200	
14538B	FLIP-FLOP MONOSTABLE	D 18	H DIP 16 78/79	43C	DSPY GBC	FIELD	040C 55XPWR	1211 / 1 1,574,300	
14538B	FLIP-FLOP MONOSTABLE	D-1 18	P DIP 16 78/79	43C	DSPY GBC	FIELD	040C 55XPWR	6412 / 0 8,335,600	
14539	MULTIPLEXER	D 26	H DIP 16 77/78	42C	DSPY GBC	FIELD	040C 55XPWR	413 / 0 536,900	

DIGITAL DEVICE DATA

MOTOROLA SEMI CMOS , ION IMPLANT		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO. /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
14539	MULTIPLEXER	D 26	H DIP 16: 78/79	42C	DSPY GBC	FIELD	040C 55XPWR	542 / 0 704,600		
14539B	MULTIPLEXER	D-1 26	P DIP 16: 77/78	42C	DSPY GBC	FIELD	040C 55XPWR	1862 / 0 2,420,600		
14539B	MULTIPLEXER	D-1 26	P DIP 16: 78/79	42C	DSPY GBC	FIELD	040C 55XPWR	2636 / 1 3,426,800		
14549B	REGISTER	D-1 N/R	P DIP 16: 77/78	45C	DSPY GBC	FIELD	040C 55XPWR	1104 / 1 1,435,200		
14549B	REGISTER	D-1 N/R	P DIP 16: 78/79	45C	DSPY GBC	FIELD	040C 55XPWR	2386 / 2 3,101,800		
14555B	DECODER/DEMUTIPLEX	D-1 34	P DIP 16: 78/79	42C	DSPY GBC	FIELD	040C 55XPWR	147 / 0 191,100		
14556	DECODER/DEMUTIPLEX	D-1 34	P DIP 16: 77/78	42C	DSPY GBC	FIELD	040C 55XPWR	477 / 0 620,100		
14556	DECODER/DEMUTIPLEX	D-1 34	P DIP 16: 78/79	42C	DSPY GBC	FIELD	040C 55XPWR	714 / 0 928,200		
14559	REGISTER	D-1 N/R	P DIP 16: 77/78	45C	DSPY GBC	FIELD	040C 55XPWR	1104 / 1 1,435,200		
14559	REGISTER	D-1 N/R	P DIP 16: 78/79	45C	DSPY GBC	FIELD	040C 55XPWR	2386 / 2 3,101,800		
14560BC	ADDER BCD	D-1 64	P DIP 16: 77/78	44C	DSPY GBC	FIELD	040C 55XPWR	4 / 0 5,200		
14560BC	ADDER BCD	D-1 64	P DIP 16: 78/79	44C	DSPY GBC	FIELD	040C 55XPWR	1042 / 0 1,354,600		
14566B	GENERATOR	D-1 N/R	P DIP 16: 77/78	46C	DSPY GBC	FIELD	040C 55XPWR	1786 / 0 2,321,800		
14566B	GENERATOR	D-1 N/R	P DIP 16: 78/79	46C	DSPY GBC	FIELD	040C 55XPWR	1742 / 0 2,264,600		
14572	GATE	D-1 6	P DIP 16: 00/77	129C	NR N/R	LIFE OP DYN	125C	204 / 0 618,408		
						LIFE EM		204 / 3		
14572	GATE	D-1 6	P DIP 16: 78/79	44C	DSPY GBC	FIELD	040C 55XPWR	2001 / 0 2,601,300		
14584B	INVERTER SCHMITT TRIGGER	D-1 6	P DIP 14: 00/77	129C	NR N/R	LIFE OP DYN	125C	208 / 0 628,992		
						LIFE EM		208 / 1		
14585	COMPARATOR	D-1 36	P DIP 16: 77/78	41C	DSPY GBC	FIELD	040C 55XPWR	3225 / 0 4,192,500		
14585	COMPARATOR	D-1 36	P DIP 16: 78/79	41C	DSPY GBC	FIELD	040C 55XPWR	4636 / 0 6,026,800		

DIGITAL DEVICE DATA

FAIRCHILD SEMI CMOS , ISOPLANAR		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
34011	GATE	D	H DIP 14	42C	DSPY	FIELD	040C 55XPWR	637 / 0	828,100		
		4	77/78		GBC						
34011	GATE	D	H DIP 14	42C	DSPY	FIELD	040C 55XPWR	674 / 0	876,200		
		4	78/79		GBC						
34085	GATE	D	H DIP 14	42C	DSPY	FIELD	040C 55XPWR	1535 / 0	1,995,500		
		6	78/79		GBC						
34086	GATE	D	H DIP 14	42C	DSPY	FIELD	040C 55XPWR	1535 / 0	1,995,500		
		5	78/79		GBC						
34512	MULTIPLEXER	D-1	P DIP 16	42C	DSPY	FIELD	040C 55XPWR	1080 / 0	1,404,000		
		29	77/78		GBC						
34512	MULTIPLEXER	D-1	P DIP 16	42C	DSPY	FIELD	040C 55XPWR	1472 / 1	1,913,600		
		29	78/79		GBC						
4019B	MULTIPLEXER	D-1	P DIP 16	42C	DSPY	FIELD	040C 55XPWR	1364 / 0	1,773,200		
		12	77/78		GBC						
4019B	MULTIPLEXER	D-1	P DIP 16	42C	DSPY	FIELD	040C 55XPWR	37 / 0	48,100		
		12	78/79		GBC						
4019B	MULTIPLEXER	D-1	P DIP 16	42C	DSPY	FIELD	040C 55XPWR	3384 / 0	4,399,200		
		12	78/79		GBC						
4027	FLIP-FLOP JK	D	H DIP 16	66C	DSPY	FIELD	040C 55XPWR	466 / 0	605,800		
		16	78/79		GBC						
4029B	COUNTER BINARY	D	H DIP 16	55C	DSPY	FIELD	040C 55XPWR	232 / 0	301,600		
		68	77/78		GBC						
4029B	COUNTER BINARY	D	H DIP 16	55C	DSPY	FIELD	040C 55XPWR	725 / 0	942,500		
		68	78/79		GBC						
4049	CONVERTER BUFFER	D-1	P DIP 16	43C	DSPY	FIELD	040C 55XPWR	1101 / 0	1,431,300		
		6	77/78		GBC						
4049	CONVERTER BUFFER	D-1	P DIP 16	43C	DSPY	FIELD	040C 55XPWR	2296 / 0	2,984,800		
		6	78/79		GBC						

DIGITAL DEVICE DATA

VARIOUS CHOS		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
4001B	GATE	D 4	H DIP 78/78	14 41C	PROC GF	FIELD	040C	3096 / 3 13,374,720		
4008B	ADDER FULL	D-1 58	P DIP 77/78	16 42C	DSPY GBC	FIELD	040C 55XPWR	1168 / 0 1,518,400		
4008B	ADDER FULL	D-1 58	P DIP 78/79	16 42C	DSPY GBC	FIELD	040C 55XPWR	3206 / 1 4,167,800		
4011B	GATE	D 4	H DIP 77/77	14 41C	PROC GF	FIELD	040C	6000 / 1 25,920,000		
4011B	GATE	D 4	H DIP 78/78	14 41C	PROC GF	FIELD	040C	4500 / 3 19,440,000		
4023B	GATE	D 3	H DIP 78/78	14 41C	PROC GF	FIELD	040C	1000 / 2 4,320,000		
4023B	GATE	D 3	H DIP 78/78	14 41C	PROC GF	FIELD	040C	1111 / 4 4,799,520		
4025B	GATE	D-1 3	P DIP 77/78	14 41C	DSPY GBC	FIELD	040C 55XPWR	2288 / 0 2,974,400		
4025B	GATE	D-1 3	P DIP 78/79	14 41C	DSPY GBC	FIELD	040C 55XPWR	11624 / 1 15,111,200		
4028B	DECODER	D-1 35	P DIP 77/78	16 42C	DSPY GBC	FIELD	040C 55XPWR	1412 / 0 1,835,600		
4028B	DECODER	D-1 35	P DIP 78/79	16 42C	DSPY GBC	FIELD	040C 55XPWR	5676 / 0 7,378,800		
4042B	LATCH D	D 31	H DIP 77/77	16 42C	PROC GF	FIELD	040C	1245 / 1 5,378,400		
4042B	LATCH D	D 31	H DIP 78/78	16 42C	PROC GF	FIELD	040C	395 / 2 1,706,400		
4049B	CONVERTER BUFFER	D 6	H DIP 78/78	14 41C	PROC GF	FIELD	040C	1000 / 1 4,320,000		
4050B	CONVERTER BUFFER	D 6	H DIP 77/77	14 41C	PROC GF	FIELD	040C	667 / 1 2,881,440		
4050B	CONVERTER BUFFER	D 6	H DIP 78/78	14 41C	PROC GF	FIELD	040C	962 / 8 4,155,840		
4069B	INVERTER	D 6	H DIP 78/78	14 41C	PROC GF	FIELD	040C	1987 / 5 8,583,840		
4511B	LATCH DECODER/DRIVER	D 56	H DIP 77/77	16 42C	PROC GF	FIELD	040C	1429 / 1 6,173,280		
4511B	LATCH DECODER/DRIVER	D 56	H DIP 78/78	16 42C	PROC GF	FIELD	040C	1429 / 1 6,173,280		
4518B	COUNTER BCD	D 86	H DIP 78/78	16 47C	PROC GF	FIELD	040C	3809 / 2 16,454,880		
4519B	GATE	D 23	H DIP 78/78	16 47C	PROC GF	FIELD	040C	736 / 3 3,179,520		
4528B	FLIP-FLOP MONOSTABLE	D 32	H DIP 78/78	16 45C	PROC GF	FIELD	040C	869 / 2 3,754,080		
4585B	COMPARATOR	D 36	H DIP 77/77	16 41C	PROC GF	FIELD	040C	1667 / 1 7,201,440		

DIGITAL DEVICE DATA

VARIOUS
CMOS ,S.R.

MANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEP REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
4585B	COMPARATOR	D	H DIP 16	41C	PROC	FIELD	040C	5119 / 2	22,114,080

DIGITAL DEVICE DATA

VARIOUS P-DYN		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
3708	MULTIPLEXER	B-2 N/R	H DIP 16 75/78	37C	COMM GT	FIELD	025C	27 / 0 62,757		

FAIRCHILD SEMI P-DYN		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
3816	COUNTER PROGRAMMABLE	D-1 N/R	P DIP 16 78/79	50C	DSPY CBC	FIELD	040C 55XPWR	25 / 0 32,500		

VARIOUS P-STAT		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
3705	MULTIPLEXER	B-2/N N/R	H DIP 16 75/78		RADR AUF	FIELD		8 / 0 16		
3705	MULTIPLEXER	B-2 N/R	H DIP 16 77/77		RADR AIU	RELDEN OPERATE		600 / 0 19,320		

VARIOUS P-STAT, MMOS		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
	SHIFT REC	C-1 N/R	H FPK 14 75/78		RADR AUF	FIELD		13266 / 45 15,093,330		

DIGITAL DEVICE DATA

FAIRCHILD SEMI DTL		:MANUFACTURER :OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEP REPORT NO. :/QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
951	FLIP-FLOP MONOSTABLE	D 7	H CAN 10 77/78	46C	DSPY GBC	FIELD	040C 55XPWR	834 / 0 -1,110,200			
951	FLIP-FLOP MONOSTABLE	D 7	H CAN 10 78/79	46C	DSPY GBC	FIELD	040C 55XPWR	683 / 1 887,900			

MOTOROLA SEMI DTL		:MANUFACTURER :OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEP REPORT NO. :/QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
1800	GATE	D-1 2	P DIP 14 77/78	43C	DSPY GBC	FIELD	040C 55XPWR	642 / 0 834,600			
1800	GATE	D-1 2	P DIP 14 78/79	43C	DSPY GBC	FIELD	040C 55XPWR	860 / 0 1,118,000			
1812	GATE	D-1 4	P DIP 14 77/78	53C	DSPY GBC	FIELD	040C 55XPWR	1696 / 0 2,204,800			
1812	GATE	D-1 4	P DIP 14 78/79	53C	DSPY GBC	FIELD	040C 55XPWR	2766 / 0 3,595,800			
8176	BUFFER	D-1 N/R	P DIP 14 77/78	50C	DSPY GBC	FIELD	040C 55XPWR	319 / 0 414,700			
8176	BUFFER	D-1 N/R	P DIP 14 78/79	50C	DSPY GBC	FIELD	040C 55XPWR	287 / 1 373,100			
857	BUFFER	D-1 4	P DIP 14 77/78	58C	DSPY GBC	FIELD	040C 55XPWR	770 / 0 1,001,000			
857	BUFFER	D-1 4	P DIP 14 78/79	58C	DSPY GBC	FIELD	040C 55XPWR	1554 / 1 2,020,200			

SIGNETICS DTL		:MANUFACTURER :OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEP REPORT NO. :/QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
106	EXPANDER	D 2	H FPK 14 77/77	160C	NR N/R	LIFE STGLIFE	150C	40 / 0 40,000			
						LIFE EM		40 / 0			
106	EXPANDER	D 2	H FPK 14 77/77	160C	NR N/R	LIFE STGLIFE	150C	45 / 0 45,000			
						LIFE EM		45 / 0			

DIGITAL DEVICE DATA

SIGNETICS
DTL

MANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO.: /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
110	GATE EXPANDABLE	D 1	H FPK 77/77	14: 157C	NR N/R	LIFE STGLIFE	150C	40 / 0 40,000	
						LIFE EM		40 / 0	
111	GATE	D 2	H FPK 77/77	14: 133C	NR N/R	LIFE OP DYN	125C	40 / 0 40,000	
						LIFE EM		40 / 0	
112	GATE EXPANDABLE	D 2	H FPK 77/77	14: 133C	NR N/R	LIFE OP DYN	125C	40 / 0 40,000	
						LIFE EM		40 / 0	
112	GATE EXPANDABLE	D 2	H FPK 77/77	14: 158C	NR N/R	LIFE STGLIFE	150C	40 / 0 40,000	
						LIFE EM		40 / 0	
115	GATE	D 2	H FPK 77/77	10: 127C	NR N/R	LIFE OP DYN	125C	40 / 0 40,000	
						LIFE EM		40 / 0	
116	GATE EXPANDABLE	D 2	H FPK 77/77	14: 129C	NR N/R	LIFE OP DYN	125C	40 / 0 40,000	
						LIFE EM		40 / 0	
124	FLIP-FLOP	D 8	H CAN 77/77	10: 163C	NR N/R	LIFE OP DYN	125C	46 / 0 46,000	
						LIFE EM		46 / 0	
124	FLIP-FLOP	D 8	H CAN 77/77	10: 188C	NR N/R	LIFE STGLIFE	150C	91 / 0 91,000	
						LIFE EM		91 / 0	
124	FLIP-FLOP	D 8	H FPK 77/77	14: 131C	NR N/R	LIFE OP DYN	125C	165 / 0 165,000	
						LIFE EM		165 / 0	
124	FLIP-FLOP	D 8	H FPK 77/77	14: 156C	NR N/R	LIFE STGLIFE	150C	40 / 0 40,000	
						LIFE EM		40 / 0	
124	FLIP-FLOP	D 8	H FPK 77/77	14: 156C	NR N/R	LIFE STGLIFE	150C	360 / 0 360,000	
						LIFE EM		360 / 0	
124	FLIP-FLOP	D 8	H FPK 77/77	14: 203C	NR N/R	LIFE STGLIFE	150C	45 / 0 45,000	

DIGITAL DEVICE DATA

SIGNETICS
DTL

MANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEY REPORT NO. / QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
						LIFE		45 / 0	
						EM			
124	FLIP-FLOP	D 8	H FPK 10: 77/77	186C	NR	LIFE	125C	46 / 0	
					N/R	OP DYN		46,000	
						LIFE		46 / 0	
						EM			
124	FLIP-FLOP	D 8	H FPK 14: 77/77	131C	NR	LIFE	125C	40 / 0	
					N/R	OP DYN		40,000	
						LIFE		40 / 0	
						EM			
160	FLIP-FLOP MONOSTABLE	D 8	H FPK 10: 77/77	132C	NR	LIFE	125C	40 / 0	
					N/R	OP DYN		40,000	
						LIFE		40 / 0	
						EM			
161	FLIP-FLOP MONOSTABLE	D 8	H FPK 14: 77/77	141C	NR	LIFE	125C	120 / 0	
					N/R	OP DYN		120,000	
						LIFE		120 / 0	
						EM			
170	GATE	D 3	H FPK 14: 77/77	129C	NR	LIFE	125C	40 / 0	
					N/R	OP DYN		40,000	
						LIFE		40 / 0	
						EM			
180	GATE	B-2 4	H FPK 14: 77/77	129C	NR	LIFE	125C	40 / 0	
					N/R	OP DYN		40,000	
						LIFE		40 / 0	
						EM			
180	GATE	D 4	H FPK 14: 77/77	129C	NR	LIFE	125C	40 / 0	
					N/R	OP DYN		40,000	
						LIFE		40 / 0	
						EM			
316	GATE EXPANDABLE	D 2	H CAN 10: 77/77	153C	NR	LIFE	150C	40 / 0	
					N/R	STGLIFE		40,000	
						LIFE		40 / 0	
						EM			
322	FLIP-FLOP JK	D-1 22	P DIP 16: 77/78	53C	DSPY GBC	FIELD	040C 55XPWR	374 / 0	
								486,200	
322	FLIP-FLOP JK	D-1 22	P DIP 16: 78/79	53C	DSPY GBC	FIELD	040C 55XPWR	296 / 0	
								384,800	
374	GATE	D-1 3	P DIP 14: 77/78	47C	DSPY GBC	FIELD	040C 55XPWR	112 / 0	
								145,600	
374	GATE	D-1 3	P DIP 14: 78/79	47C	DSPY GBC	FIELD	040C 55XPWR	120 / 0	
								156,000	
631	EXPANDER	D-1 4	P DIP 14: 77/78	50C	DSPY GBC	FIELD	040C 55XPWR	1324 / 0	
								1,721,200	
631	EXPANDER	D-1 4	P DIP 14: 78/79	50C	DSPY GBC	FIELD	040C 55XPWR	1508 / 0	
								1,960,400	

DIGITAL DEVICE DATA

SIGNETICS
DTL

:MANUFACTURER
:OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO./QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
8424	FLIP-FLOP RS	B-2 16	H FPK 14 75/78	30C	COMM GT	FIELD	025C	9 / 0 20,919	

TEXAS INSTRUMENTS
DTL

:MANUFACTURER
:OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO./QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
159093	FLIP-FLOP JK	D-1 16	P DIP 14 71/79	35C	COMM GBC	FIELD	025C	3 / 0 210,240	
159093	FLIP-FLOP JK	D-1 16	P DIP 14 71/79		COMM GM	FIELD		72 / 0 3,363,840	
15930	GATE EXPANDABLE	D-1 2	P DIP 14 71/79	26C	COMM GBC	FIELD	025C	3 / 0 210,240	
15930	GATE EXPANDABLE	D-1 2	P DIP 14 71/79		COMM GM	FIELD		72 / 0 3,363,840	
15946	GATE	D-1 4	P DIP 14 71/79	26C	COMM GBC	FIELD	025C	6 / 0 420,480	
15946	GATE	D-1 4	P DIP 14 71/79		COMM GM	FIELD		144 / 0 6,727,680	

VARIOUS
DTL

:MANUFACTURER
:OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO./QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
	FLIP-FLOP RS	B-1 16	H DIP 14 75/78		NAVG AIF	FIELD		66 / 0 75,240	
1800	GATE	D-1 2	P DIP 14 77/79	35C	COMP GB	FIELD	025C	2 / 0 38,468	
1800	GATE	D-1 2	P DIP 14 77/79	35C	COMP GB	FIELD	025C	4 / 0 79,520	
1801	GATE	D-1 2	P DIP 14 77/78	50C	DSPY GBC	FIELD	040C 55ZPWR:	6842 / 1 8,894,600	
1801	GATE	D-1 2	P DIP 14 78/79	50C	DSPY GBC	FIELD	040C 55ZPWR:	6446 / 2 8,379,800	
1802	GATE EXPANDABLE	NONE 1	N/R DIP 14 77/79	35C	COMP CB	FIELD	025C	1 / 0 19,234	
1802	GATE EXPANDABLE	NONE 1	N/R DIP 14 77/79	35C	COMP GB	FIELD	025C	2 / 0 39,760	

DIGITAL DEVICE DATA

VALUES DTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRE. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATLS	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
1806	GATE	D-1 4	P DIP 14 77/79	35C	COMP GB	FIELD	025C	4 / 0 76,936			
1806	GATE	D-1 4	P DIP 14 77/79	35C	COMP GB	FIELD	025C	8 / 0 159,040			
1806	GATE	D-1 4	P DIP 14 77/78	50C	DSPY GBC	FIELD	040C 55%PWR	12423 / 2 16,149,900			
1806	GATE	D-1 4	P DIP 14 78/79	50C	DSPY GRC	FIELD	040C 55%PWR	13478 / 5 17,521,400			
1806	GATE	D-1 4	P DIP 14 77/79	35C	COMP GB	FIELD	025C	2 / 0 38,468			
1808	GATE	D-1 4	P DIP 14 77/79	35C	COMP GB	FIELD	025C	4 / 0 79,520			
1808	GATE	D-1 4	P DIP 14 77/78	50C	DSPY GBC	FIELD	040C 55%PWR	27398 / 6 35,617,400			
1808	GATE	D-1 4	P DIP 14 78/79	50C	DSPY GBC	FIELD	040C 55%PWR	31006 / 10 40,307,800			
1809	GATE	D-1 4	P DIP 14 77/78	50C	DSPY GBC	FIELD	040C 55%PWR	2307 / 0 2,999,100			
1809	GATE	D-1 4	P DIP 14 78/79	50C	DSPY GRC	FIELD	040C 55%PWR	2701 / 0 3,511,300			
1810	GATE	D-1 4	P DIP 14 77/79	35C	COMP GB	FIELD	025C	1 / 0 19,234			
1810	GATE	D-1 4	P DIP 14 77/79	35C	COMP GB	FIELD	025C	2 / 0 39,760			
1810	GATE	D-1 4	P DIP 14 77/78	50C	DSPY GBC	FIELD	040C 55%PWR	8110 / 1 10,543,000			
1810	GATE	D-1 4	P DIP 14 78/79	50C	DSPY GBC	FIELD	040C 55%PWR	10306 / 0 13,397,300			
1812	GATE	D-1 4	P DIP 14 77/79	35C	COMP GB	FIELD	025C	1 / 0 19,234			
1812	GATE	D-1 4	P DIP 14 77/79	35C	COMP GB	FIELD	025C	2 / 0 39,760			
830	GATE EXPANDABLE	D-1 2	P DIP 14 77/79	35C	COMP GB	FIELD	025C	2 / 0 38,468			
830	GATE EXPANDABLE	D-1 2	P DIP 14 77/79	35C	COMP GB	FIELD	025C	4 / 0 79,520			
832	BUFFER EXPANDABLE	D-1 2	P DIP 14 77/78	50C	DSPY GBC	FIELD	040C 55%PWR	3179 / 0 4,132,700			
832	BUFFER EXPANDABLE	D-1 2	P DIP 14 78/79	50C	DSPY GBC	FIELD	040C 55%PWR	4759 / 0 6,186,700			
836	INVERTER	D-1 6	P DIP 14 77/78	50C	DSPY GBC	FIELD	040C 55%PWR	19688 / 10 25,594,400			
836	INVERTER	D-1 6	P DIP 14 78/79	50C	DSPY GRC	FIELD	040C 55%PWR	23188 / 12 30,144,400			
836	INVERTER	NOTE 6	N/R DIP 14 77/79	35C	COMP GB	FIELD	025C	8 / 0 153,872			

DIGITAL DEVICE DATA

VARIOUS DTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MEEF REPORT NO. /%TY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
836	INVERTER	NONE	N/R DIP 14	35C	COMP	FIELD	025C	16 / 2	2217/	2	
		6	77/79		GB			318,080			
844	GATE EXPANDABLE	D-1	P DIP 14	50C	DSFY	FIELD	040C 55%PWR	359 / 1			
		2	77/78		GBC			466,700			
844	GATE EXPANDABLE	D-1	P DIP 14	50C	DSFY	FIELD	040C 55%PWR	303 / 1			
		2	78/79		GBC			393,900			
845	FLIP-FLOP RS	D-1	P DIP 14	50C	DSFY	FIELD	040C 55%PWR	1047 / 1			
		8	77/78		GBC			1,361,100			
845	FLIP-FLOP RS	D-1	P DIP 14	50C	DSFY	FIELD	040C 55%PWR	680 / 0			
		8	78/79		GBC			884,000			
846	GATE	D-1	P DIP 14	50C	DSFY	FIELD	040C 55%PWR	48009 / 32			
		4	77/78		GBC			62,411,700			
846	GATE	D-1	P DIP 14	50C	DSFY	FIELD	040C 55%PWR	57033 / 9			
		4	78/79		GBC			74,142,900			
848	FLIP-FLOP JK	D-1	P DIP 14	50C	DSFY	FIELD	040C 55%PWR	2337 / 1			
		10	77/78		GBC			3,038,100			
848	FLIP-FLOP JK	D-1	P DIP 14	50C	DSFY	FIELD	040C 55%PWR	3480 / 3			
		10	78/79		GBC			4,524,000			
849	GATE	D-1	P DIP 14	50C	DSFY	FIELD	040C 55%PWR	5915 / 2			
		4	77/78		GBC			7,689,500			
849	GATE	D-1	P DIP 14	50C	DSFY	FIELD	040C 55%PWR	6448 / 2			
		4	78/79		GBC			8,382,400			
852	FLIP-FLOP JK	D-1	P DIP 14	35C	COMP	FIELD	025C	1 / 0			
		16	77/79		GB			19,234			
852	FLIP-FLOP JK	D-1	P DIP 14	35C	COMP	FIELD	025C	2 / 0			
		16	77/79		GB			39,760			
858	GATE	D-1	P DIP 14	50C	DSFY	FIELD	040C 55%PWR	7493 / 1			
		4	77/78		GBC			9,740,900			
858	GATE	D-1	P DIP 14	50C	DSFY	FIELD	040C 55%PWR	9418 / 1			
		4	78/79		GBC			12,243,400			
862	GATE	D-1	P DIP 14	35C	COMP	FIELD	025C	5 / 0			
		3	77/79		GB			96,170			
862	GATE	D-1	P DIP 14	35C	COMP	FIELD	025C	10 / 0			
		3	77/79		GB			198,800			
9094	FLIP-FLOP JK	B-2/N	H FPK 14		RADR	FIELD		120 / 0			
		23	75/78		AIF			9,030			
930	GATE EXPANDABLE	B-2/N	H FPK 14		RADR	FIELD		4 / 0			
		2	75/78		AIF			768			
930	GATE EXPANDABLE	B-2/N	H FPK 14		RADR	FIELD		20 / 0			
		2	75/78		AIF			1,505			
930	GATE EXPANDABLE	B-2/N	H FPK 14		RADR	FIELD		6 / 0			
		2	75/78		AIF			1,736			
930	GATE EXPANDABLE	B-2/N	H FPK 14		RADR	FIELD		16 / 0			
		2	75/78		AUF			2,816			
932	BUFFER EXPANDABLE	B-2/N	H FPK 14		RADR	FIELD		40 / 0			
		2	75/78		AIF			3,010			

DIGITAL DEVICE DATA

VARIOUS DTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO. /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. FNV.	TEST TYPE		PART HOURS			
932	BUFFER EXPANDABLE	B-2/N 2	H FPK 75/78	14		RADR AIF	FIELD	52 / 0 8,574			
937	INVERTER	B-2/N 6	H FPK 75/78	14		RADR AIF	FIELD	340 / 0 25,585			
937	INVERTER	D 6	H DIP 77/79	14	35C	COMP GB	FIELD 025C	1 / 0 19,234			
937	INVERTER	D 6	H DIP 77/79	14	35C	COMP GB	FIELD 025C	1 / 0 19,234			
937	INVERTER	D 6	H DIP 77/79	14	35C	COMP GB	FIELD 025C	2 / 0 39,760			
937	INVERTER	D 6	H DIP 77/79	14	35C	COMP GB	FIELD 025C	2 / 0 39,760			
944	GATE EXPANDABLE	B-2/N 2	H FPK 75/78	14		RADR AIF	FIELD	120 / 0 9,030			
944	GATE EXPANDABLE	B-2/N 2	H FPK 75/78	14		RADR AIF	FIELD	6 / 0 1,736			
944	GATE EXPANDABLE	B-2/N 2	H FPK 75/78	14		RADR AIF	FIELD	156 / 0 25,722			
944	GATE EXPANDABLE	B-1 2	H FPK 75/78	14		COMP AUF	FIELD	66 / 0 75,240			
944	GATE EXPANDABLE	C-1 2	H FPK 75/78	14		RADR AUF	FIELD	1782 / 0 2,031,480			
944	GATE EXPANDABLE	C-1 2	H FPK 75/78	14		RADR AUF	FIELD	33 / 0 37,620			
946	GATE	B-2/N 4	H FPK 75/78	14		RADR AIF	FIELD	280 / 0 21,070			
946	GATE	B-2/N 4	H FPK 75/78	14		RADR AIF	FIELD	30 / 0 8,680			
946	GATE	B-2/N 4	H FPK 75/78	14		RADR AIF	FIELD	442 / 0 72,879			
946	GATE	B-2/N 4	H FPK 75/78	14		RADR AUF	FIELD	18 / 0 3,720			
946	GATE	D-1 4	P DIP 77/79	14	35C	COMP GB	FIELD 025C	5 / 0 96,170			
946	GATE	D-1 4	P DIP 77/79	14	35C	COMP GB	FIELD 025C	10 / 1 198,800	2218/	1	
948	FLIP-FLOP JK	B-2/N N/R	H FPK 75/78	14		RADR AIF	FIELD	78 / 0 12,861			
951	FLIP-FLOP MONOSTABLE	D 6	H DIP 77/79	14	35C	COMP GB	FIELD 025C	1 / 0 19,234			
951	FLIP-FLOP MONOSTABLE	D 6	H DIP 77/79	14	35C	COMP GB	FIELD 025C	2 / 1 39,760	2219/	1	
958	GATE	B-2/N 4	H FPK 75/78	14		RADR AIF	FIELD	16 / 0 3,072			
958	GATE	B-2/N 4	H FPK 75/78	14		RADR AIF	FIELD	20 / 0 1,505			

DIGITAL DEVICE DATA

VARIOUS DTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO. /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
958	GATE	B-2/N 4	H FPK 75/78	14	RADR AIF	FIELD		52 / 0 8,574			
962	GATE	B-2/N 3	H FPK 75/78	14	RADR AIF	FIELD		120 / 0 9,030			
962	GATE	B-2/N 3	H FPK 75/78	14	RADR AIF	FIELD		26 / 0 4,287			

DIGITAL DEVICE DATA

MOTOROLA SEMI HINIL		:MANUFACTURER :OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
: PART NO. :	: DEVICE FUNCTION :	: SCR. CLASS :	: PACKAGE/ PINS :	: JCT.* TEMP. :	: EQUIP. TYPE :	: DATA CLASS. :	: STRESS LEVEL :	: #TESTED/ #FAILED :	: MPEF REPORT NO. /QTY FAILED :	
:	: CIRCUIT FUNCTION :	: NO. GATES :	: TEST DATE :	:	: APPL. ENV. :	: TEST TYPE :	:	: PART HOURS :	:	
: 677 :	: INVERTER :	: D-1 :	: P DIP 16 :	: 27C :	: COMP :	: FIELD :	: 025C :	: 2 / 0 :	: 38,468 :	
: 677 :	: INVERTER :	: D-1 :	: P DIP 16 :	: 27C :	: COMP :	: FIELD :	: 025C :	: 4 / 0 :	: 79,520 :	

VARIOUS HINIL		:MANUFACTURER :OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
: PART NO. :	: DEVICE FUNCTION :	: SCR. CLASS :	: PACKAGE/ PINS :	: JCT.* TEMP. :	: EQUIP. TYPE :	: DATA CLASS. :	: STRESS LEVEL :	: #TESTED/ #FAILED :	: MPEF REPORT NO. /QTY FAILED :	
:	: CIRCUIT FUNCTION :	: NO. GATES :	: TEST DATE :	:	: APPL. ENV. :	: TEST TYPE :	:	: PART HOURS :	:	
: 301 :	: GATE EXPANDABLE :	: D-1 :	: P DIP 16 :	: 50C :	: PROC :	: FIELD :	: 040C :	: 40000 / 8 :	: 172,800,000 :	
: 301 :	: GATE EXPANDABLE :	: D-1 :	: P DIP 16 :	: 50C :	: PROC :	: FIELD :	: 040C :	: 20000 / 10 :	: 86,400,000 :	
: 321 :	: GATE EXPANDABLE :	: D-1 :	: P DIP 16 :	: 50C :	: PROC :	: FIELD :	: 040C :	: 99999 / 31 :	: 446,238,560 :	
:	:	:	:	:	:	: FIELD :	:	: 3334 / 0 :	:	
: 321 :	: GATE EXPANDABLE :	: D-1 :	: P DIP 16 :	: 50C :	: PROC :	: FIELD :	: 040C :	: 18636 / 41 :	: 80,507,520 :	
: 321 :	: GATE EXPANDABLE :	: D-1 :	: P DIP 16 :	: 50C :	: PROC :	: FIELD :	: 040C :	: 16364 / 18 :	: 70,692,480 :	
: 323 :	: GATE EXPANDABLE :	: C-1 :	: H FPK 16 :	:	: RADR :	: FIELD :	:	: 297 / 0 :	: 338,580 :	
: 327 :	: GATE EXPANDABLE :	: C-1 :	: H FPK 16 :	:	: RADR :	: FIELD :	:	: 1287 / 1 :	: 1,466,250 : 2156/ 1 :	
: 323 :	: GATE EXPANDABLE :	: C-1 :	: H FPK 16 :	:	: RADR :	: FIELD :	:	: 33 / 0 :	: 37,620 :	
: 323 :	: GATE EXPANDABLE :	: D-1 :	: P DIP 16 :	: 50C :	: PROC :	: FIELD :	: 040C :	: 10000 / 1 :	: 43,200,000 :	
: 323 :	: GATE EXPANDABLE :	: D-1 :	: P DIP 16 :	: 50C :	: PROC :	: FIELD :	: 040C :	: 15556 / 12 :	: 67,201,920 :	
: 334 :	: INVERTER :	: D-1 :	: P DIP 16 :	: 50C :	: PROC :	: FIELD :	: 040C :	: 35000 / 13 :	: 151,200,000 :	
: 334 :	: INVERTER :	: D-1 :	: P DIP 16 :	: 50C :	: PROC :	: FIELD :	: 040C :	: 10000 / 3 :	: 43,200,000 :	
: 334 :	: INVERTER :	: D-1 :	: P DIP 16 :	: 50C :	: PROC :	: FIELD :	: 040C :	: 5862 / 17 :	: 25,323,840 :	
: 334 :	: INVERTER :	: D-1 :	: P DIP 16 :	: 50C :	: PROC :	: FIELD :	: 040C :	: 2308 / 6 :	: 9,970,560 :	
: 334 :	: INVERTER :	: D-1 :	: P DIP 16 :	: 50C :	: PROC :	: FIELD :	: 040C :	: 1772 / 14 :	: 7,655,040 :	

DIGITAL DEVICE DATA

VARIOUS
MINIL

MANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFP REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
342	FLIP-FLOP MONOSTABLE	D-1 N/R	P DIP 16: 77/77	50C	PROC GF	FIELD	040C	8750 / 1 37,800,000	
342	FLIP-FLOP MONOSTABLE	D-1 N/R	P DIP 16: 78/78	50C	PROC GF	FIELD	040C	4039 / 7 17,448,480	
370	FLIP-FLOP D	D-1 24	P DIP 16: 77/77	50C	PROC GF	FIELD	040C	11667 / 2 50,401,440	
370	FLIP-FLOP D	D-1 24	P DIP 16: 78/78	50C	PROC GF	FIELD	040C	5833 / 4 25,198,560	

DIGITAL DEVICE DATA

FAIRCHILD SEMI
ECL HIGH SPEED

MANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO./ QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
95H90	COUNTER	D	H DIP 16	135C	NR	LIFE	125C	RO / 0	80,000
		N/R	00/79		N/R	OP CNST		RO / 0	
95H90	COUNTER	D	H DIP 16	80C	DSPY	FIELD	040C 55XPWR	538 / 0	699,400
		N/R	77/78		GBC				
95H90	COUNTER	D	H DIP 16	80C	DSPY	FIELD	040C 55XPWR	368 / 1	478,400
		N/R	78/79		GBC				

VARIOUS
ECL HIGH SPEED

MANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO./ QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
95H90	COUNTER	B-1	H DIP 16	65C	COMM	CHECK	-054C 055C	6479 / 1	2149 / 1
		N/R	77/79		AI	TCVPC	14CY 2 22HZ	177,222	
95H90	COUNTER	B-1	H DIP 16	65C	COMM	CHECK	-054C 055C	1912 / 0	
		N/R	77/79		AI	TCVPC	14CY 2 22HZ	52,120	
95H90	COUNTER	B-1	H DIP 16	65C	COMM	CHECK	-054C 055C	3505 / 0	
		N/R	77/79		AI	TCVPC	14CY 2 22HZ	96,962	
95H90	COUNTER	B-1	H DIP 16	95C	COMM	FIELD		15 / 0	
		N/R	76/77		AIF			10,227	
95H90	COUNTER	B-1	H DIP 16	95C	COMM	FIELD		10 / 0	
		N/R	76/77		AIF			4,191	
95H90	COUNTER	B-1	H DIP 16	95C	COMM	FIELD		14 / 0	
		N/R	76/77		AIF			7,056	
95H90	COUNTER	B-1	H DIP 16	95C	COMM	FIELD		19 / 0	
		N/R	76/77		AIT			19,331	
95H90	COUNTER	D	H DIP 16	65C	COMM	FIELD	025C	N/R / 0	
		8	77/78		GF			62,900	
95H90	COUNTER	D	H DIP 16	65C	COMM	FIELD	025C	N/R / 0	
		8	79/79		GF			356,226	

DIGITAL DEVICE DATA

FAIRCHILD SEMI ECL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT. # TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. / QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
10010	COUNTER DECADE	D 59	H DIP 16: 77/78	77C	DSPY GBC	FIELD	040C 55XPWR	2 / 0 2,600:			
10010	COUNTER DECADE	D 59	H DIP 16: 78/79	77C	DSPY GBC	FIELD	040C 55XPWR	554 / 0 720,200:			
10016	COUNTER BINARY	D 59	H DIP 16: 77/78	77C	DSPY GBC	FIELD	040C 55XPWR	4730 / 2 6,149,000:			
10016	COUNTER BINARY	D 59	H DIP 16: 78/79	77C	DSPY GBC	FIELD	040C 55XPWR	40498 / 14 52,647,400:			
11C06	FLIP-FLOP D	D 7	H DIP 16: 00/79	135C	NR N/R	LIFE OP CNST	125C	78 / 0 78,000:			
11C70	FLIP-FLOP D	D 6	H DIP 16: 77/78	59C	DSPY GBC	FIELD	040C 55XPWR	2883 / 0 3,747,900:			
11C70	FLIP-FLOP D	D 6	H DIP 16: 78/79	59C	DSPY GBC	FIELD	040C 55XPWR	2304 / 0 2,995,200:			
11C90	COUNTER	D N/R	H DIP 16: 00/79	156C	NR N/R	LIFE OP CNST	125C	50 / 0 50,000:			
11C90	COUNTER	D N/R	H DIP 16: 00/79	156C	NR N/R	LIFE OP CNST	125C	82 / 0 82,000:			
11C90	COUNTER	D N/R	H DIP 16: 00/79	156C	NR N/R	LIFE OP CNST	125C	81 / 0 81,000:			
11C90	COUNTER	D N/R	H DIP 16: 00/79	156C	NR N/R	LIFE OP CNST	125C	43 / 1 84,168:			
11C90	COUNTER	D N/R	H DIP 16: 00/79	156C	NR N/R	LIFE OP CNST	125C	59 / 0 118,000:			
11C90	COUNTER	D N/R	H DIP 16: 00/79	156C	NR N/R	LIFE OP CNST	125C	100 / 0 200,000:			
11C90	COUNTER	D N/R	H DIP 16: 78/79	67C	DSPY GBC	FIELD	040C 55XPWR	18 / 0 23,400:			
95003	GATE	D 3	H DIP 14: 78/79	48C	DSPY GBC	FIELD	040C 55XPWR	121 / 0 157,300:			

DIGITAL DEVICE DATA

MOTOROLA SEMI
ECL

MANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEP REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
1001	GATE	D-1 1	P DIP 14 77/78	52C	DSPY GBC	FIELD	040C 55XPWR	41 / 0 53,300	
1001	GATE	D-1 1	P DIP 14 78/79	52C	DSPY GBC	FIELD	040C 55XPWR	39 / 0 50,700	
1007	GATE	D-1 3	P DIP 14 77/78	52C	DSPY GBC	FIELD	040C 55XPWR	5021 / 0 6,527,300	
1007	GATE	D-1 3	P DIP 14 78/79	52C	DSPY GBC	FIELD	040C 55XPWR	4188 / 0 5,444,400	
10100	GATE	D 4	H DIP 16 77/78	51C	DSPY GBC	FIELD	040C 55XPWR	696 / 0 904,800	
10100	GATE	D 4	H DIP 16 78/79	51C	DSPY GBC	FIELD	040C 55XPWR	15968 / 0 20,758,400	
10103	GATE	D 4	H DIP 16 77/78	51C	DSPY GBC	FIELD	040C 55XPWR	1332 / 0 1,731,600	
10103	GATE	D 4	H DIP 16 78/79	51C	DSPY GBC	FIELD	040C 55XPWR	8094 / 2 10,522,200	
10103	GATE	D-1 4	P DIP 16 77/78	51C	DSPY GBC	FIELD	040C 55XPWR	63 / 0 81,900	
10103	GATE	D-1 4	P DIP 16 78/79	51C	DSPY GBC	FIELD	040C 55XPWR	57 / 0 74,100	
10104	GATE	D-1 4	P DIP 16 77/78	55C	DSPY GBC	FIELD	040C 55XPWR	4933 / 1 6,412,900	
10104	GATE	D-1 4	P DIP 16 78/79	55C	DSPY GBC	FIELD	040C 55XPWR	35066 / 2 45,585,800	
10113	GATE	D 4	H DIP 16 77/78	58C	DSPY GBC	FIELD	040C 55XPWR	328 / 0 426,400	
10113	GATE	D 4	H DIP 16 78/79	58C	DSPY GBC	FIELD	040C 55XPWR	968 / 0 1,258,400	
10117	GATE	D 4	H DIP 16 77/78	51C	DSPY GBC	FIELD	040C 55XPWR	768 / 0 998,400	
10117	GATE	D 4	H DIP 16 78/79	51C	DSPY GBC	FIELD	040C 55XPWR	90 / 0 117,000	
10117	GATE	D 4	H DIP 16 78/79	51C	DSPY GBC	FIELD	040C 55XPWR	9908 / 2 12,880,400	
10117	GATE	D-1 4	P DIP 16 77/78	51C	DSPY GBC	FIELD	040C 55XPWR	3 / 0 3,900	
1013	FLIP-FLOP JK	D-1 10	P DIP 14 77/78	53C	DSPY GBC	FIELD	040C 55XPWR	44559 / 9 57,926,700	
1013	FLIP-FLOP JK	D-1 10	P DIP 14 78/79	53C	DSPY GBC	FIELD	040C 55XPWR	39896 / 8 51,864,800	
10130	LATCH D	D 14	H DIP 16 77/78	56C	DSPY GBC	FIELD	040C 55XPWR	420 / 0 546,000	
10130	LATCH D	D 14	H DIP 16 78/79	56C	DSPY GBC	FIELD	040C 55XPWR	1924 / 0 2,501,200	
10135	FLIP-FLOP JK	D 24	H DIP 16 77/78	65C	DSPY GBC	FIELD	040C 55XPWR	6554 / 1 8,520,200	

DIGITAL DEVICE DATA

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RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO.: /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
10135	FLIP-FLOP JK	D 24	H DIP 16: 78/79	65C	DSPY GBC	FIELD	040C 55XPWR:	74338 / 3 96,639,400:	
10136	COUNTER BINARY	D 62	H DIP 16: 77/78	96C	DSPY GBC	FIELD	040C 55XRH:	114 / 0 148,200:	
10136	COUNTER BINARY	D 62	H DIP 16: 78/79	96C	DSPY GBC	FIELD	040C 55XPWR:	867 / 1 1,127,100:	
10137	COUNTER DECADE	D 76	H DIP 16: 77/78	96C	DSPY GBC	FIELD	040C 55XPWR:	1892 / 0 2,459,600:	
10137	COUNTER DECADE	D 76	H DIP 16: 78/79	96C	DSPY GBC	FIELD	040C 55XPWR:	4194 / 0 5,452,200:	
10138	COUNTER BCD	D 32	H DIP 16: 77/78	73C	DSPY GBC	FIELD	040C 55XPWR:	3153 / 0 4,098,900:	
10138	COUNTER BCD	D 32	H DIP 16: 78/79	73C	DSPY GBC	FIELD	040C 55XPWR:	7516 / 0 9,770,800:	
10141	SHIFT REG	D N/R	H DIP 16: 78/79	78C	DSPY GBC	FIELD	040C 55XPWR:	120 / 0 156,000:	
10158	MULTIPLEXER	D 13	H DIP 16: 77/78	60C	DSPY GBC	FIELD	040C 55XPWR:	348 / 0 452,400:	
10158	MULTIPLEXER	D 13	H DIP 16: 78/79	60C	DSPY GBC	FIELD	040C 55XPWR:	7984 / 0 10,379,200:	
10164	MULTIPLEXER	D 12	H DIP 16: 77/78	67C	DSPY GBC	FIELD	040C 55XPWR:	4432 / 3 5,761,600:	
10164	MULTIPLEXER	D 12	H DIP 16: 78/79	67C	DSPY GBC	FIELD	040C 55XPWR:	6847 / 4 8,901,100:	
10174	MULTIPLEXER	D-1 12	P DIP 16: 77/78	67C	DSPY GBC	FIELD	040C 55XPWR:	670 / 0 871,000:	
10174	MULTIPLEXER	D-1 12	P DIP 16: 78/79	67C	DSPY GBC	FIELD	040C 55XPWR:	1342 / 0 1,744,600:	
10176	FLIP-FLOP D	D-1 42	P DIP 16: 77/78	87C	DSPY GBC	FIELD	040C 55XPWR:	3254 / 1 4,230,200:	
10176	FLIP-FLOP D	D-1 42	P DIP 16: 78/79	87C	DSPY GBC	FIELD	040C 55XPWR:	27824 / 2 36,171,200:	
10178	COUNTER BINARY	D-1 32	P DIP 16: 77/78	78C	DSPY GBC	FIELD	040C 55XPWR:	79 / 0 102,700:	
10178	COUNTER BINARY	D-1 32	P DIP 16: 78/79	78C	DSPY GBC	FIELD	040C 55XPWR:	819 / 0 1,064,700:	
10195	BUFFER	D-1 6	P DIP 16: 77/78	58C	DSPY GBC	FIELD	040C 55XPWR:	276 / 0 358,800:	
10195	BUFFER	D-1 6	P DIP 16: 78/79	58C	DSPY GBC	FIELD	040C 55XPWR:	356 / 0 462,800:	
10210	GATE	D 2	H DIP 16: 77/78	57C	DSPY GBC	FIELD	040C 55XPWR:	211 / 0 274,300:	
10210	GATE	D 2	H DIP 16: 78/79	57C	DSPY GBC	FIELD	040C 55XPWR:	836 / 0 1,086,800:	
10211	GATE	D-1 2	P DIP 16: 77/78	56C	DSPY GBC	FIELD	040C 55XPWR:	2139 / 1 2,780,700:	

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PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO. /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
10211	GATE	D-1 2	P DIP 16: 78/79	56C	DSPY GBC	FIELD	040C 55XPWR:	9819 / 1 12,764,700			
10212	GATE	D 2	H DIP 16: 77/78	57C	DSPY GBC	FIELD	040C 55XPWR:	82 / 0 106,600			
10212	GATE	D 2	H DIP 16: 78/79	57C	DSPY GBC	FIELD	040C 55XPWR:	242 / 0 314,600			
10212	GATE	D-1 2	P DIP 16: 77/78	57C	DSPY GBC	FIELD	040C 55XPWR:	53 / 0 68,900			
10212	GATE	D-1 2	P DIP 16: 78/79	57C	DSPY GBC	FIELD	040C 55XPWR:	1435 / 0 1,865,500			
1022	FLIP-FLOP D	D-1 6	P DIP 14: 77/78	52C	DSPY GBC	FIELD	040C 55XPWR:	2196 / 0 2,854,800			
1022	FLIP-FLOP D	D-1 6	P DIP 14: 78/79	52C	DSPY GBC	FIELD	040C 55XPWR:	1891 / 0 2,458,300			
10231	FLIP-FLOP D	D-1 14	P DIP 16: 77/78	68C	DSPY GBC	FIELD	040C 55XPWR:	11036 / 1 14,346,800			
10231	FLIP-FLOP D	D-1 14	P DIP 16: 78/79	68C	DSPY GBC	FIELD	040C 55XPWR:	47528 / 8 61,786,400			
1030	GATE	D-1 16	P DIP 14: 77/78	54C	DSPY GBC	FIELD	040C 55XPWR:	3474 / 3 4,516,200			
1030	GATE	D-1 16	P DIP 14: 78/79	54C	DSPY GBC	FIELD	040C 55XPWR:	4286 / 1 5,571,800			
1031	GATE	D-1 16	P DIP 14: 77/78	54C	DSPY GBC	FIELD	040C 55XPWR:	317 / 0 412,100			
1031	GATE	D-1 16	P DIP 14: 78/79	54C	DSPY GBC	FIELD	040C 55XPWR:	279 / 0 362,700			
1032	FLIP-FLOP JK	D-1 16	P DIP 16: 77/78	59C	DSPY GBC	FIELD	040C 55XPWR:	10208 / 5 13,270,400			
1032	FLIP-FLOP JK	D-1 16	P DIP 16: 78/79	59C	DSPY GBC	FIELD	040C 55XPWR:	11044 / 3 14,357,200			
1034	FLIP-FLOP D	D-1 6	P DIP 14: 77/78	65C	DSPY GBC	FIELD	040C 55XPWR:	3889 / 4 5,055,700			
1034	FLIP-FLOP D	D-1 6	P DIP 14: 78/79	65C	DSPY GBC	FIELD	040C 55XPWR:	2526 / 3 3,283,800			
1047	GATE	D-1 4	P DIP 14: 77/78	54C	DSPY GBC	FIELD	040C 55XPWR:	2485 / 0 3,231,800			
1047	GATE	D-1 4	P DIP 14: 78/79	54C	DSPY GBC	FIELD	040C 55XPWR:	3162 / 1 4,110,600			
1048	GATE	D-1 4	P DIP 14: 77/78	59C	DSPY GBC	FIELD	040C 55XPWR:	89 / 0 115,700			
1048	GATE	D-1 4	P DIP 14: 78/79	59C	DSPY GBC	FIELD	040C 55XPWR:	72 / 0 93,600			
10501	GATE	B-2 4	H DIP 16: 77/77	65C	RADR AIU	RELDEN OPERATE		1805 / 0 58,121			
10502	GATE	B-2 4	H DIP 16: 77/77	65C	RADR AIU	RELDEN OPERATE		600 / 0 19,320			

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PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT. ° TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
10504	G. YE	B-2	H DIP 16	77/77		RADR	RELDEN	260 / 0	
		4	77/77			AIU	OPERATE	8,372	
10505	GATE	B-2	H DIP 16	77/77		RADR	RELDEN	1035 / 0	
		3	77/77			AIU	OPERATE	33,327	
10506	GATE	B-2	H DIP 16	77/77		RADR	RELDEN	305 / 0	
		3	77/77			AIU	OPERATE	9,821	
10507	GATE	B-2	H DIP 16	77/77		RADR	RELDEN	470 / 0	
		3	77/77			AIU	OPERATE	15,134	
10509	GATE	B-2	H DIP 16	77/77		RADR	RELDEN	405 / 0	
		2	77/77			AIU	OPERATE	13,041	
10518	GATE	B-2	H DIP 16	77/77		RADR	RELDEN	210 / 0	
		4	77/77			AIU	OPERATE	6,762	
10531	FLIP-FLOP D	B-2	H DIP 16	77/77		RADR	RELDEN	380 / 0	
		14	77/77			AIU	OPERATE	12,236	
10533	LATCH BISTABLE	B-2	H DIP 16	77/77		RADR	RELDEN	425 / 0	
		30	77/77			AIU	OPERATE	13,685	
10535	FLIP-FLOP JK	B-2	H DIP 16	77/77		RADR	RELDEN	645 / 0	
		16	77/77			AIU	OPERATE	20,769	
10536	COUNTER BINARY	B-2	H DIP 16	77/77		RADR	RELDEN	425 / 0	
		55	77/77			AIU	OPERATE	13,685	
10541	SHIFT REG	B-2	H DIP 16	77/77		RADR	RELDEN	240 / 0	
		59	77/77			AIU	OPERATE	7,728	
10561	DECODER BINARY	B-2	H DIP 16	77/77		RADR	RELDEN	200 / 0	
		12	77/77			AIU	OPERATE	6,440	
10562	DECODER BINARY	B-2	H DIP 16	77/77		RADR	RELDEN	80 / 0	
		12	77/77			AIU	OPERATE	2,576	
10576	FLIP-FLOP D	D	H FPK 16	78/79	98C	DSFY GBC	FIELD	040C 55XPWR	76 / 0
		42	78/79					98,800	
10581	LOGIC UNIT ARITHMETIC	B-2	H DIP 24	77/77		RADR	RELDEN	45 / 0	
		62	77/77			AIU	OPERATE	1,449	
1201	GATE	B-2	H DIP 14	77/77		RADR	RELDEN	1065 / 0	
		1	77/77			AIU	OPERATE	34,293	
1204	GATE	B-2	H DIP 14	77/77		RADR	RELDEN	1635 / 0	
		2	77/77			AIU	OPERATE	52,647	
1204	GATE	D	H DIP 14	79/79	35C	COMM GF	FIELD	025C	N/R / 0
		2	79/79					62,950	
1204	GATE	D	H DIP 14	79/79	35C	COMM GF	FIELD	025C	N/R / 0
		2	79/79					356,226	
1205	GATE	B-2	H DIP 14	77/77		RADR	RELDEN	375 / 0	
		2	77/77			AIU	OPERATE	12,075	
1206	GATE	B-2	H DIP 14	77/77		RADR	RELDEN	90 / 0	
		2	77/77			AIU	OPERATE	2,898	
1207	GATE	B-2	H DIP 14	77/77		RADR	RELDEN	435 / 0	
		3	77/77			AIU	OPERATE	14,007	
1210	GATE	B-2	H DIP 14	77/77		RADR	RELDEN	1695 / 0	
		4	77/77			AIU	OPERATE	54,579	

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PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
1212	GATE	B-2	H DIP 14	77/77	RADR	RELDEN		180 / 0	
		4	77/77		AIU	OPERATE		5,796	
1213	FLIP-FLOP JK	B-2/N	H FPK 14	75/78	RADR	FIELD		34 / 0	
		10	75/78		AUF			4,011	
1213	FLIP-FLOP JK	D	H DIP 14	77/78	38C	COMM	FIELD 025C	N/R / 0	
		10	77/78		GF			125,900	
1213	FLIP-FLOP JK	D	H DIP 14	79/79	38C	COMM	FIELD 025C	N/R / 0	
		10	79/79		GF			712,452	
1228	DECODER/DEMULTIPLX	B-2	H DIP 16	77/77	RADR	RELDEN		1845 / 0	
		N/R	77/77		AIU	OPERATE		59,409	
1232	FLIP-FLOP JK	B-2	H DIP 16	77/77	RADR	RELDEN		1845 / 0	
		16	77/77		AIU	OPERATE		59,409	
1242	DECODER	B-2	H DIP 16	77/77	RADR	RELDEN		30 / 0	
		8	77/77		AIU	OPERATE		966	
1259	ADDER FULL	B-2	H DIP 16	77/77	RADR	RELDEN		270 / 0	
		12	77/77		AIU	OPERATE		8,694	
1660	GATE	D	H DIP 16	77/78	53C	DSPY	FIELD 040C 55XPWR	2370 / 0	
		2	77/78		GBC			3,081,000	
1660	GATE	D	H DIP 16	78/79	53C	DSPY	FIELD 040C 55XPWR	5310 / 2	
		2	78/79		GBC			6,903,000	
1662	GATE	D	H DIP 16	77/78	65C	DSPY	FIELD 040C 55XPWR	3425 / 2	
		4	77/78		GBC			4,452,500	
1662	GATE	D	H DIP 16	78/79	65C	DSPY	FIELD 040C 55XPWR	5560 / 1	
		4	78/79		GBC			7,228,000	
1664	GATE	D	H DIP 16	77/78	65C	DSPY	FIELD 040C 55XPWR	644 / 0	
		4	77/78		GBC			837,200	
1664	GATE	D	H DIP 16	78/79	65C	DSPY	FIELD 040C 55XPWR	856 / 0	
		4	78/79		GBC			1,112,800	
1670	FLIP-FLOP D	D	H DIP 16	77/78	63C	DSPY	FIELD 040C 55XPWR	666 / 0	
		7	77/78		GBC			865,800	
1670	FLIP-FLOP D	D	H DIP 16	78/79	63C	DSPY	FIELD 040C 55XPWR	2832 / 1	
		7	78/79		GBC			3,681,600	
1674	GATE	D	H DIP 16	77/78	63C	DSPY	FIELD 040C 55XPWR	395 / 0	
		3	77/78		GBC			513,500	
1674	GATE	D	H DIP 16	78/79	63C	DSPY	FIELD 040C 55XPWR	783 / 2	
		3	78/79		GBC			1,017,900	
1690	FLIP-FLOP D	D	H DIP 16	77/78	61C	DSPY	FIELD 040C 55XPWR	89 / 0	
		6	77/78		GBC			115,700	
1690	FLIP-FLOP D	D	H DIP 16	78/79	61C	DSPY	FIELD 040C 55XPWR	72 / 0	
		6	78/79		GBC			93,600	

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PLESSEY ECL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
8602	COUNTER	B-1 N/R	H CAN 77/79	8 71C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	6479 / 0 177,222			
8602	COUNTER	B-1 N/R	H CAN 77/79	8 71C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	1912 / 0 52,120			
8602	COUNTER	B-1 N/R	H CAN 77/79	8 71C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	3505 / 0 96,962			
8602	COUNTER	B-1 N/R	H CAN 76/77	8 65C	COMM AIF	FIELD		15 / 0 10,227			
8602	COUNTER	B-1 N/R	H CAN 76/77	8 65C	COMM AIF	FIELD		10 / 0 4,191			
8602	COUNTER	B-1 N/R	H CAN 76/77	8 65C	COMM AIF	FIELD		14 / 0 7,056			
8602	COUNTER	B-1 N/R	H CAN 76/77	8 65C	COMM AIT	FIELD		19 / 0 19,331			
8641	DIVIDER PROGRAMMABLE	D 28	H DIP 77/78	16 63C	DSPY GBC	FIELD	040C 55XPWR	333 / 1 432,000			
8641	DIVIDER PROGRAMMABLE	D 28	H DIP 78/79	16 63C	DSPY GBC	FIELD	040C 55XPWR	578 / 0 751,400			

SIGNETICS ECL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
10102	GATE	D 4	H DIP 77/77	16 136C	NR N/R	LIFE OP DYN	125C	46 / 0 46,000			
						LIFE EM		46 / 1 2266/ 1			
10102	GATE	D 4	H DIP 77/77	16 136C	NR N/R	LIFE OP DYN	125C	49 / 0 49,000			
						LIFE EM		49 / 0			
10102	GATE	D 4	H DIP 77/77	16 161C	NR N/R	LIFE STGLIFE	150C	93 / 0 93,000			
						LIFE EM		93 / 0			
10102	GATE	D 4	H DIP 77/77	16 311C	NR N/R	LIFE STGLIFE	300C	95 / 0 95,000			
						LIFE EM		95 / 0			
10105	GATE	D 3	H DIP 77/77	16 133C	NR N/R	LIFE OP DYN	125C	46 / 0 46,000			

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PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEP REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
						LIFE		46 / 0	
						EM			
10105	GATE	D 3	H DIP 16: 77/77	158C	NR	LIFE	150C	46 / 0	
					N/R	STGLIFE		46,000	
						LIFE		46 / 0	
						EM			
10109	GATE	D 2	H DIP 16: 77/77	136C	NR	LIFE	130C	46 / 0	
					N/R	OP DYN		46,000	
						LIFE		46 / 1	2267/ 1
						EM			
10109	GATE	D 2	H DIP 16: 77/77	136C	NR	LIFE	130C	46 / 0	
					N/R	OP DYN		46,000	
						LIFE		46 / 1	2268/ 1
						EM			
10109	GATE	D 2	H DIP 16: 77/77	156C	NR	LIFE	150C	102 / 0	
					N/R	STGLIFE		102,000	
						LIFE		102 / 0	
						EM			
10109	GATE	D 2	H DIP 16: 77/77	131C	NR	LIFE	125C	53 / 0	
					N/R	REVBIA		53,000	
						LIFE		53 / 0	
						EM			
10110	GATE	D 2	H DIP 16: 77/77	166C	NR	LIFE	150C	56 / 0	
					N/R	STGLIFE		46,000	
						LIFE		56 / 0	
						EM			
10110	GATE	D 2	H DIP 16: 77/77	141C	NR	LIFE	125C	46 / 0	
					N/R	REVBIA		46,000	
						LIFE		46 / 0	
						EM			
10131	FLIP-FLOP D	D 14	H DIP 16: 77/77	149C	NR	LIFE	125C	46 / 0	
					N/R	OP DYN		46,000	
						LIFE		46 / 0	
						EM			
10131	FLIP-FLOP D	D 14	H DIP 16: 77/77	174C	NR	LIFE	150C	92 / 0	
					N/R	STGLIFE		92,000	
						LIFE		92 / 0	
						EM			
10131	FLIP-FLOP D	D 14	H DIP 16: 77/77	149C	NR	LIFE	125C	77 / 0	
					N/R	REVBIA		77,000	
						LIFE		77 / 1	2269/ 1
						EM			
10133	LATCH D	D 30	H DIP 16: 77/77	155C	NR	LIFE	125C	46 / 0	
					N/R	OP DYN		46,000	
						LIFE		46 / 0	
						EM			

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PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT. TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO. / QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
10133	LATCH D	D 30	H DIP 16 77/77	180C	NR N/R	LIFE STGLIFE	150C	46 / 0 46,000		
						LIFE EM		46 / 0		
10141	SHIFT REG	D N/R	H DIP 16 77/77	167C	NR N/R	LIFE OP DYN	125C	46 / 0 46,000		
						LIFE EM		46 / 2	2271/	1
										2270/ 1
10141	SHIFT REG	D N/R	H DIP 16 77/77	342C	NR N/R	LIFE STGLIFF	300C	49 / 0 49,000		
						LIFE EM		49 / 1	2272/	1
10141	SHIFT REG	D N/R	H DIP 16 77/77	192C	NR N/R	LIFE STGLIFE	150C	46 / 0 46,000		
						LIFE EM		46 / 2	2273/	1
										2274/ 1
10164	MULTIPLEXER	D 12	H DIP 16 77/77	155C	NR N/R	LIFE OP DYN	125C	90 / 0 90,000		
						LIFE EM		90 / 0		
10164	MULTIPLEXER	D 12	H DIP 16 77/77	155C	NR N/R	LIFE OP DYN	125C	47 / 0 95,000	2275/	1
						LIFE EM		47 / 1		
10164	MULTIPLEXER	D 12	H DIP 16 77/77	155C	NR N/R	LIFE OP DYN	125C	48 / 0 48,000		
						LIFE EM		48 / 1		
10164	MULTIPLEXER	D 12	H DIP 16 77/77	155C	NR N/R	LIFE OP DYN	125C	49 / 0 49,000		
						LIFE EM		49 / 7	2277/	1
										2278/ 6
10164	MULTIPLEXER	D 12	H DIP 16 77/77	155C	NR N/R	LIFE OP DYN	125C	77 / 0 78,000		
						LIFE EM		77 / 3	2279/	3
10164	MULTIPLEXER	D 12	H DIP 16 77/77	180C	NR N/R	LIFE STGLIFE	150C	47 / 0 95,000		
						LIFE EM		47 / 0		

DIGITAL DEVICE DATA

SIGNETICS ECL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEY REPORT NO. /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
10164	MULTIPLEXER	D 12	H DIP 16 77/77	180C	NR N/R	LIFE STGLIFE	150C	185 / 0 185,000		
						LIFE EM		185 / 0		
10164	MULTIPLEXER	D 12	H DIP 16 77/77	330C	NR N/R	LIFE STGLIFE	300C	48 / 0 48,000		
						LIFE EM		48 / 1 2280 / 1		
10164	MULTIPLEXER	D 12	H DIP 16 77/77	330C	NR N/R	LIFE STGLIFE	300C	54 / 0 54,000		
						LIFE EM		54 / 0		
10176	FLIP-FLOP D	NONE 42	N/R DIP 16 77/77	175C	NR N/R	LIFE STGLIFE	150C	46 / 0 46,000		
						LIFE EM		46 / 0		

VARIOUS ECL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEY REPORT NO. /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
1004	GATE	D-1 2	P DIP 14 77/78	50C	DSPY GBC	FIELD	040C 55XPWR	15262 / 6 19,840,600		
1004	GATE	D-1 2	P DIP 14 78/79	50C	DSPY GBC	FIELD	040C 55XPWR	14365 / 13 18,674,500		
1010	GATE	D-1 4	P DIP 14 77/78	50C	DSPY GBC	FIELD	040C 55XPWR	47720 / 7 62,036,000		
1010	GATE	D-1 4	P DIP 14 78/79	50C	DSPY GBC	FIELD	040C 55XPWR	45824 / 5 59,571,200		
10101	GATE	D 4	H DIP 16 77/77	45C	COMP GBC	FIELD	035C	5000 / 1 21,600,000		
10101	GATE	D 4	H DIP 16 78/78	45C	COMP GBC	FIELD	035C	5962 / 3 25,755,840		
10101	GATE	D-1 4	P DIP 16 77/78	50C	DSPY GBC	FIELD	040C 55XPWR	3828 / 1 4,976,400		
10101	GATE	D-1 4	P DIP 16 78/79	50C	DSPY GBC	FIELD	040C 55XPWR	10215 / 0 13,279,500		
10102	GATE	D 4	H DIP 16 78/78	45C	COMP GBC	FIELD	035C	5000 / 1 21,600,000		
10102	GATE	D 4	H DIP 16 77/77	45C	COMP GBC	FIELD	035C	10000 / 1 43,200,000		

DIGITAL DEVICE DATA

VARIOUS ECL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
10102	GATE	D-1 4	P DIP 16: 77/78	50C	DSPY GBC	FIELD	040C 55XPWR:	44129 / 13 57,367,700:			
10102	GATE	D-1 4	P DIP 16: 78/79	50C	DSPY GBC	FIELD	040C 55XPWR:	99999 / 21 135,128,500:			
						FIELD		3946 / 0			
10104	GATE	D 4	H DIP 16: 78/78	50C	COMP GBC	FIELD	035C	15000 / 2 6,480,000:			
10106	GATE	D-1 3	P DIP 16: 77/78	47C	DSPY GBC	FIELD	040C 55XPWR:	10785 / 0 14,020,500:			
10106	GATE	D-1 3	P DIP 16: 78/79	47C	DSPY GBC	FIELD	040C 55XPWR:	14192 / 2 18,449,600:			
10107	GATE	D-1 3	P DIP 16: 77/78	50C	DSPY GBC	FIELD	040C 55XPWR:	10327 / 2 13,425,100:			
10107	GATE	D-1 3	P DIP 16: 78/79	50C	DSPY GBC	FIELD	040C 55XPWR:	16711 / 5 21,724,300:			
10109	GATE	D-1 2	P DIP 16: 77/78	45C	DSPY GBC	FIELD	040C 55XPWR:	16376 / 10 21,288,800:			
10109	GATE	D-1 2	P DIP 16: 78/79	45C	DSPY GBC	FIELD	040C 55XPWR:	26046 / 7 33,859,800:			
10110	GATE	D-1 2	P DIP 16: 77/78	55C	DSPY GBC	FIELD	040C 55XPWR:	2279 / 0 2,962,700:			
10110	GATE	D-1 2	P DIP 16: 78/79	55C	DSPY GBC	FIELD	040C 55XPWR:	3474 / 0 4,516,200:			
10111	GATE	D-1 2	P DIP 16: 77/78	55C	DSPY GBC	FIELD	040C 55XPWR:	4545 / 0 5,908,500:			
10111	GATE	D-1 2	P DIP 16: 78/79	55C	DSPY GBC	FIELD	040C 55XPWR:	3817 / 1 4,962,100:			
10119	GATE	D-1 4	P DIP 16: 77/78	50C	DSPY GBC	FIELD	040C 55XPWR:	556 / 0 722,800:			
10119	GATE	D-1 4	P DIP 16: 78/79	50C	DSPY GBC	FIELD	040C 55XPWR:	681 / 0 885,300:			
10121	GATE	D-1 4	P DIP 16: 77/78	50C	DSPY GBC	FIELD	040C 55XPWR:	426 / 0 553,800:			
10121	GATE	D-1 4	P DIP 16: 78/79	50C	DSPY GBC	FIELD	040C 55XPWR:	612 / 0 795,600:			
10131	FLIP-FLOP D	D 14	H DIP 16: 77/77	55C	COMP GBC	FIELD	035C	5000 / 1 21,600,000:			
10131	FLIP-FLOP D	D 14	H DIP 16: 78/78	55C	COMP GBC	FIELD	035C	10000 / 1 43,200,000:			
10131	FLIP-FLOP D	D-1 14	P DIP 16: 77/78	60C	DSPY GBC	FIELD	040C 55XPWR:	44209 / 18 57,471,700:			
10131	FLIP-FLOP D	D-1 14	P DIP 16: 78/79	60C	DSPY GBC	FIELD	040C 55XPWR:	94850 / 12 123,305,000:			
10133	LATCH MONOSTABLE	D 30	H DIP 16: 77/77	63C	COMP GBC	FIELD	035C	6666 / 2 28,797,120:			

DIGITAL DEVICE DATA

VARIOUS ECL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEP REPORT NO. /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
10133	LATCH MONOSTABLE	D 30	H DIP 78/78	16: 63C	COMP	FIELD	035C	6666 / 2	28,797,120	
10136	COUNTER BINARY	D 62	H DIP 77/77	16: 91C	COMP	FIELD	035C	1428 / 2	6,168,960	
1014	FLIP-FLOP RS	D-1 16	P DIP 77/78	14: 55C	DSPY	FIELD	040C 55XPWR	1176 / 0	1,528,800	
1014	FLIP-FLOP RS	D-1 16	P DIP 78/79	14: 55C	DSPY	FIELD	040C 55XPWR	1394 / 0	1,812,200	
10141	SHIFT R/C	D N/R	H DIP 77/77	16: 72C	COMP	FIELD	035C	625 / 1	2,700,000	
10141	SHIFT REG	D N/R	H DIP 78/78	16: 72C	COMP	FIELD	035C	455 / 1	1,965,600	
1015	FLIP-FLOP RS	D-1 16	P DIP 77/78	14: 54C	DSPY	FIELD	040C 55XPWR	176 / 0	228,800	
1015	FLIP-FLOP RS	D-1 16	P DIP 78/79	14: 54C	DSPY	FIELD	040C 55XPWR	81 / 0	105,300	
1016	FLIP-FLOP RS	D-1 16	P DIP 77/78	14: 54C	DSPY	FIELD	040C 55XPWR	1335 / 0	1,735,500	
1016	FLIP-FLOP RS	D-1 16	P DIP 78/79	14: 54C	DSPY	FIELD	040C 55XPWR	1072 / 1	1,393,600	
10162	DECODER BINARY	D-1 12	P DIP 78/79	16: 71C	DSPY	FIELD	040C 55XPWR	22 / 0	28,600	
1024	GATE EXPANDABLE	D-1 2	P DIP 77/78	14: 50C	DSPY	FIELD	040C 55XPWR	4515 / 4	5,869,500	
1024	GATE EXPANDABLE	D-1 2	P DIP 78/79	14: 50C	DSPY	FIELD	040C 55XPWR	3861 / 2	5,019,300	
1027	FLIP-FLOP JK	D-1 10	P DIP 77/78	14: 65C	DSPY	FIELD	040C 55XPWR	13985 / 3	18,180,500	
1027	FLIP-FLOP JK	D-1 10	P DIP 78/79	14: 65C	DSPY	FIELD	040C 55XPWR	12787 / 6	16,623,100	
1033	FLIP-FLOP RS	D-1 16	P DIP 77/78	14: 54C	DSPY	FIELD	040C 55XPWR	593 / 0	770,900	
1033	FLIP-FLOP RS	D-1 16	P DIP 78/79	14: 54C	DSPY	FIELD	040C 55XPWR	526 / 0	683,800	
1660S	GATE	C-1 2	H FPK 75/78	14: 85C	RADR AUF	FIELD		66 / 0	75,240	
1663S	GATE	C-1 4	H FPK 75/78	14: 85C	RADR AUF	FIELD		198 / 1	2157/ 1 224,880	
1671	FLIP-FLOP D	C-1 6	H FPK 75/78	14: 85C	RADR AUF	FIELD		198 / 1	2158/ 1 224,880	

DIGITAL DEVICE DATA

FAIRCHILD SEMI
ECL . . . ISOPHARM

MANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT. # TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEY REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
100102	GATE	D	H FPK 24: 00/79	135C	NR N/R	LIFE OP CNST	125C	49 / 0 98,000	
		6				LIFE EM		49 / 0	
100102	GATE	D-1	P DIP 24: 00/79	110C	NR N/R	LIFE OP CNST	100C	120 / 0 60,000	
		6				LIFE EM		120 / 0	
100117	GATE	D	H FPK 24: 00/79	135C	NR N/R	LIFE OP CNST	125C	120 / 1 23,000	
		9				LIFE EM		119 / 0	
100118	GATE	B-2	H FPK 24: 77/77		RADR AIU	RELDEN OPERATE		875 / 0 28,175	
		6							
100131	FLIP-FLOP D	D	H FPK 24: 00/79	135C	NR N/R	LIFE OP CNST	125C	20 / 1 38,168	
		11				LIFE EM		19 / 0	
100131	FLIP-FLOP D	D	H FPK 24: 00/79	135C	NR N/R	LIFE OP CNST	125C	62 / 0 124,000	
		11				LIFE EM		62 / 0	
100131	FLIP-FLOP D	D	H FPK 24: 00/79	135C	NR N/R	LIFE OP CNST	125C	50 / 0 100,000	
		11				LIFE EM		50 / 0	
100158	SHIFT REG	D N/R	H FPK 24: 00/79	135C	NR N/R	LIFE OP CNST	125C	34 / 0 51,000	
						LIFE EM		34 / 0	
11C01	GATE	D	H FPK 16: 00/79	141C	NR N/R	LIFE OP CNST	125C	24 / 0 50,304	
		2				LIFE EM		24 / 0	
11C01	GATE	D	H FPK 16: 00/79	141C	NR N/R	LIFE OP CNST	125C	26 / 0 39,000	
		2				LIFE EM		26 / 0	
11C01	GATE	D	H FPK 16: 00/79	141C	NR N/R	LIFE OP CNST	125C	60 / 0 120,000	
		2				LIFE EM		60 / 0	
11C01	GATE	D	H FPK 16: 00/79	141C	NR N/R	LIFE OP CNST	125C	57 / 0 114,000	
		2				LIFE EM		57 / 0	

DIGITAL DEVICE DATA

FAIRCHILD SEMI
ECL , ISOPLANAR

MANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO.: /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
11C01	GATE	D 2	H FPK 16: 00/79	141C	NR	LIFE	125C	65 / 0	
					N/R	OP CNST		130,000	
						LIFE		65 / 0	
						EM			
11C01	GATE	D 2	H FPK 16: 00/79	141C	NR	LIFE	125C	50 / 0	
					N/R	OP CNST		100,000	
						LIFE		50 / 0	
						EM			
11C01	GATE	D 2	H FPK 16: 00/79	141C	NR	LIFE	125C	26 / 0	
					N/R	OP CNST		52,000	
						LIFE		26 / 0	
						EM			
11C01	GATE	D 2	H FPK 16: 00/79	116C	NR	LIFE	100C	100 / 0	
					N/R	OP CNST		100,000	
						LIFE		100 / 0	
						EM			
11C01	GATE	D 2	H DIP 16: 00/79	260C	NR	LIFE	250C	49 / 0	
					N/R	OP CNST		24,500	
						LIFE		49 / 0	
						EM			
11C01	GATE	D 2	H DIP 16: 00/79	260C	NR	LIFE	250C	50 / 1	2311/ 1
					N/R	OP CNST		24,500	
						LIFE		49 / 0	
						EM			

DIGITAL DEVICE DATA

FAIRCHILD SEMI IIL ,SCHOTTKY		,ISOPPLANAR		MANUFACTURER OPERATIONAL TYPE		RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
9405A	REG LOGIC UNIT	D N/R	H DIP 24 00/78	149C	NR N/R	LIFE OP CNST	125C	48 / 0 48,000		
						LIFE EM		48 / 0		
9405A	REG LOGIC UNIT	D N/R	H DIP 24 00/78	149C	NR N/R	LIFE OP CNST	125C	48 / 0 96,000		
						LIFE EM		48 / 0		
9405A	REG LOGIC UNIT	D N/R	H DIP 24 00/79	149C	NR N/R	LIFE OP CNST	125C	39 / 1 38,168	2312/ 1	
						LIFE EM		38 / 0		
9405A	REG LOGIC UNIT	D N/R	H DIP 24 00/78	260C	NR N/R	LIFE OP CNST	250C	24 / 0 7,968		
						LIFE EM		24 / 0		
9405A	REG LOGIC UNIT	D N/R	H DIP 36 00/79	145C	NR N/R	LIFE OP CNST	125C	65 / 0 130,000		
						LIFE EM		65 / 0		
9405A	REG LOGIC UNIT	D-1 N/R	P DIP 24 00/78	95C	NR N/R	LIFE RHRB	085C 85ZRH	48 / 0 48,000		
						LIFE EM		48 / 0		
9405A	REG LOGIC UNIT	D-1 N/R	P DIP 24 00/78	110C	NR N/R	LIFE OP CNST	100C	48 / 0 48,000		
						LIFE EM		48 / 0		
9405A	REG LOGIC UNIT	D-1 N/R	P DIP 24 00/78	95C	NR N/R	LIFE RHRB	085C 95ZRH	48 / 0 96,000		
						LIFE EM		48 / 0		
9405A	REG LOGIC UNIT	D-1 N/R	P DIP 24 00/78	110C	NR N/R	LIFE OP CNST	100C	47 / 0 86,104		
						LIFE EM		47 / 0		
9405A	REG LOGIC UNIT	D-1 N/R	P DIP 24 00/78	110C	NR N/R	LIFE OP CNST	100C	48 / 0 96,000		
						LIFE EM		48 / 0		
9405A	REG LOGIC UNIT	D-1 N/R	P DIP 24 00/78	110C	NR N/R	LIFE OP CNST	100C	48 / 0 48,000		
						LIFE EM		48 / 0		
9405A	REG LOGIC UNIT	D-1 N/R	P DIP 24 00/78	110C	NR N/R	LIFE OP CNST	100C	48 / 0 96,000		
						LIFE EM		48 / 0		

DIGITAL DEVICE DATA

FAIRCHILD SEMI 11L SCHOTTKY		, ISOPLANAR		MANUFACTURER OPERATIONAL TYPE		RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
								48 / 0		
						LIFE				
						EM				

DIGITAL DEVICE DATA

MOTOROLA SEMI
RTL

MANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRW. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
815	GATE	D-1 2	P DIP 14: 77/78	44C	DSPY GBC	FIELD	040C 55XPWR:	421 / 0 547,300:	
815	GATE	D-1 2	P DIP 14: 78/79	44C	DSPY GBC	FIELD	040C 55XPWR:	2320 / 1 3,016,000:	
816	FLIP-FLOP JK	D-1 8	P DIP 14: 77/78	49C	DSPY GBC	FIELD	040C 55XPWR:	71 / 0 92,300:	
816	FLIP-FLOP JK	D-1 8	P DIP 14: 78/79	49C	DSPY GBC	FIELD	040C 55XPWR:	69 / 0 89,700:	
817	GATE	D-1 4	P DIP 14: 77/78	43C	DSPY GBC	FIELD	040C 55XPWR:	2937 / 3 3,818,100:	
817	GATE	D-1 4	P DIP 14: 78/79	43C	DSPY GBC	FIELD	040C 55XPWR:	3457 / 5 4,494,100:	
824	GATE	D-1 4	P DIP 14: 77/78	45C	DSPY GBC	FIELD	040C 55XPWR:	913 / 0 1,186,900:	
824	GATE	D-1 4	P DIP 14: 78/79	45C	DSPY GBC	FIELD	040C 55XPWR:	891 / 4 1,158,300:	
889	INVERTER	D-1 6	P DIP 14: 77/78	45C	DSPY GBC	FIELD	040C 55XPWR:	421 / 0 547,300:	
889	INVERTER	D-1 6	P DIP 14: 78/79	45C	DSPY GBC	FIELD	040C 55XPWR:	411 / 3 534,300:	

DIGITAL DEVICE DATA

FAIRCHILD SEMI TTL ,HIGH SPEED		:MANUFACTURER :OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
: PART NO. :	: DEVICE FUNCTION :	: SCR. CLASS :	: PACKAGE/ PINS :	: JCT.* TEMP. :	: EQUIP. TYPE :	: DATA CLASS. :	: STRESS LEVEL :	: #TESTED/ #FAILED :	: MPEF REPORT NO. /QTY FAILED :	
:	: CIRCUIT FUNCTION :	: NO. GATES :	: TEST DATE :	:	: APPL. ENV. :	: TEST TYPE :	:	: PART HOURS :	:	
: 93H00 :	: SHIFT REG :	: B-1/JB: 40 :	: H DIP 16: 77/79 :	: 61C :	: RADR : GF :	: FIELD :	: 025C :	: 305 / 0 :	: 4,172,400 :	
: 93H00 :	: SHIFT REG :	: B-1/JB: 40 :	: H DIP 16: 79/79 :	: 61C :	: RADR : GF :	: FIELD :	: 025C :	: 305 / 0 :	: 1,317,600 :	

MOTOROLA SEMI TTL ,HIGH SPEED		:MANUFACTURER :OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
: PART NO. :	: DEVICE FUNCTION :	: SCR. CLASS :	: PACKAGE/ PINS :	: JCT.* TEMP. :	: EQUIP. TYPE :	: DATA CLASS. :	: STRESS LEVEL :	: #TESTED/ #FAILED :	: MPEF REPORT NO. /QTY FAILED :	
:	: CIRCUIT FUNCTION :	: NO. GATES :	: TEST DATE :	:	: APPL. ENV. :	: TEST TYPE :	:	: PART HOURS :	:	
: 3003 :	: GATE :	: D-1 : 4 :	: P DIP 14: 77/78 :	: 56C :	: DSPY : GBC :	: FIELD :	: 040C 55XPWR :	: 3313 / 1 :	: 4,306,900 :	
: 3003 :	: GATE :	: D-1 : 4 :	: P DIP 14: 78/79 :	: 56C :	: DSPY : GBC :	: FIELD :	: 040C 55XPWR :	: 3202 / 3 :	: 4,162,600 :	
: 3006 :	: GATE :	: D-1 : 3 :	: P DIP 14: 77/78 :	: 49C :	: DSPY : GBC :	: FIELD :	: 040C 55XPWR :	: 3975 / 3 :	: 5,167,500 :	
: 3006 :	: GATE :	: D-1 : 3 :	: P DIP 14: 78/79 :	: 49C :	: DSPY : GBC :	: FIELD :	: 040C 55XPWR :	: 4674 / 1 :	: 6,076,200 :	
: 3022 :	: GATE :	: D-1 : 4 :	: P DIP 14: 77/78 :	: 49C :	: DSPY : GBC :	: FIELD :	: 040C 55XPWR :	: 686 / 0 :	: 891,800 :	
: 3022 :	: GATE :	: D-1 : 4 :	: P DIP 14: 78/79 :	: 49C :	: DSPY : GBC :	: FIELD :	: 040C 55XPWR :	: 647 / 1 :	: 841,100 :	
: 3060 :	: FLIP-FLOP D :	: D-1 : 12 :	: P DIP 14: 77/78 :	: 53C :	: DSPY : GBC :	: FIELD :	: 040C 55XPWR :	: 3113 / 0 :	: 4,046,900 :	
: 3060 :	: FLIP-FLOP D :	: D-1 : 12 :	: P DIP 14: 78/79 :	: 53C :	: DSPY : GBC :	: FIELD :	: 040C 55XPWR :	: 2915 / 0 :	: 3,789,500 :	
: 3062 :	: FLIP-FLOP JK :	: D-1 : 16 :	: P DIP 14: 77/78 :	: 51C :	: DSPY : GBC :	: FIELD :	: 040C 55XPWR :	: 7950 / 2 :	: 10,335,000 :	
: 3062 :	: FLIP-FLOP JK :	: D-1 : 16 :	: P DIP 14: 78/79 :	: 51C :	: DSPY : GBC :	: FIELD :	: 040C 55XPWR :	: 9348 / 1 :	: 12,152,400 :	
: 3162 :	: FLIP-FLOP JK :	: B-2/N : 16 :	: H DIP 14: 76/77 :	: 82C :	: RADR : AU :	: RELED : TCVPC :	: -054C 071C : 6CT 2. 27HZ :	: 418 / 0 :	: 20,064 :	

SIGNETICS TTL ,HIGH SPEED		:MANUFACTURER :OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
: PART NO. :	: DEVICE FUNCTION :	: SCR. CLASS :	: PACKAGE/ PINS :	: JCT.* TEMP. :	: EQUIP. TYPE :	: DATA CLASS. :	: STRESS LEVEL :	: #TESTED/ #FAILED :	: MPEF REPORT NO. /QTY FAILED :	
:	: CIRCUIT FUNCTION :	: NO. GATES :	: TEST DATE :	:	: APPL. ENV. :	: TEST TYPE :	:	: PART HOURS :	:	
: 54H00 :	: GATE :	: X :	: H DIP 14: 77/77 :	: 135C :	: NR : N/R :	: LIFE : OP DYN :	: 125C :	: 44 / 0 :	: 44,000 :	

DIGITAL DEVICE DATA

SIGNETICS TTL ,HIGH SPEED		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER			
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFFP REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
						LIF		44 / 0	
						EM			
54H00	GATE	X	H DIP 14: 77/77	160C	NR	LIFE	150C	8 / 0	
		4			N/R	STGLIFE		8,000	
						LIFE		8 / 0	
						EM			
54H01	GATE	X	H DIP 14: 77/77	135C	NR	LIFE	125C	179 / 0	
		4			N/R	OP DYN		179,000	
						LIFE		179 / 0	
						EM			
54H01	GATE	X	H DIP 14: 77/77	160C	NR	LIF	150C	80 / 0	
		4			N/R	STGLIFE		80,000	
						LIFE		80 / 0	
						EM			
54H04	INVERTER	X	H DIP 14: 77/77	141C	NR	LIFE	125C	44 / 0	
		6			N/R	OP DYN		44,000	
						LIFE		44 / 0	
						EM			
54H04	INVERTER	X	H DIP 14: 77/77	166C	NR	LIFE	150C	7 / 0	
		6			N/R	STGLIFE		7,000	
						LIFE		7 / 0	
						EM			
54H10	GATE	X	H DIP 14: 77/77	133C	NR	LIFE	125C	44 / 0	
		3			N/R	OP DYN		44,000	
						LIFE		44 / 0	
						EM			
54H10	GATE	X	H DIP 14: 77/77	158C	NR	LIFE	150C	8 / 0	
		3			N/R	STGLIFE		8,000	
						LIFE		8 / 0	
						EM			
54H101	FLIP-FLOP JK	X	H DIP 14: 77/77	137C	NR	LIFE	125C	179 / 0	
		10			N/R	OP DYN		179,000	
						LIFE		179 / 0	
						EM			
54H101	FLIP-FLOP JK	X	H DIP 14: 77/77	162C	NR	LIFE	150C	80 / 0	
		10			N/R	STGLIFE		80,000	
						LIFE		80 / 0	
						EM			
54H103	FLIP-FLOP JK	X	H DIP 14: 77/77	148C	NR	LIFE	125C	179 / 0	
		12			N/R	OP DYN		179,000	
						LIFE		179 / 0	
						EM			
54H103	FLIP-FLOP JK	X	H DIP 14: 77/77	173C	NR	LIFE	150C	80 / 0	
		12			N/R	STGLIFE		80,000	
						LIFE		80 / 1	2281 / 1
						EM			

DIGITAL DEVICE DATA

SIGNETICS TTL HIGH SPEED		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT. TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEP REPORT NO. /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
54H20	GATE	X	H DIP 14	130C	NR	LIFE	125C	44 / 0		
		2	77/77		N/R	OP DYN		44,000		
						LIFE		44 / 0		
						EM				
54H20	GATE	X	H DIP 14	155C	NR	LIFE	150C	8 / 0		
		2	77/77		N/R	STGLIFE		8,000		
						LIFE		8 / 0		
						EM				
54H22	GATE	X	H DIP 14	130C	NR	LIFE	125C	110 / 0		
		2	77/77		N/R	OP DYN		110,000		
						LIFE		110 / 0		
						EM				
54H22	GATE	X	H DIP 14	155C	NR	LIFE	150C	39 / 0		
		2	77/77		N/R	STGLIFE		39,000		
						LIFE		39 / 0		
						EM				
54H30	GATE	X	H DIP 14	128C	NR	LIFE	125C	45 / 0		
		1	77/77		N/R	OP DYN		45,000		
						LIFE		45 / 0		
						EM				
54H30	GATE	X	H DIP 14	153C	NR	LIFE	150C	8 / 0		
		1	77/77		N/R	STGLIFE		8,000		
						LIFE		8 / 0		
						EM				
54H50	GATE EXPANDABLE	X	H DIP 14	132C	NR	LIFE	125C	91 / 0		
		6	77/77		N/R	OP DYN		91,000		
						LIFE		91 / 0		
						EM				
54H50	GATE EXPANDABLE	X	H DIP 14	157C	NR	LIFE	150C	55 / 0		
		6	77/77		N/R	STGLIFE		55,000		
						LIFE		55 / 0		
						EM				
54H51	GATE	X	H DIP 14	132C	NR	LIFE	125C	91 / 0		
		6	77/77		N/R	OP DYN		91,000		
						LIFE		91 / 0		
						EM				
54H51	GATE	X	H DIP 14	157C	NR	LIFE	150C	56 / 0		
		6	77/77		N/R	STGLIFE		56,000		
						LIFE		56 / 0		
						EM				
54H53	GATE EXPANDABLE	X	H DIP 14	130C	NR	LIFE	125C	76 / 0		
		5	77/77		N/R	OP DYN		76,000		
						LIFE		76 / 0		
						EM				
54H53	GATE EXPANDABLE	X	H DIP 14	155C	NR	LIFE	150C	47 / 0		
		5	77/77		N/R	STGLIFE		47,000		

DIGITAL DEVICE DATA

SIGNETICS TTL HIGH SPEED		MANUFACTURER OPERATIONAL TYPE			RELIABILITY ANALYSIS CENTER						
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMPO.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEP REPORT NO. /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
						LIFE		47 / 0			
						EM					
54H54	GATE	X	H DIP 14: 77/77	130C	NR	LIFE	125C	79 / 0			
		5			N/R	OP DYN		79,000			
						LIFE		79 / 0			
						EM					
54H54	GATE	X	H DIP 14: 77/77	155C	NR	LIFE	150C	49 / 0			
		5			N/R	STGLIFE		49,000			
						LIFE		49 / 0			
						EM					
54H55	GATE EXPANDABLE	X	H DIP 14: 77/77	129C	NR	LIFE	125C	77 / 0			
		3			N/R	OP DYN		77,000			
						LIFE		77 / 0			
						EM					
54H55	GATE EXPANDABLE	X	H DIP 14: 77/77	154C	NR	LIFE	150C	46 / 0			
		3			N/R	STGLIFE		46,000			
						LIFE		46 / 0			
						EM					
54H72	FLIP-FLOP JK	X	H DIP 14: 77/77	134C	NR	LIFE	125C	74 / 0			
		8			N/R	OP DYN		74,000			
						LIFE		74 / 0			
						EM					
54H72	FLIP-FLOP JK	X	H DIP 14: 77/77	159C	NR	LIFE	150C	13 / 0			
		8			N/R	STGLIFE		13,000			
						LIFE		13 / 1	2282/ 1		
						EM					
54H73	FLIP-FLOP JK	X	H DIP 14: 77/77	143C	NR	LIFE	125C	74 / 0			
		16			N/R	OP DYN		74,000			
						LIFE		74 / 0			
						EM					
54H73	FLIP-FLOP JK	X	H DIP 14: 77/77	168C	NR	LIFE	150C	12 / 0			
		16			N/R	STGLIFE		12,000			
						LIFE		12 / 0			
						EM					
54H74	FLIP-FLOP D	D	H FPK 14: 77/77	182C	NR	LIFE	150C	45 / 0			
		12			N/R	STGLIFE		45,000			
						LIFE		45 / 1	2283/ 1		
						EM					
54H74	FLIP-FLOP D	X	H DIP 14: 77/77	142C	NR	LIFE	125C	73 / 0			
		12			N/R	OP DYN		73,000			
						LIFE		73 / 0			
						EM					
54H74	FLIP-FLOP D	X	H DIP 14: 77/77	167C	NR	LIFE	150C	13 / 0			
		12			N/R	STGLIFE		13,000			
						LIFE		13 / 0			
						EM					

DIGITAL DEVICE DATA

SIGNETICS TTL ,HIGH SPEED		:MANUFACTURER :OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
: PART NO. :	: DEVICE FUNCTION :	: SCR.N. CLASS :	: PACKAGE/ PINS :	: JCT.* TEMP. :	: EQUIP. TYPE :	: DATA CLASS. :	: STRESS LEVEL :	: #TESTED/ #FAILED :	: MPEF REPORT NO. /QTY FAILED :		
:	: CIRCUIT FUNCTION :	: NO. GATES :	: TEST DATE :	:	: APPL. ENV. :	: TEST TYPE :	:	: PART HOURS :			
: 54H76 :	: FLIP-FLOP JK :	: X 16 :	: H DIP 16: 77/77 :	: 142C :	: NR N/R :	: LIFE OP DYN :	: 125C :	: 179 / 0 :	: 179,000 :		
:	:	:	:	:	:	: LIFE EM :	:	: 179 / 0 :			
: 54H76 :	: FLIP-FLOP JK :	: X 16 :	: H DIP 16: 77/77 :	: 167C :	: NR N/R :	: LIFE STGLIFE :	: 150C :	: 80 / 0 :	: 80,000 :		
:	:	:	:	:	:	: LIFE EM :	:	: 80 / 0 :			
: 74H51 :	: GATE :	: D 6 :	: H DIP 14: 77/77 :	: 132C :	: NR N/R :	: LIFE OP DYN :	: 125C :	: 45 / 0 :	: 45,000 :		
:	:	:	:	:	:	: LIFE EM :	:	: 45 / 0 :			
: 8H90 :	: INVERTER :	: D 6 :	: H FPK 14: 77/77 :	: 154C :	: NR N/R :	: LIFE STGLIFE :	: 150C :	: 40 / 0 :	: 40,000 :		
:	:	:	:	:	:	: LIFE EM :	:	: 40 / 0 :			

TEXAS INSTRUMENTS TTL ,HIGH SPEED		:MANUFACTURER :OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
: PART NO. :	: DEVICE FUNCTION :	: SCR.N. CLASS :	: PACKAGE/ PINS :	: JCT.* TEMP. :	: EQUIP. TYPE :	: DATA CLASS. :	: STRESS LEVEL :	: #TESTED/ #FAILED :	: MPEF REPORT NO. /QTY FAILED :		
:	: CIRCUIT FUNCTION :	: NO. GATES :	: TEST DATE :	:	: APPL. ENV. :	: TEST TYPE :	:	: PART HOURS :			
: 54H08 :	: GATE :	: B-1/JB: 4 :	: H DIP 14: 77/79 :	: 43C :	: RADR GF :	: FIELD :	: 025C :	: 4 / 0 :	: 54,720 :		
: 54H08 :	: GATE :	: B-1/JB: 4 :	: H DIP 14: 77/79 :	: 43C :	: RADR GF :	: FIELD :	: 025C :	: 4 / 0 :	: 54,720 :		
: 54H08 :	: GATE :	: B-1/JB: 4 :	: H DIP 14: 79/79 :	: 43C :	: RADR GF :	: FIELD :	: 025C :	: 4 / 0 :	: 17,280 :		
: 54H08 :	: GATE :	: B-1/JB: 4 :	: H DIP 14: 79/79 :	: 43C :	: RADR GF :	: FIELD :	: 025C :	: 4 / 0 :	: 17,280 :		
: 74H04 :	: INVERTER :	: D-1 6 :	: P DIP 14: 77/77 :	: 39C :	: INTR GBC :	: CHECK OPERATE :	: 025C :	: 1 / 0 :	: 440 :		
: 74H71 :	: GATE JK :	: D-1 12 :	: P DIP 14: 77/78 :	: 50C :	: DSPY GBC :	: FIELD :	: 040C 55XPWR :	: 222 / 0 :	: 288,600 :		
: 74H71 :	: GATE JK :	: D-1 12 :	: P DIP 14: 78/79 :	: 50C :	: DSPY GBC :	: FIELD :	: 040C 55XPWR :	: 174 / 0 :	: 226,200 :		
: 74H72 :	: FLIP-FLOP JK :	: D-1 8 :	: P DIP 14: 77/78 :	: 49C :	: DSPY GBC :	: FIELD :	: 040C 55XPWR :	: 1450 / 0 :	: 1,885,000 :		
: 74H72 :	: FLIP-FLOP JK :	: D-1 8 :	: P DIP 14: 78/79 :	: 49C :	: DSPY GBC :	: FIELD :	: 040C 55XPWR :	: 1539 / 2 :	: 2,000,700 :		
: 74H74 :	: FLIP-FLOP D :	: D-1 12 :	: P DIP 14: 77/77 :	: 33C :	: INTR GBC :	: CHECK OPERATE :	: 025C :	: 1 / 0 :	: 440 :		

DIGITAL DEVICE DATA

TEXAS INSTRUMENTS TTL HIGH SPEED		:MANUFACTURER :OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
: PART NO. :	: DEVICE FUNCTION :	: SCR.N. CLASS :	: PACKAGE/ PINS :	: JCT.* TEMP. :	: EQUIP. TYPE :	: DATA CLASS. :	: STRESS LEVEL :	: #TESTED/ #FAILED :	:MFEF REPORT NO. : :/QTY FAILED :		
:	: CIRCUIT FUNCTION :	: NO. GATES :	: TEST DATE :	:	: APPL. ENV. :	: TEST TYPE :	:	: PART HOURS :	:	:	
: 74H76 :	: FLIP-FLOP :	: D-1 :	: P DIP 16 :	: 55C :	: DSPY :	: FIELD :	: 040C 55ZPWR :	: 1022 / 0 :	:	:	
:	: JK :	: 16 :	: 77/78 :	:	: GBC :	:	:	: 1,328,600 :	:	:	
: 74H76 :	: FLIP-FLOP :	: D-1 :	: P DIP 16 :	: 55C :	: DSPY :	: FIELD :	: 040C 55ZPWR :	: 1516 / 0 :	:	:	
:	: JK :	: 16 :	: 78/79 :	:	: GBC :	:	:	: 1,970,800 :	:	:	
: 74H87 :	: LOGIC UNIT :	: D-1 :	: P DIP 14 :	: 68C :	: DSPY :	: FIELD :	: 040C 55ZPWR :	: 1910 / 1 :	:	:	
:	: TRUE COMPLEMENT :	: 14 :	: 77/78 :	:	: GBC :	:	:	: 2,483,000 :	:	:	
: 74H87 :	: LOGIC UNIT :	: D-1 :	: P DIP 14 :	: 68C :	: DSPY :	: FIELD :	: 040C 55ZPWR :	: 2400 / 0 :	:	:	
:	: TRUE COMPLEMENT :	: 14 :	: 78/79 :	:	: GBC :	:	:	: 3,120,000 :	:	:	

VARIOUS TTL HIGH SPEED		:MANUFACTURER :OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
: PART NO. :	: DEVICE FUNCTION :	: SCR.N. CLASS :	: PACKAGE/ PINS :	: JCT.* TEMP. :	: EQUIP. TYPE :	: DATA CLASS. :	: STRESS LEVEL :	: #TESTED/ #FAILED :	:MFEF REPORT NO. : :/QTY FAILED :		
:	: CIRCUIT FUNCTION :	: NO. GATES :	: TEST DATE :	:	: APPL. ENV. :	: TEST TYPE :	:	: PART HOURS :	:	:	
: 54/74H103 :	: FLIP-FLOP :	: NONE :	: N/R DIP 14 :	: 45C :	: COMP :	: FIELD :	: 025C :	: 8 / 0 :	:	:	
:	: JK :	: 12 :	: 77/79 :	:	: GB :	:	:	: 153,872 :	:	:	
: 54/74H103 :	: FLIP-FLOP :	: NONE :	: N/R DIP 14 :	: 45C :	: COMP :	: FIELD :	: 025C :	: 16 / 2 :	: 2220/ 2 :	:	
:	: JK :	: 12 :	: 77/79 :	:	: GB :	:	:	: 318,080 :	:	:	
: 54/74H106 :	: FLIP-FLOP :	: NONE :	: N/R DIP 16 :	: 45C :	: COMP :	: FIELD :	: 025C :	: 9 / 2 :	: 2221/ 2 :	:	
:	: JK :	: 16 :	: 77/79 :	:	: GB :	:	:	: 173,106 :	:	:	
: 54/74H106 :	: FLIP-FLOP :	: NONE :	: N/R DIP 16 :	: 45C :	: COMP :	: FIELD :	: 025C :	: 18 / 0 :	:	:	
:	: JK :	: 16 :	: 77/79 :	:	: GB :	:	:	: 357,840 :	:	:	
: 54H00 :	: GATE :	: J-B :	: H DIP 14 :	:	: RADR :	: RELED :	:	: 705 / 0 :	:	:	
:	:	: 4 :	: 77/77 :	:	: AIU :	: OPERATE :	:	: 22,708 :	:	:	
: 54H00 :	: GATE :	: J-B :	: H DIP 14 :	: 81C :	: RADR :	: RELED :	: -054C 071C :	: 418 / 0 :	:	:	
:	:	: 4 :	: 76/77 :	:	: AU :	: TCVP :	: 6CY 2. 27HZ :	: 20,064 :	:	:	
: 54H00 :	: GATE :	: B-2/W :	: H DIP 14 :	:	: RADR :	: FIELD :	:	: 1922 / 0 :	:	:	
:	:	: 4 :	: 75/78 :	:	: AUF :	:	:	: 415,276 :	:	:	
: 54H00 :	: GATE :	: B-1/JB :	: H DIP 14 :	: 35C :	: RADR :	: FIELD :	: 025C :	: 11 / 0 :	:	:	
:	:	: 4 :	: 77/79 :	:	: GF :	:	:	: 150,480 :	:	:	
: 54H00 :	: GATE :	: B-1/JB :	: H DIP 14 :	: 35C :	: RADR :	: FIELD :	: 025C :	: 46 / 0 :	:	:	
:	:	: 4 :	: 77/79 :	:	: GF :	:	:	: 629,280 :	:	:	
: 54H00 :	: GATE :	: B-1/JB :	: H DIP 14 :	: 35C :	: RADR :	: FIELD :	: 025C :	: 46 / 0 :	:	:	
:	:	: 4 :	: 79/79 :	:	: GF :	:	:	: 198,720 :	:	:	
: 54H00 :	: GATE :	: B-1/JB :	: H DIP 14 :	: 35C :	: RADR :	: FIELD :	: 025C :	: 11 / 0 :	:	:	
:	:	: 4 :	: 79/79 :	:	: GF :	:	:	: 47,520 :	:	:	
: 54H00 :	: GATE :	: B-1 :	: H DIP 14 :	: 64C :	: NAVG :	: FIELD :	:	: 33 / 0 :	:	:	
:	:	: 4 :	: 75/78 :	:	: AIF :	:	:	: 37,620 :	:	:	
: 54H00 :	: GATE :	: C-1 :	: H FPK 14 :	: 81C :	: RADR :	: FIELD :	:	: 264 / 4 :	: 2159/ 1 :	:	
:	:	: 4 :	: 75/78 :	:	: AUF :	:	:	: 299,280 :	:	:	
:	:	:	:	:	:	:	:	:	: 2160/ 1 :	:	

DIGITAL DEVICE DATA

VARIOUS TTL ,HIGH SPEED		:MANUFACTURER :OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
: PART NO. :	: DEVICE FUNCTION :	: SCRNO. CLASS :	: PACKAGE/ PINS :	: JCT.* TEMP. :	: EQUIP. TYPE :	: DATA CLASS. :	: STRESS LEVEL :	: #TESTED/ #FAILED :	: MFEF REPORT NO. /QTY FAILED :		
:	: CIRCUIT FUNCTION :	: NO. GATES :	: TEST DATE :	:	: APPL. ENV. :	: TEST TYPE :	:	: PART HOURS :	:	:	:
:	:	:	:	:	:	:	:	:	:	:	2161/ 1 :
:	:	:	:	:	:	:	:	:	:	:	2162/ 1 :
: 54H00 :	: GATE :	: C-1 :	: H FPK 14: :	: 81C :	: RADR :	: FIELD :	:	: 120 / 1 :	: 2163/ 1 :	:	:
:	:	: 4 :	: 75/78 :	:	: AUF :	:	:	: 4,513,800:	:	:	:
: 54H00 :	: GATE :	: C-1 :	: H FPK 14: :	: 81C :	: RADR :	: FIELD :	:	: 33 / 0 :	:	:	:
:	:	: 4 :	: 75/78 :	:	: AUF :	:	:	: 37,620:	:	:	:
: 54H00/74H00 :	: GATE :	: NONE :	: N/R DIP 14: :	: 35C :	: COMP :	: FIELD :	: 025C :	: 10 / 0 :	:	:	:
:	:	: 4 :	: 77/79 :	:	: GB :	:	:	: 192,340:	:	:	:
: 54H00/74H00 :	: GATE :	: NONE :	: N/R DIP 14: :	: 35C :	: COMP :	: FIELD :	: 025C :	: 20 / 0 :	:	:	:
:	:	: 4 :	: 77/79 :	:	: GB :	:	:	: 397,600:	:	:	:
: 54H01 :	: GATE :	: J-B :	: H DIP 14: :	:	: RADR :	: RELED :	:	: 15 / 0 :	:	:	:
:	:	: 4 :	: 77/77 :	:	: AIU :	: OPERATE :	:	: 483:	:	:	:
: 54H01 :	: GATE :	: B-1 :	: H FPK 14: :	: 81C :	: COMP :	: FIELD :	:	: 330 / 0 :	:	:	:
:	:	: 4 :	: 75/78 :	:	: AUF :	:	:	: 376,200:	:	:	:
: 54H01/74H01 :	: GATE :	: NONE :	: N/R DIP 14: :	: 35C :	: COMP :	: FIELD :	: 025C :	: 9 / 0 :	:	:	:
:	:	: 4 :	: 77/79 :	:	: GB :	:	:	: 173,106:	:	:	:
: 54H01/74H01 :	: GATE :	: NONE :	: N/R DIP 14: :	: 35C :	: COMP :	: FIELD :	: 025C :	: 18 / 0 :	:	:	:
:	:	: 4 :	: 77/79 :	:	: GB :	:	:	: 357,840:	:	:	:
: 54H04 :	: INVERTER :	: J-B :	: H DIP 14: :	:	: RADR :	: RELED :	:	: 2170 / 0 :	:	:	:
:	:	: 6 :	: 77/77 :	:	: AIU :	: OPERATE :	:	: 69,896:	:	:	:
: 54H04 :	: INVERTER :	: B-1/JB :	: H DIP 14: :	: 38C :	: RADR :	: FIELD :	: 025C :	: 1 / 0 :	:	:	:
:	:	: 6 :	: 77/79 :	:	: GF :	:	:	: 13,680:	:	:	:
: 54H04 :	: INVERTER :	: B-1/JB :	: H DIP 14: :	: 38C :	: RADR :	: FIELD :	: 025C :	: 25 / 0 :	:	:	:
:	:	: 6 :	: 77/79 :	:	: GF :	:	:	: 342,000:	:	:	:
: 54H04 :	: INVERTER :	: B-1/JB :	: H DIP 14: :	: 38C :	: RADR :	: FIELD :	: 025C :	: 51 / 0 :	:	:	:
:	:	: 6 :	: 77/79 :	:	: GF :	:	:	: 697,680:	:	:	:
: 54H04 :	: INVERTER :	: B-1/JB :	: H DIP 14: :	: 38C :	: RADR :	: FIELD :	: 025C :	: 51 / 0 :	:	:	:
:	:	: 6 :	: 79/79 :	:	: GF :	:	:	: 220,320:	:	:	:
: 54H04 :	: INVERTER :	: B-1/JB :	: H DIP 14: :	: 38C :	: RADR :	: FIELD :	: 025C :	: 1 / 0 :	:	:	:
:	:	: 6 :	: 79/79 :	:	: GF :	:	:	: 4,320:	:	:	:
: 54H04 :	: INVERTER :	: B-1/JB :	: H DIP 14: :	: 38C :	: RADR :	: FIELD :	: 025C :	: 25 / 0 :	:	:	:
:	:	: 6 :	: 79/79 :	:	: GF :	:	:	: 108,000:	:	:	:
: 54H04 :	: INVERTER :	: B-1 :	: H FPK 14: :	: 88C :	: COMP :	: FIELD :	:	: 1023 / 0 :	:	:	:
:	:	: 6 :	: 75/78 :	:	: AUF :	:	:	: 1,166,220:	:	:	:
: 54H04 :	: INVERTER :	: B-1 :	: H DIP 14: :	: 88C :	: COMP :	: FIELD :	:	: 165 / 0 :	:	:	:
:	:	: 6 :	: 75/78 :	:	: AUF :	:	:	: 188,100:	:	:	:
: 54H04 :	: INVERTER :	: C-1 :	: H FPK 14: :	: 88C :	: RADR :	: FIELD :	:	: 4917 / 3 :	: 2164/ 2 :	:	:
:	:	: 6 :	: 75/78 :	:	: AUF :	:	:	: 5,603,580:	:	:	:
:	:	:	:	:	:	:	:	:	: 2165/ 1 :	:	:
: 54H04 :	: INVERTER :	: C-1 :	: H FPK 14: :	: 88C :	: RADR :	: FIELD :	:	: 132 / 0 :	:	:	:
:	:	: 6 :	: 75/78 :	:	: AUF :	:	:	: 150,480:	:	:	:
: 54H04/74H04 :	: INVERTER :	: NONE :	: N/R DIP 14: :	: 35C :	: COMP :	: FIELD :	: 025C :	: 7 / 0 :	:	:	:
:	:	: 6 :	: 77/79 :	:	: GB :	:	:	: 134,638:	:	:	:

DIGITAL DEVICE DATA

VARIOUS TTL HIGH SPEED		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVFL	#TESTED/ #FAILED	MPEF REPORT NO. /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
54H04/74H04	INVERTER	NONE	N/R DIP 14	35C	COMP	FIELD	025C	14 / 0	278,320		
		6	77/79		GB						
54H05/74H05	INVERTER	NONE	N/R DIP 14	35C	COMP	FIELD	025C	4 / 0	76,936		
		6	77/79		GB						
54H05/74H05	INVERTER	NONE	N/R DIP 14	35C	COMP	FIELD	025C	8 / 0	159,040		
		6	77/79		GB						
54H10	GATE	J-B	H DIP 14		RADR	RELDEN		5 / 0	161		
		3	77/77		AIU	OPERATE					
54H10	GATE	J-B	H DIP 14	81C	RADR	RELDEN	-054C 071C	418 / 0	20,064		
		3	76/77		AU	TCVPC	6CY 2. 27HZ				
54H10	GATE	C-1	H FPK 14	79C	RADR	FIELD		2013 / 2	2166 / 1		
		3	75/78		AUF			2,293,950		2167 / 1	
54H10	GATE	C-1	H FPK 14	79C	RADR	FIELD		99 / 0	112,860		
		3	75/78		AUF						
54H10/74H10	GATE	NONE	N/R DIP 14	35C	COMP	FIELD	025C	16 / 0	307,744		
		3	77/79		GB						
54H10/74H10	GATE	NONE	N/R DIP 14	35C	COMP	FIELD	025C	32 / 1	2222 / 1		
		3	77/79		GB			636,160			
54H102	FLIP-FLOP JK	B-2	H DIP 14		RADR	RELDEN		360 / 0	11,592		
		10	77/77		AIU	OPERATE					
54H106	FLIP-FLOP JK	B-1/JB	H DIP 16	43C	RADR	FIELD	025C	1 / 0	13,680		
		16	77/79		GF						
54H106	FLIP-FLOP JK	B-1/JB	H DIP 16	43C	RADR	FIELD	025C	58 / 0	793,440		
		16	77/79		GF						
54H106	FLIP-FLOP JK	B-1/JB	H DIP 16	43C	RADR	FIELD	025C	10 / 0	136,800		
		16	77/79		GF						
54H106	FLIP-FLOP JK	B-1/JB	H DIP 16	43C	RADR	FIELD	025C	10 / 0	43,200		
		16	79/79		GF						
54H106	FLIP-FLOP JK	B-1/JB	H DIP 16	43C	RADR	FIELD	025C	1 / 0	4,320		
		16	79/79		GF						
54H106	FLIP-FLOP JK	B-1/JB	H DIP 16	43C	RADR	FIELD	025C	58 / 0	250,560		
		16	79/79		GF						
54H11	GATE	B-1/JB	H DIP 14	35C	RADR	FIELD	025C	2 / 0	27,360		
		3	77/79		GF						
54H11	GATE	B-1/JB	H DIP 14	35C	RADR	FIELD	025C	2 / 0	8,640		
		3	79/79		GF						
54H11	GATE	B-2	H DIP 14		RADR	RELDEN		205 / 0	6,601		
		3	77/77		AIU	OPERATE					
54H11/74H11	GATE	NONE	N/R DIP 14	35C	COMP	FIELD	025C	11 / 0	211,574		
		3	77/79		GB						
54H11/74H11	GATE	NONE	N/R DIP 14	35C	COMP	FIELD	025C	22 / 0	437,360		
		3	77/79		GB						
54H20	GATE	J-B	H DIP 14		RADR	RELDEN		160 / 0	5,154		
		2	77/77		AIU	OPERATE					

DIGITAL DEVICE DATA

VARIOUS TTL HIGH SPEED		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO. /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
54H20	GATE	C-1	H FPK 14: 75/78	76C	RADR	FIELD		66 / 0			
		2			AUF			75,240			
54H20	GATE	C-1	H FPK 14: 75/78	76C	RADR	FIELD		759 / 0			
		2			AUF			865,260			
54H20/74H20	GATE	NONE	N/R DIP 14: 77/79	30C	COMP	FIELD	025C	17 / 0			
		2			GB			326,978			
54H20/74H20	GATE	NONE	N/R DIP 14: 77/79	30C	COMP	FIELD	025C	34 / 0			
		2			GB			675,920			
54H21	GATE	R-2/N	H DIP 14: 76/77	81C	RADR	RELDEN	-054C 071C	627 / 0			
		2			AU	TCVPC	6CY 2. 27HZ	30,096			
54H21	GATE	C-1	H FPK 14: 75/78	79C	RADR	FIELD		7392 / 0			
		2			AUF			8,426,880			
54H21	GATE	C-1	H FPK 14: 75/78	79C	RADR	FIELD		6369 / 4	2168/ 1		
		2			AUF			7,257,900			
									2169/ 1		
									2170/ 1		
									2171/ 1		
54H21/74H21	GATE	NONE	N/R DIP 14: 77/79	35C	COMP	FIELD	025C	3 / 0			
		2			GB			57,702			
54H21/74H21	GATE	NONE	N/R DIP 14: 77/79	35C	COMP	FIELD	025C	6 / 4	2223/ 4		
		2			GB			119,280			
54H22	GATE	J-B	H DIP 14: 77/77		RADR	RELDEN		5 / 0			
		2			AIU	OPERATE		161			
54H22/74H22	GATE	NONE	N/R DIP 14: 77/79	30C	COMP	FIELD	025C	33 / 0			
		2			GB			634,722			
54H22/74H22	GATE	NONE	N/R DIP 14: 77/79	30C	COMP	FIELD	025C	64 / 0			
		2			GB			1,272,320			
54H30	GATE	J-B	H DIP 14: 77/77		RADR	RELDEN		95 / 0			
		1			AIU	OPERATE		3,060			
54H30	GATE	B-1/JB	H DIP 14: 77/79	27C	RADR	FIELD	025C	22 / 0			
		1			GF			300,960			
54H30	GATE	B-1/JB	H DIP 14: 77/79	27C	RADR	FIELD	025C	1 / 0			
		1			GF			13,680			
54H30	GATE	B-1/JB	H DIP 14: 77/79	27C	RADR	FIELD	025C	89 / 0			
		1			GF			1,217,320			
54H30	GATE	B-1/JB	H DIP 14: 79/79	27C	RADR	FIELD	025C	89 / 0			
		1			GF			384,480			
54H30	GATE	B-1/JB	H DIP 14: 79/79	27C	RADR	FIELD	025C	22 / 0			
		1			GF			95,040			
54H30	GATE	B-1/JB	H DIP 14: 79/79	27C	RADR	FIELD	025C	1 / 0			
		1			GF			4,320			
54H30	GATE	C-1	H FPK 14: 75/78	72C	RADR	FIELD		99 / 0			
		1			AUF			112,860			

DIGITAL DEVICE DATA

VARIOUS TTL ,HIGH SPEED		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE			PART HOURS		
54H30	GATE	C-1	H FPK 14	72C	RADR	FIELD		858 / 0	978,120		
		1	75/78		AUF						
54H30/74H30	GATE	NONE	N/R DIP 14	27C	COMP	FIELD	025C	22 / 0	423,148		
		1	77/79		GB						
54H30/74H30	GATE	NONE	N/R DIP 14	27C	COMP	FIELD	025C	44 / 0	874,720		
		1	77/79		GB						
54H40	BUFFER	J-B	H DIP 14	79C	RADR	RELD		425 / 0	13,689		
		2	77/77		AIU	OPERATE					
54H40	BUFFER	B-2/N	H DIP 14	79C	RADR	FIELD		31 / 0	6,698		
		2	75/78		AUF						
54H40	BUFFER	B-1/JB	H DIP 14	35C	RADR	FIELD	025C	35 / 0	476,800		
		2	77/79		GF						
54H40	BUFFER	B-1/JB	H DIP 14	35C	RADR	FIELD	025C	74 / 0	1,012,320		
		2	77/79		GF						
54H40	BUFFER	B-1/JB	H DIP 14	35C	RADR	FIELD	025C	74 / 0	319,680		
		2	79/79		GF						
54H40	BUFFER	B-1/JB	H DIP 14	35C	RADR	FIELD	025C	35 / 0	151,200		
		2	79/79		GF						
54H40	BUFFER	C-1	H FPK 14	79C	RADR	FIELD		33 / 0	37,620		
		2	75/78		AUF						
54H40	BUFFER	C-1	H FPK 14	79C	RADR	FIELD		198 / 1	224,820	2172 / 1	
		2	75/78		AUF						
54H40/74H40	BUFFER	NONE	N/R DIP 14	35C	COMP	FIELD	025C	14 / 0	269,276		
		2	77/79		GB						
54H40/74H40	BUFFER	NONE	N/R DIP 14	35C	COMP	FIELD	025C	28 / 0	556,640		
		2	77/79		GB						
54H50	GATE EXPANDABLE	J-B	H DIP 14		RADR	RELD		335 / 0	10,790		
		6	77/77		AIU	OPERATE					
54H51	GATE	B-1	H FPK 14	77C	COMP	FIELD		561 / 0	639,540		
		6	75/78		AUF						
54H52/74H52	GATE EXPANDABLE	NONE	N/R DIP 14	35C	COMP	FIELD	025C	1 / 0	19,234		
		5	77/79		GB						
54H52/74H52	GATE EXPANDABLE	NONE	N/R DIP 14	35C	COMP	FIELD	025C	2 / 0	39,760		
		5	77/79		GB						
54H53	GATE EXPANDABLE	D	H DIP 14	30C	COMP	FIELD	025C	3 / 0	8,640		
		5	78/78		GBC						
54H53/74H53	GATE EXPANDABLE	NONE	N/R DIP 14	30C	COMP	FIELD	025C	1 / 0	19,234		
		5	77/79		GB						
54H53/74H53	GATE EXPANDABLE	NONE	N/R DIP 14	30C	COMP	FIELD	025C	2 / 0	39,760		
		5	77/79		GB						
54H54	GATE	B-1	H FPK 14	75C	COMP	FIELD		66 / 0	75,240		
		5	75/78		AUF						
54H54/74H54	GATE	NONE	N/R DIP 14	30C	COMP	FIELD	025C	1 / 0	19,324		
		5	77/79		GB						
54H54/74H54	GATE	NONE	N/R DIP 14	30C	COMP	FIELD	025C	2 / 0	39,760		
		5	77/79		GB						

DIGITAL DEVICE DATA

VARIOUS TTL ,HIGH SPEED		:MANUFACTURER :OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
: PART : NO.	: DEVICE : FUNCTION	: SCR.N. : CLASS	: PACKAGE/ : PINS	: JCT.* : TEMP.	: EQUIP. : TYPE	: DATA : CLASS.	: STRESS : LEVEL	: #TESTED/ : #FAILED	: MPEF REPORT NO. : /QTY FAILED	:	:
:	: CIRCUIT : FUNCTION	: NO. : GATES	: TEST : DATE	:	: APPL. : ENV.	: TEST : TYPE	:	:	: PART : HOURS	:	:
: 54H55	: GATE : EXPANDABLE	: B-1 : 3	: H FPK : 75/78	: 14 :	: 74C :	: RADR : AUF	: FIELD :	: 198 / 0 : 225,720	:	:	:
: 54H60/74H60	: EXPANDER	: NONE : 2	: N/R DIP : 77/79	: 14 :	: 27C :	: COMP : GB	: FIELD :	: 025C :	: 1 / 0 : 19,234	:	:
: 54H60/74H60	: EXPANDER	: NONE : 2	: N/R DIP : 77/79	: 14 :	: 27C :	: COMP : GB	: FIELD :	: 025C :	: 2 / 0 : 39,760	:	:
: 54H62	: EXPANDER	: B-1 : 5	: H DIP : 75/78	: 14 :	: :	: COMP : AUF	: FIELD :	: :	: 264 / 0 : 300,960	:	:
: 54H72	: FLIP-FLOP : JK	: B-1 : 8	: H FPK : 75/78	: 14 :	: 80C :	: RADR : AUF	: FIELD :	: :	: 66 / 0 : 75,240	:	:
: 54H73	: FLIP-FLOP : JK	: B-1 : 16	: H DIP : 75/78	: 14 :	: 71C :	: NAVG : AIF	: FIELD :	: :	: 99 / 0 : 112,860	:	:
: 54H74	: FLIP-FLOP : D	: B-1 : 12	: H FPK : 75/78	: 14 :	: 85C :	: COMP : AUF	: FIELD :	: :	: 1023 / 0 : 1,166,220	:	:
: 54H74	: FLIP-FLOP : D	: B-2 : 12	: H DIP : 77/77	: 14 :	: 82C :	: NAVG : AI	: REDEM : TCVPC	: -054C 072C : 43CY 2 60HZ	: 3 / 0 : 1,880	:	:
: 54H74	: FLIP-FLOP : D	: C-1 : 12	: H FPK : 75/78	: 14 :	: 89C :	: RADR : AUF	: FIELD :	: :	: 1353 / 0 : 1,542,420	:	:
: 54H74	: FLIP-FLOP : D	: C-1 : 12	: H FPK : 75/78	: 14 :	: 89C :	: RADR : AUF	: FIELD :	: :	: 1353 / 0 : 1,542,420	:	:
: 54H76	: FLIP-FLOP : JK	: B-2/N : 16	: H DIP : 75/78	: 16 :	: 90C :	: RADR : AUF	: FIELD :	: :	: 34 / 0 : 3,472	:	:
: 54H87	: LOGIC UNIT : TRUE COMPLEMENT	: B-1/JB : 14	: H DIP : 77/79	: 14 :	: 52C :	: RADR : GF	: FIELD :	: 025C :	: 2 / 0 : 27,360	:	:
: 54H87	: LOGIC UNIT : TRUE COMPLEMENT	: B-1/JB : 14	: H DIP : 77/79	: 14 :	: 52C :	: RADR : GF	: FIELD :	: 025C :	: 16 / 0 : 218,880	:	:
: 54H87	: LOGIC UNIT : TRUE COMPLEMENT	: B-1/JB : 14	: H DIP : 79/79	: 14 :	: 52C :	: RADR : GF	: FIELD :	: 025C :	: 16 / 0 : 69,120	:	:
: 54H87	: LOGIC UNIT : TRUE COMPLEMENT	: B-1/JB : 14	: H DIP : 79/79	: 14 :	: 52C :	: RADR : GF	: FIELD :	: 025C :	: 2 / 0 : 8,640	:	:
: 74H00	: GATE	: D : 4	: H DIP : 77/79	: 14 :	: 35C :	: COMP : GB	: FIELD :	: 025C :	: 306 / 0 : 5,885,604	:	:
: 74H00	: GATE	: D : 4	: H DIP : 77/79	: 14 :	: 35C :	: COMP : GB	: FIELD :	: 025C :	: 620 / 1 : 12,325,600	: 2224 / 1	:

DIGITAL DEVICE DATA

VARIOUS TTL ,HIGH SPEED		:MANUFACTURE: :OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
: PART : NO.	: DEVICE : FUNCTION	: SCR.N. : CLASS	: PACKAGE/ : PINS	: JCT.* : TEMP.	: EQUIP. : TYPE	: DATA : CLASS.	: STRESS : LEVEL	: #TESTED/ : #FAILED	: MFEF REPORT NO. : /QTY FAILED		
	: CIRCUIT : FUNCTION	: NO. : GATES	: TEST : DATE		: APPL. : ENV.	: TEST : TYPE		: PART : HOURS			
: 74H00	: GATE	: D-1	: P DIP 14:	: 50C	: DSPY	: FIELD	: 040C 55XPWR:	: 19927 / 11 :			
		: 4	: 77/78		: GBC			: 25,905,100:			
: 74H00	: GATE	: D-1	: P DIP 14:	: 50C	: DSPY	: FIELD	: 040C 55XPWR:	: 19188 / 9 :			
		: 4	: 78/79		: GBC			: 24,944,400:			
: 74H00	: GATE	: NONE	: N/R DIP 14:	: 35C	: COMP	: FIELD	: 025C	: 14 / 0 :			
		: 4	: 77/79		: GB			: 269,276:			
: 74H00	: GATE	: NONE	: N/R DIP 14:	: 35C	: COMP	: FIELD	: 025C	: 28 / 0 :			
		: 4	: 77/79		: GB			: 556,640:			
: 74H01	: GATE	: D	: H DIP 14:	: 35C	: COMP	: FIELD	: 025C	: 63 / 0 :			
		: 4	: 77/79		: GB			: 1,211,742:			
: 74H01	: GATE	: D	: H DIP 14:	: 35C	: COMP	: FIELD	: 025C	: 126 / 0 :			
		: 4	: 77/79		: GB			: 2,504,880:			
: 74H01	: GATE	: NONE	: N/R DIP 14:	: 35C	: COMP	: FIELD	: 025C	: 4 / 0 :			
		: 4	: 77/79		: GB			: 76,936:			
: 74H01	: GATE	: NONE	: N/R DIP 14:	: 35C	: COMP	: FIELD	: 025C	: 8 / 0 :			
		: 4	: 77/79		: GB			: 159,040:			
: 74H04	: INVERTER	: D	: H DIP 14:	: 39C	: COMP	: FIELD	: 025C	: 416 / 2 :	2225/	2	
		: 6	: 77/79		: GB			: 8,011,344:			
									2226/	1	
: 74H04	: INVERTER	: D	: H DIP 14:	: 39C	: COMP	: FIELD	: 025C	: 630 / 3 :	2227/	1	
		: 6	: 77/79		: GB			: 16,500,400:			
									2228/	2	
: 74H04	: INVERTER	: D-1	: P DIP 14:	: 54C	: DSPY	: FIELD	: 040C 55XPWR:	: 9287 / 13 :			
		: 6	: 77/78		: GBC			: 12,073,100:			
: 74H04	: INVERTER	: D-1	: P DIP 14:	: 54C	: DSPY	: FIELD	: 040C 55XPWR:	: 6242 / 2 :			
		: 6	: 78/79		: GBC			: 8,114,600:			
: 74H04	: INVERTER	: NONE	: N/R DIP 14:	: 39C	: COMP	: FIELD	: 025C	: 101 / 0 :			
		: 6	: 77/79		: GB			: 1,942,634:			
: 74H04	: INVERTER	: NONE	: N/R DIP 14:	: 39C	: COMP	: FIELD	: 025C	: 202 / 0 :			
		: 6	: 77/79		: GB			: 4,015,760:			
: 74H05	: INVERTER	: D	: H DIP 14:	: 39C	: COMP	: FIELD	: 025C	: 32 / 2 :	2229/	1	
		: 6	: 77/79		: GB			: 615,488:			
									2230/	1	
: 74H05	: INVERTER	: D	: H DIP 14:	: 39C	: COMP	: FIELD	: 025C	: 64 / 0 :			
		: 6	: 77/79		: GB			: 1,272,320:			
: 74H08	: GATE	: D-1	: P DIP 14:	: 54C	: DSPY	: FIELD	: 040C 55XPWR:	: 4664 / 1 :			
		: 4	: 77/78		: GBC			: 6,063,200:			
: 74H08	: GATE	: D-1	: P DIP 14:	: 54C	: DSPY	: FIELD	: 040C 55XPWR:	: 6967 / 0 :			
		: 4	: 78/79		: GBC			: 9,057,100:			
: 74H10	: GATE	: D	: H DIP 14:	: 32C	: COMP	: FIELD	: 025C	: 175 / 1 :	2231/	1	
		: 3	: 77/79		: GB			: 3,365,950:			
: 74H10	: GATE	: D	: H DIP 14:	: 32C	: COMP	: FIELD	: 025C	: 354 / 0 :			
		: 3	: 77/79		: GB			: 7,037,520:			

DIGITAL DEVICE DATA

VARIOUS TTL HIGH SPEED		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT. TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
74H10	GATE	D-1	P DIP 14	47C	DSPY	FIELD	040C	55XPWR	6688 / 0		
		3	77/78		GBC				8,694,400		
74H10	GATE	D-1	P DIP 14	47C	DSPY	FIELD	040C	55XPWR	8240 / 0		
		3	78/79		GBC				10,712,000		
74H10	GATE	NONE	N/R DIP 14	47C	COMP	FIELD	025C		10 / 0		
		3	77/79		GB				192,340		
74H10	GATE	NONE	N/R DIP 14	47C	COMP	FIELD	025C		20 / 0		
		3	77/79		GB				397,600		
74H101	FLIP-FLOP JK	D	H DIP 14	35C	COMP	FIELD	025C		1 / 0		
		10	77/79		GB				19,234		
74H101	FLIP-FLOP JK	D	H DIP 14	35C	COMP	FIELD	025C		2 / 0		
		10	77/79		GB				39,760		
74H102	FLIP-FLOP JK	D	H DIP 14	35C	COMP	FIELD	025C		12 / 0		
		10	77/79		GB				230,808		
74H102	FLIP-FLOP JK	D	H DIP 14	35C	COMP	FIELD	025C		24 / 0		
		10	77/79		GB				477,120		
74H102	FLIP-FLOP JK	D-1	P DIP 14	50C	DSPY	FIELD	040C	55XPWR	8295 / 0		
		10	77/78		GBC				10,783,500		
74H102	FLIP-FLOP JK	D-1	P DIP 14	50C	DSPY	FIELD	040C	55XPWR	11605 / 1		
		10	78/79		GBC				15,086,500		
74H103	FLIP-FLOP JK	D	H DIP 14	45C	COMP	FIELD	025C		199 / 0		
		12	77/79		GB				3,827,566		
74H103	FLIP-FLOP JK	D	H DIP 14	45C	COMP	FIELD	025C		396 / 0		
		12	77/79		GB				7,872,480		
74H103	FLIP-FLOP JK	D-1	P DIP 14	60C	DSPY	FIELD	040C	55XPWR	6238 / 1		
		12	77/78		GBC				8,109,400		
74H103	FLIP-FLOP JK	D-1	P DIP 14	60C	DSPY	FIELD	040C	55XPWR	6538 / 0		
		12	78/79		GBC				8,525,400		
74H103	FLIP-FLOP JK	NONE	N/R DIP 0	45C	COMP	FIELD	025C		4 / 3	2232/ 3	
		12	77/79		GB				76,936		
74H103	FLIP-FLOP JK	NONE	N/R DIP 0	45C	COMP	FIELD	025C		8 / 0		
		12	77/79		GB				159,040		
74H106	FLIP-FLOP JK	D	H DIP 16	45C	COMP	FIELD	025C		71 / 0		
		16	77/79		GB				1,365,614		
74H106	FLIP-FLOP JK	D	H DIP 16	45C	COMP	FIELD	025C		142 / 1	2233/ 1	
		16	77/79		GB				2,822,960		
74H106	FLIP-FLOP JK	D-1	P DIP 16	60C	DSPY	FIELD	040C	55XPWR	8438 / 10		
		16	77/78		GBC				10,969,400		
74H106	FLIP-FLOP JK	D-1	P DIP 16	60C	DSPY	FIELD	040C	55XPWR	6635 / 3		
		16	78/79		GBC				8,625,500		
74H106	FLIP-FLOP JK	NONE	N/R DIP 16	45C	COMP	FIELD	025C		15 / 0		
		16	77/79		GB				288,510		
74H106	FLIP-FLOP JK	NONE	N/R DIP 16	45C	COMP	FIELD	025C		30 / 22	2234/ 22	
		16	77/79		GB				596,400		
74H11	GATE	D	H DIP 14	37C	COMP	FIELD	025C		305 / 0		
		3	77/79		GB				5,866,370		

DIGITAL DEVICE DATA

VARIOUS TTL HIGH SPEED		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO./ QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
74H11	GATE	D 3	H DIP 14: 77/79	37C	COMP GB	FIELD	025C	610 / 2 12,126,800	2235/ 2	
74H11	GATE	D-1 3	P DIP 14: 77/78	52C	DSPY GBC	FIELD	040C 55XPWR	11406 / 0 14,827,800		
74H11	GATE	D-1 3	P DIP 14: 78/79	52C	DSPY GBC	FIELD	040C 55XPWR	16082 / 0 20,906,600		
74H11	GATE	NONE 3	N/R DIP 14: 77/79	37C	COMP GB	FIELD	025C	1 / 0 19,234		
74H11	GATE	NONE 3	N/R DIP 14: 77/79	37C	COMP GB	FIELD	025C	18 / 0 357,840		
74H20	GATE	D 2	H DIP 14: 77/79	30C	COMP GB	FIELD	025C	198 / 3 3,808,332	2236/ 3	
74H20	GATE	D 2	H DIP 14: 77/79	30C	COMP GB	FIELD	025C	396 / 0 7,872,480		
74H20	GATE	D-1 2	P DIP 14: 78/79		COMM AIF	FIELD		50 / 0 15,444		
74H20	GATE	D-1 2	P DIP 14: 77/78	45C	DSPY GBC	FIELD	040C 55XPWR	307 / 0 399,100		
74H20	GATE	D-1 2	P DIP 14: 78/79	45C	DSPY GBC	FIELD	040C 55XPWR	431 / 0 560,300		
74H20	GATE	NONE 2	N/R DIP 14: 77/79	30C	COMP GB	FIELD	025C	20 / 0 384,680		
74H20	GATE	NONE 2	N/R DIP 14: 77/79	30C	COMP GB	FIELD	025C	40 / 0 795,200		
74H21	GATE	D 2	H DIP 14: 77/79	35C	COMP GB	FIELD	025C	91 / 0 1,750,294		
74H21	GATE	D 2	H DIP 14: 77/79	35C	COMP GB	FIELD	025C	182 / 0 3,618,161		
74H21	GATE	D-1 2	P DIP 14: 77/78	50C	DSPY GBC	FIELD	040C 55XPWR	1056 / 0 1,372,800		
74H21	GATE	D-1 2	P DIP 14: 78/79	50C	DSPY GBC	FIELD	040C 55XPWR	1240 / 0 1,612,000		
74H21	GATE	NONE 2	N/R DIP 14: 77/79	35C	COMP GB	FIELD	025C	3 / 0 57,702		
74H21	GATE	NONE 2	N/R DIP 14: 77/79	35C	COMP GB	FIELD	025C	6 / 0 119,280		
74H22	GATE	D 2	H DIP 14: 77/79	30C	COMP GB	FIELD	025C	215 / 0 4,135,310		
74H22	GATE	D 2	H DIP 14: 77/79	30C	COMP GB	FIELD	025C	430 / 0 8,548,400		
74H22	GATE	NONE 2	N/R DIP 14: 77/79	30C	COMP GB	FIELD	025C	17 / 0 326,978		
74H22	GATE	NONE 2	N/R DIP 14: 77/79	30C	COMP GB	FIELD	025C	34 / 0 675,920		
74H30	GATE	D 1	H DIP 14: 77/79	27C	COMP GB	FIELD	025C	253 / 0 4,866,202		

DIGITAL DEVICE DATA

VARIOUS TTL HIGH SPEED		:MANUFACTURER :OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
: PART NO. :	: DEVICE FUNCTION :	: SCR.N. CLASS :	: PACKAGF/ PINS :	: JCT.* TEMP. :	: EQUIP. TYPE :	: DATA CLASS. :	: STRESS LEVEL :	: #TESTED/ #FAILED :	:MPEF REPORT NO. : /QTY FAILED :		
:	: CIRCUIT FUNCTION :	: NO. GATES :	: TEST DATE :	:	: APPL. ENV. :	: TEST TYPE :	:	: PART HOURS :			
: 74H30 :	: GATE :	: D 1 :	: H DIP 14 :	: 27C :	: COMP GB :	: FIELD :	: 025C :	: 506 / 0 :			
			: 77/79 :					: 10,059,280 :			
: 74H30 :	: GATE :	: D-1 1 :	: P DIP 14 :	: 42C :	: DSPY GBC :	: FIELD :	: 040C 55XPWR :	: 890 / 0 :			
			: 77/78 :					: 1,157,000 :			
: 74H30 :	: GATE :	: D-1 1 :	: P DIP 14 :	: 42C :	: DSPY GBC :	: FIELD :	: 040C 55XPWR :	: 692 / 0 :			
			: 78/79 :					: 900,900 :			
: 74H30 :	: GATE :	: NONE 1 :	: N/R DIP 14 :	: 27C :	: COMP GB :	: FIELD :	: 025C :	: 23 / 0 :			
			: 77/79 :					: 442,382 :			
: 74H30 :	: GATE :	: NONE 1 :	: N/R DIP 14 :	: 27C :	: COMP GB :	: FIELD :	: 025C :	: 46 / 0 :			
			: 77/79 :					: 914,480 :			
: 74H40 :	: BUFFER :	: D 2 :	: H DIP 14 :	: 35C :	: COMP GB :	: FIELD :	: 025C :	: 196 / 0 :			
			: 77/79 :					: 3,769,864 :			
: 74H40 :	: BUFFER :	: D 2 :	: H DIP 14 :	: 35C :	: COMP GB :	: FIELD :	: 025C :	: 392 / 1 :	2237/	1	
			: 77/79 :					: 7,792,960 :			
: 74H40 :	: BUFFER :	: D-1 2 :	: P DIP 14 :	: 50C :	: DSPY GBC :	: FIELD :	: 040C 55XPWR :	: 679 / 0 :			
			: 77/78 :					: 882,700 :			
: 74H40 :	: BUFFER :	: D-1 2 :	: P DIP 14 :	: 50C :	: DSPY GBC :	: FIELD :	: 040C 55XPWR :	: 910 / 0 :			
			: 78/79 :					: 1,183,000 :			
: 74H40 :	: BUFFER :	: NONE 2 :	: N/R N/R 0 :	: 35C :	: COMP GB :	: FIELD :	: 025C :	: 1 / 0 :			
			: 77/79 :					: 19,234 :			
: 74H40 :	: BUFFER :	: NONE 2 :	: N/R N/R 0 :	: 35C :	: COMP GB :	: FIELD :	: 025C :	: 2 / 0 :			
			: 77/79 :					: 39,760 :			
: 74H40 :	: BUFFER :	: NONE 2 :	: N/R DIP 14 :	: 35C :	: COMP GB :	: FIELD :	: 025C :	: 1 / 0 :			
			: 77/79 :					: 19,234 :			
: 74H40 :	: BUFFER :	: NONE 2 :	: N/R DIP 14 :	: 35C :	: COMP GB :	: FIELD :	: 025C :	: 2 / 0 :			
			: 77/79 :					: 39,760 :			
: 74H50 :	: GATE EXPANDABLE :	: D 6 :	: H DIP 14 :	: 31C :	: COMP GB :	: FIELD :	: 025C :	: 1 / 0 :			
			: 77/79 :					: 19,234 :			
: 74H50 :	: GATE EXPANDABLE :	: D 6 :	: H DIP 14 :	: 31C :	: COMP GB :	: FIELD :	: 025C :	: 2 / 0 :			
			: 77/79 :					: 39,760 :			
: 74H50 :	: GATE EXPANDABLE :	: D-1 6 :	: P DIP 14 :	: 46C :	: DSPY GBC :	: FIELD :	: 040C 55XPWR :	: 10227 / 1 :			
			: 77/78 :					: 13,295,100 :			
: 74H50 :	: GATE EXPANDABLE :	: D-1 6 :	: P DIP 14 :	: 46C :	: DSPY GBC :	: FIELD :	: 040C 55XPWR :	: 10593 / 5 :			
			: 78/79 :					: 13,770,900 :			
: 74H51 :	: GATE :	: D 6 :	: H DIP 14 :	: 31C :	: COMP GB :	: FIELD :	: 025C :	: 14 / 0 :			
			: 77/79 :					: 269,276 :			
: 74H51 :	: GATE :	: D 6 :	: H DIP 14 :	: 31C :	: COMP GB :	: FIELD :	: 025C :	: 28 / 2 :	2238/	2	
			: 77/79 :					: 556,640 :			
: 74H51 :	: GATE :	: D-1 6 :	: P DIP 14 :	: 46C :	: DSPY GBC :	: FIELD :	: 040C 55XPWR :	: 306 / 0 :			
			: 77/78 :					: 397,800 :			
: 74H51 :	: GATE :	: D-1 6 :	: P DIP 14 :	: 46C :	: DSPY GBC :	: FIELD :	: 040C 55XPWR :	: 620 / 0 :			
			: 78/79 :					: 806,000 :			
: 74H52 :	: GATE EXPANDABLE :	: D 5 :	: H DIP 14 :	: 35C :	: COMP GB :	: FIELD :	: 025C :	: 133 / 0 :			
			: 77/79 :					: 2,558,122 :			
: 74H52 :	: GATE EXPANDABLE :	: D 5 :	: H DIP 14 :	: 35C :	: COMP GB :	: FIELD :	: 025C :	: 266 / 10 :	2239/	2	
			: 77/79 :					: 5,288,080 :			

DIGITAL DEVICE DATA

VARIOUS TTL ,HIGH SPEED		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
									2240/	8	
74H52	GATE EXPANDABLE	D-1 5	P DIP 14: 77/78	50C	DSPY GBC	FIELD	040C 55XPWR:	1395 / 0 1,813,500:			
74H52	GATE EXPANDABLE	D-1 5	P DIP 14: 78/79	50C	DSPY GBC	FIELD	040C 55XPWR:	1757 / 0 2,284,100:			
74H53	GATE EXPANDABLE	D 5	H DIP 14: 77/79	30C	COMP GB	FIELD	025C	40 / 0 769,360:			
74H53	GATE EXPANDABLE	D 5	H DIP 14: 77/79	30C	COMP GB	FIELD	025C	80 / 0 1,590,400:			
74H53	GATE EXPANDABLE	D-1 5	P DIP 14: 77/78	45C	DSPY GBC	FIELD	040C 55XPWR:	9629 / 6 12,517,700:			
74H53	GATE EXPANDABLE	D-1 5	P DIP 14: 78/79	45C	DSPY GBC	FIELD	040C 55XPWR:	9456 / 10 12,292,800:			
74H54	GATE	D 5	H DIP 14: 77/79	30C	COMP GB	FIELD	025C	42 / 0 807,828:			
74H54	GATE	D 5	H DIP 14: 77/79	30C	COMP GB	FIELD	025C	96 / 0 1,908,480:			
74H54	GATE	D-1 5	P DIP 14: 77/78	45C	DSPY GBC	FIELD	040C 55XPWR:	1632 / 0 2,121,600:			
74H54	GATE	D-1 5	P DIP 14: 78/79	45C	DSPY GBC	FIELD	040C 55XPWR:	2506 / 0 3,257,800:			
74H55	GATE EXPANDABLE	D 3	H DIP 14: 77/79	28C	COMP GB	FIELD	025C	9 / 0 173,106:			
74H55	GATE EXPANDABLE	D 3	H DIP 14: 77/79	28C	COMP GB	FIELD	025C	18 / 0 357,840:			
74H55	GATE EXPANDABLE	D-1 3	P DIP 14: 77/78	43C	DSPY GBC	FIELD	040C 55XPWR:	10378 / 1 13,491,400:			
74H55	GATE EXPANDABLE	D-1 3	P DIP 14: 78/79	43C	DSPY GBC	FIELD	040C 55XPWR:	6595 / 1 8,573,500:			
74H60	EXPANDER	D 2	H DIP 14: 77/79	27C	COMP GB	FIELD	025C	18 / 0 346,212:			
74H60	EXPANDER	D 2	H DIP 14: 77/79	27C	COMP GB	FIELD	025C	36 / 0 715,680:			
74H60	EXPANDER	D-1 2	P DIP 14: 77/78	42C	DSPY GBC	FIELD	040C 55XPWR:	74 / 0 96,200:			
74H60	EXPANDER	D-1 2	P DIP 14: 78/79	42C	DSPY GBC	FIELD	040C 55XPWR:	60 / 0 78,000:			
74H61	EXPANDER	D 3	H DIP 14: 77/79	29C	COMP GB	FIELD	025C	25 / 0 480,850:			
74H61	EXPANDER	D 3	H DIP 14: 77/79	29C	COMP GB	FIELD	025C	50 / 2 994,000:	2241/	2	
74H61	EXPANDER	D-1 3	P DIP 14: 77/78	44C	DSPY GBC	FIELD	040C 55XPWR:	2 / 0 2,600:			
74H73	FLIP-FLOP JK	D-1 16	P DIP 14: 77/78	56C	DSPY GBC	FIELD	040C 55XPWR:	176 / 0 228,800:			

DIGITAL DEVICE DATA

VARIOUS TTL ,HIGH SPEED		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPF REPORT NO. /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
74H73	FLIP-FLOP JK	D-1 16	P DIP 14 78/79	56C	DSPY GBC	FIELD	040C 55XPWR	81 / 0 105,300		
74H74	FLIP-FLOP D	D-1 12	P DIP 14 77/78	56C	DSPY GBC	FIELD	040C 55XPWR	224 / 0 291,200		
74H74	FLIP-FLOP D	D-1 12	P DIP 14 78/79	56C	DSPY GBC	FIELD	040C 55XPWR	317 / 0 412,100		
74H76	FLIP-FLOP JK	D 16	H DIP 16 77/79	41C	COMP GB	FIELD	025C	1 / 0 19,234		
74H76	FLIP-FLOP JK	D 16	H DIP 16 77/79	41C	COMP GB	FIELD	025C	2 / 0 39,760		
74H76	FLIP-FLOP JK	X 16	P DIP 16 76/78	41C	COMP GBC	FIELD	025C	10 / 1 153,068		
74H78	FLIP-FLOP JK	D 16	H DIP 14 77/79	41C	COMP GB	FIELD	025C	40 / 1 769,360	2242/ 1	
74H78	FLIP-FLOP JK	D 16	H DIP 14 77/79	41C	COMP GB	FIELD	025C	80 / 3 1,590,400	2243/ 3	

DIGITAL DEVICE DATA

ADVANCED MICRO DEVICES TTL ,LOW POWER		:MANUFACTURER :OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO. /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
26L02	FLIP-FLOP MONOSTABLE	B-2/N 14	H DIP 16: 76/77	81C	RADR AU	RELDEN TCVPC	-054C 071C 6CY 2. 27HZ	418 / 0 20,064		

FAIRCHILD SEMI TTL ,LOW POWER		:MANUFACTURER :OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO. /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
9L24	FLIP-FLOP JK	B-2/N 16	H DIP 16: 76/77	75C	RADR AU	RELDEN TCVPC	-054C 071C 6CY 2. 27HZ	209 / 0 10,032		
9L24	FLIP-FLOP JK	D 16	H DIP 16: 77/78	44C	DSPY GBC	FIELD	040C 55XPWR	686 / 2 891,800		
9L24	FLIP-FLOP JK	D 16	H DIP 16: 78/79	44C	DSPY GBC	FIELD	040C 55XPWR	647 / 2 841,100		
93L00	SHIFT REG	D-1 40	P DIP 16: 77/78	48C	DSPY GBC	FIELD	040C 55XPWR	21022 / 1 27,328,600		
93L00	SHIFT REG	D-1 40	P DIP 16: 78/79	48C	DSPY GBC	FIELD	040C 55XPWR	25258 / 3 32,835,400		
93L01	DECODER BCD/DECIMAL	B-1 18	H DIP 16: 78/78	30C	COMP GT	RELDEN	025C	21 / 0 7,382		
93L01	DECODER BCD/DECIMAL	D-1 18	P DIP 16: 77/78	45C	DSPY GBC	FIELD	040C 55XPWR	6859 / 1 8,916,700		
93L01	DECODER BCD/DECIMAL	D-1 18	P DIP 16: 78/79	45C	DSPY GBC	FIELD	040C 55XPWR	7201 / 0 9,361,300		
93L10	COUNTER BCD/DECIMAL	B-1 38	H DIP 16: 78/78	34C	COMP GT	RELDEN	025C	6 / 0 2,109		
93L11	BUFFER	D-1 25	P DIP 24: 77/78	45C	DSPY GBC	FIELD	040C 55XPWR	5892 / 4 7,659,600		
93L11	BUFFER	D-1 25	P DIP 24: 78/79	45C	DSPY GBC	FIELD	040C 55XPWR	7906 / 2 10,277,800		
93L14	LATCH	B-1 30	H DIP 16: 78/78	31C	COMP GT	RELDEN	025C	78 / 0 27,417		
93L14	LATCH	D-1 30	P DIP 16: 77/78	45C	DSPY GBC	FIELD	040C 55XPWR	35037 / 8 45,548,100		
93L14	LATCH	D-1 30	P DIP 16: 78/79	45C	DSPY GBC	FIELD	040C 55XPWR	35722 / 5 46,438,600		
93L16	COUNTER BINARY	B-2/N 38	H DIP 16: 76/77	80C	RADR AU	RELDEN TCVPC	-054C 071C 6CY 2. 27HZ	1672 / 0 80,256		
93L16	COUNTER BINARY	B-1 38	H DIP 16: 78/78	34C	COMP GT	RELDEN	025C	54 / 0 18,981		
93L16	COUNTER BINARY	D-1 38	P DIP 16: 77/78	48C	DSPY GBC	FIELD	040C 55XPWR	3270 / 2 4,251,000		

DIGITAL DEVICE DATA

FAIRCHILD SEMI TTL ,LOW POWER		:MANUFACTURER :OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
: PART NO. :	: DEVICE FUNCTION :	: SCR.N. CLASS :	: PACKAGE/ PINS :	: JCT.* TEMP. :	: EQUIP. TYPE :	: DATA CLASS. :	: STRESS LEVEL :	: #TESTED/ #FAILED :	: MPEF REPORT NO. /QTY FAILED :		
:	: CIRCUIT FUNCTION :	: NO. GATES :	: TEST DATE :	:	: APPL. ENV. :	: TEST TYPE :	:	: PART HOURS :	:		
: 93L16 :	: COUNTER :	: D-1 :	: P DIP 16 :	: 48C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 3985 / 0 :	: 5,180,500 :		
:	: BINARY :	: 38 :	: 78/79 :	:	: GBC :	:	:	:	:		
: 93L21 :	: DECODFR :	: D-1 :	: P DIP 16 :	: 45C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 1960 / 1 :	: 2,548,000 :		
:	:	: 18 :	: 77/78 :	:	: GBC :	:	:	:	:		
: 93L21 :	: DECODER :	: D-1 :	: P DIP 16 :	: 45C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 2204 / 0 :	: 2,865,200 :		
:	:	: 18 :	: 78/79 :	:	: GBC :	:	:	:	:		
: 93L24 :	: COMPARATOR :	: B-1 :	: H DIP 16 :	: 31C :	: COMP :	: REDEM :	: 025C :	: 9 / 0 :	: 3,164 :		
:	:	: 27 :	: 78/78 :	:	: GT :	:	:	:	:		
: 93L24 :	: COMPARATOR :	: D :	: H FPK 16 :	: 92C :	: NR :	: LIFE :	: 085C :	: 46 / 0 :	: 46,000 :		
:	:	: 27 :	: 77/77 :	:	: N/R :	: OP DYN :	:	:	:		
:	:	:	:	:	:	: LIFE :	:	: 46 / 1 :	:		
:	:	:	:	:	:	: EM :	:	:	:		
: 93L24 :	: COMPARATOR :	: D-1 :	: P DIP 16 :	: 45C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 32402 / 17 :	: 42,122,500 :		
:	:	: 27 :	: 77/78 :	:	: GBC :	:	:	:	:		
: 93L24 :	: COMPARATOR :	: D-1 :	: P DIP 16 :	: 45C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 31547 / 9 :	: 41,011,100 :		
:	:	: 27 :	: 78/79 :	:	: GBC :	:	:	:	:		
: 96L02 :	: FLIP-FLOP :	: B-1 :	: H DIP 16 :	: 31C :	: COMP :	: REDEM :	: 025C :	: 48 / 0 :	: 16,872 :		
:	: MONOSTABLE :	: 14 :	: 78/78 :	:	: GT :	:	:	:	:		

NATIONAL SEMI TTL ,LOW POWER		:MANUFACTURER :OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
: PART NO. :	: DEVICE FUNCTION :	: SCR.N. CLASS :	: PACKAGE/ PINS :	: JCT.* TEMP. :	: EQUIP. TYPE :	: DATA CLASS. :	: STRESS LEVEL :	: #TESTED/ #FAILED :	: MPEF REPORT NO. /QTY FAILED :		
:	: CIRCUIT FUNCTION :	: NO. GATES :	: TEST DATE :	:	: APPL. ENV. :	: TEST TYPE :	:	: PART HOURS :	:		
: 54L04 :	: INVERTER :	: J-B :	: H DIP 14 :	:	: RADR :	: REDEM :	:	: 10 / 0 :	: 322 :		
:	:	: 6 :	: 77/77 :	:	: AIU :	: OPERATE :	:	:	:		
: 54L165A :	: SHIFT REG :	: B-2 :	: H DIP 16 :	: 97C :	: NAVG :	: REDEM :	: -054C 072C :	: 7 / 0 :	: 4,387 :		
:	:	: 62 :	: 77/77 :	:	: AI :	: TCVPC :	: 43CY 2 60HZ :	:	:		
: 70L97 :	: RUFFER :	: B-1 :	: H DIP 16 :	: 27C :	: COMP :	: REDEM :	: 025C :	: 36 / 0 :	: 12,654 :		
:	:	: 7 :	: 78/78 :	:	: GT :	:	:	:	:		
: 74L00 :	: GATE :	: D-1 :	: P DIP 14 :	: 41C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 9217 / 0 :	: 11,982,100 :		
:	:	: 4 :	: 77/78 :	:	: GBC :	:	:	:	:		
: 74L00 :	: GATE :	: D-1 :	: P DIP 14 :	: 41C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 14934 / 3 :	: 19,414,200 :		
:	:	: 4 :	: 78/79 :	:	: GBC :	:	:	:	:		
: 74L164 :	: SHIFT REG :	: D-1 :	: P DIP 14 :	: 45C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 32 / 0 :	: 41,600 :		
:	:	: 36 :	: 77/78 :	:	: GBC :	:	:	:	:		
: 74L164 :	: SHIFT REG :	: D-1 :	: P DIP 14 :	: 45C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 451 / 0 :	: 586,300 :		
:	:	: 36 :	: 78/79 :	:	: GBC :	:	:	:	:		
: 74L42A :	: DECODER :	: D-1 :	: P DIP 16 :	: 43C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 5352 / 1 :	: 6,957,600 :		
:	: BCD/DECIMAL :	: 18 :	: 77/78 :	:	: GBC :	:	:	:	:		
: 74L42A :	: DECODER :	: D-1 :	: P DIP 16 :	: 43C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 4696 / 1 :	: 6,104,800 :		
:	: BCD/DECIMAL :	: 18 :	: 78/79 :	:	: GBC :	:	:	:	:		

DIGITAL DEVICE DATA

NATIONAL SEMI
TTL ,LOW POWER

MANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
74L72	FLIP-FLOP JK	D-1 8	P DIP 14 77/78	41C	DSPY GBC	FIELD	040C 55XPWR	2655 / 8 3,451,500	
74L72	FLIP-FLOP JK	D-1 8	P DIP 14 78/79	41C	DSPY GBC	FIELD	040C 55XPWR	3806 / 2 4,947,800	
74L73	FLIP-FLOP JK	D-1 14	P DIP 14 77/78	42C	DSPY GBC	FIELD	040C 55XPWR	15056 / 7 19,572,800	
74L73	FLIP-FLOP JK	D-1 14	P DIP 14 78/79	42C	DSPY GBC	FIELD	040C 55XPWR	14653 / 8 19,048,900	
74L74	FLIP-FLOP D	D-1 12	P DIP 14 77/78	42C	DSPY GBC	FIELD	040C 55XPWR	99999 / 58 143,265,200	
						FIELD		10205 / 0	
74L74	FLIP-FLOP D	D-1 12	P DIP 14 78/79	42C	DSPY GBC	FIELD	040C 55XPWR	99999 / 76 161,565,300	
						FIELD		24282 / 0	
74L85	COMPARATOR	D-1 33	P DIP 16 77/78	44C	DSPY GBC	FIELD	040C 55XPWR	2475 / 0 3,217,500	
74L85	COMPARATOR	D-1 33	P DIP 16 78/79	44C	DSPY GBC	FIELD	040C 55XPWR	2136 / 0 2,776,800	
74L90	COUNTER DECADE	D-1 15	P DIP 14 77/78	44C	DSPY GBC	FIELD	040C 55XPWR	9105 / 1 11,836,500	
74L90	COUNTER DECADE	D-1 15	P DIP 14 78/79	44C	DSPY GBC	FIELD	040C 55XPWR	9567 / 2 12,437,100	
74L93	COUNTER BINARY	D-1 25	P DIP 14 77/78	43C	DSPY GBC	FIELD	040C 55XPWR	35 / 0 45,500	
74L95	SHIFT REG	D-1 37	P DIP 14 77/78	44C	DSPY GBC	FIELD	040C 55XPWR	2328 / 0 3,026,400	
74L95	SHIFT REG	D-1 37	P DIP 14 78/79	44C	DSPY GBC	FIELD	040C 55XPWR	3808 / 1 4,950,400	
75L51	FLIP-FLOP D	B-1 45	H DIP 16 78/78	28C	COMP GT	RELDEN	025C	6 / 0 2,109	
76L70	SHIFT REG	B-2 68	H DIP 14 77/77	97C	NAVGT AI	RELDEN TCVP	-054C 072C 43CY 2 60HZ	9 / 0 5,640	
81L23	MULTIPLEXER	D-1 19	P DIP 16 77/78	44C	DSPY GBC	FIELD	040C 55XPWR	3817 / 2 4,962,100	
81L23	MULTIPLEXER	D-1 19	P DIP 16 78/79	44C	DSPY GBC	FIELD	040C 55XPWR	9920 / 2 12,896,000	
85L51	REGISTER D	D-1 45	P DIP 16 77/78	45C	DSPY GBC	FIELD	040C 55XPWR	14054 / 14 18,270,200	
85L51	REGISTER D	D-1 45	P DIP 16 78/79	45C	DSPY GBC	FIELD	040C 55XPWR	16816 / 9 21,860,800	
85L54	COUNTER BINARY	D-1 65	P DIP 16 77/78	46C	DSPY GBC	FIELD	040C 55XPWR	2445 / 5 3,178,500	
85L54	COUNTER BINARY	D-1 65	P DIP 16 78/79	46C	DSPY GBC	FIELD	040C 55XPWR	2277 / 1 2,960,100	

DIGITAL DEVICE DATA

NATIONAL SEMI TTL ,LOW POWER		:MANUFACTURER :OPERATIONAL TYPE			RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
86L75	COUNTER DECADE	D-1 54	P DIP 16: 77/78	45C	DSPY GBC	FIELD	040C 55XPWR:	22813 / 15 29,656,900:		
86L75	COUNTER DECADE	D-1 54	P DIP 16: 78/79	45C	DSPY GBC	FIELD	040C 55XPWR:	19838 / 6 25,789,400:		
86L76	COUNTER BINARY	D-1 54	P DIP 16: 77/78	45C	DSPY GBC	FIELD	040C 55XPWR:	1274 / 4 1,656,200:		
86L76	COUNTER BINARY	D-1 54	P DIP 16: 78/79	45C	DSPY GBC	FIELD	040C 55XPWR:	1348 / 2 1,752,400:		

TEXAS INSTRUMENTS TTL ,LOW POWER		:MANUFACTURER :OPERATIONAL TYPE			RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
54L157	MULTIPLEXER	B-1 15	H DIP 16: 78/78	35C	COMP GT	RELDEM	025C	9 / 0 3,164:		
54L73	FLIP-FLOP JK	B-2/N 14	H DIP 16: 76/77	72C	RADR AU	RELDEM TCVPC	-054C 071C 6CY 2. 27HZ	836 / 0 40,128:		
54L96	SHIFT REG	D 49	H DIP 16: 77/78	66C	COMB AIT	FIELD		168 / 0 1,596,000:		
74L121	FLIP-FLOP MONOSTABLE	D-1 8	P DIP 14: 77/78	45C	DSPY GBC	FIELD	040C 55XPWR:	5102 / 0 6,632,600:		
74L121	FLIP-FLOP MONOSTABLE	D-1 8	P DIP 14: 78/79	45C	DSPY GBC	FIELD	040C 55XPWR:	3615 / 1 4,699,500:		
74L122	FLIP-FLOP MONOSTABLE	D-1 10	P DIP 14: 77/78	46C	DSPY GBC	FIELD	040C 55XPWR:	4113 / 1 5,346,900:		
74L122	FLIP-FLOP MONOSTABLE	D-1 10	P DIP 14: 78/79	46C	DSPY GBC	FIELD	040C 55XPWR:	4812 / 0 6,255,600:		
74L123	FLIP-FLOP MONOSTABLE	D-1 20	P DIP 16: 77/78	51C	DSPY GBC	FIELD	040C 55XPWR:	3541 / 0 4,603,300:		
74L123	FLIP-FLOP MONOSTABLE	D-1 20	P DIP 16: 78/79	51C	DSPY GBC	FIELD	040C 55XPWR:	2273 / 1 2,954,900:		
74L123	FLIP-FLOP MONOSTABLE	D-1 20	P DIP 16: 77/77	41C	COMM GBC	FIELD	030C	2250 / 5 10,174,500:		
74L153	MULTIPLEXER	D-1 16	P DIP 16: 77/78	49C	DSPY GBC	FIELD	040C 55XPWR:	634 / 0 824,200:		
74L153	MULTIPLEXER	D-1 16	P DIP 16: 78/79	49C	DSPY GBC	FIELD	040C 55XPWR:	614 / 0 798,200:		
74L157	MULTIPLEXER	D-1 15	P DIP 16: 77/78	47C	DSPY GBC	FIELD	040C 55XPWR:	1813 / 0 2,356,900:		

DIGITAL DEVICE DATA

TEXAS INSTRUMENTS TTL ,LOW POWER		:MANUFACTURER :OPERATIONAL TYPE			RELIABILITY ANALYSIS CENTER					
: PART NO. :	: DEVICE FUNCTION :	: SCR.N. CLASS :	: PACKAGE/ PINS :	: JCT.* TEMP. :	: EQUIP. TYPE :	: DATA CLASS. :	: STRESS LEVEL :	: #TESTED/ #FAILED :	: MFEF REPORT NO. /QTY FAILED :	
:	: CIRCUIT FUNCTION :	: NO. GATES :	: TEST DATE :	:	: APPL. ENV. :	: TEST TYPE :	:	: PART HOURS :	:	
: 74L157 :	: MULTIPLEXER :	: D-1 :	: P DIP 16 :	: 47C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 1946 / 0 :	: 2,529,800 :	
:	:	: 15 :	: 78/79 :	:	: GBC :	:	:	:	:	
: 74L164 :	: SHIFT REG :	: D-1 :	: P DIP 14 :	: 50C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 10693 / 7 :	: 13,900,900 :	
:	:	: 36 :	: 77/78 :	:	: GBC :	:	:	:	:	
: 74L164 :	: SHIFT REG :	: D-1 :	: P DIP 14 :	: 50C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 13245 / 5 :	: 17,218,500 :	
:	:	: 36 :	: 78/79 :	:	: GBC :	:	:	:	:	
: 74L42 :	: DECODER :	: D-1 :	: P DIP 16 :	: 47C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 2576 / 0 :	: 3,348,800 :	
:	: BCD/DECIMAL :	: 18 :	: 77/78 :	:	: GBC :	:	:	:	:	
: 74L42 :	: DECODER :	: D-1 :	: P DIP 16 :	: 47C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 1836 / 1 :	: 2,386,800 :	
:	: BCD/DECIMAL :	: 18 :	: 78/79 :	:	: GBC :	:	:	:	:	
: 74L47 :	: INTERFACE :	: D-1 :	: P DIP 16 :	: 55C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 9664 / 0 :	: 12,563,200 :	
:	: DECODER/DRIVER :	: N/R :	: 77/78 :	:	: GBC :	:	:	:	:	
: 74L47 :	: INTERFACE :	: D-1 :	: P DIP 16 :	: 55C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 14256 / 2 :	: 18,532,800 :	
:	: DECODER/DRIVER :	: N/R :	: 78/79 :	:	: GBC :	:	:	:	:	
: 74L73 :	: FLIP-FLOP :	: D-1 :	: P DIP 14 :	: 41C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 5730 / 0 :	: 7,449,000 :	
:	: JK :	: 14 :	: 77/78 :	:	: GBC :	:	:	:	:	
: 74L73 :	: FLIP-FLOP :	: D-1 :	: P DIP 14 :	: 41C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 7200 / 0 :	: 9,360,000 :	
:	: JK :	: 14 :	: 78/79 :	:	: GBC :	:	:	:	:	
: 74L75 :	: LATCH :	: D-1 :	: P DIP 16 :	: 55C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 47054 / 8 :	: 61,170,200 :	
:	: BISTABLE :	: 24 :	: 77/78 :	:	: GBC :	:	:	:	:	
: 74L75 :	: LATCH :	: D-1 :	: P DIP 16 :	: 55C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 58455 / 20 :	: 75,991,500 :	
:	: BISTABLE :	: 24 :	: 78/79 :	:	: GBC :	:	:	:	:	
: 74L85 :	: COMPARATOR :	: D-1 :	: P DIP 16 :	: 42C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 1728 / 0 :	: 2,246,400 :	
:	:	: 33 :	: 77/78 :	:	: GBC :	:	:	:	:	
: 74L85 :	: COMPARATOR :	: D-1 :	: P DIP 16 :	: 42C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 1763 / 1 :	: 2,291,900 :	
:	:	: 33 :	: 78/79 :	:	: GBC :	:	:	:	:	
: 74L93 :	: COUNTER :	: D-1 :	: P DIP 14 :	: 27C :	: INTR :	: CHECK :	: 025C :	: 2 / 0 :	: 880 :	
:	: BINARY :	: 25 :	: 77/77 :	:	: GBC :	: OPERATE :	:	:	:	
: 74L95 :	: SHIFT REG :	: D-1 :	: P DIP 14 :	: 42C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 2109 / 1 :	: 2,741,700 :	
:	:	: 37 :	: 77/78 :	:	: GBC :	:	:	:	:	
: 74L95 :	: SHIFT REG :	: D-1 :	: P DIP 14 :	: 42C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 3146 / 0 :	: 4,089,800 :	
:	:	: 37 :	: 78/79 :	:	: GBC :	:	:	:	:	
: 74L98 :	: MULTIPLEXER :	: D-1 :	: P DIP 16 :	: 43C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 9258 / 3 :	: 12,035,400 :	
:	:	: 51 :	: 77/78 :	:	: GBC :	:	:	:	:	
: 74L98 :	: MULTIPLEXER :	: D-1 :	: P DIP 16 :	: 43C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 7065 / 0 :	: 9,184,500 :	
:	:	: 51 :	: 78/79 :	:	: GBC :	:	:	:	:	

DIGITAL DEVICE DATA

VARIOUS TTL LOW POWER		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO. /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
54L00	GATE	J-B 4	H FPK 14 77/77	82C	NAVG AI	RELDEM TCVPC	-054C 072C 43CY 2 60HZ	1 / 0 627:			
54L00	GATE	J-B 4	H DIP 14 77/77	82C	NAVG AI	RELDEM TCVPC	-054C 072C 43CY 2 60HZ	15 / 0 9,401:			
54L00	GATE	J-B 4	H FPK 14 75/78	71C	RADR AUF	FIELD		396 / 0 451,440:			
54L00	GATE	B-2 4	H FPK 14 75/78	26C	COMM GT	FIELD	025C	234 / 0 543,894:			
54L00	GATE	D 4	H DIP 14 77/78	56C	COMB AIT	FIELD		1140 / 1 10,830,000:			
54L01	GATE	J-B 4	H FPK 14 77/77	82C	NAVG AI	RELDEM TCVPC	-054C 072C 43CY 2 60HZ	1 / 0 627:			
54L02	GATE	J-B 4	H DIP 14 77/77	82C	NAVG AI	RELDEM TCVPC	-054C 072C 43CY 2 60HZ	7 / 0 4,387:			
54L02	GATE	D 4	H DIP 14 77/78	56C	COMB AIT	FIELD		456 / 0 4,332,000:			
54L04	INVERTER	J-B 6	H DIP 14 77/77	82C	NAVG AI	RELDEM TCVPC	-054C 072C 43CY 2 60HZ	13 / 0 8,147:			
54L04	INVERTER	J-B 6	H DIP 14 78/78	35C	COMP GT	RELDEM	025C	30 / 0 10,545:			
54L04	INVERTER	D 6	H DIP 14 77/78	56C	COMB AIT	FIELD		1148 / 0 10,906,000:			
54L10	GATE	J-B 3	H FPK 14 77/77	82C	NAVG AI	RELDEM TCVPC	-054C 072C 43CY 2 60HZ	1 / 0 627:			
54L10	GATE	J-B 3	H DIP 14 77/77	82C	NAVG AI	RELDEM TCVPC	-054C 072C 43CY 2 60HZ	8 / 0 5,014:			
54L10	GATE	J-B 3	H FPK 14 75/78	71C	RADR AUF	FIELD		297 / 0 338,580:			
54L10	GATE	B-2 3	H FPK 14 75/78	35C	COMM GT	FIELD	025C	90 / 0 209,190:			
54L10	GATE	D 3	H DIP 14 77/78	56C	COMB AIT	FIELD		668 / 1 6,346,000:			
54L193	COUNTER BINARY	B-2 48	H DIP 16 77/77	97C	NAVG AI	RELDEM TCVPC	-054C 072C 43CY 2 60HZ	24 / 0 15,041:			
54L20	GATE	J-B 2	H DIP 14 77/77	82C	NAVG AI	RELDEM TCVPC	-054C 072C 43CY 2 60HZ	2 / 0 1,253:			
54L20	GATE	J-B 2	H DIP 14 78/78	26C	COMP GT	RELDEM	025C	3 / 0 1,055:			
54L20	GATE	J-B 2	H FPK 14 75/78	71C	RADR AUF	FIELD		231 / 0 263,340:			
54L20	GATE	B-2 2	H FPK 14 75/78	26C	COMM GT	FIELD	025C	72 / 0 167,352:			
54L20	GATE	D 2	H DIP 14 77/78	56C	COMB AIT	FIELD		316 / 1 3,002,000:			
54L30	GATE	J-B 1	H FPK 14 75/78	71C	RADR AUF	FIELD		297 / 0 338,580:			

DIGITAL DEVICE DATA

VARIOUS TTL ,LOW POWER		:MANUFACTURER :OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO. /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPF		PART HOURS		
54L30	GATE	B-2	H FPK 14	26C	COMM	FIELD	025C	18 / 0	41,838	
		1	75/78		GT					
54L30	GATE	D	H DIP 14	56C	COMB	FIELD		64 / 0	608,000	
		1	77/78		AIT					
54L42	DECODER BCD/DECIMAL	J-B	H DIP 16	82C	NAVG	RELDEN	-054C 072C	2 / 0	1,253	
		18	77/77		AI	TCVPC	43CY 2 60HZ			
54L51	GATE	J-B	H DIP 14	82C	NAVG	RELDEN	-054C 072C	4 / 0	2,507	
		6	77/77		AI	TCVPC	43CY 2 60HZ			
54L54	GATE	J-B	H DIP 14	82C	NAVG	RELDEN	-054C 072C	4 / 0	2,507	
		5	77/77		AI	TCVPC	43CY 2 60HZ			
54L54	GATE	B-2	H FPK 14	26C	COMM	FIELD	025C	9 / 0	20,919	
		5	75/78		GT					
54L72	FLIP-FLOP JK	B-2	H FPK 14	26C	COMM	FIELD	025C	18 / 0	41,838	
		8	75/78		GT					
54L73	FLIP-FLOP JK	B-1	H DIP 14	56C	NAVG	FIELD		66 / 0	75,240	
		14	75/78		AIF					
54L73	FLIP-FLOP JK	B-2	H FPK 14	26C	COMM	FIELD	025C	36 / 0	83,676	
		14	75/78		GT					
54L73	FLIP-FLOP JK	D	H DIP 14	56C	COMB	FIELD		392 / 0	3,724,000	
		14	77/78		AIT					
54L74	FLIP-FLOP D	J-B	H DIP 14	82C	NAVG	RELDEN	-054C 072C	11 / 0	6,894	
		12	77/77		AI	TCVPC	43CY 2 60HZ			
54L74	FLIP-FLOP D	J-B	H DIP 14	26C	COMP	RELDEN	025C	3 / 0	1,055	
		12	78/78		GT					
54L74	FLIP-FLOP D	D	H DIP 14	56C	COMB	FIELD		1388 / 1	13,186,000	
		12	77/78		AIT					
54L86	GATE	J-B	H DIP 14	82C	NAVG	RELDEN	-054C 072C	3 / 0	1,880	
		4	77/77		AI	TCVPC	43CY 2 60HZ			
54L86	GATE	B-1	H FPK 14	72C	RADR	FIELD		66 / 0	75,240	
		4	75/78		AUF					
54L86	GATE	D	H DIP 14	57C	COMB	FIELD		24 / 0	228,000	
		4	77/78		AIT					
54L90	COUNTER DECADE	D	H DIP 14	57C	COMB	FIELD		88 / 0	836,000	
		15	77/78		AIT					
54L91	SHIFT REG	B-2	H FPK 14	27C	COMM	FIELD	025C	27 / 0	62,757	
		67	75/78		GT					
54L93	COUNTER BINARY	J-B	H FPK 14	82C	NAVG	RELDEN	-054C 072C	1 / 0	627	
		25	77/77		AI	TCVPC	43CY 2 60HZ			
54L95	SHIFT REG	B-2	H FPK 14	27C	COMM	FIELD	025C	180 / 0	418,380	
		37	75/78		GT					
54L95	SHIFT REG	D	H DIP 14	57C	COMB	FIELD		544 / 0	5,168,000	
		37	77/78		AIT					
54L98	REGISTER	B-1	H DIP 16	73C	RADR	FIELD		198 / 0	225,720	
		51	75/78		AUF					
74L00	GATE	D-1	P DIP 14	31C	COMM	FIELD	030C	11250 / 34	50,872,500	
		4	77/77		GBC					

DIGITAL DEVICE DATA

VARIOUS
TTL ,LOW POWER

MANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TFMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPF		PART HOURS	
74L00	GATE	D-1 4	P DIP 14: 77/78	41C	DSPY GBC	FIELD	040C 55XPWR:	99999 / 43 153,600,200:	
74L00	GATE	D-1 4	P DIP 14: 78/79	41C	DSPY GBC	FIELD	031C 55XPWR:	99999 / 53 182,708,500:	
74L02	GATE	D-1 4	P DIP 14: 77/77	31C	COMM GBC	FIELD	030C	9000 / 36 40,698,000:	
74L02	GATE	D-1 4	P DIP 14: 77/78	41C	DSPY GBC	FIELD	040C 55XPWR:	39074 / 7 50,796,200:	
74L02	GATE	D-1 4	P DIP 14: 78/79	41C	DSPY GBC	FIELD	040C 55XPWR:	41955 / 10 54,541,500:	
74L03	GATE	D-1 4	P DIP 14: 77/78	41C	DSPY GBC	FIELD	040C 55XPWR:	38327 / 15 49,825,100:	
74L03	GATE	D-1 4	P DIP 14: 78/79	41C	DSPY GBC	FIELD	040C 55XPWR:	45741 / 26 59,463,300:	
74L04	INVERTER	D-1 6	P DIP 14: 77/77	40C	COMM GBC	FIELD	030C	2250 / 6 10,174,500:	
74L04	INVERTER	D-1 6	P DIP 14: 77/78	41C	DSPY GBC	FIELD	040C 55XPWR:	68715 / 20 89,329,500:	
74L04	INVERTER	D-1 6	P DIP 14: 78/79	41C	DSPY GBC	FIELD	040C 55XPWR:	78159 / 33 101,606,700:	
74L10	GATE	D-1 3	P DIP 14: 77/77	40C	COMM GBC	FIELD	030C	6750 / 49 30,523,500:	
74L10	GATE	D-1 3	P DIP 14: 77/78	41C	DSPY GBC	FIELD	040C 55XPWR:	36922 / 9 47,998,600:	
74L10	GATE	D-1 3	P DIP 14: 78/79	41C	DSPY GBC	FIELD	040C 55XPWR:	43561 / 14 56,629,300:	
74L121	FLIP-FLOP MONOSTABLE	D-1 8	P DIP 14: 77/77	40C	COMM GBC	FIELD	030C	2250 / 5 10,174,500:	
74L192	COUNTER VOLTAGE	D-1 50	P DIP 16: 77/78	65C	DSPY GBC	FIELD	040C 55XPWR:	6742 / 6 8,764,600:	
74L192	COUNTER VOLTAGE	D-1 50	P DIP 16: 78/79	65C	DSPY GBC	FIELD	040C 55XPWR:	10017 / 1 13,022,100:	
74L193	COUNTER BINARY	D-1 48	P DIP 16: 77/77	55C	COMM GBC	FIELD	030C	4500 / 44 20,349,000:	
74L193	COUNTER BINARY	D-1 48	P DIP 16: 77/78	65C	DSPY GBC	FIELD	040C 55XPWR:	7389 / 5 9,605,700:	
74L193	COUNTER BINARY	D-1 48	P DIP 16: 78/79	65C	DSPY GBC	FIELD	040C 55XPWR:	8738 / 10 11,359,400:	
74L20	GATE	D-1 2	P DIP 14: 77/78	41C	DSPY GBC	FIELD	040C 55XPWR:	12982 / 12 16,876,600:	
74L20	GATE	D-1 2	P DIP 14: 78/79	41C	DSPY GBC	FIELD	040C 55XPWR:	17547 / 3 22,811,100:	

DIGITAL DEVICE DATA

VARIOUS TTL ,LOW POWER		:MANUFACTURER :OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
: PART NO. :	: DEVICE FUNCTION :	: SCR.N. CLASS :	: PACKAGE/ PINS :	: JCT.* TEMP. :	: EQUIP. TYPE :	: DATA CLASS. :	: STRESS LEVEL :	: #TESTED/ #FAILED :	: MPEF REPORT NO. : /QTY FAILED :	
:	: CIRCUIT FUNCTION :	: NO. GATES :	: TEST DATE :	:	: APPL. ENV. :	: TEST TYPE :	:	: PART HOURS :	:	
: 74L30 :	: GATE :	: D-1 :	: P DIP 14 :	: 50C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 3960 / 0 :	: 5,148,000 :	
:	:	: 1 :	: 77/78 :	:	: GBC :	:	:	:	:	
: 74L30 :	: GATE :	: D-1 :	: P DIP 14 :	: 50C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 4216 / 0 :	: 5,480,800 :	
:	:	: 1 :	: 78/79 :	:	: GBC :	:	:	:	:	
: 74L51 :	: GATE :	: D-1 :	: P DIP 14 :	: 40C :	: COMM :	: FIELD :	: 030C :	: 2250 / 8 :	: 10,174,500 :	
:	:	: 6 :	: 77/77 :	:	: GBC :	:	:	:	:	
: 74L51 :	: GATE :	: D-1 :	: P DIP 14 :	: 50C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 14684 / 5 :	: 19,089,200 :	
:	:	: 6 :	: 77/78 :	:	: GBC :	:	:	:	:	
: 74L51 :	: GATE :	: D-1 :	: P DIP 14 :	: 50C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 16795 / 3 :	: 21,833,500 :	
:	:	: 6 :	: 78/79 :	:	: GBC :	:	:	:	:	
: 74L54 :	: GATE :	: D-1 :	: P DIP 14 :	: 50C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 6897 / 2 :	: 8,966,100 :	
:	:	: 5 :	: 77/78 :	:	: GBC :	:	:	:	:	
: 74L54 :	: GATE :	: D-1 :	: P DIP 14 :	: 50C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 6718 / 0 :	: 8,733,400 :	
:	:	: 5 :	: 78/79 :	:	: GBC :	:	:	:	:	
: 74L74 :	: FLIP-FLOP :	: D-1 :	: P DIP 14 :	: 40C :	: COMM :	: FIELD :	: 030C :	: 6750 / 38 :	: 30,523,500 :	
:	: D :	: 12 :	: 77/77 :	:	: GBC :	:	:	:	:	
: 74L85 :	: COMPARATOR :	: NONE :	: N/R DIP 16 :	: 27C :	: COMP :	: FIELD :	: 025C :	: 17 / 0 :	: 326,978 :	
:	:	: 33 :	: 77/79 :	:	: GB :	:	:	:	:	
: 74L85 :	: COMPARATOR :	: NONE :	: N/R DIP 16 :	: 27C :	: COMP :	: FIELD :	: 025C :	: 30 / 0 :	: 596,400 :	
:	:	: 33 :	: 77/79 :	:	: GB :	:	:	:	:	
: 74L86 :	: GATE :	: D-1 :	: P DIP 14 :	: 32C :	: COMM :	: FIELD :	: 030C :	: 2250 / 10 :	: 10,174,500 :	
:	:	: 4 :	: 77/77 :	:	: GBC :	:	:	:	:	
: 74L86 :	: GATE :	: D-1 :	: P DIP 14 :	: 42C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 33991 / 13 :	: 44,188,300 :	
:	:	: 4 :	: 77/78 :	:	: GBC :	:	:	:	:	
: 74L86 :	: GATE :	: D-1 :	: P DIP 14 :	: 42C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 36784 / 17 :	: 47,819,200 :	
:	:	: 4 :	: 78/79 :	:	: GBC :	:	:	:	:	
: 74L93 :	: COUNTER BINARY :	: D-1 :	: P DIP 14 :	: 40C :	: COMM :	: FIELD :	: 030C :	: 2250 / 6 :	: 10,174,500 :	
:	:	: 25 :	: 77/77 :	:	: GBC :	:	:	:	:	
: 74L93 :	: COUNTER BINARY :	: D-1 :	: P DIP 14 :	: 42C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 3539 / 0 :	: 4,600,700 :	
:	:	: 25 :	: 77/78 :	:	: GBC :	:	:	:	:	
: 74L93 :	: COUNTER BINARY :	: D-1 :	: P DIP 14 :	: 42C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 3389 / 2 :	: 4,405,700 :	
:	:	: 25 :	: 78/79 :	:	: GBC :	:	:	:	:	
: 93L08 :	: LATCH :	: D-1 :	: P DIP 24 :	: 50C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 4775 / 5 :	: 6,207,500 :	
:	:	: 60 :	: 77/78 :	:	: GBC :	:	:	:	:	
: 93L08 :	: LATCH :	: D-1 :	: P DIP 24 :	: 50C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 6000 / 3 :	: 7,800,000 :	
:	:	: 60 :	: 78/79 :	:	: GBC :	:	:	:	:	
: 93L09 :	: MULTIPLEXER :	: D-1 :	: P DIP 16 :	: 44C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 26854 / 2 :	: 34,910,200 :	
:	:	: 16 :	: 77/78 :	:	: GBC :	:	:	:	:	
: 93L09 :	: MULTIPLEXER :	: D-1 :	: P DIP 16 :	: 44C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 19506 / 3 :	: 25,357,800 :	
:	:	: 16 :	: 78/79 :	:	: GBC :	:	:	:	:	
: 93L10 :	: COUNTER DECADE :	: D-1 :	: P DIP 16 :	: 48C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 14784 / 6 :	: 19,219,200 :	
:	:	: 38 :	: 77/78 :	:	: GBC :	:	:	:	:	
: 93L10 :	: COUNTER DECADE :	: D-1 :	: P DIP 16 :	: 48C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 14166 / 3 :	: 18,415,800 :	
:	:	: 38 :	: 78/79 :	:	: GBC :	:	:	:	:	
: 93L11 :	: DECODER/DEMULTIPLX :	: D :	: R DIP 24 :	: 60C :	: COMB :	: FIELD :	:	: 240 / 1 :	: 3,040,600 :	
:	:	: 25 :	: 77/78 :	:	: AIT :	:	:	:	:	

DIGITAL DEVICE DATA

VARIOUS
TTL ,LOW POWER

:MANUFACTURER
:OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEP REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
93L12	MULTIPLEXER	D-1	P DIP 16	45C	DSPY	FIELD	040C 55XPWR	31817 / 23	41,362,100
93L12	MULTIPLEXER	D-1	P DIP 16	45C	DSPY	FIELD	040C 55XPWR	37942 / 14	49,324,600
93L18	ENCODER	D-1	P DIP 16	48C	DSPY	FIELD	040C 55XPWR	5714 / 1	7,428,200
93L18	ENCODER	D-1	P DIP 16	48C	DSPY	FIELD	040C 55XPWR	9074 / 3	11,796,200
93L22	MULTIPLEXER	B-1	H FPK 16	75C	RADR	FIELD		528 / 0	601,920
L22	MULTIPLEXER	D-1	P DIP 16	45C	DSPY	FIELD	040C 55XPWR	23633 / 7	30,722,900
93L22	MULTIPLEXER	D-1	P DIP 16	45C	DSPY	FIELD	040C 55XPWR	29646 / 15	38,539,800
93L24	COMPARATOR	B-1	H FPK 16	75C	RADR	FIELD		132 / 0	150,480
93L34	LATCH ADDRESSABLE	D-1	P DIP 16	47C	DSPY	FIELD	040C 55XPWR	524 / 1	681,200
93L34	LATCH ADDRESSABLE	D-1	P DIP 16	47C	DSPY	FIELD	040C 55XPWR	2612 / 1	3,395,600
96L02	FLIP-FLOP MONOSTABLE	D	H DIP 16	60C	COMB	FIELD		252 / 0	2,394,000
96L02	FLIP-FLOP MONOSTABLE	D-1	P DIP 16	52C	DSPY	FIELD	040C 55XPWR	17911 / 10	23,284,300
96L02	FLIP-FLOP MONOSTABLE	D-1	P DIP 16	52C	DSPY	FIELD	040C 55XPWR	17354 / 7	22,560,200

DIGITAL DEVICE DATA

ADVANCED MICRO DEVICES TTL ,LOW POWER/SCHOTTKY		:MANUFACTURER :OPERATIONAL TYPE			RELIABILITY ANALYSIS CENTER					
: PART NO. :	: DEVICE FUNCTION :	: SCR.N. CLASS :	: PACKAGE/ PINS :	: JCT.* TEMP. :	: EQUIP. TYPE :	: DATA CLASS. :	: STRESS LEVEL :	: #TESTED/ #FAILED :	: MFEF REPORT NO. : /QTY FAILED :	
:	: CIRCUIT FUNCTION :	: NO. GATES :	: TEST DATE :	:	: APPL. ENV. :	: TEST TYPE :	:	: PART HOURS :	:	
: 25LS07 :	: REGISTER :	: X :	: P DIP 16 :	: 32C :	: COM :	: FIELD :	: 025C :	: 1000 / 0 :	: :	
:	: D :	: 38 :	: 77/78 :	:	: GBC :	:	:	: 4,320,000 :	:	
: 25LS08 :	: REGISTER :	: D-1 :	: P DIP 16 :	: 45C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 46 / 0 :	: :	
:	: D :	: 26 :	: 77/78 :	:	: GBC :	:	:	: 59,800 :	:	
: 25LS138 :	: DECODER/DEMULTIPLX :	: X :	: P DIP 16 :	: 28C :	: COMP :	: FIELD :	: 025C :	: 500 / 0 :	: :	
:	:	: 16 :	: 77/78 :	:	: GBC :	:	:	: 2,160,000 :	:	
: 25LS139 :	: DECODER/DEMULTIPLX :	: X :	: P DIP 16 :	: 28C :	: COMP :	: FIELD :	: 025C :	: 500 / 0 :	: :	
:	:	: 18 :	: 77/78 :	:	: GBC :	:	:	: 2,160,000 :	:	
: 25LS14 :	: MULTIPLIER :	: D :	: H DIP 16 :	: 50C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 4 / 0 :	: :	
:	:	: N/R :	: 77/78 :	:	: GBC :	:	:	: 5,200 :	:	
: 25LS14 :	: MULTIPLIER :	: D :	: H DIP 16 :	: 50C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 825 / 0 :	: :	
:	:	: N/R :	: 78/79 :	:	: GBC :	:	:	: 1,072,500 :	:	
: 25LS14 :	: MULTIPLIER :	: X :	: P DIP 16 :	: 35C :	: COMP :	: FIELD :	: 025C :	: 1000 / 0 :	: :	
:	:	: N/R :	: 77/78 :	:	: GBC :	:	:	: 4,320,000 :	:	
: 25LS153 :	: MULTIPLEXER :	: X :	: P DIP 16 :	: 28C :	: COMP :	: FIELD :	: 025C :	: 500 / 0 :	: :	
:	:	: 16 :	: 77/78 :	:	: GBC :	:	:	: 2,160,000 :	:	
: 25LS160 :	: COUNTER DECADE :	: D-1 :	: P DIP 16 :	: 48C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 174 / 0 :	: :	
:	:	: 60 :	: 77/78 :	:	: GBC :	:	:	: 226,200 :	:	
: 25LS160 :	: COUNTER DECADE :	: D-1 :	: P DIP 16 :	: 48C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 3992 / 3 :	: :	
:	:	: 60 :	: 78/79 :	:	: GBC :	:	:	: 5,189,600 :	:	
: 25LS163 :	: COUNTER BINARY :	: X :	: P DIP 16 :	: 34C :	: COMP :	: FIELD :	: 025C :	: 500 / 0 :	: :	
:	:	: 60 :	: 77/78 :	:	: GBC :	:	:	: 2,160,000 :	:	
: 25LS194 :	: SHIFT REG :	: X :	: P DIP 16 :	: 32C :	: COMP :	: FIELD :	: 025C :	: 500 / 0 :	: :	
:	:	: 47 :	: 77/78 :	:	: GBC :	:	:	: 2,160,000 :	:	
: 25LS374 :	: REGISTER :	: X :	: P DIP 20 :	: 37C :	: COMP :	: FIELD :	: 025C :	: 750 / 0 :	: :	
:	:	: 58 :	: 77/78 :	:	: GBC :	:	:	: 3,240,000 :	:	
: 74LS148 :	: ENCODER :	: D-1 :	: P DIP 16 :	: 45C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 58 / 0 :	: :	
:	:	: 29 :	: 77/78 :	:	: GBC :	:	:	: 75,400 :	:	
: 74LS148 :	: ENCODER :	: D-1 :	: P DIP 16 :	: 45C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 490 / 0 :	: :	
:	:	: 29 :	: 78/79 :	:	: GBC :	:	:	: 637,000 :	:	
: 74LS374 :	: REGISTER :	: D-1 :	: P DIP 20 :	: 52C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 968 / 0 :	: :	
:	:	: 58 :	: 77/78 :	:	: GBC :	:	:	: 1,258,400 :	:	
: 74LS374 :	: REGISTER :	: D-1 :	: P DIP 20 :	: 52C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 14429 / 0 :	: :	
:	:	: 58 :	: 78/79 :	:	: GBC :	:	:	: 18,757,700 :	:	

FAIRCHILD SEMI TTL ,LOW POWER/SCHOTTKY		:MANUFACTURER :OPERATIONAL TYPE			RELIABILITY ANALYSIS CENTER					
: PART NO. :	: DEVICE FUNCTION :	: SCR.N. CLASS :	: PACKAGE/ PINS :	: JCT.* TEMP. :	: EQUIP. TYPE :	: DATA CLASS. :	: STRESS LEVEL :	: #TESTED/ #FAILED :	: MFEF REPORT NO. : /QTY FAILED :	
:	: CIRCUIT FUNCTION :	: NO. GATES :	: TEST DATE :	:	: APPL. ENV. :	: TEST TYPE :	:	: PART HOURS :	:	
: 74LS390 :	: COUNTER DECADE :	: D-1 :	: P DIP 16 :	: 50C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 583 / 0 :	: :	
:	:	: 70 :	: 77/78 :	:	: GBC :	:	:	: 757,900 :	:	

DIGITAL DEVICE DATA

NATIONAL SEMI TTL ,LOW POWER/SCHOTTKY		:MANUFACTURER :OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
: PART : NO.	: DEVICE : FUNCTION	: SCR.N. : CLASS	: PACKAGE/ : PINS	: JCT.* : TEMP.	: EQUIP. : TYPE	: DATA : CLASS.	: STRESS : LEVEL	: #TESTED/ : #FAILED	: MPEF REPORT NO. : /QTY FAILED	
:	: CIRCUIT : FUNCTION	: NO. : GATES	: TEST : DATE	:	: APPL. : ENV.	: TEST : TYPE	:	: PART : HOURS	:	
: 74LS190	: COUNTER	: D-1	: P DIP 16:	: 50C	: DSPY	: FIELD	: 040C 55XPWR:	: 17177 / 1	:	
:	: DECADE	: 70	: 78/79	:	: GBC	:	:	: 22,330,100:	:	
: 74LS193	: COUNTER	: D-1	: P DIP 14:	: 50C	: DSPY	: FIELD	: 040C 55XPWR:	: 436 / 1	:	
:	: BINARY	: 66	: 77/78	:	: GBC	:	:	: 566,800:	:	
: 74LS193	: COUNTER	: D-1	: P DIP 14:	: 50C	: DSPY	: FIELD	: 040C 55XPWR:	: 8573 / 0	:	
:	: BINARY	: 66	: 78/79	:	: GBC	:	:	: 11,144,900:	:	

NATIONAL SEMI TTL ,LOW POWER/SCHOTTKY		:MANUFACTURER :OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
: PART : NO.	: DEVICE : FUNCTION	: SCR.N. : CLASS	: PACKAGE/ : PINS	: JCT.* : TEMP.	: EQUIP. : TYPE	: DATA : CLASS.	: STRESS : LEVEL	: #TESTED/ : #FAILED	: MPEF REPORT NO. : /QTY FAILED	
:	: CIRCUIT : FUNCTION	: NO. : GATES	: TEST : DATE	:	: APPL. : ENV.	: TEST : TYPE	:	: PART : HOURS	:	
: 74LS173	: REGISTER	: D-1	: P DIP 16:	: 48C	: DSPY	: FIELD	: 040C 55XPWR:	: 3756 / 0	:	
:	: D	: 45	: 77/78	:	: GBC	:	:	: 4,882,800:	:	
: 74LS173	: REGISTER	: D-1	: P DIP 16:	: 48C	: DSPY	: FIELD	: 040C 55XPWR:	: 10090 / 1	:	
:	: D	: 45	: 78/79	:	: GBC	:	:	: 13,117,000:	:	
: 81LS95	: BUFFER	: D-1	: P DIP 20:	: 46C	: DSPY	: FIELD	: 040C 55XPWR:	: 173 / 0	:	
:	:	: 9	: 77/78	:	: GBC	:	:	: 224,900:	:	
: 81LS95	: BUFFER	: D-1	: P DIP 20:	: 46C	: DSPY	: FIELD	: 040C 55XPWR:	: 1706 / 0	:	
:	:	: 9	: 78/79	:	: GBC	:	:	: 2,217,800:	:	
: 81LS96	: BUFFER	: D-1	: P DIP 20:	: 46C	: DSPY	: FIELD	: 040C 55XPWR:	: 16 / 0	:	
:	:	: 9	: 77/78	:	: GBC	:	:	: 20,800:	:	
: 81LS96	: BUFFER	: D-1	: P DIP 20:	: 46C	: DSPY	: FIELD	: 040C 55XPWR:	: 3300 / 0	:	
:	:	: 9	: 78/79	:	: GBC	:	:	: 4,290,000:	:	
: 81LS97	: BUFFER	: D-1	: P DIP 20:	: 46C	: DSPY	: FIELD	: 040C 55XPWR:	: 1545 / 0	:	
:	:	: 10	: 77/78	:	: GBC	:	:	: 2,008,500:	:	
: 81LS97	: BUFFER	: D-1	: P DIP 20:	: 46C	: DSPY	: FIELD	: 040C 55XPWR:	: 26255 / 3	:	
:	:	: 10	: 78/79	:	: GBC	:	:	: 34,131,500:	:	
: 81LS98	: BUFFER	: D-1	: P DIP 20:	: 46C	: DSPY	: FIELD	: 040C 55XPWR:	: 129 / 0	:	
:	:	: 10	: 77/78	:	: GBC	:	:	: 167,700:	:	
: 81LS98	: BUFFER	: D-1	: P DIP 20:	: 46C	: DSPY	: FIELD	: 040C 55XPWR:	: 5695 / 0	:	
:	:	: 10	: 78/79	:	: GBC	:	:	: 7,403,500:	:	

SIGNETICS TTL ,LOW POWER/SCHOTTKY		:MANUFACTURER :OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
: PART : NO.	: DEVICE : FUNCTION	: SCR.N. : CLASS	: PACKAGE/ : PINS	: JCT.* : TEMP.	: EQUIP. : TYPE	: DATA : CLASS.	: STRESS : LEVEL	: #TESTED/ : #FAILED	: MPEF REPORT NO. : /QTY FAILED	
:	: CIRCUIT : FUNCTION	: NO. : GATES	: TEST : DATE	:	: APPL. : ENV.	: TEST : TYPE	:	: PART : HOURS	:	
: 54LS04	: INVERTER	: X	: H DIP 14:	: 127C	: NR	: LIFE	: 125C	: 144 / 0	:	
:	:	: 6	: 77/77	:	: N/R	: OP DYN	:	: 144,000:	:	

DIGITAL DEVICE DATA

SIGNETICS TTL ,LOW POWER/SCHOTTKY		MANUFACTURER OPERATIONAL TYPE			RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO.: /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
						LIFE		144 / 0		
						EM				
54LS05	INVERTER	X	H DIP 14: 77/77	127C	NR N/R	LIFE OP DYN	125C	134 / 0 134,000		
		6				LIFE		134 / 0		
						EM				
54LS10	GATE	X	H DIP 14: 77/77	126C	NR N/R	LIFE OP DYN	125C	134 / 0 134,000		
		3				LIFE		134 / 0		
						EM				
54LS12	GATE	X	H DIP 14: 77/77	126C	NR N/R	LIFE OP DYN	125C	134 / 0 134,000		
		3				LIFE		134 / 0		
						EM				
54LS20	GATE	X	H DIP 14: 77/77	126C	NR N/R	LIFE OP DYN	125C	76 / 0 76,000		
		2				LIFE		76 / 0		
						EM				
54LS22	GATE	X	H DIP 14: 77/77	126C	NR N/R	LIFE OP DYN	125C	75 / 0 75,000		
		2				LIFE		75 / 0		
						EM				
54LS30	GATE	X	H DIP 14: 77/77	126C	NR N/R	LIFE OP DYN	125C	134 / 0 134,000		
		1				LIFE		134 / 0		
						EM				
54LS51	GATE	X	H DIP 14: 77/77	126C	NR N/R	LIFE OP DYN	125C	134 / 0 134,000		
		6				LIFE		134 / 0		
						EM				
74LS00	GATE	D	H DIP 14: 77/77	126C	NR N/R	LIFE OP DYN	125C	56 / 0 56,000		
		4				LIFE		56 / 0		
						EM				
74LS00	GATE	D	H DIP 14: 77/77	151C	NR N/R	LIFE STGLIFE	150C	56 / 0 56,000		
		4				LIFE		56 / 0		
						EM				
74LS00	GATE	D-1	P DIP 14: 77/77	127C	NR N/R	LIFE OP DYN	125C	95 / 0 95,000		
		4				LIFE		95 / 0		
						EM				
74LS00	GATE	D-1	P DIP 14: 77/77	127C	NR N/R	LIFE OP DYN	125C	83 / 0 84,000		
		4				LIFE		83 / 1	2284 / 1	
						EM				

DIGITAL DEVICE DATA

SIGNETICS TTL ,LOW POWER/SCHOTTKY		MANUFACTURER OPERATIONAL TYPE			RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
74LS00	GATE	D-1 4	P DIP 14 77/77	127C	NR N/R	LIFE OP DYN	125C	77 / 0 78,000		
						LIFE EM		77 / 0		
74LS00	GATE	D-1 4	P DIP 14 77/77	152C	NR N/R	LIFE STGLIFE	150C	184 / 0 184,000		
						LIFE EM		184 / 0		
74LS04	INVERTER	D 6	H DIP 14 77/77	152C	NR N/R	LIFE STGLIFE	150C	60 / 0 47,000		
						LIFE EM		60 / 1	2285/ 1	
74LS04	INVERTER	D-1 6	P DIP 14 77/77	127C	NR N/R	LIFE OP DYN	125C	48 / 0 242,000		
						LIFE EM		48 / 0		
74LS04	INVERTER	D-1 6	P DIP 14 77/77	152C	NR N/R	LIFE STGLIFE	150C	48 / 0 387,000		
						LIFE EM		48 / 1	2286/ 1	
74LS10	GATE	D-1 3	P DIP 14 77/77	126C	NR N/R	LIFE OP DYN	125C	100 / 0 100,000		
						LIFE EM		100 / 0		
74LS161	COUNTER BINARY	D-1 57	P DIP 16 77/77	139C	NR N/R	LIFE OP DYN	125C	81 / 0 82,000		
						LIFE EM		81 / 0		
74LS161	COUNTER BINARY	D-1 57	P DIP 16 77/77	164C	NR N/R	LIFE STGLIFE	150C	46 / 0 46,000		
						LIFE EM		46 / 0		
74LS20	GATE	D 2	H DIP 14 77/77	126C	NR N/R	LIFE OP DYN	125C	46 / 0 46,000		
						LIFE EM		46 / 1	2287/ 1	
74LS20	GATE	D 2	H DIP 14 77/77	151C	NR N/R	LIFE STGLIFE	150C	46 / 0 46,000		
						LIFE EM		46 / 0		
74LS38	GATE	D-1 4	P DIP 14 77/77	28C	INTR GBC	CHECK OPERATE	025C	2 / 0 880		
74LS40	BUFFER	D-1 2	P DIP 14 77/77	127C	NR N/R	LIFE OP DYN	125C	46 / 0 46,000		
						LIFE EM		46 / 1	2288/ 1	

DIGITAL DEVICE DATA

SIGNETICS TTL ,LOW POWER/SCHOTTKY		:MANUFACTURER :OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. :/QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TFST TYPE		PART HOURS		
74LS40	BUFFER	D-1 2	P DIP 14 77/77	152C	NR	LIFE STGLIFE	150C	46 / 0 46,000		
74LS74	FLIP-FLOP D	D-1 12	P DIP 14 77/77	154C	NR	LIFE STGLIFE	150C	92 / 0 92,000		

TEXAS INSTRUMENTS TTL ,LOW POWER/SCHOTTKY		:MANUFACTURER :OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. :/QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
54LS00	GATE	D 4	H DIP 14 77/78	41C	DSPY GBC	FIELD	040C 55%PWR	738 / 0 959,400		
54LS00	GATE	D 4	H DIP 14 78/79	41C	DSPY GBC	FIELD	040C 55%PWR	676 / 1 878,800		
54LS02	GATE	D 4	H DIP 14 77/78	41C	DSPY GBC	FIELD	040C 55%PWR	372 / 0 93,600		
54LS10	GATE	D 3	H DIP 14 78/79	41C	DSPY GBC	FIELD	040C 55%PWR	40 / 0 52,000		
54LS221	FLIP-FLOP MONOSTABLE	D 16	H DIP 16 77/78	46C	DSPY GBC	FIELD	040C 55%PWR	26 / 0 33,800		
54LS221	FLIP-FLOP MONOSTABLE	D 16	H DIP 16 78/79	46C	DSPY GBC	FIELD	040C 55%PWR	333 / 0 432,900		
54LS27	GATE	D 3	H DIP 14 77/78	42C	DSPY GBC	FIELD	040C 55%PWR	738 / 0 959,400		
54LS27	GATE	D 3	H DIP 14 78/79	42C	DSPY GBC	FIELD	040C 55%PWR	676 / 0 878,800		
54LS30	GATE	D 1	H DIP 14 78/79	41C	DSPY GBC	FIELD	040C 55%PWR	40 / 0 52,000		
54LS74	FLIP-FLOP D	D 12	H DIP 14 77/78	42C	DSPY GBC	FIELD	040C 55%PWR	26 / 0 33,800		
54LS74	FLIP-FLOP D	D 12	H DIP 14 78/79	42C	DSPY GBC	FIELD	040C 55%PWR	333 / 7 432,900		
74LS00	GATE	D-1 4	P DIP 14 77/78	41C	DSPY GBC	FIELD	040C 55%PWR	99999 / 42 250,589,300		
74LS00	GATE	D-1 4	P DIP 14 78/79	41C	DSPY GBC	FIELD	040C 55%PWR	92762 / 0 465,285,600		

DIGITAL DEVICE DATA

TEXAS INSTRUMENTS
TTL, LOW POWER/SCHOTTKY

MANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TFMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
						FIELD		99999 / 0	
						FIELD		99999 / 0	
						FIELD		57915 / 0	
74LS00	GATE	D-1 4	P DIP 14 78/79	41C	DSPY GBC	FIELD	040C 55XPWR	191 / 0 248,300	
74LS03	GATE	D-1 4	P DIP 14 77/78	41C	DSPY GBC	FIELD	040C 55XPWR	76899 / 15 99,968,700	
74LS03	GATE	D-1 4	P DIP 14 78/79	41C	DSPY GBC	FIELD	040C 55XPWR	99999 / 29 158,203,500	
						FIELD		21696 / 0	
74LS04	INVERTER	D-1 6	P DIP 14 77/78	42C	DSPY GBC	FIELD	040C 55XPWR	99999 / 25 173,247,100	
						FIELD		33268 / 0	
74LS04	INVERTER	D-1 6	P DIP 14 78/79	42C	DSPY GBC	FIELD	040C 55XPWR	99999 / 41 347,230,000	
						FIELD		99999 / 0	
						FIELD		67102 / 0	
74LS04	INVERTER	D-1 6	P DIP 14 78/79	42C	DSPY GBC	FIELD	040C 55XPWR	702 / 0 912,600	
74LS05	INVERTER	D-1 6	P DIP 14 77/78	42C	DSPY GBC	FIELD	040C 55XPWR	32877 / 11 42,740,100	
74LS05	INVERTER	D-1 6	P DIP 14 78/79	42C	DSPY GBC	FIELD	040C 55XPWR	50665 / 25 61,864,500	
74LS08	GATE	D-1 4	P DIP 14 77/78	42C	DSPY GBC	FIELD	040C 55XPWR	71686 / 5 93,191,800	
74LS08	GATE	D-1 4	P DIP 14 78/79	42C	DSPY GBC	FIELD	040C 55XPWR	99999 / 14 175,786,000	
						FIELD		35221 / 0	
74LS09	GATE	D-1 4	P DIP 14 77/78	42C	DSPY GBC	FIELD	040C 55XPWR	2407 / 2 3,129,100	
74LS09	GATE	D-1 4	P DIP 14 78/79	42C	DSPY GBC	FIELD	040C 55XPWR	5323 / 2 6,919,900	
74LS107	FLIP-FLOP JK	D-1 16	P DIP 14 77/78	43C	DSPY GBC	FIELD	040C 55XPWR	65 / 0 84,500	
74LS107	FLIP-FLOP JK	D-1 16	P DIP 14 78/79	43C	DSPY GBC	FIELD	040C 55XPWR	1890 / 0 2,457,000	
74LS109	FLIP-FLOP JK	D-1 16	P DIP 16 77/78	42C	DSPY GBC	FIELD	040C 55XPWR	9162 / 1 11,910,600	

DIGITAL DEVICE DATA

TEXAS INSTRUMENTS
TTL ,LOW POWER/SCHOTTKY

MANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFFF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
74LS109	FLIP-FLOP JK	D-1 16	P DIP 78/79	16 42C	DSPY GBC	FIELD	040C 55%PWR	33431 / 6 43,460,300	
74LS12	GATE	D-1 3	P DIP 77/78	14 41C	DSPY GBC	FIELD	040C 55%PWR	1005 / 0 1,306,500	
74LS12	GATE	D-1 3	P DIP 78/79	14 41C	DSPY GBC	FIELD	040C 55%PWR	5651 / 0 7,346,300	
74LS122	FLIP-FLOP MONOSTABLE	D-1 10	P DIP 77/78	14 44C	DSPY GBC	FIELD	040C 55%PWR	4716 / 3 6,130,800	
74LS122	FLIP-FLOP MONOSTABLE	D-1 10	P DIP 78/79	14 44C	DSPY GBC	FIELD	040C 55%PWR	13730 / 9 17,849,000	
74LS123	FLIP-FLOP MONOSTABLE	D-1 20	P DIP 77/78	16 46C	DSPY GBC	FIELD	040C 55%PWR	15234 / 12 19,804,200	
74LS123	FLIP-FLOP MONOSTABLE	D-1 20	P DIP 78/79	16 46C	DSPY GBC	FIELD	040C 55%PWR	52253 / 11 67,928,900	
74LS124	VOLT CONTROL OSC	D-1 N/R	P DIP 78/79	16 50C	DSPY GBC	FIELD	040C 55%PWR	3 / 0 3,900	
74LS125	BUFFER	D-1 4	P DIP 77/78	14 46C	DSPY GBC	FIELD	040C 55%PWR	23065 / 8 30,764,500	
74LS125	BUFFER	D-1 4	P DIP 78/79	14 46C	DSPY GBC	FIELD	040C 55%PWR	33860 / 6 44,018,000	
74LS126	BUFFER	D-1 4	P DIP 78/79	14 47C	DSPY GBC	FIELD	040C 55%PWR	126 / 0 163,800	
74LS13	GATE SCHMITT TRIGGER	D-1 2	P DIP 77/78	14 42C	DSPY GBC	FIELD	040C 55%PWR	3396 / 0 4,414,800	
74LS13	GATE SCHMITT TRIGGER	D-1 2	P DIP 78/79	14 42C	DSPY GBC	FIELD	040C 55%PWR	9128 / 0 11,866,400	
74LS132	GATE SCHMITT TRIGGER	D-1 4	P DIP 77/78	14 44C	DSPY GBC	FIELD	040C 55%PWR	9944 / 7 12,927,200	
74LS132	GATE SCHMITT TRIGGER	D-1 4	P DIP 78/79	14 44C	DSPY GBC	FIELD	040C 55%PWR	71400 / 18 92,820,000	
74LS14	INVERTER SCHMITT TRIGGER	D-1 6	P DIP 77/78	14 46C	DSPY GBC	FIELD	040C 55%PWR	29177 / 2 37,930,100	
74LS14	INVERTER SCHMITT TRIGGER	D-1 6	P DIP 78/79	14 46C	DSPY GBC	FIELD	040C 55%PWR	70802 / 19 92,042,600	
74LS145	INTERFACE DECODER/DRIVER	D-1 18	P DIP 77/78	16 44C	DSPY GBC	FIELD	040C 55%PWR	473 / 0 614,900	
74LS145	INTERFACE DECODER/DRIVER	D-1 18	P DIP 78/79	16 44C	DSPY GBC	FIELD	040C 55%PWR	2030 / 2 2,639,000	
74LS153	MULTIPLEXER	D-1 16	P DIP 77/78	16 43C	DSPY GBC	FIELD	040C 55%PWR	7997 / 0 10,396,100	
74LS153	MULTIPLEXER	D-1 16	P DIP 78/79	16 43C	DSPY GBC	FIELD	040C 55%PWR	32807 / 3 42,649,100	
74LS155	DECODER/DEMUTIPLEX	D-1 15	P DIP 77/78	16 43C	DSPY GBC	FIELD	040C 55%PWR	8088 / 2 10,514,400	
74LS155	DECODER/DEMUTIPLEX	D-1 15	P DIP 78/79	16 43C	DSPY GBC	FIELD	040C 55%PWR	12009 / 1 15,611,700	

DIGITAL DEVICE DATA

TEXAS INSTRUMENTS TTL LOW POWER/SCHOTTKY		MANUFACTURER :OPFRATIONAL TYFF			RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPF REPORT NO. :/QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
74LS156	DECODER/DEMULTIPLX	D-1 : 15	P DIP 16 : 77/78	43C	DSPY : GBC	FIELD	040C 55XPWR	46 / 0 : 59,800:		
74LS156	DECODER/DEMULTIPLX	D-1 : 15	P DIP 16 : 78/79	43C	DSPY : GBC	FIELD	040C 55XPWR	1213 / 0 : 1,576,900:		
74LS158	MULTIPLEXER	D-1 : 15	P DIP 16 : 77/78	43C	DSPY : GBC	FIELD	040C 55XPWR	2185 / 0 : 2,840,500:		
74LS158	MULTIPLEXER	D-1 : 15	P DIP 16 : 78/79	43C	DSPY : GBC	FIELD	040C 55XPWR	9989 / 0 : 12,985,700:		
74LS162	COUNTER DECADE	D-1 : 62	P DIP 16 : 77/78	49C	DSPY : GBC	FIELD	040C 55XPWR	89 / 0 : 115,700:		
74LS162	COUNTER DECADE	D-1 : 62	P DIP 16 : 78/79	49C	DSPY : GBC	FIELD	040C 55XPWR	1064 / 0 : 1,383,200:		
74LS163	COUNTER BINARY	D-1 : 54	P DIP 16 : 77/78	49C	DSPY : GBC	FIELD	040C 55XPWR	14325 / 3 : 18,622,500:		
74LS163	COUNTER BINARY	D-1 : 54	P DIP 16 : 78/79	49C	DSPY : GBC	FIELD	040C 55XPWR	37693 / 3 : 49,000,900:		
74LS164	SHIFT REG	D-1 : 36	P DIP 14 : 77/78	49C	DSPY : GBC	FIELD	040C 55XPWR	10495 / 4 : 13,643,500:		
74LS164	SHIFT REG	D-1 : 36	P DIP 14 : 78/79	49C	DSPY : GBC	FIELD	040C 55XPWR	82221 / 5 : 106,887,300:		
74LS165	SHIFT REG	D-1 : 62	P DIP 16 : 77/78	50C	DSPY : GBC	FIELD	040C 55XPWR	3 / 0 : 3,900:		
74LS165	SHIFT REG	D-1 : 62	P DIP 16 : 78/79	50C	DSPY : GBC	FIELD	040C 55XPWR	999 / 0 : 1,298,700:		
74LS169	COUNTER BINARY	D-1 : 60	P DIP 16 : 77/78	50C	DSPY : GBC	FIELD	040C 55XPWR	950 / 0 : 1,235,000:		
74LS169	COUNTER BINARY	D-1 : 60	P DIP 16 : 78/79	50C	DSPY : GBC	FIELD	040C 55XPWR	11764 / 4 : 15,293,200:		
74LS181	LOGIC UNIT ARITHMETIC	D-1 : 63	P DIP 24 : 77/78	48C	DSPY : GBC	FIELD	040C 55XPWR	10291 / 2 : 13,378,300:		
74LS181	LOGIC UNIT ARITHMETIC	D-1 : 63	P DIP 24 : 78/79	48C	DSPY : GBC	FIELD	040C 55XPWR	18986 / 10 : 24,681,800:		
74LS190	COUNTER BCD	D-1 : 62	P DIP 16 : 77/78	50C	DSPY : GBC	FIELD	040C 55XPWR	12161 / 5 : 15,809,300:		
74LS190	COUNTER BCD	D-1 : 62	P DIP 16 : 78/79	50C	DSPY : GBC	FIELD	040C 55XPWR	33301 / 0 : 43,291,300:		
74LS191	COUNTER BINARY	D-1 : 60	P DIP 16 : 77/78	70C	DSPY : GBC	FIELD	040C 55XPWR	2440 / 0 : 3,172,000:		
74LS191	COUNTER BINARY	D-1 : 60	P DIP 16 : 78/79	70C	DSPY : GBC	FIELD	040C 55XPWR	10782 / 0 : 14,016,600:		
74LS192	COUNTER BCD	D-1 : 50	P DIP 16 : 77/78	49C	DSPY : GBC	FIELD	040C 55XPWR	12534 / 6 : 16,294,200:		
74LS192	COUNTER BCD	D-1 : 50	P DIP 16 : 78/79	49C	DSPY : GBC	FIELD	040C 55XPWR	15064 / 4 : 19,583,200:		
74LS195A	SHIFT REG	D-1 : 41	P DIP 16 : 77/78	47C	DSPY : GBC	FIELD	040C 55XPWR	8618 / 2 : 11,203,400:		

DIGITAL DEVICE DATA

TEXAS INSTRUMENTS TTL, LOW POWER/SCHOTTKY		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFFF REPORT NO. /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
74LS195A	SHIFT REG	D-1 41	P DIP 16: 78/79	47C	DSPY GBC	FIELD	040C 55XPWR	24522 / 2 31,878,600		
74LS196	COUNTER DECADE	D-1 39	P DIP 14: 77/78	49C	DSPY GBC	FIELD	040C 55XPWR	15629 / 4 20,317,700		
74LS196	COUNTER DECADE	D-1 39	P DIP 14: 78/79	49C	DSPY GBC	FIELD	040C 55XPWR	30941 / 9 40,223,300		
74LS197	COUNTER BINARY	D-1 34	P DIP 14: 77/78	49C	DSPY GBC	FIELD	040C 55XPWR	777 / 0 1,010,100		
74LS197	COUNTER BINARY	D-1 34	P DIP 14: 78/79	49C	DSPY GBC	FIELD	040C 55XPWR	8837 / 0 11,488,100		
74LS22	GATE	D-1 2	P DIP 14: 77/78	41C	DSPY GBC	FIELD	040C 55XPWR	6 / 0 7,800		
74LS22	GATE	D-1 2	P DIP 14: 78/79	41C	DSPY GBC	FIELD	040C 55XPWR	619 / 0 804,700		
74LS221	FLIP-FLOP MONOSTABLE	D-1 16	P DIP 16: 77/78	46C	DSPY GBC	FIELD	040C 55XPWR	2548 / 1 3,313,700		
74LS221	FLIP-FLOP MONOSTABLE	D-1 16	P DIP 16: 78/79	46C	DSPY GBC	FIELD	040C 55XPWR	7839 / 5 10,190,700		
74LS251	MULTIPLEXER	D-1 17	P DIP 16: 77/78	43C	DSPY GBC	FIELD	040C 55XPWR	1612 / 0 2,095,600		
74LS251	MULTIPLEXER	D-1 17	P DIP 16: 78/79	43C	DSPY GBC	FIELD	040C 55XPWR	12467 / 4 16,207,100		
74LS253	MULTIPLEXER	D-1 16	P DIP 16: 77/78	44C	DSPY GBC	FIELD	040C 55XPWR	3411 / 0 4,434,300		
74LS253	MULTIPLEXER	D-1 16	P DIP 16: 78/79	44C	DSPY GBC	FIELD	040C 55XPWR	43437 / 3 56,468,100		
74LS257	MULTIPLEXER	D-1 15	P DIP 16: 77/78	45C	DSPY GBC	FIELD	040C 55XPWR	2822 / 1 3,668,600		
74LS257	MULTIPLEXER	D-1 15	P DIP 16: 78/79	45C	DSPY GBC	FIELD	040C 55XPWR	10972 / 7 14,263,600		
74LS258	MULTIPLEXER	D-1 15	P DIP 16: 77/78	44C	DSPY GBC	FIELD	040C 55XPWR	8611 / 0 11,194,300		
74LS258	MULTIPLEXER	D-1 15	P DIP 16: 78/79	44C	DSPY GBC	FIELD	040C 55XPWR	18485 / 2 24,030,500		
74LS259	LATCH ADDRESSABLE	D-1 N/R	P DIP 16: 77/78	50C	DSPY GBC	FIELD	040C 55XPWR	5020 / 2 6,526,000		
74LS259	LATCH ADDRESSABLE	D-1 N/R	P DIP 16: 78/79	50C	DSPY GBC	FIELD	040C 55XPWR	12326 / 1 16,023,800		
74LS26	INTERFACE TRANSLATOR	D-1 4	P DIP 14: 77/78	41C	DSPY GBC	FIELD	040C 55XPWR	146 / 0 189,800		
74LS26	INTERFACE TRANSLATOR	D-1 4	P DIP 14: 78/79	41C	DSPY GBC	FIELD	040C 55XPWR	1667 / 0 2,167,100		
74LS266	GATE	D-1 4	P DIP 14: 77/78	45C	DSPY GBC	FIELD	040C 55XPWR	1941 / 3 2,523,300		
74LS266	GATE	D-1 4	P DIP 14: 78/79	45C	DSPY GBC	FIELD	040C 55XPWR	5258 / 1 6,835,400		

DIGITAL DEVICE DATA

TEXAS INSTRUMENTS
TTL ,LOW POWER/SCHOTTKY

MANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO./QTY FAILED
	CIRCUIT FUNCTION	NO. CATFS	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
74LS273	FLIP-FLOP D	D-1 50	P DIP 20 77/78	48C	DSPY GBC	FIELD	040C 55XPWR	4411 / 0 5,734,300	
74LS273	FLIP-FLOP D	D-1 50	P DIP 20 78/79	48C	DSPY GBC	FIELD	040C 55XPWR	56011 / 10 72,814,300	
74LS279	LATCH RS	D-1 8	P DIP 16 77/78	42C	DSPY GBC	FIELD	040C 55XPWR	1727 / 0 2,245,100	
74LS279	LATCH RS	D-1 8	P DIP 16 78/79	42C	DSPY GBC	FIELD	040C 55XPWR	14271 / 3 18,552,300	
74LS28	BUFFER	D-1 4	P DIP 14 77/78	43C	DSPY GBC	FIELD	040C 55XPWR	2800 / 0 3,640,000	
74LS28	BUFFER	D-1 4	P DIP 14 78/79	43C	DSPY GBC	FIELD	040C 55XPWR	5047 / 0 6,561,100	
74LS283	ADDER FULL	D-1 42	P DIP 16 77/78	50C	DSPY GBC	FIELD	040C 55XPWR	7152 / 0 9,297,600	
74LS283	ADDER FULL	D-1 42	P DIP 16 78/79	50C	DSPY GBC	FIELD	040C 55XPWR	28481 / 0 37,025,300	
74LS290	COUNTER DECADE	D-1 19	P DIP 14 77/78	45C	DSPY GBC	FIELD	040C 55XPWR	27574 / 12 35,846,200	
74LS290	COUNTER DECADE	D-1 19	P DIP 14 78/79	45C	DSPY GBC	FIELD	040C 55XPWR	34801 / 5 45,241,300	
74LS293	COUNTER BINARY	D-1 25	P DIP 14 77/78	45C	DSPY GBC	FIELD	040C 55XPWR	2145 / 1 2,788,500	
74LS293	COUNTER BINARY	D-1 25	P DIP 14 78/79	45C	DSPY GBC	FIELD	040C 55XPWR	10456 / 0 13,592,800	
74LS295A	SHIFT REG	D-1 48	P DIP 14 77/78	47C	DSPY GBC	FIELD	040C 55XPWR	1239 / 0 1,610,700	
74LS295A	SHIFT REG	D-1 48	P DIP 14 78/79	47C	DSPY GBC	FIELD	040C 55XPWR	1830 / 1 2,379,000	
74LS298	MULTIPLEXER	D-1 51	P DIP 16 77/78	46C	DSPY GBC	FIELD	040C 55XPWR	5841 / 1 7,593,300	
74LS298	MULTIPLEXER	D-1 51	P DIP 16 78/79	46C	DSPY GBC	FIELD	040C 55XPWR	16280 / 2 21,164,000	
74LS30	GATE	D-1 1	P DIP 14 77/78	41C	DSPY GBC	FIELD	040C 55XPWR	13710 / 1 17,823,000	
74LS30	GATE	D-1 1	P DIP 14 78/79	41C	DSPY GBC	FIELD	040C 55XPWR	37523 / 3 48,779,900	
74LS33	BUFFER	D-1 4	P DIP 14 77/78	43C	DSPY GBC	FIELD	040C 55XPWR	484 / 0 629,200	
74LS33	BUFFER	D-1 4	P DIP 14 78/79	43C	DSPY GBC	FIELD	040C 55XPWR	3191 / 0 4,148,300	
74LS366	INTERFACE BUS DRIVER	D-1 7	P DIP 16 77/78	46C	DSPY GBC	FIELD	040C 55XPWR	36 / 0 46,800	
74LS366	INTERFACE BUS DRIVER	D-1 7	P DIP 16 78/79	46C	DSPY GBC	FIELD	040C 55XPWR	770 / 0 1,001,000	
74LS37	BUFFER	D-1 4	P DIP 14 77/78	42C	DSPY GBC	FIELD	040C 55XPWR	916 / 0 1,190,800	

DIGITAL DEVICE DATA

TEXAS INSTRUMENTS
TTL ,LOW POWER/SCHOTTKY

MANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	FOUIP. TYPE	DATA CLASS.	STRESS LEVFL	#TFSTED/ #FAILED	MEFF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
74LS37	BUFFER	D-1 4	P DIP 14 78/79	42C	DSPY GBC	FIELD	040C 55%PWR	2269 / 1 2,949,700	
74LS373	LATCH D	D-1 58	P DIP 20 78/79	50C	DSPY GBC	FIELD	040C 55%PWR	2675 / 0 3,477,500	
74LS375	LATCH BISTABLE	D-1 20	P DIP 16 77/78	43C	DSPY GBC	FIELD	040C 55%PWR	808 / 0 1,050,400	
74LS375	LATCH BISTABLE	D-1 20	P DIP 16 78/79	43C	DSPY GBC	FIELD	040C 55%PWR	10726 / 0 13,943,800	
74LS377	FLIP-FLOP D	D-1 51	P DIP 20 77/78	48C	DSPY GBC	FIELD	040C 55%PWR	53 / 0 68,900	
74LS377	FLIP-FLOP D	D-1 51	P DIP 20 78/79	48C	DSPY GBC	FIELD	040C 55%PWR	205 / 1 266,500	
74LS378	FLIP-FLOP D	D-1 38	P DIP 16 78/79	46C	DSPY GBC	FIELD	040C 55%PWR	475 / 0 617,500	
74LS379	FLIP-FLOP D	D-1 27	P DIP 16 78/79	45C	DSPY GBC	FIELD	040C 55%PWR	551 / 0 716,300	
74LS38	BUFFER	D-1 4	P DIP 14 77/78	42C	DSPY GBC	FIELD	040C 55%PWR	272 / 0 353,600	
74LS38	BUFFER	D-1 4	P DIP 14 78/79	42C	DSPY GBC	FIELD	040C 55%PWR	2124 / 4 2,761,200	
74LS395	SHIFT REG	D-1 48	P DIP 16 77/78	48C	DSPY GBC	FIELD	040C 55%PWR	37 / 0 48,100	
74LS395	SHIFT REG	D-1 48	P DIP 16 78/79	48C	DSPY GBC	FIELD	040C 55%PWR	657 / 0 854,100	
74LS42	DECODER BCD/DECIMAL	D-1 18	P DIP 16 77/78	44C	DSPY GBC	FIELD	040C 55%PWR	10369 / 3 13,479,700	
74LS42	DECODER BCD/DECIMAL	D-1 18	P DIP 16 78/79	44C	DSPY GBC	FIELD	040C 55%PWR	22858 / 0 29,715,400	
74LS47	INTERFACE DECODER/DRIVER	D-1 44	P DIP 16 77/78	44C	DSPY GBC	FIELD	040C 55%PWR	30 / 0 39,000	
74LS47	INTERFACE DECODER/DRIVER	D-1 44	P DIP 16 78/79	44C	DSPY GBC	FIELD	040C 55%PWR	4337 / 0 5,629,000	
74LS490	COUNTER DECADE	D-1 66	P DIP 16 78/79	61C	DSPY GBC	FIELD	040C 55%PWR	166 / 0 215,800	
74LS54	GATE	D-1 5	P DIP 14 77/78	41C	DSPY GBC	FIELD	040C 55%PWR	15269 / 2 19,849,700	
74LS54	GATE	D-1 5	P DIP 14 78/79	41C	DSPY GBC	FIELD	040C 55%PWR	17188 / 0 22,344,400	
74LS55	GATE	D-1 3	P DIP 14 77/78	41C	DSPY GBC	FIELD	040C 55%PWR	396 / 0 514,800	
74LS55	GATE	D-1 3	P DIP 14 78/79	41C	DSPY GBC	FIELD	040C 55%PWR	1227 / 0 1,595,100	
74LS73	FLIP-FLOP JK	D-1 16	P DIP 14 77/78	43C	DSPY GBC	FIELD	040C 55%PWR	8810 / 4 1,145,300	
74LS73	FLIP-FLOP JK	D-1 16	P DIP 14 78/79	43C	DSPY GBC	FIELD	040C 55%PWR	18774 / 0 24,406,200	

DIGITAL DEVICE DATA

TEXAS INSTRUMENTS
TTL ,LOW POWER/SCHOTTKY

MANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO. /QTY TESTED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
74LS74	FLIP-FLOP D	D-1 12	P DIP 14 77/77	28C	INTR	CHECK OPERATE	025C	4 / 0	1,160
74LS74	FLIP-FLOP D	D-1 12	P DIP 14 78/79	42C	DSPY GBC	FIELD	040C 55XPWR	191 / 0	248,300
74LS75	LATCH BISTABLE	D-1 24	P DIP 16 77/78	43C	DSPY GBC	FIELD	040C 55XPWR	30137 / 5	39,178,100
74LS75	LATCH BISTABLE	D-1 24	P DIP 16 78/79	43C	DSPY GBC	FIELD	040C 55XPWR	78325 / 4	101,822,500
74LS83	ADDER FULL	D-1 36	P DIP 16 77/78	47C	DSPY GBC	FIELD	040C 55XPWR	24066 / 2	31,285,800
74LS83	ADDER FULL	D-1 36	P DIP 16 78/79	47C	DSPY GBC	FIELD	040C 55XPWR	29988 / 0	38,984,400
74LS85	COMPARATOR	D-1 31	P DIP 16 77/78	45C	DSPY GBC	FIELD	040C 55XPWR	884 / 0	1,149,200
74LS85	COMPARATOR	D-1 31	P DIP 16 78/79	45C	DSPY GBC	FIELD	040C 55XPWR	2323 / 0	3,019,900
74LS86	GATE	D-1 4	P DIP 14 77/78	44C	DSPY GBC	FIELD	040C 55XPWR	17223 / 1	22,389,900
74LS86	GATE	D-1 4	P DIP 14 78/79	44C	DSPY GBC	FIELD	040C 55XPWR	32574 / 2	42,346,200
74LS90	COUNTER DECADE	D-1 15	P DIP 14 77/78	45C	DSPY GBC	FIELD	040C 55XPWR	35027 / 5	45,535,100
74LS90	COUNTER DECADE	D-1 15	P DIP 14 78/79	45C	DSPY GBC	FIELD	040C 55XPWR	64477 / 10	83,820,100
74LS92	COUNTER	D-1 26	P DIP 14 77/78	45C	DSPY GBC	FIELD	040C 55XPWR	7899 / 2	10,268,700
74LS92	COUNTER	D-1 26	P DIP 14 78/79	45C	DSPY GBC	FIELD	040C 55XPWR	14792 / 0	19,229,600
74LS93	COUNTER BINARY	D-1 25	P DIP 14 77/78	45C	DSPY GBC	FIELD	040C 55XPWR	14110 / 8	18,343,000
74LS93	COUNTER BINARY	D-1 25	P DIP 14 78/79	45C	DSPY GBC	FIELD	040C 55XPWR	22301 / 2	28,991,300
74LS95B	SHIFT REG	D-1 37	P DIP 14 77/78	47C	DSPY GBC	FIELD	040C 55XPWR	66 / 0	85,800
74LS95B	SHIFT REG	D-1 37	P DIP 14 78/79	47C	DSPY GBC	FIELD	040C 55XPWR	841 / 0	1,093,300
74LS96	SHIFT REG	D-1 39	P DIP 16 77/78	46C	DSPY GBC	FIELD	040C 55XPWR	7899 / 2	10,268,700
74LS96	SHIFT REG	D-1 39	P DIP 16 78/79	46C	DSPY GBC	FIELD	040C 55XPWR	4790 / 0	6,227,000

DIGITAL DEVICE DATA

VARIOUS TTL ,LOW POWER/SCHOTTKY		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO. :/QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
54LS123	FLIP-FLOP MONOSTABLE	D 20	H DIP 77/78	16 46C	DSPY GBC	FIELD	040C 55XPWR	1476 / 0 1,918,800			
54LS123	FLIP-FLOP MONOSTABLE	D 20	H DIP 78/79	16 46C	DSPY GBC	FIELD	040C 55XPWR	1352 / 1 1,757,600			
54LS86	GATE	B-2 4	H DIP 77/77	14 82C	NAVC AI	RELDEN TCVPC	-054C 072C 43CY 2 60HZ	4 / 0 2,507			
54LS86	GATE	D 4	H DIP 77/78	14 58C	COMB AIT	FIELD		80 / 0 760,000			
74LS02	GATE	D-1 4	P DIP 77/78	14 41C	DSPY GBC	FIELD	040C 55XPWR	83727 / 14 108,845,100			
74LS02	GATE	D-1 4	P DIP 78/79	14 41C	DSPY GBC	FIELD	040C 55XPWR	99999 / 24 209,441,700			
						FIELD		61110 / 0			
74LS04	INVERTER	D-1 6	P DIP 76/78	14 27C	COMP GBC	FIELD	025C	10 / 0 100,800			
74LS04	INVERTER	D-1 6	P DIP 78/78	14 27C	COMP GBC	FIELD	025C	10 / 0 28,800			
74LS10	GATE	D-1 3	P DIP 77/78	14 41C	DSPY GBC	FIELD	040C 55XPWR	47207 / 6 61,369,100			
74LS10	GATE	D-1 3	P DIP 78/79	14 41C	DSPY GBC	FIELD	040C 55XPWR	99999 / 8 138,135,400			
						FIELD		6259 / 0			
74LS10	GATE	X 3	P DIP 76/78	14 26C	COMP GBC	FIELD	025C	30 / 0 459,204			
74LS10	GATE	X 3	P DIP 76/78	14 26C	COMP GBC	FIELD	025C	20 / 0 198,336			
74LS10	GATE	X 3	P DIP 76/78	14 26C	COMP GBC	FIELD	025C	21 / 0 194,112			
74LS10	GATE	X 3	P DIP 78/78	14 26C	COMP GBC	FIELD	025C	30 / 0 86,400			
74LS10	GATE	X 3	P DIP 78/78	14 26C	COMP GBC	FIELD	025C	20 / 0 57,600			
74LS10	GATE	X 3	P DIP 78/78	14 26C	COMP GBC	FIELD	025C	21 / 0 60,480			
74LS11	GATE	D-1 3	P DIP 77/78	14 41C	DSPY GBC	FIELD	040C 55XPWR	5394 / 1 7,012,200			
74LS11	GATE	D-1 3	P DIP 78/79	14 41C	DSPY GBC	FIELD	040C 55XPWR	19121 / 4 24,857,300			
74LS11	GATE	D-1 3	P DIP 76/78	14 27C	COMP GBC	FIELD	025C	20 / 0 201,600			
74LS11	GATE	D-1 3	P DIP 78/78	14 27C	COMP GBC	FIELD	025C	20 / 0 57,600			
74LS112	FLIP-FLOP JK	D-1 16	P DIP 77/78	16 42C	DSPY GBC	FIELD	040C 55XPWR	19794 / 7 25,732,200			

DIGITAL DEVICE DATA

VARIOUS		MANUFACTURER				RELIABILITY ANALYSIS CENTER				
TTL ,LOW POW-FI/SCMOTTVY		OPERATIONAL TYPE								
PART NO.	DEVICE FUNCTION	SKRN. CLASS	PACKAGE/ PINS	JCT.* TFP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
74LS112	FLIP-FLOP JK	D-1 16	P DIP 16: 78/79	42C	DSPY GBC	FIELD	040C 55XPWR:	44662 / 15 58,060,600		
74LS138	DECODER/DEMULTIPLX	D-1 16	P DIP 16: 77/78	43C	DSPY GBC	FIELD	040C 55XPWR:	29902 / 7 38,872,600		
74LS138	DECODER/DEMULTIPLX	D-1 16	P DIP 16: 78/79	43C	DSPY GBC	FIELD	040C 55XPWR:	92028 / 31 119,636,400		
74LS139	DECODER/DEMULTIPLX	D-1 18	P DIP 16: 77/78	43C	DSPY GBC	FIELD	040C 55XPWR:	3136 / 0 4,076,800		
74LS139	DECODER/DEMULTIPLX	D-1 18	P DIP 16: 78/79	43C	DSPY GBC	FIELD	040C 55XPWR:	10993 / 3 14,290,900		
74LS151	MULTIPLEXER	D-1 17	P DIP 16: 77/78	43C	DSPY GBC	FIELD	040C 55XPWR:	15399 / 4 20,018,700		
74LS151	MULTIPLEXER	D-1 17	P DIP 16: 78/79	43C	DSPY GBC	FIELD	040C 55XPWR:	33962 / 5 44,150,600		
74LS154	DECODER/DEMULTIPLX	D-1 25	P DIP 24: 77/78	45C	DSPY GBC	FIELD	040C 55XPWR:	4 / 0 5,200		
74LS154	DECODER/DEMULTIPLX	D-1 25	P DIP 24: 78/79	45C	DSPY GBC	FIELD	040C 55XPWR:	424 / 0 551,200		
74LS157	MULTIPLEXER	D-1 15	P DIP 16: 77/78	45C	DSPY GBC	FIELD	040C 55XPWR:	34146 / 1 44,389,800		
74LS157	MULTIPLEXER	D-1 15	P DIP 16: 78/79	45C	DSPY GBC	FIELD	040C 55XPWR:	63346 / 6 82,349,800		
74LS160	COUNTER DECADE	D-1 60	P DIP 16: 77/78	49C	DSPY GBC	FIELD	040C 55XPWR:	4839 / 2 6,290,700		
74LS160	COUNTER DECADE	D-1 60	P DIP 16: 78/79	49C	DSPY GBC	FIELD	040C 55XPWR:	41694 / 7 54,202,200		
74LS161	COUNTER BINARY	D-1 57	P DIP 16: 77/78	49C	DSPY GBC	FIELD	040C 55XPWR:	23561 / 1 30,629,300		
74LS161	COUNTER BINARY	D-1 57	P DIP 16: 78/79	49C	DSPY GBC	FIELD	040C 55XPWR:	99999 / 15 198,265,600		
						FIELD		52513 / 0		
74LS174	FLIP-FLOP D	D-1 36	P DIP 16: 77/78	48C	DSPY GBC	FIELD	040C 55XPWR:	99999 / 42 171,913,300		
						FIELD		32242 / 0		
74LS174	FLIP-FLOP D	D-1 36	P DIP 16: 78/79	48C	DSPY GBC	FIELD	040C 55XPWR:	99999 / 59 366,707,900		
						FIELD		99999 / 0		
						FIELD		82085 / 0		
74LS174	FLIP-FLOP D	D-1 36	P DIP 16: 77/78	48C	DSPY GBC	FIELD	040C 55XPWR:	1745 / 0 2,268,500		
74LS174	FLIP-FLOP D	D-1 36	P DIP 16: 78/79	48C	DSPY GBC	FIELD	040C 55XPWR:	4202 / 0 5,462,600		

DIGITAL DEVICE DATA

VARIOUS TTL ,LOW POWER/SCHOTTKY		MANUFACTURER OPERATIONAL TYPE			RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MEFF REPORT NO. /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
74LS175	FLIP-FLOP D	D-1 24	P DIP 16: 77/78	45C	DSPY GBC	FIELD	040C 55%PWR	35727 / 11 46,445,100		
74LS175	FLIP-FLOP D	D-1 24	P DIP 16: 78/79	45C	DSPY GBC	FIELD	040C 55%PWR	99099 / 9 186,542,200		
74LS175	FLIP-FLOP D	D-1 24	P DIP 16: 77/78	45C	DSPY GBC	FIELD	040C 55%PWR	2066 / 0 2,685,000		
74LS175	FLIP-FLOP D	D-1 24	P DIP 16: 78/79	45C	DSPY GBC	FIELD	040C 55%PWR	4986 / 0 6,481,800		
74LS192	COUNTER BCD	D-1 50	P DIP 16: 77/78	49C	DSPY GBC	FIELD	040C 55%PWR	37303 / 2 48,493,900		
74LS192	COUNTER BCD	D-1 50	P DIP 16: 78/79	49C	DSPY GBC	FIELD	040C 55%PWR	35042 / 3 45,554,600		
74LS193	COUNTER BINARY	D-1 48	P DIP 16: 77/78	49C	DSPY GBC	FIELD	040C 55%PWR	13615 / 2 17,950,500		
74LS193	COUNTER BINARY	D-1 48	P DIP 16: 78/79	49C	DSPY GBC	FIELD	040C 55%PWR	37129 / 9 48,267,700		
74LS194A	SHIFT REG	D-1 47	P DIP 16: 77/78	48C	DSPY GBC	FIELD	040C 55%PWR	1053 / 0 1,368,900		
74LS194A	SHIFT REG	D-1 47	P DIP 16: 78/79	48C	DSPY GBC	FIELD	040C 55%PWR	3212 / 0 4,175,600		
74LS196	COUNTER DECADE	D-1 39	P DIP 14: 78/79	48C	DSPY GBC	FIELD	040C 55%PWR	6 / 0 7,800		
74LS20	GATE	D-1 2	P DIP 14: 77/78	41C	DSPY GBC	FIELD	040C 55%PWR	23613 / 3 30,696,900		
74LS20	GATE	D-1 2	P DIP 14: 78/79	41C	DSPY GBC	FIELD	040C 55%PWR	59348 / 2 77,152,400		
74LS21	GATE	D-1 2	P DIP 14: 77/78	41C	DSPY GBC	FIELD	040C 55%PWR	3231 / 0 4,200,300		
74LS21	GATE	D-1 2	P DIP 14: 78/79	41C	DSPY GBC	FIELD	040C 55%PWR	10012 / 0 13,015,600		
74LS21	GATE	D-1 2	P DIP 14: 76/78	26C	COMP GBC	FIELD	025C	10 / 0 100,800		
74LS21	GATE	D-1 2	P DIP 14: 78/78	26C	COMP GBC	FIELD	025C	10 / 0 28,800		
74LS260	GATE	D-1 2	P DIP 14: 77/78	41C	DSPY GBC	FIELD	040C 55%PWR	28 / 0 36,400		
74LS260	GATE	D-1 2	P DIP 14: 78/79	41C	DSPY GBC	FIELD	040C 55%PWR	1737 / 0 2,258,100		
74LS266	GATE	D-1 4	P DIP 14: 76/78	29C	COMP GBC	FIELD	025C	6 / 0 33,264		
74LS266	GATE	D-1 4	P DIP 14: 78/78	29C	COMP GBC	FIELD	025C	6 / 0 17,280		
74LS27	GATE	D-1 3	P DIP 14: 77/78	42C	DSPY GBC	FIELD	040C 55%PWR	16724 / 3 21,741,200		

DIGITAL DEVICE DATA

VARIOUS TTL		LOW POWER/SCHOTTKY		MANUFACTURER OPERATIONAL TYPE		RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO./QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
74LS27	GATE	D-1 3	P DIP 14: 78/79	42C	DSPY GPC	FIELD	040C 55%PWR	36312 / 2 47,205,600			
74LS273	FLIP-FLOP D	D-1 50	P DIP 20: 76/78	48C	COMP GBC	FIELD	025C	3 / 0 16,632			
74LS273	FLIP-FLOP D	D-1 50	P DIP 20: 76/78	48C	COMP GBC	FIELD	025C	3 / 0 8,640			
74LS32	GATE	D-1 4	P DIP 14: 77/78	42C	DSPY GPC	FIELD	040C 55%PWR	24265 / 2 31,544,500			
74LS32	GATE	D-1 4	P DIP 14: 78/79	42C	DSPY GPC	FIELD	040C 55%PWR	53236 / 7 69,206,800			
74LS51	GATE	D-1 6	P DIP 14: 77/78	41C	DSPY GBC	FIELD	040C 55%PWR	23207 / 17 30,169,100			
74LS51	GATE	D-1 6	P DIP 14: 78/79	41C	DSPY GBC	FIELD	040C 55%PWR	50988 / 11 66,284,400			
74LS74	FLIP-FLOP D	D-1 12	P DIP 14: 77/78	42C	DSPY GBC	FIELD	040C 55%PWR	99999 / 42 200,305,300			
						FIELD		54082 / 0			
74LS74	FLIP-FLOP D	D-1 12	P DIP 14: 78/79	42C	DSPY GBC	FIELD	040C 55%PWR	99999 / 41 436,009,600			
						FIELD		99999 / 0			
						FIELD		99999 / 0			
						FIELD		35395 / 0			
74LS75	LATCH BISTABLE	X 24	P DIP 14: 76/78	28C	COMP GBC	FIELD	025C	50 / 0 495,840			
74LS75	LATCH BISTABLE	X 24	P DIP 16: 78/78	28C	COMP GBC	FIELD	025C	50 / 0 144,000			

SIGNETICS TTL		LOW POWER/SCHOTTKY, ION IMPLANT		MANUFACTURER OPERATIONAL TYPE		RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO./QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
54LS109	FLIP-FLOP JK	A-2/N 16	P DIP 16: 76/77	74C	RADR AU	RELDEN TCVPC	-054C 071C 6CY 2. 27VZ	209 / 0 10,032			

DIGITAL DEVICE DATA

ADVANCED MICRO DEVICES TTL ,SCHOTTKY		:MANUFACTURER :OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
: PART NO. :	: DEVICE FUNCTION :	: SCR.N. CLASS :	: PACKAGE/ PINS :	: JCT.* TEMP. :	: EQUIP. TYPE :	: DATA CLASS. :	: STRESS LEVEL :	: #TESTED/ #FAILED :	: MFEF REPORT NO. /QTY FAILED :	
:	: CIRCUIT FUNCTION :	: NO. GATES :	: TEST DATE :	:	: APPL. ENV. :	: TEST TYPE :	:	: PART HOURS :	:	
: 25S09 :	: REGISTER :	: D-1 :	: P DIP 16 :	: 63C :	: COMP :	: FIELD :	: 025C :	: 0 / 0 :	: 49,896 :	
: D :	: D :	: 3R :	: 76/78 :	:	: GRC :	:	:	:	:	
: 25S09 :	: REGISTER :	: D-1 :	: P DIP 16 :	: 78C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 120 / 0 :	: 156,000 :	
: D :	: D :	: 3R :	: 77/78 :	:	: GRC :	:	:	:	:	
: 25S09 :	: REGISTER :	: D-1 :	: P DIP 16 :	: 63C :	: COMP :	: FIELD :	: 025C :	: 0 / 0 :	: 25,926 :	
: D :	: D :	: 3R :	: 78/78 :	:	: GRC :	:	:	:	:	
: 25S09 :	: REGISTER :	: D-1 :	: P DIP 16 :	: 78C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 1461 / 0 :	: 1,899,300 :	
: D :	: D :	: 3R :	: 78/79 :	:	: GRC :	:	:	:	:	
: 26S02 :	: FLIP-FLOP MONOSTABLE :	: D-1 :	: P DIP 16 :	: 64C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 929 / 1 :	: 1,207,700 :	
:	:	: 14 :	: 77/78 :	:	: GRC :	:	:	:	:	
: 26S02 :	: FLIP-FLOP MONOSTABLE :	: D-1 :	: P DIP 16 :	: 64C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 7491 / 2 :	: 9,738,300 :	
:	:	: 14 :	: 78/79 :	:	: GRC :	:	:	:	:	
: 2918 :	: REGISTER :	: D-1 :	: P DIP 16 :	: 65C :	: COMP :	: FIELD :	: 025C :	: 3 / 0 :	: 31,200 :	
: D :	: D :	: 30 :	: 76/78 :	:	: GRC :	:	:	:	:	
: 2918 :	: REGISTER :	: D-1 :	: P DIP 16 :	: 65C :	: COMP :	: FIELD :	: 025C :	: 15 / 0 :	: 155,520 :	
: D :	: D :	: 30 :	: 76/78 :	:	: GRC :	:	:	:	:	
: 2918 :	: REGISTER :	: D-1 :	: P DIP 16 :	: 65C :	: COMP :	: FIELD :	: 025C :	: 12 / 0 :	: 66,528 :	
: D :	: D :	: 30 :	: 76/78 :	:	: GRC :	:	:	:	:	
: 2918 :	: REGISTER :	: D-1 :	: P DIP 16 :	: 65C :	: COMP :	: FIELD :	: 025C :	: 3 / 0 :	: 8,400 :	
: D :	: D :	: 30 :	: 78/78 :	:	: GRC :	:	:	:	:	
: 2918 :	: REGISTER :	: D-1 :	: P DIP 16 :	: 65C :	: COMP :	: FIELD :	: 025C :	: 15 / 0 :	: 43,200 :	
: D :	: D :	: 30 :	: 78/78 :	:	: GRC :	:	:	:	:	
: 2918 :	: REGISTER :	: D-1 :	: P DIP 16 :	: 65C :	: COMP :	: FIELD :	: 025C :	: 12 / 0 :	: 34,560 :	
: D :	: D :	: 30 :	: 78/78 :	:	: GRC :	:	:	:	:	

FAIRCHILD SEMI TTL ,SCHOTTKY		:MANUFACTURER :OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
: PART NO. :	: DEVICE FUNCTION :	: SCR.N. CLASS :	: PACKAGE/ PINS :	: JCT.* TEMP. :	: EQUIP. TYPE :	: DATA CLASS. :	: STRESS LEVEL :	: #TESTED/ #FAILED :	: MFEF REPORT NO. /QTY FAILED :	
:	: CIRCUIT FUNCTION :	: NO. GATES :	: TEST DATE :	:	: APPL. ENV. :	: TEST TYPE :	:	: PART HOURS :	:	
: 74S109 :	: FLIP-FLOP JK :	: D :	: H DIP 16 :	: 54C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 16012 / 5 :	: 20,815,600 :	
:	:	: 16 :	: 77/78 :	:	: GRC :	:	:	:	:	
: 74S109 :	: FLIP-FLOP JK :	: D :	: H DIP 16 :	: 54C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 26182 / 3 :	: 34,036,600 :	
:	:	: 16 :	: 78/79 :	:	: GRC :	:	:	:	:	
: 74S140 :	: INTERFACE LINE DRIVER :	: D-1 :	: P DIP 14 :	: 50C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 17095 / 2 :	: 22,223,500 :	
:	:	: 2 :	: 77/78 :	:	: GRC :	:	:	:	:	
: 74S140 :	: INTERFACE LINE DRIVER :	: D-1 :	: P DIP 14 :	: 50C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 16981 / 1 :	: 22,075,300 :	
:	:	: 2 :	: 78/79 :	:	: GRC :	:	:	:	:	
: 74S30 :	: GATE :	: D-1 :	: P DIP 14 :	: 28C :	: INTR :	: CHECK :	: 025C :	: 1 / 0 :	: 44C :	
:	:	: 1 :	: 77/77 :	:	: GRC :	: OPEPATE :	:	:	:	
: 9S41 :	: GATE :	: D-1 :	: P DIP 16 :	: 53C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 473 / 0 :	: 614,900 :	
:	:	: 4 :	: 77/78 :	:	: GRC :	:	:	:	:	

DIGITAL DEVICE DATA

FAIRCHILD SEMI TTL ,SCHOTTKY		:MANUFACTURER :OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
: PART NO. :	: DEVICE FUNCTION :	: SCR.N. CLASS :	: PACKAGE/ PINS :	: JCT.* TEMP. :	: FOUIP. TYPE :	: DATA CLASS. :	: STRESS LEVEL :	: #TESTED/ #FAILED :	: MFEF REPORT NO. /QTY FAILED :	
:	: CIRCUIT FUNCTION :	: NO. GATFS :	: TEST DATE :	:	: APPL. ENV. :	: TEST TYPE :	:	: PART HOURS :	:	
: 9S41 :	: GATE :	: D-1 :	: P DIP 16 :	: 53C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 1562 / 0 :	:	
:	:	: 4 :	: 78/79 :	:	: GBC :	:	:	: 2,030,600 :	:	
: 9S42 :	: GATE :	: D-1 :	: P DIP 16 :	: 29C :	: COMP :	: FIELD :	: 025C :	: 9 / 0 :	:	
:	:	: 6 :	: 76/78 :	:	: GBC :	:	:	: 93,600 :	:	
: 9S42 :	: GATE :	: D-1 :	: P DIP 16 :	: 29C :	: COMP :	: FIELD :	: 025C :	: 3 / 0 :	:	
:	:	: 6 :	: 76/78 :	:	: GBC :	:	:	: 16,632 :	:	
: 9S42 :	: GATE :	: D-1 :	: P DIP 16 :	: 29C :	: COMP :	: FIELD :	: 025C :	: 9 / 0 :	:	
:	:	: 6 :	: 78/78 :	:	: GBC :	:	:	: 25,920 :	:	
: 9S42 :	: GATE :	: D-1 :	: P DIP 16 :	: 29C :	: COMP :	: FIELD :	: 025C :	: 3 / 0 :	:	
:	:	: 6 :	: 78/78 :	:	: GBC :	:	:	: 8,640 :	:	
: 93S00 :	: SHIFT REG :	: B-1 :	: H DIP 16 :	: 61C :	: COMP :	: RELDEM :	: 025C :	: 9 / 0 :	:	
:	:	: 45 :	: 78/78 :	:	: GT :	:	:	: 3,164 :	:	
: 93S10 :	: COUNTER DECADE :	: D :	: H DIP 16 :	: 77C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 5268 / 2 :	:	
:	:	: 54 :	: 77/78 :	:	: GBC :	:	:	: 6,848,400 :	:	
: 93S10 :	: COUNTER DECADE :	: D :	: H DIP 16 :	: 77C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 4842 / 3 :	:	
:	:	: 54 :	: 78/79 :	:	: GBC :	:	:	: 6,294,600 :	:	
: 93S16 :	: COUNTER BINARY :	: B-1 :	: H DIP 16 :	: 62C :	: COMP :	: RELDEM :	: 025C :	: 3 / 0 :	:	
:	:	: 54 :	: 78/78 :	:	: GT :	:	:	: 1,055 :	:	
: 93S16 :	: COUNTER BINARY :	: D :	: H DIP 16 :	: 77C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 21610 / 2 :	:	
:	:	: 54 :	: 77/78 :	:	: GBC :	:	:	: 28,093,000 :	:	
: 93S16 :	: COUNTER BINARY :	: D :	: H DIP 16 :	: 77C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 90476 / 9 :	:	
:	:	: 54 :	: 78/79 :	:	: GBC :	:	:	: 117,618,800 :	:	

INTEL TTL ,SCHOTTKY		:MANUFACTURER :OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
: PART NO. :	: DEVICE FUNCTION :	: SCR.N. CLASS :	: PACKAGE/ PINS :	: JCT.* TEMP. :	: FOUIP. TYPE :	: DATA CLASS. :	: STRESS LEVEL :	: #TESTED/ #FAILED :	: MFEF REPORT NO. /QTY FAILED :	
:	: CIRCUIT FUNCTION :	: NO. GATFS :	: TEST DATE :	:	: APPL. ENV. :	: TEST TYPE :	:	: PART HOURS :	:	
: 3205 :	: DECODER BINARY :	: B-1 :	: H DIP 16 :	: 50C :	: COMP :	: RELDEM :	: 025C :	: 12 / 0 :	:	
:	:	: N/R :	: 78/78 :	:	: GT :	:	:	: 4,218 :	:	
: 3205 :	: DECODER BINARY :	: D-1 :	: P DIP 16 :	: 35C :	: INTR :	: CHECK :	: 025C :	: 10 / 0 :	:	
:	:	: N/R :	: 77/77 :	:	: GBC :	: OPERATE :	:	: 4,400 :	:	
: 3404 :	: LATCH :	: D-1 :	: P DIP 16 :	: 35C :	: INTR :	: CHECK :	: 025C :	: 6 / 0 :	:	
:	:	: N/R :	: 77/77 :	:	: GBC :	: OPERATE :	:	: 2,640 :	:	

DIGITAL DEVICE DATA

MOTOROLA SEMI
TTL ,SCHOTTKY

MANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO./ QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
6875	GENERATOR CLOCK DRIVER	D-1 72	P DIP 16 78/79	65C	DSPY GBC	FIELD	0400 553PMR	21 / 0 27,300	

SIGNETICS
TTL ,SCHOTTKY

MANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO./ QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
54S00	GATE	X 4	H DIP 14 77/77	134C	NR N/R	LIFE OP DYN	125C	132 / 0 132,000	
54S03	GATE	X 4	H DIP 14 77/77	134C	NR N/R	LIFE OP DYN	125C	134 / 0 134,000	
54S05	INVERTER	X 6	H DIP 14 77/77	138C	NR N/R	LIFE OP DYN	125C	134 / 0 134,000	2289/ 1
54S10	GATE	X 3	H DIP 14 77/77	132C	NR N/R	LIFE OP DYN	125C	134 / 0 134,000	
54S11	GATE	X 3	H DIP 14 77/77	136C	NR N/R	LIFE OP DYN	125C	134 / 0 134,000	
54S22	GATE	X 2	H DIP 14 77/77	129C	NR N/R	LIFE OP DYN	125C	135 / 0 133,000	
54S51	GATE	X 6	H DIP 14 77/77	135C	NR N/R	LIFE OP DYN	125C	132 / 0 132,000	2290/ 1
54S64	GATE	X 5	H DIP 14 77/77	130C	NR N/R	LIFE OP DYN	125C	133 / 0 133,000	
74S00	GATE	D 4	H DIP 14 77/77	134C	NR N/R	LIFE OP DYN	125C	70 / 0 70,000	

DIGITAL DEVICE DATA

SIGNATICS TTL SCHOTTKY		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER			
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
						LIFE		70 / 0	
						EM			
74S00	GATE	D 4	H DIP 14: 77/77	159C	NR N/R	LIFE STGLIFE	150C	56 / 0 56,000	
						LIFE		56 / 0	
						EM			
74S00	GATE	D 4	H DIP 14: 77/77	159C	NR N/R	LIFE STGLIFE	150C	25 / 0 25,000	
						LIFE		25 / 0	
						EM			
74S00	GATE	D-1 4	P DIP 14: 77/77	137C	NR N/R	LIFE OP DYN	125C	46 / 0 46,000	
						LIFE		46 / 0	
						EM			
74S00	GATE	D-1 4	P DIP 14: 77/77	97C	NR N/R	LIFE OP DYN	085C	79 / 0 80,000	
						LIFE		79 / 0	
						EM			
74S00	GATE	D-1 4	P DIP 14: 77/77	137C	NR N/R	LIFE OP DYN	125C	85 / 0 85,000	
						LIFE		85 / 0	
						EM			
74S00	GATE	D-1 4	P DIP 14: 77/77	137C	NR N/R	LIFE OP DYN	125C	40 / 0 81,000	
						LIFE		40 / 0	
						EM			
74S00	GATE	D-1 4	P DIP 14: 77/77	137C	NR N/R	LIFE OP DYN	125C	52 / 0 105,000	
						LIFE		52 / 0	
						EM			
74S00	GATE	D-1 4	P DIP 14: 77/77	137C	NR N/R	LIFE OP DYN	125C	45 / 0 45,000	
						LIFE		45 / 1	2291/ 1
						EM			
74S00	GATE	D-1 4	P DIP 14: 77/77	137C	NR N/R	LIFE OP DYN	125C	25 / 0 50,000	
						LIFE		25 / 0	
						EM			
74S00	GATE	D-1 4	P DIP 14: 77/77	162C	NR N/R	LIFE STGLIFE	150C	92 / 0 92,000	
						LIFE		92 / 0	
						EM			
74S00	GATE	D-1 4	P DIP 14: 77/77	162C	NR N/R	LIFE STGLIFE	150C	45 / 0 91,000	
						LIFE		45 / 1	2292/ 1
						EM			

DIGITAL DEVICE DATA

SIGNETICS TTL SCHOTTKY		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	REF REPORT NO. /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
74S00	GATE	X	H DIP 14	134C	NR	LIFE	125C	56 / 0		
		4	77/77		N/R	OP DYN		56,000		
						LIFE		56 / 0		
						EM				
74S10	GATE	D	H DIP 14	132C	NR	LIFE	125C	45 / 0		
		3	77/77		N/R	OP DYN		45,000		
						LIFE		45 / 0		
						EM				
74S10	GATE	D-1	P DIP 14	134C	NR	LIFE	125C	53 / 0		
		3	77/77		N/R	OP DYN		107,000		
						LIFE		53 / 0		
						EM				
74S10	GATE	D-1	P DIP 14	134C	NR	LIFE	125C	45 / 0		
		3	77/77		N/R	OP DYN		45,000		
						LIFE		45 / 0		
						EM				
74S10	GATE	D-1	P DIP 14	159C	NR	LIFE	150C	45 / 0		
		3	77/77		N/R	STGLIFE		91,000		
						LIFE		45 / 0		
						EM				
74S112	FLIP-FLOP JK	D-1	P DIP 16	147C	NR	LIFE	125C	92 / 0		
		16	77/77		N/R	OP DYN		92,000		
						LIFE		92 / 0		
						EM				
74S112	FLIP-FLOP JK	D-1	P DIP 16	147C	NR	LIFE	125C	45 / 0		
		16	77/77		N/R	OP DYN		45,000		
						LIFE		45 / 1	2293/ 1	
						EM				
74S112	FLIP-FLOP JK	D-1	P DIP 16	172C	NR	LIFE	150C	46 / 0		
		16	77/77		N/R	STGLIFE		46,000		
						LIFE		46 / 0		
						EM				
74S20	GATE	D-1	P DIP 14	131C	NR	LIFE	125C	52 / 0		
		2	77/77		N/R	OP DYN		105,000		
						LIFE		52 / 0		
						EM				
74S20	GATE	D-1	P DIP 14	156C	NR	LIFE	150C	46 / 0		
		2	77/77		N/R	STGLIFE		93,000		
						LIFE		46 / 2	2294/ 2	
						EM				
74S40	BUFFER	D-1	P DIP 14	139C	NR	LIFE	125C	46 / 0		
		2	77/77		N/R	OP DYN		46,000		
						LIFE		46 / 0		
						EM				
74S40	BUFFER	D-1	P DIP 14	164C	NR	LIFE	150C	46 / 0		
		2	77/77		N/R	STGLIFE		46,000		

DIGITAL DEVICE DATA

SIGNETICS TTL SCHOTTKY		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EMIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO. :/QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
								LIFE	46 / 0	
								EM		
8T93	INVERTER	D-1 6	P DIP 14 77/78	52C	DSPY GBC	FIELD	040C 55XPWR	1422 / 6 1,848,600		
8T93	INVERTER	D-1 6	P DIP 14 78/79	52C	DSPY GBC	FIELD	040C 55XPWR	5617 / 5 7,302,100		
82S31	MULTIPLEXER	D-1 17	P DIP 16 77/78	50C	DSPY GBC	FIELD	040C 55XPWR	80 / 0 104,000		
82S31	MULTIPLEXER	D-1 17	P DIP 16 78/79	50C	DSPY GBC	FIELD	040C 55XPWR	974 / 0 1,266,200		
82S42	GATE	D-1 20	P DIP 14 77/78	50C	DSPY GBC	FIELD	040C 55XPWR	1680 / 0 2,184,000		
82S42	GATE	D-1 20	P DIP 14 78/79	50C	DSPY GBC	FIELD	040C 55XPWR	7696 / 0 10,004,800		
82S52	DECODER BCD/DECIMAL	D-1 18	P DIP 16 77/77	135C	NR N/R	LIFE OP DYN	125C	50 / 0 101,000		
								LIFE	50 / 0	
								EM		
82S62	GENERATOR	D-1 19	P DIP 14 77/77	135C	NR N/R	LIFE OP DYN	125C	46 / 0 46,000		
								LIFE	46 / 0	
								EM		
82S62	GENERATOR	D-1 19	P DIP 14 77/77	160C	NR N/R	LIFE STGLIFE	150C	46 / 0 46,000		
								LIFE	46 / 0	
								EM		
82S62	GENERATOR	D-1 10	P DIP 14 77/78	50C	DSPY GBC	FIELD	040C 55XPWR	661 / 2 859,300		
82S62	GENERATOR	D-1 10	P DIP 14 78/79	50C	DSPY GBC	FIELD	040C 55XPWR	1323 / 0 1,719,900		
82S83	ADDER BCD	D 66	N DIP 16 78/79	65C	DSPY GBC	FIELD	040C 55XPWR	9 / 0 11,700		
82S83	ADDER BCD	D-1 66	P DIP 16 77/78	65C	DSPY GBC	FIELD	040C 55XPWR	171 / 0 222,300		
82S83	ADDER BCD	D-1 66	P DIP 16 78/79	65C	DSPY GBC	FIELD	040C 55XPWR	2227 / 0 2,895,100		
82S90	COUNTER DECADE	D-1 44	P DIP 14 77/78	76C	DSPY GBC	FIELD	040C 55XPWR	7327 / 8 9,525,100		
82S90	COUNTER DECADE	D-1 44	P DIP 14 78/79	76C	DSPY GBC	FIELD	040C 55XPWR	8992 / 7 11,689,600		

DIGITAL DEVICE DATA

TEXAS INSTRUMENTS TTL SCHOTTKY		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGF/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	TESTED/ #FAILED	MFTF REPORT NO./ OTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TFST TYPE		PAPT HOURS		
54S00	GATE	B-2/N 4	H DIP 14: 76/77	78C	RADR AU	RELDEM TCVPC	-054C 071C 6CY 2. 27HZ	209 / 0 10,032		
54S00	GATE	B-1 4	H DIP 14: 78/78	32C	COMP GT	RELDEM	025C	51 / 0 17,927		
54S00	GATE	D 4	H DIP 14: 77/78	47C	DSPY GBC	FIELD	040C 55ZPWR	168 / 0 219,400		
54S00	GATE	D 4	H DIP 14: 78/79	47C	DSPY GBC	FIELD	040C 55ZPWR	122 / 1 159,600		
54S04	INVERTER	B-1 6	H DIP 14: 78/78	36C	COMP GT	RELDEM	025C	60 / 0 21,090		
54S10	GATE	B-1 3	H DIP 14: 78/78	30C	COMP GT	RELDEM	025C	39 / 0 13,709		
54S195	SHIFT REG	B-1 53	H DIP 14: 78/78	63C	COMP GT	RELDEM	025C	27 / 0 9,491		
54S20	GATE	B-1 2	H DIP 14: 78/78	29C	COMP GT	RELDEM	025C	9 / 0 3,164		
54S280	GENERATOR	B-1/JB 46	H DIP 14: 77/79	59C	RADR GF	FIELD	025C	4 / 0 54,720		
54S280	GENERATOR	B-1/JB 46	H DIP 14: 79/79	59C	RADR GF	FIELD	025C	4 / 0 17,280		
54S40	BUFFER	B-1 2	H DIP 14: 78/78	35C	COMP GT	RELDEM	025C	9 / 0 3,164		
54S74	FLIP-FLOP D	B-1 12	H DIP 14: 78/78	33C	COMP GT	RELDEM	025C	63 / 0 22,145		
54S85	COMPARATOR	B-1/JB 31	H DIP 16: 77/79	58C	RADR GF	FIELD	025C	14 / 0 191,520		
54S85	COMPARATOR	B-1/JB 31	H DIP 16: 77/79	58C	RADR GF	FIELD	025C	56 / 0 766,080		
54S85	COMPARATOR	B-1/JB 31	H DIP 16: 79/79	58C	RADR GF	FIELD	025C	14 / 0 60,480		
54S85	COMPARATOR	B-1/JB 31	H DIP 16: 79/79	58C	RADR GF	FIELD	025C	56 / 0 241,920		
54S86	GATE	B-1/JB 4	H DIP 14: 77/79	48C	RADR GF	FIELD	025C	58 / 0 793,440		
54S86	GATE	B-1/JB 4	H DIP 14: 77/79	48C	RADR GF	FIELD	025C	14 / 0 191,520		
54S86	GATE	B-1/JB 4	H DIP 14: 77/79	48C	RADR GF	FIELD	025C	17 / 0 232,560		
54S86	GATE	B-1/JB 4	H DIP 14: 79/79	48C	RADR GF	FIELD	025C	17 / 0 73,440		
54S86	GATE	B-1/JB 4	H DIP 14: 79/79	48C	RADR GF	FIELD	025C	58 / 0 250,560		
54S86	GATE	B-1/JB 4	H DIP 14: 79/79	48C	RADR GF	FIELD	025C	14 / 0 60,480		
74S00	GATE	D-1 4	P DIP 14: 77/77	33C	INTR GBC	CHECK OPERATE	025C	4 / 0 1,160		

DIGITAL DEVICE DATA

TEXAS INSTRUMENTS TTL SCHOTTKY		:--MANUFACTURER :OPERATIONAL TYPE			RELIABILITY ANALYSIS CENTER					
: PART NO. :	: DEVICE FUNCTION :	: SCR.N. CLASS :	: PACKAGE/ PINS :	: JCT.* TEMP. :	: EQUIP. TYPE :	: DATA CLASS. :	: STRESS LEVEL :	: #TESTED/ #FAILED :	: MFEF REPORT NO. /QTY FAILED :	
:	: CIRCUIT FUNCTION :	: NO. GATES :	: TEST DATE :	:	: APPL. ENV. :	: TEST TYPE :	:	: PART HOURS :	:	
: 74S02 :	: GATE :	: D-1 :	: P DIP 14 :	: 36C :	: INTR :	: CHECK :	: 025C :	: 2 / 0 :	: :	
:	:	: 4 :	: 77/77 :	:	: GBC :	: OPERATE :	:	: 880 :	:	
: 74S02 :	: GATE :	: D-1 :	: P DIP 14 :	: 51C :	: DSPY :	: FIELD :	: 040C 55%PWR :	: 20506 / 1 :	: :	
:	:	: 4 :	: 77/78 :	:	: GBC :	:	:	: 26,657,800 :	:	
: 74S02 :	: GATE :	: D-1 :	: P DIP 14 :	: 51C :	: DSPY :	: FIELD :	: 040C 55%PWR :	: 38371 / 3 :	: :	
:	:	: 4 :	: 78/79 :	:	: GBC :	:	:	: 49,882,300 :	:	
: 74S04 :	: INVERTER :	: D-1 :	: P DIP 14 :	: 37C :	: INTR :	: CHECK :	: 025C :	: 1 / 0 :	: :	
:	:	: 6 :	: 77/77 :	:	: GBC :	: OPERATE :	:	: 440 :	:	
: 74S08 :	: GATE :	: D-1 :	: P DIP 14 :	: 53C :	: DSPY :	: FIELD :	: 040C 55%PWR :	: 1633 / 0 :	: :	
:	:	: 4 :	: 77/78 :	:	: GBC :	:	:	: 2,122,900 :	:	
: 74S08 :	: GATE :	: D-1 :	: P DIP 14 :	: 53C :	: DSPY :	: FIELD :	: 040C 55%PWR :	: 8368 / 0 :	: :	
:	:	: 4 :	: 78/79 :	:	: GBC :	:	:	: 10,878,400 :	:	
: 74S10 :	: GATE :	: D-1 :	: P DIP 14 :	: 31C :	: INTR :	: CHECK :	: 025C :	: 2 / 0 :	: :	
:	:	: 3 :	: 77/77 :	:	: GBC :	: OPERATE :	:	: 880 :	:	
: 74S10 :	: GATE :	: D-1 :	: P DIP 14 :	: 46C :	: DSPY :	: FIELD :	: 040C 55%PWR :	: 14106 / 8 :	: :	
:	:	: 3 :	: 77/78 :	:	: GBC :	:	:	: 18,337,800 :	:	
: 74S10 :	: GATE :	: D-1 :	: P DIP 14 :	: 46C :	: DSPY :	: FIELD :	: 040C 55%PWR :	: 53259 / 12 :	: :	
:	:	: 3 :	: 78/79 :	:	: GBC :	:	:	: 69,236,700 :	:	
: 74S132 :	: GATE :	: D-1 :	: P DIP 14 :	: 59C :	: DSPY :	: FIELD :	: 040C 55%PWR :	: 2105 / 0 :	: :	
:	: SCHMITT TRIGGER :	: 4 :	: 77/78 :	:	: GBC :	:	:	: 2,736,500 :	:	
: 74S132 :	: GATE :	: D-1 :	: P DIP 14 :	: 59C :	: DSPY :	: FIELD :	: 040C 55%PWR :	: 7936 / 2 :	: :	
:	: SCHMITT TRIGGER :	: 4 :	: 78/79 :	:	: GBC :	:	:	: 10,316,800 :	:	
: 74S133 :	: GATE :	: D-1 :	: P DIP 16 :	: 42C :	: DSPY :	: FIELD :	: 040C 55%PWR :	: 2180 / 3 :	: :	
:	:	: 1 :	: 77/78 :	:	: GBC :	:	:	: 2,834,000 :	:	
: 74S133 :	: GATE :	: D-1 :	: P DIP 16 :	: 42C :	: DSPY :	: FIELD :	: 040C 55%PWR :	: 7112 / 3 :	: :	
:	:	: 1 :	: 78/79 :	:	: GBC :	:	:	: 9,245,600 :	:	
: 74S134 :	: GATE :	: D-1 :	: P DIP 16 :	: 45C :	: DSPY :	: FIELD :	: 040C 55%PWR :	: 92 / 0 :	: :	
:	:	: 1 :	: 77/78 :	:	: GBC :	:	:	: 119,600 :	:	
: 74S134 :	: GATE :	: D-1 :	: P DIP 16 :	: 45C :	: DSPY :	: FIELD :	: 040C 55%PWR :	: 2751 / 1 :	: :	
:	:	: 1 :	: 78/79 :	:	: GBC :	:	:	: 3,576,300 :	:	
: 74S138 :	: DECODER/DEMULTIPLX :	: D-1 :	: P DIP 16 :	: 65C :	: DSPY :	: FIELD :	: 040C 55%PWR :	: 1290 / 1 :	: :	
:	:	: 16 :	: 77/78 :	:	: GBC :	:	:	: 1,677,000 :	:	
: 74S138 :	: DECODER/DEMULTIPLX :	: D-1 :	: P DIP 16 :	: 65C :	: DSPY :	: FIELD :	: 040C 55%PWR :	: 7417 / 0 :	: :	
:	:	: 16 :	: 78/79 :	:	: GBC :	:	:	: 9,642,100 :	:	
: 74S139 :	: DECODER/DEMULTIPLX :	: D-1 :	: P DIP 16 :	: 55C :	: INTR :	: CHECK :	: 025C :	: 2 / 0 :	: :	
:	:	: 18 :	: 77/77 :	:	: GBC :	: OPERATE :	:	: 880 :	:	
: 74S139 :	: DECODER/DEMULTIPLX :	: D-1 :	: P DIP 16 :	: 70C :	: DSPY :	: FIELD :	: 040C 55%PWR :	: 473 / 1 :	: :	
:	:	: 18 :	: 77/78 :	:	: GBC :	:	:	: 614,900 :	:	
: 74S139 :	: DECODER/DEMULTIPLX :	: D-1 :	: P DIP 16 :	: 70C :	: DSPY :	: FIELD :	: 040C 55%PWR :	: 3359 / 0 :	: :	
:	:	: 18 :	: 78/79 :	:	: GBC :	:	:	: 4,366,700 :	:	
: 74S151 :	: MULTIPLYER :	: D-1 :	: P DIP 16 :	: 63C :	: DSPY :	: FIELD :	: 040C 55%PWR :	: 337 / 0 :	: :	
:	:	: 17 :	: 77/78 :	:	: GBC :	:	:	: 438,100 :	:	
: 74S151 :	: MULTIPLEXER :	: D-1 :	: P DIP 16 :	: 63C :	: DSPY :	: FIELD :	: 040C 55%PWR :	: 1772 / 0 :	: :	
:	:	: 17 :	: 78/79 :	:	: GBC :	:	:	: 2,303,600 :	:	
: 74S153 :	: MULTIPLEXER :	: D-1 :	: P DIP 16 :	: 63C :	: DSPY :	: FIELD :	: 040C 55%PWR :	: 2396 / 2 :	: :	
:	:	: 16 :	: 77/78 :	:	: GBC :	:	:	: 3,114,800 :	:	

DIGITAL DEVICE DATA

TEXAS INSTRUMENTS TTL ,SCHOTTKY		:MANUFACTURER :OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
: PART NO. :	: DEVICE FUNCTION :	: SCRNM. CLASS :	: PACKAGE/ PINS :	: JCT.* TEMP. :	: EQUIP. TYPE :	: DATA CLASS. :	: STRESS LEVEL :	: #TESTED/ #FAILED :	: MFEF REPORT NO. /QTY FAILED :	:
:	: CIRCUIT FUNCTION :	: NO. GATES :	: TEST DATE :	:	: APPL. ENV. :	: TEST TYPE :	:	: PART HOURS :	:	:
: 74S153 :	: MULTIPLEXER :	: D-1 :	: P DIP 16 :	: 63C :	: DSPY :	: FIELD :	: 040C 55%PWR :	: 4874 / 0 :	: 6,336,200 :	:
:	:	: 16 :	: 78/79 :	:	: GBC :	:	:	:	:	:
: 74S157 :	: MULTIPLEXER :	: D-1 :	: P DIP 16 :	: 65C :	: DSPY :	: FIELD :	: 040C 55%PWR :	: 28 / 0 :	: 36,400 :	:
:	:	: 15 :	: 77/78 :	:	: GBC :	:	:	:	:	:
: 74S157 :	: MULTIPLEXER :	: D-1 :	: P DIP 16 :	: 65C :	: DSPY :	: FIELD :	: 040C 55%PWR :	: 932 / 0 :	: 1,211,600 :	:
:	:	: 15 :	: 78/79 :	:	: GBC :	:	:	:	:	:
: 74S158 :	: MULTIPLEXER :	: D-1 :	: P DIP 16 :	: 60C :	: DSPY :	: FIELD :	: 040C 55%PWR :	: 5039 / 2 :	: 6,550,700 :	:
:	:	: 15 :	: 78/79 :	:	: GBC :	:	:	:	:	:
: 74S163 :	: COUNTER BINARY :	: D :	: H DIP 16 :	: 83C :	: DSPY :	: FIELD :	: 040C 55%PWR :	: 420 / 0 :	: 546,000 :	:
:	:	: 53 :	: 77/78 :	:	: GBC :	:	:	:	:	:
: 74S163 :	: COUNTER BINARY :	: D :	: H DIP 16 :	: 83C :	: DSPY :	: FIELD :	: 040C 55%PWR :	: 1925 / 0 :	: 2,502,500 :	:
:	:	: 53 :	: 78/79 :	:	: GBC :	:	:	:	:	:
: 74S163 :	: COUNTER BINARY :	: D-1 :	: P DIP 16 :	: 68C :	: COMP :	: FIELD :	: 025C :	: 12 / 0 :	: 122,880 :	:
:	:	: 53 :	: 76/78 :	:	: GBC :	:	:	:	:	:
: 74S163 :	: COUNTER BINARY :	: D-1 :	: P DIP 16 :	: 68C :	: COMP :	: FIELD :	: 025C :	: 20 / 0 :	: 201,600 :	:
:	:	: 53 :	: 76/78 :	:	: GBC :	:	:	:	:	:
: 74S163 :	: COUNTER BINARY :	: D-1 :	: P DIP 16 :	: 83C :	: DSPY :	: FIELD :	: 040C 55%PWR :	: 518 / 2 :	: 673,400 :	:
:	:	: 53 :	: 77/78 :	:	: GBC :	:	:	:	:	:
: 74S163 :	: COUNTER BINARY :	: D-1 :	: P DIP 16 :	: 68C :	: COMP :	: FIELD :	: 025C :	: 12 / 0 :	: 34,560 :	:
:	:	: 53 :	: 78/78 :	:	: GBC :	:	:	:	:	:
: 74S163 :	: COUNTER BINARY :	: D-1 :	: P DIP 16 :	: 68C :	: COMP :	: FIELD :	: 025C :	: 20 / 0 :	: 57,600 :	:
:	:	: 53 :	: 78/78 :	:	: GBC :	:	:	:	:	:
: 74S163 :	: COUNTER BINARY :	: D-1 :	: P DIP 16 :	: 83C :	: DSPY :	: FIELD :	: 040C 55%PWR :	: 2344 / 0 :	: 3,047,200 :	:
:	:	: 53 :	: 78/79 :	:	: GBC :	:	:	:	:	:
: 74S169 :	: COUNTER BINARY :	: D :	: H DIP 16 :	: 86C :	: DSPY :	: FIELD :	: 040C 55%PWR :	: 924 / 0 :	: 1,201,200 :	:
:	:	: 66 :	: 77/78 :	:	: GBC :	:	:	:	:	:
: 74S169 :	: COUNTER BINARY :	: D :	: H DIP 16 :	: 86C :	: DSPY :	: FIELD :	: 040C 55%PWR :	: 6644 / 3 :	: 8,637,200 :	:
:	:	: 66 :	: 78/79 :	:	: GBC :	:	:	:	:	:
: 74S174 :	: FLIP-FLOP D :	: D-1 :	: P DIP 16 :	: 81C :	: DSPY :	: FIELD :	: 040C 55%PWR :	: 1867 / 0 :	: 2,427,100 :	:
:	:	: 36 :	: 77/78 :	:	: GBC :	:	:	:	:	:
: 74S174 :	: FLIP-FLOP D :	: D-1 :	: P DIP 16 :	: 81C :	: DSPY :	: FIELD :	: 040C 55%PWR :	: 6286 / 0 :	: 8,171,800 :	:
:	:	: 36 :	: 78/79 :	:	: GBC :	:	:	:	:	:
: 74S181 :	: LOGIC UNIT ARITHMETIC :	: D :	: H DIP 24 :	: 83C :	: DSPY :	: FIELD :	: 040C 55%PWR :	: 120 / 0 :	: 156,000 :	:
:	:	: 63 :	: 77/78 :	:	: GBC :	:	:	:	:	:
: 74S181 :	: LOGIC UNIT ARITHMETIC :	: D :	: H DIP 24 :	: 83C :	: DSPY :	: FIELD :	: 040C 55%PWR :	: 1461 / 0 :	: 1,899,300 :	:
:	:	: 63 :	: 78/79 :	:	: GBC :	:	:	:	:	:
: 74S181 :	: LOGIC UNIT ARITHMETIC :	: D-1 :	: P DIP 24 :	: 83C :	: DSPY :	: FIELD :	: 040C 55%PWR :	: 60 / 0 :	: 78,000 :	:
:	:	: 63 :	: 77/78 :	:	: GBC :	:	:	:	:	:
: 74S181 :	: LOGIC UNIT ARITHMETIC :	: D-1 :	: P DIP 24 :	: 83C :	: DSPY :	: FIELD :	: 040C 55%PWR :	: 1175 / 0 :	: 1,527,500 :	:
:	:	: 63 :	: 78/79 :	:	: GBC :	:	:	:	:	:
: 74S182 :	: GENERATOR :	: D-1 :	: P DIP 16 :	: 64C :	: DSPY :	: FIELD :	: 040C 55%PWR :	: 391 / 0 :	: 508,300 :	:
:	:	: 19 :	: 77/78 :	:	: GBC :	:	:	:	:	:
: 74S182 :	: GENERATOR :	: D-1 :	: P DIP 16 :	: 64C :	: DSPY :	: FIELD :	: 040C 55%PWR :	: 1541 / 0 :	: 2,003,300 :	:
:	:	: 19 :	: 78/79 :	:	: GBC :	:	:	:	:	:
: 74S195 :	: SHIFT REC :	: D-1 :	: P DIP 16 :	: 72C :	: DSPY :	: FIELD :	: 040C 55%PWR :	: 1191 / 0 :	: 1,548,300 :	:
:	:	: 41 :	: 77/78 :	:	: GBC :	:	:	:	:	:

DIGITAL DEVICE DATA

TEXAS INSTRUMENTS TTL, SCHOTTKY		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TFST TYPE		PART HOURS		
74S195	SHIFT REG	D-1 41	P DIP 16: 78/79	72C	DSPY GBC	FIELD	040C 55%PWR:	4902 / 0 6,372,600:		
74S196	COUNTER DECADE	D-1 39	P DIP 14: 77/78	78C	DSPY GBC	FIELD	040C 55%PWR:	664 / 0 863,200:		
74S196	COUNTER DECADE	D-1 39	P DIP 14: 78/79	78C	DSPY GBC	FIELD	040C 55%PWR:	2161 / 1 2,809,300:		
74S260	GATE	D-1 2	P DIP 14: 77/78	51C	DSPY GBC	FIELD	040C 55%PWR:	28 / 0 36,400:		
74S260	GATE	D-1 2	P DIP 14: 78/79	51C	DSPY GBC	FIELD	040C 55%PWR:	966 / 0 1,255,800:		
74S280	GENERATOR	D-1 46	P DIP 14: 78/79	74C	DSPY GBC	FIELD	040C 55%PWR:	13 / 0 16,900:		
74S283	ADDER FULL	D-1 42	P DIP 16: 77/78	83C	DSPY GBC	FIELD	040C 55%PWR:	80 / 0 104,000:		
74S283	ADDER FULL	D-1 42	P DIP 16: 78/79	83C	DSPY GBC	FIELD	040C 55%PWR:	974 / 0 1,266,200:		
74S30	GATE	D-1 1	P DIP 14: 77/78	43C	DSPY GBC	FIELD	040C 55%PWR:	1751 / 0 2,276,300:		
74S30	GATE	D-1 1	P DIP 14: 78/79	43C	DSPY GBC	FIELD	040C 55%PWR:	7401 / 0 9,621,300:		
74S32	GATE	D-1 4	P DIP 14: 77/78	55C	DSPY GBC	FIELD	040C 55%PWR:	6946 / 0 9,029,800:		
74S32	GATE	D-1 4	P DIP 14: 78/79	55C	DSPY GBC	FIELD	040C 55%PWR:	15654 / 0 20,350,200:		
74S37	BUFFER	D-1 4	P DIP 14: 77/78	57C	DSPY GBC	FIELD	040C 55%PWR:	992 / 1 1,289,600:		
74S37	BUFFER	D-1 4	P DIP 14: 78/79	57C	DSPY GBC	FIELD	040C 55%PWR:	1272 / 0 1,653,600:		
74S373	LATCH D	D-1 58	P DIP 20: 76/78	67C	COMP GBC	FIELD	025C	21 / 9 218,400:		
74S373	LATCH D	D-1 58	P DIP 20: 76/78	67C	COMP GBC	FIELD	025C	21 / 0 116,424:		
74S373	LATCH D	D-1 58	P DIP 20: 78/78	67C	COMP GBC	FIELD	025C	21 / 0 60,480:		
74S373	LATCH D	D-1 58	P DIP 20: 78/78	67C	COMP GBC	FIELD	025C	21 / 0 60,480:		
74S374	FLIP-FLOP D	D-1 58	P DIP 20: 76/78	36C	COMP GBC	FIELD	025C	24 / 0 245,760:		
74S374	FLIP-FLOP D	D-1 58	P DIP 20: 76/78	36C	COMP GBC	FIELD	025C	75 / 1 780,000:		
74S374	FLIP-FLOP D	D-1 58	P DIP 20: 76/78	36C	COMP GBC	FIELD	025C	9 / 0 93,312:		
74S374	FLIP-FLOP D	D-1 58	P DIP 20: 76/78	36C	COMP GBC	FIELD	025C	80 / 0 806,400:		
74S374	FLIP-FLOP D	D-1 58	P DIP 20: 77/78	51C	DSPY GBC	FIELD	040C 55%PWR:	53 / 0 68,900:		

DIGITAL DEVICE DATA

TEXAS INSTRUMENTS TTL SCHOTTKY		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
74S374	FLIP-FLOP D	D-1 58	P DIP 20 78/78	36C	COMP GBC	FIELD	025C	24 / 0 69,120		
74S374	FLIP-FLOP D	D-1 58	P DIP 20 78/78	36C	COMP GBC	FIELD	025C	75 / 0 216,000		
74S374	FLIP-FLOP D	D-1 58	P DIP 20 78/78	36C	COMP GBC	FIELD	025C	9 / 0 25,920		
74S374	FLIP-FLOP D	D-1 58	P DIP 20 78/78	36C	COMP GBC	FIELD	025C	90 / 0 230,400		
74S374	FLIP-FLOP D	D-1 58	P DIP 20 78/79	51C	DSPY GBC	FIELD	040C 55%PWR	170 / 0 231,400		
74S38	BUFFER	D-1 4	P DIP 14 77/78	57C	DSPY GBC	FIELD	040C 55%PWR	1007 / 0 1,300,100		
74S38	BUFFER	D-1 4	P DIP 14 78/79	57C	DSPY GBC	FIELD	040C 55%PWR	4355 / 0 5,061,500		
74S381	LOGIC UNIT ARITHMETIC	D-1 81	P DIP 20 76/78	67C	COMP GBC	FIELD	025C	12 / 0 124,800		
74S381	LOGIC UNIT ARITHMETIC	D-1 81	P DIP 20 76/78	67C	COMP GBC	FIELD	025C	6 / 0 73,264		
74S381	LOGIC UNIT ARITHMETIC	D-1 81	P DIP 20 78/78	67C	COMP GBC	FIELD	025C	12 / 0 34,560		
74S381	LOGIC UNIT ARITHMETIC	D-1 81	P DIP 20 78/78	67C	COMP GBC	FIELD	025C	6 / 0 17,280		
74S51	GATE	D-1 6	P DIP 14 77/78	46C	DSPY GBC	FIELD	040C 55%PWR	12370 / 2 16,081,000		
74S51	GATE	D-1 6	P DIP 14 78/79	46C	DSPY GBC	FIELD	040C 55%PWR	33322 / 6 43,318,600		
74S65	GATE	D-1 5	P DIP 14 77/78	44C	DSPY GBC	FIELD	040C 55%PWR	43198 / 12 56,157,400		
74S65	GATE	D-1 5	P DIP 14 78/79	44C	DSPY GBC	FIELD	040C 55%PWR	26444 / 12 34,377,200		
74S74	FLIP-FLOP D	D-1 12	P DIP 14 77/77	41C	INTR GBC	CHECK OPERATE	025C	2 / 0 880		

VARIOUS TTL SCHOTTKY		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
54/74S112	FLIP-FLOP JK	NONE 16	N/R DIP 16 77/79	35C	COMP GB	FIELD	025C	3 / 0 57,702		
54/74S112	FLIP-FLOP JK	NONE 16	N/R DIP 16 77/79	35C	COMP GB	FIELD	025C	6 / 0 119,280		

DIGITAL DEVICE DATA

VARIOUS TTL SCHOTTKY		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO./QTY FAILED		
	CIRCUIT FUNCTION	NO. GATFS	TFST DATE		APPL. FNV.	TEST TYPE			PART HOURS		
54S00	GATE	B-1/JB: 4	H DIP 14: 77/79	33C	RADR: GF	FIELD	025C	14 / 0	191,520		
54S00	GATE	B-1/JB: 4	H DIP 14: 77/79	33C	RADR: GF	FIELD	025C	150 / 0	2,052,000		
54S00	GATE	B-1/JB: 4	H DIP 14: 77/79	33C	RADR: GF	FIELD	025C	36 / 0	492,480		
54S00	GATE	B-1/JB: 4	H DIP 14: 77/79	33C	RADR: GF	FIELD	025C	21 / 0	287,280		
54S00	GATE	B-1/JB: 4	H DIP 14: 79/79	33C	RADR: GF	FIELD	025C	21 / 0	90,720		
54S00	GATE	B-1/JB: 4	H DIP 14: 79/79	33C	RADR: GF	FIELD	025C	14 / 0	60,480		
54S00	GATE	B-1/JB: 4	H DIP 14: 79/79	33C	RADR: GF	FIELD	025C	150 / 0	648,000		
54S00	GATE	B-1/JB: 4	H DIP 14: 79/79	33C	RADR: GF	FIELD	025C	36 / 0	155,520		
54S00	GATE	B-1/JB: 4	H DIP 14: 75/78	74C	COMP: AUF	FIELD		231 / 0	263,340		
54S04	INVERTER	B-1/JB: 6	H DIP 14: 77/79	36C	RADR: GF	FIELD	025C	41 / 0	560,880		
54S04	INVERTER	B-1/JB: 6	H DIP 14: 77/79	36C	RADR: GF	FIELD	025C	163 / 0	2,229,840		
54S04	INVERTER	B-1/JB: 6	H DIP 14: 77/79	36C	RADR: GF	FIELD	025C	145 / 0	1,983,600		
54S04	INVERTER	B-1/JB: 6	H DIP 14: 77/79	36C	RADR: GF	FIELD	025C	75 / 0	1,026,000		
54S04	INVERTER	B-1/JB: 6	H DIP 14: 79/79	36C	RADR: GF	FIELD	025C	75 / 0	324,000		
54S04	INVERTER	B-1/JB: 6	H DIP 14: 79/79	36C	RADR: GF	FIELD	025C	41 / 0	177,120		
54S04	INVERTER	B-1/JB: 6	H DIP 14: 79/79	36C	RADR: GF	FIELD	025C	163 / 0	704,160		
54S04	INVERTER	B-1/JB: 6	H DIP 14: 79/79	36C	RADR: GF	FIELD	025C	145 / 0	626,400		
54S10	GATE	B-1/JB: 3	H DIP 14: 77/79	65C	COMM: AI	CHECK: TCVPC	-054C 055C 14CY 2 22HZ	12958 / 0	354,444		
54S10	GATE	B-1/JB: 3	H DIP 14: 77/79	65C	COMM: AI	CHECK: TCVPC	-054C 055C 14CY 2 22HZ	3824 / 0	104,240		
54S10	GATE	B-1/JB: 3	H DIP 14: 77/79	65C	COMM: AI	CHECK: TCVPC	-054C 055C 14CY 2 22HZ	7010 / 0	193,924		
54S10	GATE	B-1/JB: 3	H DIP 14: 76/77	60C	COMM: AIF	FIELD		30 / 0	20,454		
54S10	GATE	B-1/JB: 3	H DIP 14: 76/77	60C	COMM: AIF	FIELD		20 / 0	8,382		
54S10	GATE	B-1/JB: 3	H DIP 14: 76/77	60C	COMM: AIF	FIELD		28 / 0	14,112		

DIGITAL DEVICE DATA

VARIOUS TTL SCHOTTKY		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	FOUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MREF REPORT NO. /CTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
54S10	GATE	B-1/JB: 3	H DIP 14: 76/77	60C	COMM AIT	FIELD		38 / 0 38,662		
54S10	GATE	B-1/JB: 3	H DIP 14: 77/79	30C	RADR GF	FIELD	025C	3 / 0 41,940		
54S10	GATE	B-1/JB: 3	H DIP 14: 77/79	30C	RADR GF	FIELD	025C	70 / 0 57,600		
54S10	GATE	B-1/JB: 3	H DIP 14: 77/79	30C	RADR GF	FIELD	025C	5 / 0 68,400		
54S10	GATE	B-1/JB: 3	H DIP 14: 77/79	30C	RADR GF	FIELD	025C	3 / 0 41,040		
54S10	GATE	B-1/JB: 3	H DIP 14: 79/79	30C	RADR GF	FIELD	025C	3 / 0 12,960		
54S10	GATE	B-1/JB: 3	H DIP 14: 79/79	30C	RADR GF	FIELD	025C	3 / 0 12,960		
54S10	GATE	B-1/JB: 3	H DIP 14: 79/79	30C	RADR GF	FIELD	025C	70 / 0 302,400		
54S10	GATE	B-1/JB: 3	H DIP 14: 79/79	30C	RADR GF	FIELD	025C	5 / 0 21,600		
54S11	GATE	B-1/JB: 3	H DIP 14: 77/79	35C	RADR GF	FIELD	025C	1 / 0 13,680		
54S11	GATE	B-1/JB: 3	H DIP 14: 77/79	35C	RADR GF	FIELD	025C	24 / 0 328,320		
54S11	GATE	B-1/JB: 3	H DIP 14: 77/79	35C	RADR GF	FIELD	025C	18 / 0 246,240		
54S11	GATE	B-1/JB: 3	H DIP 14: 79/79	35C	RADR GF	FIELD	025C	1 / 0 4,320		
54S11	GATE	B-1/JB: 3	H DIP 14: 79/79	35C	RADR GF	FIELD	025C	24 / 0 103,680		
54S11	GATE	B-1/JB: 3	H DIP 14: 79/79	35C	RADR GF	FIELD	025C	18 / 0 77,760		
54S112	FLIP-FLOP JK	B-1/JB: 16	H DIP 16: 77/79	39C	RADR GF	FIELD	025C	11 / 0 150,480		
54S112	FLIP-FLOP JK	B-1/JB: 16	H DIP 16: 77/79	39C	RADR GF	FIELD	025C	7 / 0 95,760		
54S112	FLIP-FLOP JK	B-1/JB: 16	H DIP 16: 77/79	39C	RADR GF	FIELD	025C	15 / 0 205,200		
54S112	FLIP-FLOP JK	B-1/JB: 16	H DIP 16: 77/79	39C	RADR GF	FIELD	025C	11 / 0 150,480		
54S112	FLIP-FLOP JK	B-1/JB: 16	H DIP 16: 79/79	39C	RADR GF	FIELD	025C	11 / 0 47,520		
54S112	FLIP-FLOP JK	B-1/JB: 16	H DIP 16: 79/79	39C	RADR GF	FIELD	025C	11 / 0 47,520		
54S112	FLIP-FLOP JK	B-1/JB: 16	H DIP 16: 79/79	39C	RADR GF	FIELD	025C	15 / 0 64,800		
54S112	FLIP-FLOP JK	B-2: 16	H DIP 16: 77/77		RADR AIU	FIELD OPERATF		35 / 0 1,127		

DIGITAL DEVICE DATA

VARIOUS TTL SCHOTTKY		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
54S133	GATE	B-1/JB: 1	H DIP 16: 77/79	27C	RADR GF	FIELD	025C	1 / 0 13,680		
54S133	GATE	B-1/JB: 1	H DIP 16: 77/79	27C	RADR GF	FIELD	025C	17 / 0 232,560		
54S133	GATE	B-1/JB: 1	H DIP 16: 77/79	27C	RADR GF	FIELD	025C	43 / 0 588,240		
54S133	GATE	B-1/JB: 1	H DIP 16: 77/79	27C	RADR GF	FIELD	025C	4 / 0 54,720		
54S133	GATE	B-1/JB: 1	H DIP 16: 77/79	27C	RADR GF	FIELD	025C	15 / 0 205,200		
54S133	GATE	B-1/JB: 1	H DIP 16: 79/79	27C	RADR GF	FIELD	025C	15 / 0 64,800		
54S133	GATE	B-1/JB: 1	H DIP 16: 79/79	27C	RADR GF	FIELD	025C	1 / 1 4,320		
54S133	GATE	B-1/JB: 1	H DIP 16: 79/79	27C	RADR GF	FIELD	025C	17 / 0 73,440		
54S133	GATE	B-1/JB: 1	H DIP 16: 79/79	27C	RADR GF	FIELD	025C	43 / 0 185,760		
54S133	GATE	B-1/JB: 1	H DIP 16: 79/79	27C	RADR GF	FIELD	025C	4 / 0 17,280		
54S138	DECODER/DEMULTIPLX	B-1/JB: 16	H DIP 16: 77/79	47C	RADR GF	FIELD	025C	12 / 0 164,160		
54S138	DECODER/DEMULTIPLX	B-1/JB: 16	H DIP 16: 77/79	47C	RADR GF	FIELD	025C	73 / 0 998,640		
54S138	DECODER/DEMULTIPLX	B-1/JB: 16	H DIP 16: 77/79	47C	RADR GF	FIELD	025C	8 / 0 109,440		
54S138	DECODER/DEMULTIPLX	B-1/JB: 16	H DIP 16: 79/79	47C	RADR GF	FIELD	025C	8 / 0 34,560		
54S138	DECODER/DEMULTIPLX	B-1/JB: 16	H DIP 16: 79/79	47C	RADR GF	FIELD	025C	12 / 0 51,840		
54S138	DECODER/DEMULTIPLX	B-1/JB: 16	H DIP 16: 79/79	47C	RADR GF	FIELD	025C	73 / 0 315,360		
54S140	INTERFACE LINE DRIVER	B-1/JB: 2	H DIP 14: 77/79	35C	RADR GF	FIELD	025C	2 / 0 27,360		
54S140	INTERFACE LINE DRIVER	B-1/JB: 2	H DIP 14: 79/79	35C	RADR GF	FIELD	025C	2 / 0 8,640		
54S151	MULTIPLEXER	B-1/JB: 17	H DIP 16: 77/79	45C	RADR GF	FIELD	025C	1 / 0 13,680		
54S151	MULTIPLEXER	B-1/JB: 17	H DIP 16: 77/79	45C	RADR GF	FIELD	025C	16 / 0 218,880		
54S151	MULTIPLEXER	B-1/JB: 17	H DIP 16: 77/79	45C	RADR GF	FIELD	025C	3 / 0 41,040		
54S151	MULTIPLEXER	B-1/JB: 17	H DIP 16: 79/79	45C	RADR GF	FIELD	025C	3 / 0 12,960		
54S151	MULTIPLEXER	B-1/JB: 17	H DIP 16: 79/79	45C	RADR GF	FIELD	025C	1 / 0 4,320		

DIGITAL DEVICE DATA

VARIOUS TTL ,SCHOTTKY		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT. TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFT REPORT NO. /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
54S151	MULTIPLEXER	B-1/JB: 17	H DIP 16: 79/79	45C	RADR GF	FIELD	025C	16 / 0 60,120			
54S153	MULTIPLEXER	B-1/JB: 16	H DIP 16: 77/79	45C	RADR GF	FIELD	025C	6 / 0 82,080			
54S153	MULTIPLEXER	B-1/JB: 16	H DIP 16: 77/79	45C	RADR GF	FIELD	025C	43 / 0 588,240			
54S153	MULTIPLEXER	B-1/JB: 16	H DIP 16: 77/79	45C	RADR GF	FIELD	025C	91 / 0 1,244,880			
54S153	MULTIPLEXER	B-1/JB: 16	H DIP 16: 77/79	45C	RADR GF	FIELD	025C	26 / 0 355,680			
54S153	MULTIPLEXER	B-1/JB: 16	H DIP 16: 79/79	45C	RADR GF	FIELD	025C	26 / 0 112,320			
54S153	MULTIPLEXER	B-1/JB: 16	H DIP 16: 79/79	45C	RADR GF	FIELD	025C	6 / 0 25,920			
54S153	MULTIPLEXER	B-1/JB: 16	H DIP 16: 79/79	45C	RADR GF	FIELD	025C	43 / 0 185,760			
54S153	MULTIPLEXER	B-1/JB: 16	H DIP 16: 79/79	45C	RADR GF	FIELD	025C	91 / 0 393,120			
54S157	MULTIPLEXER	B-1/JB: 15	H DIP 16: 77/79	48C	RADR GF	FIELD	025C	2 / 0 27,360			
54S157	MULTIPLEXER	B-1/JB: 15	H DIP 16: 77/79	48C	RADR GF	FIELD	025C	35 / 0 478,800			
54S157	MULTIPLEXER	B-1/JB: 15	H DIP 16: 77/79	48C	RADR GF	FIELD	025C	18 / 0 246,240			
54S157	MULTIPLEXER	B-1/JB: 15	H DIP 16: 77/79	48C	RADR GF	FIELD	025C	24 / 0 328,320			
54S157	MULTIPLEXER	B-1/JB: 15	H DIP 16: 79/79	48C	RADR GF	FIELD	025C	24 / 0 103,680			
54S157	MULTIPLEXER	B-1/JB: 15	H DIP 16: 79/79	48C	RADR GF	FIELD	025C	2 / 0 8,640			
54S157	MULTIPLEXER	B-1/JB: 15	H DIP 16: 79/79	48C	RADR GF	FIELD	025C	35 / 0 151,200			
54S157	MULTIPLEXER	B-1/JB: 15	H DIP 16: 79/79	48C	RADR GF	FIELD	025C	18 / 0 77,760			
54S158	MULTIPLEXER	B-1/JB: 15	H DIP 16: 77/79	43C	RADR GF	FIELD	025C	1 / 0 13,680			
54S158	MULTIPLEXER	B-1/JB: 15	H DIP 16: 77/79	43C	RADR GF	FIELD	025C	7 / 0 95,760			
54S158	MULTIPLEXER	B-1/JB: 15	H DIP 16: 77/79	43C	RADR GF	FIELD	025C	72 / 0 984,960			
54S158	MULTIPLEXER	B-1/JB: 15	H DIP 16: 79/79	43C	RADR GF	FIELD	025C	1 / 0 4,320			
54S158	MULTIPLEXER	B-1/JB: 15	H DIP 16: 79/79	43C	RADR GF	FIELD	025C	7 / 0 30,240			
54S158	MULTIPLEXER	B-1/JB: 15	H DIP 16: 79/79	43C	RADR GF	FIELD	025C	72 / 0 311,040			

DIGITAL DEVICE DATA

VARIOUS TTL ,SCHOTTKY		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MTEF REPORT NO. /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
54S174	FLIP-FLOP D	B-1/JB: 36	H DIP 16: 77/79	66C	RADR GF	FIELD	025C	36 / 0 492,480		
54S174	FLIP-FLOP D	B-1/JB: 36	H DIP 16: 77/79	66C	RADR GF	FIELD	025C	1265 / 0 17,305,200		
54S174	FLIP-FLOP D	B-1/JB: 36	H DIP 16: 77/79	66C	RADR GF	FIELD	025C	157 / 0 2,147,760		
54S174	FLIP-FLOP D	B-1/JB: 36	H DIP 16: 77/79	66C	RADR GF	FIELD	025C	7 / 0 95,760		
54S174	FLIP-FLOP D	B-1/JB: 36	H DIP 16: 79/79	66C	RADR GF	FIELD	025C	7 / 0 30,240		
54S174	FLIP-FLOP D	B-1/JB: 36	H DIP 16: 79/79	66C	RADR GF	FIELD	025C	36 / 0 155,520		
54S174	FLIP-FLOP D	B-1/JB: 36	H DIP 16: 79/79	66C	RADR GF	FIELD	025C	1265 / 0 5,464,800		
54S174	FLIP-FLOP D	B-1/JB: 36	H DIP 16: 79/79	66C	RADR GF	FIELD	025C	157 / 0 678,240		
54S175	FLIP-FLOP D	B-1/JB: 24	H DIP 16: 77/79	52C	RADR GF	FIELD	025C	1 / 0 13,680		
54S175	FLIP-FLOP D	B-1/JB: 24	H DIP 16: 77/79	52C	RADR GF	FIELD	025C	57 / 0 779,760		
54S175	FLIP-FLOP D	B-1/JB: 24	H DIP 16: 77/79	52C	RADR GF	FIELD	025C	126 / 0 1,723,680		
54S175	FLIP-FLOP D	B-1/JB: 24	H DIP 16: 77/79	52C	RADR GF	FIELD	025C	41 / 0 560,880		
54S175	FLIP-FLOP D	B-1/JB: 24	H DIP 16: 79/79	52C	RADR GF	FIELD	025C	41 / 0 177,120		
54S175	FLIP-FLOP D	B-1/JB: 24	H DIP 16: 79/79	52C	RADR GF	FIELD	025C	1 / 0 4,320		
54S175	FLIP-FLOP D	B-1/JB: 24	H DIP 16: 79/79	52C	RADR GF	FIELD	025C	57 / 0 246,240		
54S175	FLIP-FLOP D	B-1/JB: 24	H DIP 16: 79/79	52C	RADR GF	FIELD	025C	126 / 0 544,320		
54S195	SHIFT REG	B-1/JB: 53	H DIP 16: 77/79	43C	RADR GF	FIELD	025C	3 / 0 41,040		
54S195	SHIFT REG	B-1/JB: 53	H DIP 16: 79/79	43C	RADR GF	FIELD	025C	3 / 0 12,960		
54S20	GATE	B-1/JB: 2	H DIP 14: 77/79	29C	RADR GF	FIELD	025C	1 / 0 13,680		
54S20	GATE	B-1/JB: 2	H DIP 14: 77/79	29C	RADR GF	FIELD	025C	26 / 0 355,680		
54S20	GATE	B-1/JB: 2	H DIP 14: 77/79	29C	RADR GF	FIELD	025C	10 / 0 136,800		
54S20	GATE	B-1/JB: 2	H DIP 14: 77/79	29C	RADR GF	FIELD	025C	1 / 0 13,680		
54S20	GATE	B-1/JB: 2	H DIP 14: 79/79	29C	RADR GF	FIELD	025C	1 / 0 4,320		

DIGITAL DEVICE DATA

VARIOUS TTL ,SCHOTTKY		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	TESTED/ #FAILED	DEFECT REPORT NO./QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
54820	GATE	B-1/JB: 2	H DIP 14: 79/79	29C	RADR GF	FIELD	025C	1 / 0 4,320:			
54820	GATE	B-1/JB: 2	H DIP 14: 79/79	29C	RADR GF	FIELD	025C	26 / 0 112,320:			
54820	GATE	B-1/JB: 2	H DIP 14: 79/79	29C	RADR GF	FIELD	025C	10 / 0 43,200:			
54820	GATE	B-1: 2	H DIP 14: 75/78	74C	COMP AUF	FIELD		99 / 0 112,860:			
54820	GATE	B-2: 2	H DIP 14: 77/77		RADR AIU	RELDEN OPERATE		25 / 0 805:			
54830	GATE	B-1/JB: 1	H DIP 14: 77/79	27C	RADR CF	FIELD	025C	1 / 0 13,680:			
54830	GATE	B-1/JB: 1	H DIP 14: 79/79	27C	RADR GF	FIELD	025C	1 / 0 4,320:			
54840	BUFFER	B-1/JB: 2	H DIP 14: 77/79	35C	RADR GF	FIELD	025C	30 / 0 410,400:			
54840	BUFFER	B-1/JB: 2	H DIP 14: 77/79	35C	RADR GF	FIELD	025C	173 / 0 2,366,640:			
54840	BUFFER	B-1/JB: 2	H DIP 14: 77/79	35C	RADR GF	FIELD	025C	343 / 0 4,692,240:			
54840	BUFFER	B-1/JB: 2	H DIP 14: 77/79	35C	RADR GF	FIELD	025C	9 / 0 123,120:			
54840	BUFFER	B-1/JB: 2	H DIP 14: 77/79	35C	RADR GF	FIELD	025C	136 / 0 1,860,480:			
54840	BUFFER	B-1/JB: 2	H DIP 14: 79/79	35C	RADR GF	FIELD	025C	9 / 0 38,880:			
54840	BUFFER	B-1/JB: 2	H DIP 14: 79/79	35C	RADR GF	FIELD	025C	136 / 0 587,520:			
54840	BUFFER	B-1/JB: 2	H DIP 14: 79/79	35C	RADR GF	FIELD	025C	30 / 0 129,600:			
54840	BUFFER	B-1/JB: 2	H DIP 14: 79/79	35C	RADR GF	FIELD	025C	173 / 0 747,360:			
54840	BUFFER	B-1/JB: 2	H DIP 14: 79/79	35C	RADR GF	FIELD	025C	343 / 0 1,481,760:			
54874	FLIP-FLOP D	B-1/JB: 12	H DIP 14: 77/79	65C	COMM AI	CHECK TCVP	-054C 055C 14CY 2 22HZ	6479 / 1 177,222:	2150/ 1		
54874	FLIP-FLOP D	B-1/JB: 12	H DIP 14: 77/79	65C	COMM AI	CHECK TCVP	-054C 055C 14CY 2 22HZ	1912 / 0 52,120:			
54874	FLIP-FLOP D	B-1/JB: 12	H DIP 14: 77/79	65C	COMM AI	CHECK TCVP	-054C 055C 14CY 2 22HZ	3505 / 0 96,962:			
54874	FLIP-FLOP D	B-1/JB: 12	H DIP 14: 76/77	64C	COMM AIF	FIELD		15 / 0 10,227:			
54874	FLIP-FLOP D	B-1/JB: 12	H DIP 14: 76/77	64C	COMM AIF	FIELD		10 / 0 4,191:			
54874	FLIP-FLOP D	B-1/JB: 12	H DIP 14: 76/77	64C	COMM AIF	FIELD		14 / 0 7,056:			

DIGITAL DEVICE DATA

VARIOUS TTL, SCHOTTKY		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFR REPORT NO. /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
54S74	FLIP-FLOP D	B-1/JB 12	H DIP 76/77	14 64C	COMM AIT	FIELD		19 / 0 19,331		
54S74	FLIP-FLOP D	B-1/JB 12	H DIP 77/79	14 35C	RADR GF	FIELD	025C	12 / 0 164,160		
54S74	FLIP-FLOP D	B-1/JB 12	H DIP 77/79	14 35C	RADR GF	FIELD	025C	59 / 0 807,120		
54S74	FLIP-FLOP D	B-1/JB 12	H DIP 77/79	14 35C	RADR GF	FIELD	025C	85 / 0 1,162,800		
54S74	FLIP-FLOP D	B-1/JB 12	H DIP 77/79	14 35C	RADR GF	FIELD	025C	181 / 0 2,476,080		
54S74	FLIP-FLOP D	B-1/JB 12	H DIP 79/79	14 35C	RADR GF	FIELD	025C	181 / 0 781,920		
54S74	FLIP-FLOP D	B-1/JB 12	H DIP 79/79	14 35C	RADR GF	FIELD	025C	12 / 0 51,840		
54S74	FLIP-FLOP D	B-1/JB 12	H DIP 79/79	14 35C	RADR GF	FIELD	025C	59 / 0 254,880		
54S74	FLIP-FLOP D	B-1/JB 12	H DIP 79/79	14 35C	RADR GF	FIELD	025C	85 / 0 367,200		
74S00	GATE	D 4	H DIP 77/79	14 35C	COMP GB	FIELD	025C	147 / 0 2,827,398		
74S00	GATE	D 4	H DIP 77/79	14 35C	COMP GB	FIELD	025C	294 / 0 5,844,720		
74S00	GATE	D-1 4	P DIP 77/79	14 35C	COMP GB	FIELD	025C	955 / 1 18,368,470	2244 / 1	
74S00	GATE	D-1 4	P DIP 77/79	14 35C	COMP GB	FIELD	025C	1910 / 1 37,970,800	2245 / 1	
74S00	GATE	D-1 4	P DIP 76/78	14 35C	COMP GBC	FIELD	025C	6 / 0 62,400		
74S00	GATE	D-1 4	P DIP 76/78	14 35C	COMP GBC	FIELD	025C	3 / 0 31,104		
74S00	GATE	D-1 4	P DIP 76/78	14 35C	COMP GBC	FIELD	025C	3 / 0 31,104		
74S00	GATE	D-1 4	P DIP 76/78	14 35C	COMP GBC	FIELD	025C	15 / 0 83,160		
74S00	GATE	D-1 4	P DIP 76/78	14 35C	COMP GBC	FIELD	025C	20 / 0 201,600		
74S00	GATE	D-1 4	P DIP 78/78	14 35C	COMP GBC	FIELD	025C	6 / 0 17,280		
74S00	GATE	D-1 4	P DIP 78/78	14 35C	COMP GBC	FIELD	025C	3 / 0 8,640		
74S00	GATE	D-1 4	P DIP 78/78	14 35C	COMP GBC	FIELD	025C	3 / 0 8,640		
74S00	GATE	D-1 4	P DIP 78/78	14 35C	COMP GBC	FIELD	025C	15 / 0 43,200		
74S00	GATE	D-1 4	P DIP 78/78	14 35C	COMP GBC	FIELD	025C	20 / 0 57,600		

DIGITAL DEVICE DATA

VARIOUS TTL SCHOTTKY		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRFSS LEVEL	#TESTED/ #FAILED	FLY REPORT NO./ QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE			PART HOURS		
74S00	GATE	D-1 4	P DIP 14 77/78	50C	DSPY GBC	FIELD	040C 55%PWR	49943 / 14 64,925,900			
74S00	GATE	D-1 4	P DIP 14 78/79	50C	DSPY GBC	FIELD	040C 55%PWR	99999 / 10 137,195,100			
						FIELD		5528 / 0			
74S00	GATE	NONE 4	N/R DIP 14 77/79	35C	COMP GB	FIELD	025C	1 / 0 19,234			
74S00	GATE	NONE 4	N/R DIP 14 77/79	35C	COMP GB	FIELD	025C	2 / 0 39,760			
74S00	GATE	X 4	P DIP 14 76/78	35C	COMP GBC	FIELD	025C	10 / 0 153,068			
74S00	GATE	X 4	P DIP 14 76/78	35C	COMP GBC	FIELD	025C	50 / 0 495,840			
74S00	GATE	X 4	P DIP 14 76/78	35C	COMP GBC	FIELD	025C	21 / 0 194,112			
74S00	GATE	X 4	P DIP 14 78/78	35C	COMP GBC	FIELD	025C	10 / 0 28,800			
74S00	GATE	X 4	P DIP 14 78/78	35C	COMP GBC	FIELD	025C	50 / 0 144,000			
74S00	GATE	X 4	P DIP 14 78/78	35C	COMP GBC	FIELD	025C	21 / 0 60,480			
74S02	GATE	D-1 4	P DIP 14 76/78	35C	COMP GBC	FIELD	025C	3 / 0 31,200			
74S02	GATE	D-1 4	P DIP 14 76/78	35C	COMP GBC	FIELD	025C	3 / 0 31,104			
74S02	GATE	D-1 4	P DIP 14 76/78	35C	COMP GBC	FIELD	025C	6 / 0 33,264			
74S02	GATE	D-1 4	P DIP 14 76/78	35C	COMP GBC	FIELD	025C	10 / 0 100,800			
74S02	GATE	D-1 4	P DIP 14 78/78	35C	COMP GBC	FIELD	025C	3 / 0 8,640			
74S02	GATE	D-1 4	P DIP 14 78/78	35C	COMP GBC	FIELD	025C	3 / 0 8,640			
74S02	GATE	D-1 4	P DIP 14 78/78	35C	COMP GBC	FIELD	025C	6 / 0 17,280			
74S02	GATE	D-1 4	P DIP 14 78/78	35C	COMP GBC	FIELD	025C	10 / 0 28,800			
74S02	GATE	X 4	P DIP 14 76/78	35C	COMP GBC	FIELD	025C	20 / 0 198,336			
74S02	GATE	X 4	P DIP 14 78/78	35C	COMP GBC	FIELD	025C	20 / 0 57,600			
74S03	GATE	D-1 4	P DIP 14 77/78	50C	DSPY GBC	FIELD	040C 55%PWR	324 / 0 421,200			
74S03	GATE	D-1 4	P DIP 14 78/79	50C	DSPY GBC	FIELD	040C 55%PWR	6359 / 0 8,266,700			

DIGITAL DEVICE DATA

VARIOUS TTL, SCHOTTKY		:MANUFACTURER :OPERATIONAL TYPE		RELIABILITY ANALYSIS CENTER						
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO. /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
74S03	GATE	X 4	P DIP 14 76/78	35C	COMP GBC	FIELD	025C	10 / 0 99,168		
74S03	GATE	X 4	P DIP 14 78/78	35C	COMP GBC	FIELD	025C	10 / 0 28,800		
74S04	INVERTER	D-1 6	P DIP 14 76/78	39C	COMP GBC	FIELD	025C	15 / 0 83,160		
74S04	INVERTER	D-1 6	P DIP 14 76/78	39C	COMP GBC	FIELD	025C	40 / 0 403,200		
74S04	INVERTER	D-1 6	P DIP 14 76/78	39C	COMP GBC	FIELD	025C	84 / 0 789,264		
74S04	INVERTER	D-1 6	P DIP 14 78/78	39C	COMP GBC	FIELD	025C	15 / 0 43,200		
74S04	INVERTER	D-1 6	P DIP 14 78/78	39C	COMP GBC	FIELD	025C	40 / 0 115,200		
74S04	INVERTER	D-1 6	P DIP 14 78/78	39C	COMP GBC	FIELD	025C	84 / 0 241,920		
74S04	INVERTER	D-1 6	P DIP 14 77/78	52C	DSPY GBC	FIELD	040C 55XPWR	32476 / 6 42,218,800		
74S04	INVERTER	D-1 6	P DIP 14 78/79	52C	DSPY GBC	FIELD	040C 55XPWR	51361 / 11 66,769,300		
74S04	INVERTER	X 6	P DIP 14 76/78	39C	COMP GBC	FIELD	025C	30 / 0 156,068		
74S04	INVERTER	X 6	P DIP 14 76/78	39C	COMP GBC	FIELD	025C	17 / 0 191,376		
74S04	INVERTER	X 6	P DIP 14 78/78	39C	COMP GBC	FIELD	025C	30 / 0 86,400		
74S04	INVERTER	X 6	P DIP 14 78/78	39C	COMP GBC	FIELD	025C	17 / 0 48,960		
74S05	INVERTER	D-1 6	P DIP 14 77/78	50C	DSPY GBC	FIELD	040C 55XPWR	280 / 0 364,000		
74S05	INVERTER	D-1 6	P DIP 14 78/79	50C	DSPY GBC	FIELD	040C 55XPWR	4266 / 1 5,545,800		
74S05	INVERTER	X 6	P DIP 14 76/78	35C	COMP GBC	FIELD	025C	10 / 0 153,068		
74S05	INVERTER	X 6	P DIP 14 78/78	35C	COMP GBC	FIELD	025C	10 / 0 28,800		
74S05	INVERTER	X 6	P DIP 14 78/78	35C	COMP GBC	FIELD	025C	21 / 0 60,480		
74S08	GATE	D-1 4	P DIP 14 76/78	39C	COMP GBC	FIELD	025C	9 / 0 92,160		
74S08	GATE	D-1 4	P DIP 14 76/78	39C	COMP GBC	FIELD	025C	9 / 0 93,600		
74S08	GATE	D-1 4	P DIP 14 76/78	39C	COMP GBC	FIELD	025C	9 / 0 49,896		
74S08	GATE	D-1 4	P DIP 14 76/78	39C	COMP GBC	FIELD	025C	30 / 0 302,400		

DIGITAL DEVICE DATA

VARIOUS TTL ,SCHOTTKY		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
74S08	GATE	D-1 4	P DIP 14: 78/78	39C	COMP GBC	FIELD	025C	9 / 0 25,920		
74S08	GATE	D-1 4	P DIP 14: 78/78	39C	COMP GBC	FIELD	025C	9 / 0 25,920		
74S08	GATE	D-1 4	P DIP 14: 78/78	39C	COMP GBC	FIELD	025C	9 / 0 25,920		
74S08	GATE	D-1 4	P DIP 14: 78/78	39C	COMP GBC	FIELD	025C	30 / 0 86,400		
74S10	GATE	D-1 3	P DIP 14: 76/78	31C	COMP GBC	FIELD	025C	12 / 0 124,800		
74S10	GATE	D-1 3	P DIP 14: 76/78	31C	COMP GBC	FIELD	025C	3 / 0 16,632		
74S10	GATE	D-1 3	P DIP 14: 78/78	31C	COMP GBC	FIELD	025C	12 / 0 34,560		
74S10	GATE	D-1 3	P DIP 14: 78/78	31C	COMP GBC	FIELD	025C	3 / 0 8,640		
74S11	GATE	D-1 3	P DIP 14: 76/78	35C	COMP GBC	FIELD	025C	20 / 0 201,600		
74S11	GATE	D-1 3	P DIP 14: 78/78	35C	COMP GBC	FIELD	025C	20 / 0 57,600		
74S11	GATE	D-1 3	P DIP 14: 77/78	50C	DSPY GBC	FIELD	040C 55XPWR	12310 / 2 16,003,000		
74S11	GATE	D-1 3	P DIP 14: 78/79	50C	DSPY GBC	FIELD	040C 55XPWR	29441 / 0 38,273,300		
74S11	GATE	X 3	P DIP 14: 76/78	35C	COMP GBC	FIELD	025C	20 / 0 306,136		
74S11	GATE	X 3	P DIP 14: 78/78	35C	COMP GBC	FIELD	025C	20 / 0 57,600		
74S112	FLIP-FLOP JK	D-1 16	P DIP 16: 77/79	39C	COMP GB	FIELD	025C	545 / 0 10,482,530		
74S112	FLIP-FLOP JK	D-1 16	P DIP 16: 77/79	39C	COMP GB	FIELD	025C	1092 / 0 21,708,960		
74S112	FLIP-FLOP JK	D-1 16	P DIP 16: 76/78	39C	COMP GBC	FIELD	025C	3 / 0 31,200		
74S112	FLIP-FLOP JK	D-1 16	P DIP 16: 76/78	39C	COMP GBC	FIELD	025C	10 / 0 100,800		
74S112	FLIP-FLOP JK	D-1 16	P DIP 16: 78/78	39C	COMP GBC	FIELD	025C	3 / 0 8,640		
74S112	FLIP-FLOP JK	D-1 16	P DIP 16: 78/78	39C	COMP GBC	FIELD	025C	10 / 0 28,800		
74S112	FLIP-FLOP JK	D-1 16	P DIP 16: 77/78	54C	DSPY GBC	FIELD	040C 55XPWR	62365 / 33 81,074,500		
74S112	FLIP-FLOP JK	D-1 16	P DIP 16: 78/79	54C	DSPY GBC	FIELD	040C 55XPWR	99999 / 41 133,173,300		
						FIELD		2442 / 0		

DIGITAL DEVICE DATA

VARIOUS TTL SCHOTTKY		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO./QTY FAILED	
	CIRCUIT FUNCTION	NO. GATFS	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
74S112	FLIP-FLOP JK	NONE 16	N/R DIP 16 77/79	39C	COMP GB	FIELD	025C	5 / 0 96,170		
74S113	FLIP-FLOP JK	D-1 16	P DIP 14 77/78	54C	DSPY GBC	FIELD	040C 55XPWR	1023 / 0 1,329,900		
74S113	FLIP-FLOP JK	D-1 16	P DIP 14 78/79	54C	DSPY GBC	FIELD	040C 55XPWR	1539 / 0 2,000,700		
74S133	GATE	X 1	P DIP 16 76/78	27C	COMP GRC	FIELD	025C	10 / 0 99,168		
74S133	GATE	X 1	P DIP 16 78/78	27C	COMP GRC	FIELD	025C	10 / 2 28,800		
74S135	GATE	D-1 8	P DIP 16 76/78	58C	COMP GBC	FIELD	025C	6 / 0 33,264		
74S135	GATE	D-1 8	P DIP 16 78/78	58C	COMP GBC	FIELD	025C	6 / 0 17,280		
74S138	DECODER/DEMUTLIPLX	D-1 16	P DIP 16 76/78	50C	COMP GBC	FIELD	025C	3 / 0 30,720		
74S138	DECODER/DEMUTLIPLX	D-1 16	P DIP 16 76/78	50C	COMP GBC	FIELD	025C	9 / 0 93,600		
74S138	DECODER/DEMUTLIPLX	D-1 16	P DIP 16 76/78	50C	COMP GBC	FIELD	025C	6 / 0 62,208		
74S138	DECODER/DEMUTLIPLX	D-1 16	P DIP 16 76/78	50C	COMP GBC	FIELD	025C	3 / 0 16,632		
74S138	DECODER/DEMUTLIPLX	D-1 16	P DIP 16 76/78	50C	COMP GBC	FIELD	025C	30 / 0 302,400		
74S138	DECODER/DEMUTLIPLX	D-1 16	P DIP 16 76/78	50C	COMP GBC	FIELD	025C	6 / 0 56,376		
74S138	DECODER/DEMUTLIPLX	D-1 16	P DIP 16 78/78	50C	COMP GBC	FIELD	025C	3 / 0 8,640		
74S138	DECODER/DEMUTLIPLX	D-1 16	P DIP 16 78/78	50C	COMP GBC	FIELD	025C	9 / 0 25,920		
74S138	DECODER/DEMUTLIPLX	D-1 16	P DIP 16 78/78	50C	COMP GBC	FIELD	025C	6 / 0 17,280		
74S138	DECODER/DEMUTLIPLX	D-1 16	P DIP 16 78/78	50C	COMP GBC	FIELD	025C	3 / 0 8,640		
74S138	DECODER/DEMUTLIPLX	D-1 16	P DIP 16 78/78	50C	COMP GBC	FIELD	025C	9 / 0 25,920		
74S138	DECODER/DEMUTLIPLX	D-1 16	P DIP 16 78/78	50C	COMP GBC	FIELD	025C	6 / 0 17,280		
74S138	DECODER/DEMUTLIPLX	D-1 16	P DIP 16 78/78	50C	COMP GBC	FIELD	025C	3 / 0 8,640		
74S138	DECODER/DEMUTLIPLX	D-1 16	P DIP 16 78/78	50C	COMP GBC	FIELD	025C	30 / 0 86,400		
74S138	DECODER/DEMUTLIPLX	D-1 16	P DIP 16 78/78	50C	COMP GBC	FIELD	025C	6 / 0 17,280		
74S138	DECODER/DEMUTLIPLX	X 16	P DIP 16 76/78	50C	COMP GBC	FIELD	025C	10 / 0 99,168		
74S138	DECODER/DEMUTLIPLX	X 16	P DIP 16 78/78	50C	COMP GBC	FIELD	025C	10 / 0 28,800		
74S139	DECODER/DEMUTLIPLX	D-1 18	P DIP 16 76/78	55C	COMP GRC	FIELD	025C	9 / 0 92,160		
74S139	DECODER/DEMUTLIPLX	D-1 18	P DIP 16 76/78	55C	COMP GRC	FIELD	025C	6 / 0 62,400		

DIGITAL DEVICE DATA

VARIOUS TTL ,SCHOTTKY		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TFSTED/ #FAILED	WEEF REPORT NO. /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
74S139	DECODER/DEMULTIPLX	D-1 : 18	P DIP 16 : 76/78	55C	COMP GBC	FIELD	025C	6 / 0 : 62,208		
74S139	DECODER/DEMULTIPLX	D-1 : 18	P DIP 16 : 76/78	55C	COMP GBC	FIELD	025C	6 / 0 : 33,264		
74S139	DECODER/DEMULTIPLX	D-1 : 18	P DIP 16 : 76/78	55C	COMP GBC	FIELD	025C	10 / 0 : 100,800		
74S139	DECODER/DEMULTIPLX	D-1 : 18	P DIP 16 : 78/78	55C	COMP GBC	FIELD	025C	9 / 0 : 25,920		
74S139	DECODER/DEMULTIPLX	D-1 : 18	P DIP 16 : 78/78	55C	COMP GBC	FIELD	025C	6 / 0 : 17,280		
74S139	DECODER/DEMULTIPLX	D-1 : 18	P DIP 16 : 78/78	55C	COMP GBC	FIELD	025C	6 / 0 : 17,280		
74S139	DECODER/DEMULTIPLX	D-1 : 18	P DIP 16 : 78/78	55C	COMP GBC	FIELD	025C	6 / 0 : 17,280		
74S139	DECODER/DEMULTIPLX	D-1 : 18	P DIP 16 : 78/78	55C	COMP GBC	FIELD	025C	10 / 0 : 28,800		
74S139	DECODER/DEMULTIPLX	X : 18	P DIP 16 : 76/78	55C	COMP GBC	FIELD	025C	10 / 0 : 153,000		
74S139	DECODER/DEMULTIPLX	X : 18	P DIP 16 : 78/78	55C	COMP GBC	FIELD	025C	10 / 0 : 28,800		
74S140	INTERFACE LINE DRIVER	D-1 : 2	P DIP 14 : 76/78	35C	COMP GBC	FIELD	025C	10 / 0 : 100,800		
74S140	INTERFACE LINE DRIVER	D-1 : 2	P DIP 14 : 78/78	35C	COMP GBC	FIELD	025C	10 / 0 : 28,800		
74S140	INTERFACE LINE DRIVER	X : 2	P DIP 14 : 76/78	35C	COMP GBC	FIELD	025C	20 / 0 : 306,136		
74S140	INTERFACE LINE DRIVER	X : 2	P DIP 14 : 76/78	35C	COMP GBC	FIELD	025C	10 / 0 : 99,168		
74S140	INTERFACE LINE DRIVER	X : 2	P DIP 14 : 76/78	35C	COMP GBC	FIELD	025C	21 / 0 : 194,112		
74S140	INTERFACE LINE DRIVER	X : 2	P DIP 14 : 78/78	35C	COMP GBC	FIELD	025C	20 / 0 : 57,600		
74S140	INTERFACE LINE DRIVER	X : 2	P DIP 14 : 78/78	35C	COMP GBC	FIELD	025C	10 / 0 : 28,800		
74S140	INTERFACE LINE DRIVER	X : 2	P DIP 14 : 78/78	35C	COMP GBC	FIELD	025C	21 / 0 : 60,480		
74S15	GATE	D-1 : 3	P DIP 14 : 77/78	50C	DSPY GBC	FIELD	040C 55XPWR	4963 / 3 : 6,451,900		
74S15	GATE	D-1 : 3	P DIP 14 : 78/79	50C	DSPY GBC	FIELD	040C 55XPWR	6906 / 1 : 9,977,800		
74S151	MULTIPLEXER	D-1 : 17	P DIP 16 : 76/78	48C	COMP GBC	FIELD	025C	18 / 0 : 187,200		
74S151	MULTIPLEXER	D-1 : 17	P DIP 16 : 78/78	48C	COMP GBC	FIELD	025C	18 / 0 : 51,840		
74S153	MULTIPLEXER	D-1 : 16	P DIP 16 : 76/78	48C	COMP GBC	FIELD	025C	48 / 0 : 499,200		

DIGITAL DEVICE DATA

VARIOUS
TTL SCHOTTKY

MANUFACTURED
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT. # TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
74S153	MULTIPLEXER	D-1 16	P DIP 16: 76/78	48C	COMP GBC	FIELD	025C	3 / 0 31,104	
74S153	MULTIPLEXER	D-1 16	P DIP 16: 76/78	48C	COMP GBC	FIELD	025C	3 / 0 16,632	
74S153	MULTIPLEXER	D-1 16	P DIP 16: 76/78	48C	COMP GBC	FIELD	025C	10 / 0 100,800	
74S153	MULTIPLEXER	D-1 16	P DIP 16: 78/78	48C	COMP GBC	FIELD	025C	48 / 0 138,240	
74S153	MULTIPLEXER	D-1 16	P DIP 16: 78/78	48C	COMP GBC	FIELD	025C	3 / 0 8,640	
74S153	MULTIPLEXER	D-1 16	P DIP 16: 78/78	48C	COMP GBC	FIELD	025C	3 / 0 8,640	
74S153	MULTIPLEXER	D-1 16	P DIP 16: 78/78	48C	COMP GBC	FIELD	025C	10 / 0 28,800	
74S153	MULTIPLEXER	X 16	P DIP 16: 76/78	48C	COMP GBC	FIELD	025C	30 / 0 297,504	
74S153	MULTIPLEXER	Y 16	P DIP 16: 78/78	48C	COMP GBC	FIELD	025C	30 / 0 86,400	
74S157	MULTIPLEXER	D-1 15	P DIP 16: 76/78	50C	COMP GBC	FIELD	025C	15 / 0 156,000	
74S157	MULTIPLEXER	D-1 15	P DIP 16: 76/78	50C	COMP GBC	FIELD	025C	12 / 0 124,416	
74S157	MULTIPLEXER	D-1 15	P DIP 16: 76/78	50C	COMP GBC	FIELD	025C	10 / 0 100,800	
74S157	MULTIPLEXER	D-1 15	P DIP 16: 78/78	50C	COMP GBC	FIELD	025C	15 / 0 43,200	
74S157	MULTIPLEXER	D-1 15	P DIP 16: 78/78	50C	COMP GBC	FIELD	025C	12 / 0 34,560	
74S157	MULTIPLEXER	D-1 15	P DIP 16: 78/78	50C	COMP GBC	FIELD	025C	10 / 0 28,800	
74S158	MULTIPLEXER	D-1 15	P DIP 16: 76/78	45C	COMP GBC	FIELD	025C	12 / 0 124,416	
74S158	MULTIPLEXER	D-1 15	P DIP 16: 76/78	45C	COMP GBC	FIELD	025C	10 / 1 100,800	
74S158	MULTIPLEXER	D-1 15	P DIP 16: 78/78	45C	COMP GBC	FIELD	025C	12 / 0 34,560	
74S158	MULTIPLEXER	D-1 15	P DIP 16: 78/78	45C	COMP GBC	FIELD	025C	10 / 0 28,800	
74S174	FLIP-FLOP D	D-1 36	P DIP 16: 76/78	70C	COMP GBC	FIELD	025C	12 / 1 122,880	
74S174	FLIP-FLOP D	D-1 36	P DIP 16: 76/78	70C	COMP GBC	FIELD	025C	6 / 0 62,400	
74S174	FLIP-FLOP D	D-1 36	P DIP 16: 76/78	70C	COMP GBC	FIELD	025C	70 / 1 705,600	
74S174	FLIP-FLOP D	D-1 36	P DIP 16: 78/78	70C	COMP GBC	FIELD	025C	12 / 0 34,560	

DIGITAL DEVICE DATA

VARIOUS
TTL ,SCHOTTKY

MANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
74S174	FLIP-FLOP D	D-1 36	P DIP 16: 78/78	70C	COMP GBC	FIELD	025C	6 / 0 17,280	
74S174	FLIP-FLOP D	D-1 36	P DIP 16: 78/78	70C	COMP GBC	FIELD	025C	70 / 0 201,600	
74S174	FLIP-FLOP D	X 36	P DIP 16: 76/78	70C	COMP GBC	FIELD	025C	10 / 0 153,068	
74S174	FLIP-FLOP D	X 36	P DIP 16: 78/78	70C	COMP GBC	FIELD	025C	10 / 0 28,800	
74S175	FLIP-FLOP D	D-1 24	P DIP 16: 76/78	55C	COMP GBC	FIELD	025C	30 / 0 302,400	
74S175	FLIP-FLOP D	D-1 24	P DIP 16: 78/78	55C	COMP GBC	FIELD	025C	30 / 0 86,400	
74S175	FLIP-FLOP D	D-1 24	P DIP 16: 76/78	55C	COMP GBC	FIELD	025C	3 / 0 31,104	
74S175	FLIP-FLOP D	D-1 24	P DIP 16: 78/78	55C	COMP GBC	FIELD	025C	3 / 0 8,640	
74S175N	FLIP-FLOP D	D-1 24	P DIP 16: 77/78	55C	DSPY GBC	FIELD	040C 55XPWR	973 / 0 1,264,900	
74S175N	FLIP-FLOP D	D-1 24	P DIP 16: 78/79	55C	DSPY GBC	FIELD	040C 55XPWR	9994 / 0 12,992,200	
74S182	GENERATOR	D-1 19	P DIP 16: 76/78	51C	COMP GBC	FIELD	025C	3 / 0 31,200	
74S182	GENERATOR	D-1 19	P DIP 16: 78/78	51C	COMP GBC	FIELD	025C	3 / 0 8,640	
74S194	SHIFT REG	D-1 47	P DIP 16: 77/78	83C	DSPY GBC	FIELD	040C 55XPWR	2199 / 0 2,858,700	
74S194	SHIFT REG	D-1 47	P DIP 16: 78/79	83C	DSPY GBC	FIELD	040C 55XPWR	2974 / 1 3,866,200	
74S20	GATE	D-1 2	P DIP 14: 77/79	30C	COMP GB	FIELD	025C	56 / 0 1,077,104	
74S20	GATE	D-1 2	P DIP 14: 77/79	30C	COMP GB	FIELD	025C	114 / 0 2,266,320	
74S20	GATE	D-1 2	P DIP 14: 76/78	30C	COMP GBC	FIELD	025C	3 / 0 30,720	
74S20	GATE	D-1 2	P DIP 14: 78/78	30C	COMP GBC	FIELD	025C	3 / 0 8,640	
74S20	GATE	D-1 2	P DIP 14: 77/78	45C	DSPY GBC	FIELD	040C 55XPWR	6140 / 0 7,982,000	
74S20	GATE	D-1 2	P DIP 14: 78/79	45C	DSPY GBC	FIELD	040C 55XPWR	8334 / 1 10,834,200	
74S20	GATE	X 2	P DIP 14: 76/78	45C	COMP GBC	FIELD	025C	10 / 0 99,168	
74S20	GATE	X 2	P DIP 14: 78/78	45C	COMP GBC	FIELD	025C	10 / 0 28,800	
74S251	MULTIPLEXER	D-1 17	P DIP 16: 76/78	53C	COMP GBC	FIELD	025C	96 / 1 902,016	

DIGITAL DEVICE DATA

VARIOUS TTL SCHOTTKY		:MANUFACTURER :OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
: PART NO. :	: DEVICE FUNCTION :	: SCR.N. CLASS :	: PACKAGE/ PINS :	: JCT.* TEMP. :	: EQUIP. TYPE :	: DATA CLASS. :	: STRESS LEVEL :	: #TESTED/ #FAILED :	: MPEF REPORT NO. /QTY FAILED :		
:	: CIRCUIT FUNCTION :	: NO. GATES :	: TEST DATE :	:	: APPL. ENV. :	: TEST TYPE :	:	: PART HOURS :	:		
: 74S251 :	: MULTIPLEXER :	: D-1 :	: P DIP 16: 78/78 :	: 53C :	: COMP :	: FIELD :	: 025C :	: 96 / 0 :	: 276,480: :		
: 74S257 :	: MULTIPLEXER :	: D-1 :	: P DIP 16: 76/78 :	: 57C :	: COMP :	: FIELD :	: 025C :	: 6 / 0 :	: 61,440: :		
: 74S257 :	: MULTIPLEXER :	: D-1 :	: P DIP 16: 76/78 :	: 57C :	: COMP :	: FIELD :	: 025C :	: 12 / 0 :	: 124,800: :		
: 74S257 :	: MULTIPLEXER :	: D-1 :	: P DIP 16: 76/78 :	: 57C :	: COMP :	: FIELD :	: 025C :	: 12 / 0 :	: 124,416: :		
: 74S257 :	: MULTIPLEXER :	: D-1 :	: P DIP 16: 76/78 :	: 57C :	: COMP :	: FIELD :	: 025C :	: 9 / 0 :	: 49,896: :		
: 74S257 :	: MULTIPLEXER :	: D-1 :	: P DIP 16: 76/78 :	: 57C :	: COMP :	: FIELD :	: 025C :	: 20 / 1 :	: 201,600: :		
: 74S257 :	: MULTIPLEXER :	: D-1 :	: P DIP 16: 77/78 :	: 52C :	: COMB :	: FIELD :	: 020C :	: 30 / 0 :	: 337,890: :		
: 74S257 :	: MULTIPLEXER :	: D-1 :	: P DIP 16: 78/78 :	: 57C :	: COMP :	: FIELD :	: 025C :	: 6 / 0 :	: 17,280: :		
: 74S257 :	: MULTIPLEXER :	: D-1 :	: P DIP 16: 78/78 :	: 57C :	: COMP :	: FIELD :	: 025C :	: 12 / 0 :	: 34,560: :		
: 74S257 :	: MULTIPLEXER :	: D-1 :	: P DIP 16: 78/78 :	: 57C :	: COMP :	: FIELD :	: 025C :	: 12 / 0 :	: 34,560: :		
: 74S257 :	: MULTIPLEXER :	: D-1 :	: P DIP 16: 78/78 :	: 57C :	: COMP :	: FIELD :	: 025C :	: 9 / 0 :	: 25,920: :		
: 74S257 :	: MULTIPLEXER :	: D-1 :	: P DIP 16: 78/78 :	: 57C :	: COMP :	: FIELD :	: 025C :	: 20 / 0 :	: 57,600: :		
: 74S257 :	: MULTIPLEXER :	: X :	: P DIP 16: 76/78 :	: 57C :	: COMP :	: FIELD :	: 025C :	: 70 / 1 :	: 1,071,476: :		
: 74S257 :	: MULTIPLEXER :	: X :	: P DIP 16: 76/78 :	: 57C :	: COMP :	: FIELD :	: 025C :	: 42 / 0 :	: 388,224: :		
: 74S257 :	: MULTIPLEXER :	: X :	: P DIP 16: 78/78 :	: 57C :	: COMP :	: FIELD :	: 025C :	: 70 / 0 :	: 201,600: :		
: 74S257 :	: MULTIPLEXER :	: X :	: P DIP 16: 78/78 :	: 57C :	: COMP :	: FIELD :	: 025C :	: 42 / 0 :	: 120,960: :		
: 74S258 :	: MULTIPLEXER :	: D-1 :	: P DIP 16: 76/78 :	: 44C :	: COMP :	: FIELD :	: 025C :	: 3 / 0 :	: 31,200: :		
: 74S258 :	: MULTIPLEXER :	: D-1 :	: P DIP 16: 78/78 :	: 44C :	: COMP :	: FIELD :	: 025C :	: 3 / 0 :	: 8,640: :		
: 74S260 :	: GATE :	: D-1 :	: P DIP 14: 76/78 :	: 36C :	: COMP :	: FIELD :	: 025C :	: 3 / 0 :	: 31,200: :		
: 74S260 :	: GATE :	: D-1 :	: P DIP 14: 76/78 :	: 36C :	: COMP :	: FIELD :	: 025C :	: 3 / 0 :	: 31,104: :		
: 74S260 :	: GATE :	: D-1 :	: P DIP 14: 76/78 :	: 36C :	: COMP :	: FIELD :	: 025C :	: 3 / 0 :	: 16,632: :		
: 74S260 :	: GATE :	: D-1 :	: P DIP 14: 76/78 :	: 36C :	: COMP :	: FIELD :	: 025C :	: 10 / 0 :	: 100,800: :		
: 74S260 :	: GATE :	: D-1 :	: P DIP 14: 78/78 :	: 36C :	: COMP :	: FIELD :	: 025C :	: 3 / 0 :	: 8,640: :		

DIGITAL DEVICE DATA

VARIOUS
TTL, SCHOTTKY

MANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFFF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPF		PART HOURS	
74S260	GATE	D-1 2	P DIP 14: 78/78	36C	COMP GBC	FIELD	025C	3 / 0 8,640	
74S260	GATE	D-1 2	P DIP 14: 78/78	36C	COMP GBC	FIELD	025C	3 / 0 8,640	
74S260	GATE	D-1 2	P DIP 14: 78/78	36C	COMP GBC	FIELD	025C	10 / 0 28,800	
74S280	GENERATOR	D-1 46	P DIP 14: 76/78	62C	COMP GBC	FIELD	025C	6 / 0 62,400	
74S280	GENERATOR	D-1 46	P DIP 14: 76/78	62C	COMP GBC	FIELD	025C	6 / 0 33,264	
74S280	GENERATOR	D-1 46	P DIP 14: 76/78	62C	COMP GBC	FIELD	025C	60 / 0 604,800	
74S280	GENERATOR	D-1 46	P DIP 14: 78/78	62C	COMP GBC	FIELD	025C	6 / 0 17,280	
74S280	GENERATOR	D-1 46	P DIP 14: 78/78	62C	COMP GBC	FIELD	025C	6 / 0 17,280	
74S280	GENERATOR	D-1 46	P DIP 14: 78/78	62C	COMP GBC	FIELD	025C	60 / 0 172,800	
74S32	GATE	D-1 4	P DIP 14: 75/78	37C	COMP GBC	FIELD	025C	9 / 0 93,600	
74S32	GATE	D-1 4	P DIP 14: 76/78	37C	COMP GBC	FIELD	025C	3 / 0 16,632	
74S32	GATE	D-1 4	P DIP 14: 76/78	37C	COMP GBC	FIELD	025C	20 / 0 201,600	
74S32	GATE	D-1 4	P DIP 14: 78/78	37C	COMP GBC	FIELD	025C	9 / 0 25,920	
74S32	GATE	D-1 4	P DIP 14: 78/78	37C	COMP GBC	FIELD	025C	3 / 0 8,640	
74S32	GATE	D-1 4	P DIP 14: 78/78	37C	COMP GBC	FIELD	025C	20 / 0 57,600	
74S37	BUFFER	X 4	P DIP 14: 76/78	43C	COMP GBC	FIELD	025C	20 / 0 198,336	
74S37	BUFFER	X 4	P DIP 14: 78/78	43C	COMP GBC	FIELD	025C	20 / 0 57,600	
74S40	BUFFER	D-1 2	P DIP 14: 77/78	50C	DSPY GBC	FIELD	040C	55XPWR: 397 / 0 516,100	
74S40	BUFFER	D-1 2	P DIP 14: 78/79	50C	DSPY GBC	FIELD	040C	55XPWR: 596 / 0 774,800	
74S51	GATE	D-1 6	P DIP 14: 76/78	31C	COMP GBC	FIELD	025C	3 / 0 31,200	
74S51	GATE	D-1 6	P DIP 14: 76/78	31C	COMP GBC	FIELD	025C	9 / 0 93,312	
74S51	GATE	D-1 6	P DIP 14: 76/78	31C	COMP GBC	FIELD	025C	3 / 0 16,632	
74S51	GATE	D-1 6	P DIP 14: 76/78	31C	COMP GBC	FIELD	025C	30 / 0 302,400	

DIGITAL DEVICE DATA

VARIOUS TTL ,SCHOTTKY		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO. /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE			PART HOURS		
74S51	GATE	D-1	P DIP 14	31C	COMP	FIELD	025C	3 / 0	8,640		
		6	78/78		GBC						
74S51	GATE	D-1	P DIP 14	31C	COMP	FIELD	025C	9 / 0	25,920		
		6	78/78		GBC						
74S51	GATE	D-1	P DIP 14	31C	COMP	FIELD	025C	3 / 0	8,640		
		6	78/78		GBC						
74S51	GATE	D-1	P DIP 14	31C	COMP	FIELD	025C	30 / 0	86,400		
		6	78/78		GBC						
74S64	GATE	D-1	P DIP 14	44C	DSPY	FIELD	040C	55XPWR: 66379 / 16	86,292,700		
		5	77/78		GBC						
74S64	GATE	D-1	P DIP 14	44C	DSPY	FIELD	040C	55XPWR: 99999 / 23	132,609,100		
		5	78/79		GBC						
						FIELD		2008 / 0			
74S74	FLIP-FLOP D	D-1	P DIP 14	42C	COMP	FIELD	025C	3 / 0	31,200		
		12	76/78		GBC						
74S74	FLIP-FLOP D	D-1	P DIP 14	42C	COMP	FIELD	025C	6 / 0	62,208		
		12	76/78		GBC						
74S74	FLIP-FLOP D	D-1	P DIP 14	42C	COMP	FIELD	025C	48 / 0	266,112		
		12	76/78		GBC						
74S74	FLIP-FLOP D	D-1	P DIP 14	42C	COMP	FIELD	025C	50 / 0	504,000		
		12	76/78		GBC						
74S74	FLIP-FLOP D	D-1	P DIP 14	42C	COMP	FIELD	025C	33 / 0	95,040		
		12	78/78		GBC						
74S74	FLIP-FLOP D	D-1	P DIP 14	42C	COMP	FIELD	025C	3 / 0	8,640		
		12	78/78		GBC						
74S74	FLIP-FLOP D	D-1	P DIP 14	42C	COMP	FIELD	025C	6 / 0	17,280		
		12	78/78		GBC						
74S74	FLIP-FLOP D	D-1	P DIP 14	42C	COMP	FIELD	025C	48 / 0	138,240		
		12	78/78		GBC						
74S74	FLIP-FLOP D	D-1	P DIP 14	42C	COMP	FIELD	025C	50 / 0	144,000		
		12	78/78		GBC						
74S74	FLIP-FLOP D	D-1	P DIP 14	57C	DSPY	FIELD	040C	55XPWR: 73125 / 18	95,062,500		
		12	77/78		GBC						
74S74	FLIP-FLOP D	D-1	P DIP 14	57C	DSPY	FIELD	040C	55XPWR: 99999 / 32	164,635,900		
		12	78/79		GBC						
						FIELD		26644 / 0			
74S74	FLIP-FLOP D	X	P DIP 14	42C	COMP	FIELD	025C	30 / 0	459,204		
		12	76/78		GBC						
74S74	FLIP-FLOP D	X	P DIP 14	42C	COMP	FIELD	025C	17 / 0	191,376		
		12	76/78		GBC						
74S74	FLIP-FLOP D	X	P DIP 14	42C	COMP	FIELD	025C	30 / 0	297,504		
		12	76/78		GBC						
74S74	FLIP-FLOP D	X	P DIP 14	42C	COMP	FIELD	025C	30 / 0	86,400		
		12	78/78		GBC						

DIGITAL DEVICE DATA

VARIOUS TTL ,SCHOTTKY		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYFF			PART HOURS		
74874	FLIP-FLOP D	X 12	P DIP 14: 78/78	42C	COMP GBC	FIELD	025C	17 / 0	48,960		
74874	FLIP-FLOP D	X 12	P DIP 14: 78/78	42C	COMP GBC	FIELD	025C	30 / 0	86,400		
74886	GATE	D-1 4	P DIP 14: 77/78	68C	DSPY GBC	FIELD	040C 55XPWR:	5217 / 1	6,782,100		
74886	GATE	D-1 4	P DIP 14: 78/79	68C	DSPY GBC	FIELD	040C 55XPWR:	8883 / 1	11,547,900		
82862	GENERATOR	D-1 12	P DIP 14: 76/78	35C	COMP GBC	FIELD	025C	36 / 1	374,400		
82862	GENERATOR	D-1 12	P DIP 14: 76/78	35C	COMP GBC	FIELD	025C	6 / 0	62,208		
82862	GENERATOR	D-1 12	P DIP 14: 76/78	35C	COMP GBC	FIELD	025C	20 / 0	201,600		
82862	GENERATOR	D-1 12	P DIP 14: 78/78	35C	COMP GBC	FIELD	025C	36 / 0	103,680		
82862	GENERATOR	D-1 12	P DIP 14: 78/78	35C	COMP GBC	FIELD	025C	6 / 0	17,280		
82862	GENERATOR	D-1 12	P DIP 14: 78/78	35C	COMP GBC	FIELD	025C	20 / 0	57,600		
8228	CONTROL BUS DRIVER	D 73	H DIP 28: 77/78	65C	DSPY GBC	FIELD	040C 55XPWR:	46 / 0	59,800		
8228	CONTROL BUS DRIVER	D 73	H DIP 28: 78/79	65C	DSPY GBC	FIELD	040C 55XPWR:	1102 / 1	1,432,600		

DIGITAL DEVICE DATA

VARIOUS TTL ,SUHL		:MANUFACTURER :OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
: PART : NO.	: DEVICE : FUNCTION	: SCR.N. : CLASS	: PACKAGE/ : PINS	: JCT.* : TEMP.	: EQUIP. : TYPE	: DATA : CLASS.	: STRESS : LEVEL	: #TESTED/ : #FAILED	: MPEF REPORT NO. : /QTY FAILED		
:	: CIRCUIT : FUNCTION	: NO. : GATES	: TEST : DATE	:	: APPL. : ENV.	: TEST : TYPE	:	: PART : HOURS	:	:	:
:	: GATE	: B-2/N	: H DIP 14	: 81C	: RADD	: REIDEM	: -054C 071C	: 1463 / 0	:	:	:
:	:	: 2	: 76/77	:	: AU	: TCVPC	: 6CY 2. 27HZ	: 70,224	:	:	:
: G341	: GATE	: B-2	: H FPK 14	: 35C	: COMM	: FIELD	: 025C	: 54 / 0	:	:	:
:	:	: 4	: 75/78	:	: GT	:	:	: 125,514	:	:	:
: G370	: INVERTER	: B-2	: H FPK 14	: 35C	: COMM	: FIELD	: 025C	: 9 / 0	:	:	:
:	:	: 6	: 75/78	:	: GT	:	:	: 20,919	:	:	:
: 100	: FLIP-FLOP : JK	: B-2	: H FPK 14	: 35C	: COMM	: FIELD	: 025C	: 81 / 0	:	:	:
:	:	: 11	: 75/78	:	: GT	:	:	: 188,271	:	:	:
: 101	: GATE : EXPANDABLE	: B-2	: H FPK 14	: 35C	: COMM	: FIELD	: 025C	: 45 / 0	:	:	:
:	:	: 4	: 75/78	:	: GT	:	:	: 104,595	:	:	:
: 101/573	: FLIP-FLOP : JK	: B-2	: H FPK 14	: 35C	: COMM	: FIELD	: 025C	: 207 / 0	:	:	:
:	:	: 18	: 75/78	:	: GT	:	:	: 481,137	:	:	:
: 140	: GATE	: B-2	: H FPK 14	: 35C	: COMM	: FIELD	: 025C	: 144 / 0	:	:	:
:	:	: 4	: 75/78	:	: GT	:	:	: 334,704	:	:	:
: 141	: GATE	: B-2	: H FPK 14	: 35C	: COMM	: FIELD	: 025C	: 891 / 0	:	:	:
:	:	: 4	: 75/78	:	: GT	:	:	: 2,070,981	:	:	:
: 191	: GATE	: B-2	: H FPK 14	: 35C	: COMM	: FIELD	: 025C	: 243 / 0	:	:	:
:	:	: 3	: 75/78	:	: GT	:	:	: 564,813	:	:	:
: 210	: FLIP-FLOP : JK	: B-2	: H FPK 14	: 35C	: COMM	: FIELD	: 025C	: 27 / 0	:	:	:
:	:	: 14	: 75/78	:	: GT	:	:	: 62,757	:	:	:
: 2124	: FLIP-FLOP : JK	: C-1	: H FPK 14	:	: RADR	: FIELD	:	: 2112 / 2	: 2173/ 2	:	:
:	:	: 20	: 75/78	:	: AUF	:	:	: 2,406,960	:	:	:
: 2125	: FLIP-FLOP : JK	: C-1	: H FPK 14	:	: RADR	: FIELD	:	: 1485 / 0	:	:	:
:	:	: 10	: 75/78	:	: AUF	:	:	: 1,692,900	:	:	:
: 31	: FLIP-FLOP : RS	: B-2	: H FPK 14	: 35C	: COMM	: FIELD	: 025C	: 72 / 0	:	:	:
:	:	: 8	: 75/78	:	: GT	:	:	: 167,352	:	:	:
: 3100	: GATE	: B-1/JB	: H DIP 14	: 65C	: COMM	: CHECK	: -054C 055C	: 12958 / 0	:	:	:
:	:	: 4	: 77/79	:	: AI	: TCVPC	: 14CY 2 22HZ	: 354,444	:	:	:
: 3100	: GATE	: B-1/JB	: H DIP 14	: 65C	: COMM	: CHECK	: -054C 055C	: 3824 / 0	:	:	:
:	:	: 4	: 77/79	:	: AI	: TCVPC	: 14CY 2 22HZ	: 104,240	:	:	:
: 3100	: GATE	: B-1/JB	: H DIP 14	: 65C	: COMM	: CHECK	: -054C 055C	: 7010 / 0	:	:	:
:	:	: 4	: 77/79	:	: AI	: TCVPC	: 14CY 2 22HZ	: 193,924	:	:	:
: 3100	: GATE	: B-1/JB	: H DIP 14	:	: COMM	: FIELD	:	: 30 / 0	:	:	:
:	:	: 4	: 76/77	:	: AIF	:	:	: 20,554	:	:	:
: 3100	: GATE	: B-1/JB	: H DIP 14	:	: COMM	: FIELD	:	: 20 / 0	:	:	:
:	:	: 4	: 76/77	:	: AIF	:	:	: 8,382	:	:	:
: 3100	: GATE	: B-1/JB	: H DIP 14	:	: COMM	: FIELD	:	: 28 / 0	:	:	:
:	:	: 4	: 76/77	:	: AIF	:	:	: 14,112	:	:	:
: 3100	: GATE	: B-1/JB	: H DIP 14	:	: COMM	: FIELD	:	: 38 / 0	:	:	:
:	:	: 4	: 76/77	:	: AIT	:	:	: 38,662	:	:	:
: 3151	: FLIP-FLOP : JK	: B-1/JB	: H DIP 14	: 65C	: COMM	: CHECK	: -054C 055C	: 6479 / 0	:	:	:
:	:	: 8	: 77/79	:	: AI	: TCVPC	: 14CY 2 22HZ	: 177,222	:	:	:
: 3151	: FLIP-FLOP : JK	: B-1/JB	: H DIP 14	:	: COMM	: FIELD	:	: 10 / 0	:	:	:
:	:	: 8	: 76/77	:	: AIF	:	:	: 4,191	:	:	:
: 3151	: FLIP-FLOP : JK	: B-1/JB	: H DIP 14	:	: COMM	: FIELD	:	: 19 / 0	:	:	:
:	:	: 8	: 76/77	:	: AIT	:	:	: 19,331	:	:	:

DIGITAL DEVICE DATA

VARIOUS TTL, SUHL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE			PART HOURS		
3151	FLIP-FLOP JK	B-1 8	H DIP 14: 77/79	65C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	1912 / 0	52,120		
3151	FLIP-FLOP JK	B-1 8	H DIP 14: 77/79	65C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	3505 / 0	96,962		
3151	FLIP-FLOP JK	B-1 8	H DIP 14: 76/77		COMM AIF	FIELD		15 / 0	10,227		
3151	FLIP-FLOP JK	B-1 8	H DIP 14: 76/77		COMM AIF	FIELD		14 / 0	7,056		
3160	FLIP-FLOP D	B-1 12	H DIP 14: 77/79	65C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	12958 / 0	354,444		
3160	FLIP-FLOP D	B-1 12	H DIP 14: 77/79	65C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	3824 / 0	104,240		
3160	FLIP-FLOP D	B-1 12	H DIP 14: 77/79	65C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	7010 / 0	193,924		
3160	FLIP-FLOP D	B-1 12	H DIP 14: 76/77		COMM AIF	FIELD		30 / 0	20,454		
3160	FLIP-FLOP D	B-1 12	H DIP 14: 76/77		COMM AIF	FIELD		20 / 0	8,382		
3160	FLIP-FLOP D	B-1 12	H DIP 14: 76/77		COMM AIF	FIELD		28 / 0	14,112		
3160	FLIP-FLOP D	B-1 12	H DIP 14: 76/77		COMM AIF	FIELD		36 / 0	38,662		
371/579	INVERTER	B-2 6	H FPK 14: 75/78	35C	COMM GT	FIELD	025C	171 / 0	397,461		
380/2116	INVERTER	B-2 6	H FPK 14: 75/78	35C	COMM GT	FIELD	025C	9 / 0	20,919		
40	GATE	B-2 2	H FPK 14: 75/78	35C	COMM GT	FIELD	025C	9 / 0	20,919		
41	GATE	B-2 2	H FPK 14: 75/78	35C	COMM GT	FIELD	025C	90 / 0	209,190		
41	GATE	B-2 2	H FPK 14: 75/78	35C	COMM GT	FIELD	025C	9 / 0	20,919		
50	FLIP-FLOP JK	B-2 10	H FPK 14: 75/78	35C	COMM GT	FIELD	025C	54 / 0	125,514		
51	FLIP-FLOP JK	B-2 10	H FPK 14: 75/78	35C	COMM GT	FIELD	025C	234 / 0	543,894		
61	GATE	B-2 1	H FPK 14: 75/78	35C	COMM GT	FIELD	025C	90 / 0	209,190		
71	LATCH	B-2 24	H FPK 14: 75/78	35C	COMM GT	FIELD	025C	18 / 0	41,838		
80/526	GATE	B-2 2	H FPK 14: 75/78	35C	COMM GT	FIELD	025C	18 / 0	41,838		
81	GATE EXPANDABLE	B-2 2	H FPK 14: 75/78	35C	COMM GT	FIELD	025C	90 / 0	209,190		

DIGITAL DEVICE DATA

VARIOUS TTL		:MANUFACTURER :OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
: PART NO. :	: DEVICE FUNCTION :	: SCR.N. CLASS :	: PACKAGE/ PINS :	: JCT.* TEMP. :	: EQUIP. TYPE :	: DATA CLASS. :	: STRESS LEVEL :	: #TESTED/ #FAILED :	: MFEF REPORT NO. /QTY FAILED :	
:	: CIRCUIT FUNCTION :	: NO. GATES :	: TEST DATE :	:	: APPL. ENV. :	: TEST TYPE :	:	: PART HOURS :	:	
:	: SHIFT REG :	: D 41 :	: H DIP 16 : 78/79 :	:	: COMM AIF :	: FIELD :	:	: 150 / 0 : 46,332 :	:	

DIGITAL DEVICE DATA

ADVANCED MICRO DEVICES		MANUFACTURER				RELIABILITY ANALYSIS CENTER					
TTL		OPERATIONAL TYPE									
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE			PART HOURS		
2505	MULTIPLIER	B-2	P DIP 24	77/77		RADR	RELDEN	2600 / 0	83,720		
		85				AIU	OPERATE				
2505	MULTIPLIER	D-1	P DIP 24	77/78	72C	DSPY	FIELD	040C 55XPWR	1041 / 0		
		85				GBC			1,353,300		
2505	MULTIPLIER	D-1	P DIP 24	78/79	72C	DSPY	FIELD	040C 55XPWR	2511 / 0		
		85				GBC			3,264,300		
2602	FLIP-FLOP MONOSTABLE	B-2/N	H DIP 16	76/77	81C	RADR	RELDEN	-054C 071C	9823 / 1	2313/ 1	
		14				AU	TCVPC	6CY 2. 27HZ	471,504		

FAIRCHILD SEMI		MANUFACTURER				RELIABILITY ANALYSIS CENTER					
TTL		OPERATIONAL TYPE									
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE			PART HOURS		
9N04	INVERTER	D-1	P DIP 14	77/78	47C	DSPY	FIELD	040C 55XPWR	17323 / 5		
		6				GBC			22,519,900		
9N04	INVERTER	D-1	P DIP 14	78/79	47C	DSPY	FIELD	040C 55XPWR	27777 / 7		
		6				GBC			36,110,100		
9007	GATE	D	H DIP 14	78/79	56C	COMM	FIELD		150 / 0		
		1				AIF			46,332		
9300	SHIFT REG	D-1	P DIP 16	77/78	70C	DSPY	FIELD	040C 55XPWR	2853 / 0		
		40				GBC			3,708,900		
9300	SHIFT REG	D-1	P DIP 16	78/79	70C	DSPY	FIELD	038C 55XPWR	5160 / 0		
		40				GBC			6,708,000		
9301	DECODER BCD/DECIMAL	B-1	H DIP 16	78/78	40C	COMP	RELDEN	025C	27 / 0		
		18				GT			9,491		
9304	ADDER FULL	B-1	H DIP 16	78/78	39C	COMP	RELDEN	025C	15 / 0		
		22				GT			5,273		
9304	ADDER FULL	D	H DIP 16	77/78	54C	DSPY	FIELD	040C 55XPWR	4 / 0		
		22				GBC			5,200		
9304	ADDER FULL	D	H DIP 16	78/79	54C	DSPY	FIELD	040C 55XPWR	825 / 0		
		22				GBC			1,072,500		
9305	COUNTER	D-1	P DIP 14	77/78	63C	DSPY	FIELD	040C 55XPWR	32 / 0		
		44				GBC			41,600		
9305	COUNTER	D-1	P DIP 14	78/79	63C	DSPY	FIELD	040C 55XPWR	1336 / 0		
		44				GBC			1,736,800		
9310	COUNTER DECADE	D-1	P DIP 16	77/78	73C	DSPY	FIELD	040C 55XPWR	4718 / 1		
		60				GBC			6,133,400		
9310	COUNTER DECADE	D-1	P DIP 16	78/79	73C	DSPY	FIELD	040C 55XPWR	6720 / 2		
		60				GBC			8,736,000		
9316	COUNTER BINARY	D-1	P DIP 16	77/78	73C	DSPY	FIELD	040C 55XPWR	17140 / 0		
		57				GBC			22,282,000		

DIGITAL DEVICE DATA

FAIRCHILD SEMI
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MANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFET REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
9316	COUNTER BINARY	D-1 57	P DIP 16: 78/79	73C	DSPY GBC	FIELD	040C 55XPWR	16578 / 1 21,551,400	
9318	ENCODER	B-1 24	H DIP 16: 78/78	48C	COMP GT	RELDEM	025C	12 / 0 4,218	
9318	ENCODER	D-1 24	P DIP 16: 77/78	65C	DSPY GBC	FIELD	040C 55XPWR	2131 / 0 2,770,300	
9318	ENCODER	D-1 24	P DIP 16: 78/79	65C	DSPY GBC	FIELD	040C 55XPWR	1773 / 0 2,304,900	
9321	DECODER	B-2 18	H FPK 16: 77/77		RADR AIU	RELDEM OPERATE		480 / 0 15,456	
9321	DECODER	D-1 18	P DIP 16: 77/78	55C	DSPY GBC	FIELD	040C 55XPWR	848 / 0 1,102,400	
9321	DECODER	D-1 18	P DIP 16: 78/79	55C	DSPY GBC	FIELD	040C 55XPWR	3151 / 0 4,096,300	
9322	MULTIPLEXER	D-1 19	P DIP 16: 77/78	55C	DSPY GBC	FIELD	040C 55XPWR	23697 / 3 30,806,100	
9322	MULTIPLEXER	D-1 19	P DIP 16: 78/79	55C	DSPY GBC	FIELD	040C 55XPWR	36015 / 3 46,819,500	
9324	COMPARATOR	B-1 27	H DIP 16: 78/78	43C	COMP GT	RELDEM	025C	12 / 0 4,218	
9324	COMPARATOR	D-1 32	P DIP 16: 77/78	60C	DSPY GBC	FIELD	040C 55XPWR	7840 / 1 10,192,000	
9324	COMPARATOR	D-1 32	P DIP 16: 78/79	60C	DSPY GBC	FIELD	040C 55XPWR	14493 / 2 18,840,900	
9334	LATCH ADDRESSABLE	D-1 59	P DIP 16: 77/78	74C	DSPY GBC	FIELD	040C 55XPWR	2986 / 1 3,881,800	
9334	LATCH ADDRESSABLE	D-1 59	P DIP 16: 78/79	74C	DSPY GBC	FIELD	040C 55XPWR	6834 / 2 8,884,200	
9366	COUNTER BINARY	B-1 54	H DIP 16: 78/78	54C	COMP GT	RELDEM	025C	12 / 0 4,218	
9600	FLIP-FLOP MONOSTABLE	D 11	H DIP 14: 77/78	50C	DSPY GBC	FIELD	040C 55XPWR	1232 / 4 1,601,600	
9600	FLIP-FLOP MONOSTABLE	D 11	H DIP 14: 78/79	50C	DSPY GBC	FIELD	040C 55XPWR	1208 / 2 1,570,400	
9601	FLIP-FLOP MONOSTABLE	B-2/N 8	H DIP 14: 76/77	87C	RADR AU	RELDEM TCVPC	-054C 071C 6CY 2. 27HZ	627 / 0 30,096	
9602	FLIP-FLOP MONOSTABLE	D-1 14	P DIP 16: 77/77	50C	INTR GBC	CHECK OPERATE	025C	2 / 0 880	

DIGITAL DEVICE DATA

HARRIS SEMI TTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFF REPORT NO. /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
165	ENCODER	C-2	H DIP 24	135C	NR	LIFE	125C	75 / 1	2317 / 1		
		N/R	76/79		N/R	OP DYN		90,000			

MOTOROLA SEMI TTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFF REPORT NO. /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
4015	FLIP-FLOP D	D-1	P DIP 24	60C	DSPY GRC	FIELD	040C 55XPWR	32 / 0	41,600		
4024	FLIP-FLOP	D-1	P DIP 14	57C	DSPY GBC	FIELD	040C 55XPWR	10625 / 4	13,812,500		
4024	FLIP-FLOP	D-1	P DIP 14	57C	DSPY GBC	FIELD	040C 55XPWR	16649 / 3	21,643,700		
4306	DECODER	B-1	H FPK 15	83C	COMP AUF	FIELD		759 / 0	865,260		
54122	FLIP-FLOP MONOSTABLE	J-B	H DIP 10		RADR AIU	RELDEM OPERATE		30 / 0	966		
54193	COUNTER BINARY	J-B	H DIP 48		RADR AIU	RELDEM OPERATE		205 / 0	6,603		
576	GATE	B-2/N	H DIP 2	78C	RADR AU	RELDEM TCVPC	-054C 071C 6CY 2. 27HZ	1045 / 0	50,160		
6075	MULTIPLEXER	B-1	H FPK 0		COMP AUF	FIELD		1846 / 0	2,106,720		
6076	MULTIPLEXER	B-1	H FPK 0		COMP AUF	FIELD		1452 / 0	1,655,280		
6076	MULTIPLEXER	C-1	H FPK 0		RADR AUF	FIELD		99 / 0	112,860		
7242	GATE	D-1	P DIP 4	58C	DSPY GBC	FIELD	040C 55XPWR	1801 / 0	2,341,300		
7242	GATE	D-1	P DIP 4	58C	DSPY GBC	FIELD	040C 55XPWR	1889 / 0	2,455,700		
7479	FLIP-FLOP D	D-1	P DIP 12	49C	DSPY GBC	FIELD	040C 55XPWR	162 / 0	210,600		
7479	FLIP-FLOP D	D-1	P DIP 12	49C	DSPY GBC	FIELD	040C 55XPWR	291 / 0	378,300		
9314	LATCH	J-B	H DIP 26		RADR AIU	RELDEM OPERATE		220 / 0	7,086		

DIGITAL DEVICE DATA

NATIONAL SEMI
TTL

MANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
7214	MULTIPLEXER	B-1	H DIP 16	40C	COMP GT	RELDPM	025C	12 / 0	4,218
7214	MULTIPLEXER	B-2	H DIP 16		RADR AIU	RELDEM OPERATE		1060 / 0	34,132
74196	COUNTER DECADE	D-1	P DIP 14	61C	DSPY GBC	FIELD	040C 55XPWR	1976 / 2	2,568,800
74196	COUNTER DECADE	D-1	P DIP 14	61C	DSPY GBC	FIELD	040C 55XPWR	1773 / 2	2,304,900
7551	FLIP-FLOP D	B-1	H DIP 16	48C	COMP GT	RELDEM	025C	63 / 0	22,145
7551	FLIP-FLOP D	B-2	H DIP 16		RADR AIU	RELDEM OPERATE		300 / 0	9,660
7563	COUNTER BINARY	B-2	H DIP 16		RADR AIU	RELDEM OPERATE		665 / 0	21,413
8094	BUFFER	D-1	P DIP 14	59C	DSPY GBC	FIELD	040C 55XPWR	1741 / 0	2,263,300
8094	BUFFER	D-1	P DIP 14	59C	DSPY GBC	FIELD	040C 55XPWR	2471 / 1	3,212,300
8095	BUFFER	D-1	P DIP 16	58C	INTR GBC	CHECK OPERATE	025C	4 / 0	1,160
8095	BUFFER	D-1	P DIP 16	73C	DSPY GBC	FIELD	040C 55XPWR	1117 / 1	1,452,100
8095	BUFFER	D-1	P DIP 16	73C	DSPY GBC	FIELD	040C 55XPWR	5374 / 3	6,986,200
8123	MULTIPLEXER	D-1	P DIP 16	60C	DSPY GBC	FIELD	040C 55XPWR	477 / 0	620,100
8123	MULTIPLEXER	D-1	P DIP 16	60C	DSPY GBC	FIELD	040C 55XPWR	945 / 0	1,228,500
8131	COMPARATOR	D-1	P DIP 16	50C	COMP GBC	FIELD	025C	6 / 0	33,264
8131	COMPARATOR	D-1	P DIP 16	50C	COMP GBC	FIELD	025C	6 / 0	17,280
8136	COMPARATOR	D-1	P DIP 16	50C	COMP GBC	FIELD	025C	12 / 0	122,880
8136	COMPARATOR	D-1	P DIP 16	50C	COMP GBC	FIELD	025C	6 / 0	33,264
8136	COMPARATOR	D-1	P DIP 16	50C	COMP GBC	FIELD	025C	30 / 0	302,400
8136	COMPARATOR	D-1	P DIP 16	50C	COMP GBC	FIELD	025C	12 / 0	34,560
8136	COMPARATOR	D-1	P DIP 16	50C	COMP GBC	FIELD	025C	6 / 0	17,280
8136	COMPARATOR	D-1	P DIP 16	50C	COMP GBC	FIELD	025C	30 / 0	86,400
8136	COMPARATOR	X	P DIP 16	50C	COMP GBC	FIELD	025C	34 / 0	382,752

DIGITAL DEVICE DATA

NATIONAL SEMI
TTL

MANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO.: /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
8136	COMPARATOR	X 23	P DIP 16: 78/78	50C	COMP GBC	FIELD	025C	34 / 0 97,920	
8214	MULTIPLEXER	D-1 16	P DIP 16: 77/78	57C	DSPY GBC	FIELD	040C 55XPWR	324 / 0 421,200	
8214	MULTIPLEXER	D-1 16	P DIP 16: 78/79	57C	DSPY GBC	FIELD	040C 55XPWR	582 / 0 756,600	
8520	DIVIDER	D-1 56	P DIP 16: 77/79	50C	COMP GB	FIELD	025C	6 / 0 115,404	
8520	DIVIDER	D-1 56	P DIP 16: 77/79	50C	COMP GB	FIELD	025C	26 / 0 516,880	
8520	DIVIDER	NONE 56	N/R N/R 16: 77/79	50C	COMP GB	FIELD	025C	5 / 0 96,170	
8520	DIVIDER	NONE 56	N/R N/R 16: 77/79	50C	COMP GB	FIELD	025C	10 / 0 198,800	
8520	DIVIDER	NONE 56	N/R DIP 16: 77/79	50C	COMP GB	FIELD	025C	7 / 0 134,638	
8542	REGISTER	D-1 55	P DIP 16: 77/78	80C	DSPY GBC	FIELD	040C 55XPWR	464 / 0 603,200	
8542	REGISTER	D-1 55	P DIP 16: 78/79	80C	DSPY GBC	FIELD	040C 55XPWR	424 / 0 551,200	
8552	COUNTER DECADE	D-1 66	P DIP 16: 77/78	73C	DSPY GBC	FIELD	040C 55XPWR	5879 / 5 7,642,700	
8552	COUNTER DECADE	D-1 66	P DIP 16: 78/79	73C	DSPY GBC	FIELD	040C 55XPWR	7758 / 11 10,085,400	
8554	COUNTER BINARY	NONE 65	N/R DIP 16: 77/78	73C	DSPY GBC	FIELD	040C 55XPWR	74 / 0 96,200	
8554	COUNTER BINARY	NONE 65	N/R DIP 16: 78/79	73C	DSPY GBC	FIELD	040C 55XPWR	976 / 0 1,268,800	
8570	SHIFT REG	D-1 36	P DIP 14: 77/78	60C	DSPY GBC	FIELD	040C 55XPWR	18339 / 4 23,840,700	
8570	SHIFT REG	D-1 36	P DIP 14: 78/79	60C	DSPY GBC	FIELD	040C 55XPWR	19389 / 4 25,205,700	
8590	SHIFT REG	D-1 62	P DIP 16: 77/78	60C	DSPY GBC	FIELD	040C 55XPWR	162 / 0 210,600	
8590	SHIFT REG	D-1 62	P DIP 16: 78/79	60C	DSPY GBC	FIELD	040C 55XPWR	324 / 0 421,200	

DIGITAL DEVICE DATA

RAYTHEON		:MANUFACTURER				RELIABILITY ANALYSIS CENTER					
TTL		:OPERATIONAL TYPE									
: PART NO. :	: DEVICE FUNCTION :	: SCR.N. CLASS :	: PACKAGE/ PINS :	: JCT.* TEMP. :	: EQUIP. TYPE :	: DATA CLASS. :	: STRESS LEVEL :	: #TESTED/ #FAILED :	: MPEF REPORT NO. /QTY FAILED :		
:	: CIRCUIT FUNCTION :	: NO. GATES :	: TEST DATE :	:	: APPL. ENV. :	: TEST TYPE :	:	: PART HOURS :			
: 151 :	: COUNTER :	: B-1 :	: H DIP 14 :	: 65C :	: COMM :	: CHECK :	: -054C 055C :	: 25916 / 4 :	: 2151/ 4 :		
:	: BCD :	: N/R :	: 77/79 :	:	: AI :	: TCVPC :	: 14CY 2 22HZ :	: 708,888 :			
: 151 :	: COUNTER :	: B-1 :	: H DIP 14 :	: 65C :	: COMM :	: CHECK :	: -054C 055C :	: 7648 / 1 :	: 2153/ 1 :		
:	: BCD :	: N/R :	: 77/79 :	:	: AI :	: TCVPC :	: 14CY 2 22HZ :	: 208,480 :			
: 151 :	: COUNTER :	: B-1 :	: H DIP 14 :	: 65C :	: COMM :	: CHECK :	: -054C 055C :	: 14020 / 1 :	: 2152/ 1 :		
:	: BCD :	: N/R :	: 77/79 :	:	: AI :	: TCVPC :	: 14CY 2 22HZ :	: 387,848 :			
: 151 :	: COUNTER :	: B-1 :	: H DIP 14 :	:	: COMM :	: FIELD :	:	: 60 / 0 :			
:	: BCD :	: N/R :	: 76/77 :	:	: AIF :	:	:	: 40,908 :			
: 151 :	: COUNTER :	: B-1 :	: H DIP 14 :	:	: COMM :	: FIELD :	:	: 40 / 0 :			
:	: BCD :	: N/R :	: 76/77 :	:	: AIF :	:	:	: 16,764 :			
: 151 :	: COUNTER :	: B-1 :	: H DIP 14 :	:	: COMM :	: FIELD :	:	: 56 / 0 :			
:	: BCD :	: N/R :	: 76/77 :	:	: AIF :	:	:	: 28,224 :			
: 151 :	: COUNTER :	: B-1 :	: H DIP 14 :	:	: COMM :	: FIELD :	:	: 76 / 0 :			
:	: BCD :	: N/R :	: 76/77 :	:	: AIF :	:	:	: 77,324 :			
: 20 :	: ADDER :	: B-2 :	: H FPK 14 :	: 68C :	: COMM :	: FIELD :	: 025C :	: 9 / 0 :			
:	:	: N/R :	: 75/78 :	:	: GT :	:	:	: 20,919 :			
: 3200 :	: FLIP-FLOP :	: D :	: H DIP 14 :	: 33C :	: COMP :	: FIELD :	: 025C :	: 3 / 0 :			
:	: JK :	: N/R :	: 77/79 :	:	: GB :	:	:	: 57,702 :			
: 3200 :	: FLIP-FLOP :	: D :	: H DIP 14 :	: 33C :	: COMP :	: FIELD :	: 025C :	: 6 / 0 :			
:	: JK :	: N/R :	: 77/79 :	:	: GB :	:	:	: 119,280 :			

SIGNETICS		:MANUFACTURER				RELIABILITY ANALYSIS CENTER					
TTL		:OPERATIONAL TYPE									
: PART NO. :	: DEVICE FUNCTION :	: SCR.N. CLASS :	: PACKAGE/ PINS :	: JCT.* TEMP. :	: EQUIP. TYPE :	: DATA CLASS. :	: STRESS LEVEL :	: #TESTED/ #FAILED :	: MPEF REPORT NO. /QTY FAILED :		
:	: CIRCUIT FUNCTION :	: NO. GATES :	: TEST DATE :	:	: APPL. ENV. :	: TEST TYPE :	:	: PART HOURS :			
: 416 :	: GATE EXPANDABLE :	: D 2 :	: H FPK 14 : 77/77 :	: 127C :	: NR :	: LIFE :	: 125C :	: 40 / 0 :	: 40,000 :		
:	:	:	:	:	: N/R :	: OP DYN :	:	:			
:	:	:	:	:	:	: LIFE :	:	: 40 / 0 :			
:	:	:	:	:	:	: EM :	:	:			
: 416 :	: GATE EXPANDABLE :	: D 2 :	: H FPK 14 : 77/77 :	: 127C :	: NR :	: LIFE :	: 125C :	: 40 / 0 :	: 40,000 :		
:	:	:	:	:	: N/R :	: OP DYN :	:	:			
:	:	:	:	:	:	: LIFE :	:	: 40 / 0 :			
:	:	:	:	:	:	: EM :	:	:			
: 417 :	: GATE EXPANDABLE :	: D 2 :	: H FPK 14 : 77/77 :	: 127C :	: NR :	: LIFE :	: 125C :	: 40 / 0 :	: 40,000 :		
:	:	:	:	:	: N/R :	: OP DYN :	:	:			
:	:	:	:	:	:	: LIFE :	:	: 40 / 0 :			
:	:	:	:	:	:	: EM :	:	:			
: 417 :	: GATE EXPANDABLE :	: D 2 :	: H FPK 14 : 77/77 :	: 152C :	: NR :	: LIFE :	: 150C :	: 40 / 0 :	: 40,000 :		
:	:	:	:	:	: N/R :	: STGLIFE :	:	:			
:	:	:	:	:	:	: LIFE :	:	: 40 / 0 :			
:	:	:	:	:	:	: EM :	:	:			

DIGITAL DEVICE DATA

SIGNETICS
TTL

:MANUFACTURER
:OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

: PART NO. :	DEVICE FUNCTION :	SCRN. CLASS :	PACKAGE/ PINS :	JCT.* TEMP. :	EQUIP. TYPE :	DATA CLASS. :	STRESS LEVEL :	#TESTED/ #FAILED :	NFEF RFPOR NO. /QTY FAILED :
:	CIRCUIT FUNCTION :	NO. GATES :	TEST DATE :	:	APPL. ENV. :	TEST TYPE :	:	PART HOURS :	:
: 424 :	FLIP-FLOP RS :	D 16 :	H FPK 77/77 :	14 128C :	NR N/R :	LIFE OP DYN :	125C :	40 / 0 : 40,000:	:
:	:	:	:	:	:	LIFE :	:	40 / 0 :	:
:	:	:	:	:	:	EM :	:	:	:
: 471 :	GATE :	D 3 :	H FPK 77/77 :	14 127C :	NR N/R :	LIFE OP DYN :	125C :	80 / 0 : 80,000:	:
:	:	:	:	:	:	LIFE :	:	80 / 0 :	:
:	:	:	:	:	:	EM :	:	:	:
: 480 :	GATE :	D 4 :	H FPK 77/77 :	14 127C :	NR N/R :	LIFE OP DYN :	125C :	40 / 0 : 40,000:	:
:	:	:	:	:	:	LIFE :	:	40 / 0 :	:
:	:	:	:	:	:	EM :	:	:	:
: 480 :	GATE :	D 4 :	H FPK 77/77 :	14 127C :	NR N/R :	LIFE OP DYN :	125C :	40 / 0 : 40,000:	:
:	:	:	:	:	:	LIFE :	:	40 / 0 :	:
:	:	:	:	:	:	EM :	:	:	:
: 481 :	GATE :	A-2 4 :	H FPK 77/77 :	14 127C :	NR N/R :	LIFE OP DYN :	125C :	40 / 0 : 40,000:	:
:	:	:	:	:	:	LIFE :	:	40 / 0 :	:
:	:	:	:	:	:	EM :	:	:	:
: 481 :	GATE :	D 4 :	H FPK 77/77 :	14 127C :	NR N/R :	LIFE OP DYN :	125C :	40 / 0 : 40,000:	:
:	:	:	:	:	:	LIFE :	:	40 / 0 :	:
:	:	:	:	:	:	EM :	:	:	:
: 490 :	INVERTER :	D 6 :	H FPK 77/77 :	14 126C :	NR N/R :	LIFE OP DYN :	125C :	40 / 0 : 40,000:	:
:	:	:	:	:	:	LIFE :	:	40 / 0 :	:
:	:	:	:	:	:	EM :	:	:	:
: 490 :	INVERTER :	D 6 :	H FPK 77/77 :	14 152C :	NR N/R :	LIFE STGLIFE :	150C :	45 / 0 : 45,000:	:
:	:	:	:	:	:	LIFE :	:	45 / 0 :	:
:	:	:	:	:	:	EM :	:	:	:
: 5400 :	GATE :	B-2 4 :	H DIP 77/77 :	14 155C :	NR N/R :	LIFE STGLIFE :	150C :	40 / 0 : 40,000:	:
:	:	:	:	:	:	LIFE :	:	40 / 0 :	:
:	:	:	:	:	:	EM :	:	:	:
: 5400 :	GATE :	D 4 :	H FPK 77/77 :	14 134C :	NR N/R :	LIFE OP DYN :	125C :	40 / 0 : 40,000:	:
:	:	:	:	:	:	LIFE :	:	40 / 0 :	:
:	:	:	:	:	:	EM :	:	:	:
: 5400 :	GATE :	D 4 :	H FPK 77/77 :	14 159C :	NR N/R :	LIFE STGLIFE :	150C :	120 / 0 : 120,000:	:
:	:	:	:	:	:	LIFE :	:	120 / 0 :	:
:	:	:	:	:	:	EM :	:	:	:
: 5400 :	GATE :	D 4 :	H FPK 77/77 :	14 158C :	NR N/R :	LIFE STGLIFE :	150C :	40 / 0 : 40,000:	:
:	:	:	:	:	:	LIFE :	:	40 / 0 :	:
:	:	:	:	:	:	EM :	:	:	:

DIGITAL DEVICE DATA

SIGNETICS TTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE			PART HOURS		
5400	GATE	D	H DIP 14: 77/77	155C	NR	LIFE	150C	160 / 0			
		4			N/R	STGLIFE		160,000			
5400	GATE	D	H DIP 14: 77/77	155C	NR	LIFE	150C	40 / 0			
		4			N/R	STGLIFE		40,000			
5401	GATE	D	H FPK 14: 77/77	134C	NR	LIFE	125C	58 / 0			
		4			N/R	OP DYN		59,000			
5401	GATE	D	H FPK 14: 77/77	134C	NR	LIFE	125C	32 / 0			
		4			N/R	OP DYN		32,000			
5401	GATE	D	H FPK 14: 77/77	159C	NR	LIFE	150C	60 / 0			
		4			N/R	STGLIFE		61,000			
5401	GATE	D	H DIP 14: 77/77	155C	NR	LIFE	150C	45 / 0			
		4			N/R	STGLIFE		45,000			
5402	GATE	D	H DIP 14: 77/77	157C	NR	LIFE	150C	45 / 0			
		4			N/R	STGLIFE		45,000			
5402	GATE	X	H DIP 14: 77/77	132C	NR	LIFE	125C	221 / 0			
		4			N/R	OP DYN		221,000			
5404	INVERTER	B-1/JB:	H DIP 14: 77/79	59C	COMM	CHECK	-054C 055C	1912 / 0			
		6			AI	TCVPC	14CY 2 22HZ	52,120			
5404	INVERTER	B-1/JB:	H DIP 14: 77/79	59C	COMM	CHECK	-054C 055C	3505 / 0			
		6			AI	TCVPC	14CY 2 22HZ	96,962			
5404	INVERTER	B-1	H DIP 14: 77/79	59C	COMM	CHECK	-054C 055C	6749 / 0			
		6			AI	TCVPC	14CY 2 22HZ	184,402			
5404	INVERTER	B-2	H FPK 14: 77/77	163C	NR	LIFE	150C	45 / 0			
		6			N/R	STGLIFE		45,000			
5408	GATE	X	H DIP 14: 77/77	133C	NR	LIFE	125C	87 / 0			
		4			N/R	OP DYN		87,000			

DIGITAL DEVICE DATA

SIGNETICS
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:MANUFACTURER
:OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
						LIFE		87 / 0	
						EM			
5408	GATE	X	H DIP 14: 77/77	158C	NR	LIFE	150C	55 / 0	
		4			N/R	STGLIFE		55,000	
						LIFE		55 / 0	
						EM			
5409	GATE	X	H DIP 14: 77/77	133C	NR	LIFE	125C	88 / 0	
		4			N/R	OP DYN		88,000	
						LIFE		88 / 0	
						EM			
5409	GATE	X	H DIP 14: 77/77	158C	NR	LIFE	150C	53 / 0	
		4			N/R	STGLIFE		53,000	
						LIFE		53 / 0	
						EM			
54109	FLIP-FLOP JK	B-2/N 16	H DIP 16: 76/77	81C	RADR AU	RELDEH TCVPC	-054C 071C 6CY 2. 27HZ	209 / 0	10,032
54121	FLIP-FLOP MONOSTABLE	D	H FPK 10: 77/77	144C	NR	LIFE	125C	45 / 0	
		8			N/R	OP DYN		45,000	
						LIFE		45 / 0	
						EM			
54121	FLIP-FLOP MONOSTABLE	X	H DIP 14: 77/77	135C	NR	LIFE	125C	220 / 0	
		8			N/R	OP DYN		220,000	
						LIFE		220 / 0	
						EM			
54121	FLIP-FLOP MONOSTABLE	X	H DIP 14: 77/77	160C	NR	LIFE	150C	38 / 0	
		8			N/R	STGLIFE		38,000	
						LIFE		38 / 0	
						EM			
54121	FLIP-FLOP MONOSTABLE	X	H FPK 14: 76/78	39C	COMP GBC	FIELD	025C	21 / 0	194,112
54123	FLIP-FLOP MONOSTABLE	D	H DIP 16: 77/77	149C	NR	LIFE	125C	45 / 0	
		20			N/R	OP DYN		45,000	
						LIFE		45 / 0	
						EM			
54123	FLIP-FLOP MONOSTABLE	X	H DIP 16: 77/77	149C	NR	LIFE	125C	220 / 0	
		20			N/R	OP DYN		220,000	
						LIFE		220 / 0	
						EM			
54123	FLIP-FLOP MONOSTABLE	X	H DIP 16: 77/77	174C	NR	LIFE	150C	38 / 0	
		20			N/R	STGLIFE		38,000	
						LIFE		38 / 0	
						EM			
54151	MULTIPLEXER	X	H DIP 16: 77/77	140C	NR	LIFE	125C	134 / 0	
		17			N/R	OP DYN		134,000	
						LIFE		134 / 1	2295/ 1
						EM			

DIGITAL DEVICE DATA

SIGMETICS
TTL

MANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MEEF REPORT NO. /QTY FAIL'D
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
54153	MULTIPLIER	X 16	H DIP 16: 77/77	144C	NR N/R	LIFE OP DYN	125C	92 / 0 92,000	
54153	MULTIPLIER	Y 16	H DIP 16: 77/77	169C	NR N/P	LIFE STGLIFE	150C	58 / 0 58,000	
54154	DECODER/DEMULTIPLX	D 25	H DIP 24: 77/77	161C	NR N/R	LIFE STGLIFE	150C	45 / 0 45,000	
54156	DECODER/DEMULTIPLX	D 15	H DIP 16: 77/77	163C	NP N/A	LIFE STGLIFE	150C	45 / 0 45,000	
54160	COUNTER DECADE	X 60	H DIP 16: 77/77	159C	NR N/R	LIFE OP DYN	125C	56 / 0 56,000	
54160	COUNTER DECADE	X 60	H DIP 16: 77/77	184C	NR N/R	LIFE STGLIFF	150C	10 / 0 10,000	
54161	COUNTER BINARY	J-B 57	H DIP 16: 77/77		RADR AIU	RELDEN OPERATE		2525 / 0 81,330	
54161	COUNTER BINARY	D 57	H EPK 16: 77/77	212C	NR N/R	LIFE STGLIFE	150C	45 / 0 45,000	
54161	COUNTER BINARY	X 57	H DIP 16: 77/77	156C	NR N/R	LIFE OP DYN	125C	60 / 0 60,000	
54161	COUNTER BINARY	X 57	H DIP 16: 77/77	181C	NR N/R	LIFE STGLIFE	150C	9 / 0 9,000	
54162	COUNTER DECADE	X 60	H DIP 16: 77/77	156C	NR N/R	LIFE OP DYN	125C	54 / 0 54,000	
54162	COUNTER DECADE	X 60	H DIP 16: 77/77	181C	NR N/R	LIFE STGLIFE	150C	9 / 0 9,000	

DIGITAL DEVICE DATA

SIGNETICS TTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVFL	TESTED/ FAILED	REPT. REPORT NO. / QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
54163	COUNTER BINARY	X 58	H DIP 16 77/77	156C	NR N/R	LIFE OP DYN	125C	52 / 0 52,000		
						LIFE EM		52 / 0		
54163	COUNTER BINARY	X 58	H DIP 16 77/77	181C	NR N/P	LIFE STGLIFE	150C	10 / 0 10,000		
						LIFE EM		10 / 0		
54164	SHIFT REG	J-B 36	H DIP 14 77/77		RADR AIU	RELDEN OPERATE		20 / 0 644		
54164	SHIFT REG	X 36	H CAN 16 77/77	144C	NR N/R	LIFE OP DYN	125C	174 / 0 174,000		
						LIFE EM		174 / 0		
54164	SHIFT REG	X 36	H CAN 16 77/77	169C	NR N/R	LIFE STGLIFE	150C	77 / 0 77,000		
						LIFE EM		77 / 0		
54174	FLIP-FLOP D	X 36	H DIP 16 77/77	148C	NR N/R	LIFE OP DYN	125C	179 / 0 179,000		
						LIFE EM		179 / 0		
54174	FLIP-FLOP D	X 36	H DIP 16 77/77	173C	NR N/R	LIFE STGLIFE	150C	80 / 0 80,000		
						LIFE EM		80 / 0		
54175	FLIP-FLOP D	X 24	H DIP 16 77/77	141C	NR N/R	LIFE OP DYN	125C	178 / 0 178,000		
						LIFE EM		178 / 0		
54175	FLIP-FLOP D	X 24	H DIP 16 77/77	166C	NR N/R	LIFE STGLIFE	150C	80 / 0 80,000		
						LIFE EM		80 / 0		
54180	GENERATOR	X 14	H DIP 14 77/77	144C	NR N/R	LIFE OP DYN	125C	134 / 0 134,000		
						LIFE EM		134 / 1	2296/ 1	
54181	LOGIC UNIT ARITHMETIC	D 63	H EPK 24 77/77	223C	NR N/R	LIFE STGLIFE	150C	45 / 0 45,000		
						LIFE EM		45 / 0		
54182	GENERATOR	X 19	H DIP 16 77/77	144C	NR N/R	LIFE OP DYN	125C	179 / 0 179,000		
						LIFE EM		179 / 0		

DIGITAL DEVICE DATA

SIGNETICS
TTL

MANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
54193	COUNTER BINARY	D 48	H DIP 16: 77/77	158C	NR	LIFE OP DYN	125C	45 / 0 45,000	
						LIFE EM		45 / 1 2297/ 1	
54193	COUNTER BINARY	D 48	H DIP 16: 77/77	158C	NR	LIFE OP DYN	125C	45 / 0 45,000	
						LIFE EM		45 / 0	
5425	INTERFACE TRANSLATOR	X 4	H DIP 14: 77/77	130C	NR	LIFE OP DYN	125C	134 / 0 134,000	
						LIFE EM		134 / 0	
5426	INTERFACE TRANSLATOR	X 4	H DIP 14: 77/77	155C	NR	LIFE STGLIFE	150C	38 / 0 38,000	
						LIFE EM		38 / 0	
5427	GATE	X 3	H DIP 14: 77/77	133C	NR	LIFE OP DYN	125C	134 / 0 134,000	
						LIFE EM		134 / 0	
5437	BUFFER	X 4	H FPK 14: 77/77	146C	NR	LIFE OP DYN	125C	74 / 0 74,000	
						LIFE EM		74 / 0	
5438	BUFFER	X 4	H FPK 14: 77/77	146C	NR	LIFE OP DYN	125C	73 / 0 73,000	
						LIFE EM		73 / 0	
5439	BUFFER	B-2 4	H DIP 14: 77/77	162C	NR	LIFE STGLIFE	150C	45 / 0 45,000	
						LIFE EM		45 / 0	
5440	BUFFER	X 2	H FPK 14: 77/77	136C	NR	LIFE OP DYN	125C	74 / 0 74,000	
						LIFE EM		74 / 0	
5440	BUFFER	X 2	H FPK 14: 77/77	161C	NR	LIFE STGLIFE	150C	7 / 0 7,000	
						LIFE EM		7 / 0	
5442	DECODER BCD/DECIMAL	X 18	H DIP 16: 77/77	140C	NR	LIFE OP DYN	125C	43 / 0 43,000	
						LIFE EM		43 / 0	
5442	DECODER BCD/DECIMAL	X 18	H DIP 16: 77/77	165C	NR	LIFE STGLIFE	150C	15 / 0 15,000	

DIGITAL DEVICE DATA

SIGNETICS
TTL

MANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
						LIFE		15 / 0	
						EM			
5444	DECODER DECIMAL	D 18	H FPK 77/77	16 174C	NR N/R	LIFE STGLIFE	150C	40 / 0 40,000	
						LIFE		40 / 0	
						EM			
5444	DECODER DECIMAL	D 18	H DIP 77/77	16 163C	NR N/R	LIFE STGLIFE	150C	80 / 0 80,000	
						LIFE		80 / 0	
						EM			
5450	GATE EXPANDABLE	X 6	H DIP 77/77	14 129C	NR N/R	LIFE OP DYN	125C	91 / 0 91,000	
						LIFE		91 / 0	
						EM			
5450	GATE EXPANDABLE	X 6	H DIP 77/77	14 154C	NR N/R	LIFE STGLIFE	150C	55 / 0 55,000	
						LIFE		55 / 0	
						EM			
5451	GATE	X 6	H DIP 77/77	14 129C	NR N/R	LIFE OP DYN	125C	91 / 0 91,000	
						LIFE		91 / 0	
						EM			
5451	GATE	X 6	H DIP 77/77	14 154C	NR N/R	LIFE STGLIFE	150C	56 / 0 56,000	
						LIFE		56 / 0	
						EM			
5453	GATE EXPANDABLE	X 5	H DIP 77/77	14 128C	NR N/R	LIFE OP DYN	125C	55 / 0 55,000	
						LIFE		55 / 0	
						EM			
5453	GATE EXPANDABLE	X 5	H DIP 77/77	14 153C	NR N/R	LIFE STGLIFE	150C	9 / 0 9,000	
						LIFE		9 / 0	
						EM			
5454	GATE	X 5	H DIP 77/77	14 128C	NR N/R	LIFE OP DYN	125C	55 / 0 55,000	
						LIFE		55 / 0	
						EM			
5454	GATE	X 5	H DIP 77/77	14 153C	NR N/R	LIFE STGLIFE	150C	9 / 0 9,000	
						LIFE		9 / 0	
						EM			
5470	FLIP-FLOP JK	D 11	H FPK 77/77	14 139C	NR N/R	LIFE OP DYN	125C	40 / 0 40,000	
						LIFE		40 / 0	
						EM			

DIGITAL DEVICE DATA

SIGNETICS
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MANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEP REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
5470	FLIP-FLOP JK	D-1 11	P DIP 14 77/77	135C	NR N/R	LIFE OP DYN	125C	40 / 0 40,000	
						LIFE EM		40 / 0	
5474	FLIP-FLOP D	B-2 12	H FPK 14 77/77	142C	NR N/R	LIFE OP DYN	125C	45 / 0 45,000	
						LIFE EM		45 / 0	
5475	LATCH BISTABLE	B-2 24	H FPK 16 77/77	183C	NR N/R	LIFE STGLIFE	150C	45 / 0 45,000	
						LIFE EM		45 / 0	
5475	LATCH BISTABLE	X 24	H DIP 16 77/77	142C	NR N/R	LIFE OP DYN	125C	179 / 0 179,000	
						LIFE EM		179 / 0	
5475	LATCH BISTABLE	X 24	H DIP 16 77/77	167C	NR N/R	LIFE STGLIFE	150C	80 / 0 80,000	
						LIFE EM		80 / 0	
5476	FLIP-FLOP JK	D 16	H DIP 16 77/77	161C	NR N/R	LIFE STGLIFE	150C	80 / 0 80,000	
						LIFE EM		80 / 0	
5476	FLIP-FLOP JK	D 16	H DIP 16 77/77	161C	NR N/R	LIFE STGLIFE	150C	40 / 0 40,000	
						LIFE EM		40 / 0	
5476	FLIP-FLOP JK	X 16	H DIP 16 77/77	134C	NR N/R	LIFE OP DYN	125C	221 / 0 221,000	
						LIFE EM		221 / 0	
5476	FLIP-FLOP JK	X 16	H DIP 16 77/77	159C	NR N/R	LIFE STGLIFE	150C	38 / 0 38,000	
						LIFE EM		38 / 0	
5477	LATCH BISTABLE	X 24	H DIP 14 77/77	143C	NR N/R	LIFE OP DYN	125C	179 / 0 179,000	
						LIFE EM		179 / 0	
5477	LATCH BISTABLE	X 24	H DIP 14 77/77	168C	NR N/R	LIFE STGLIFE	150C	80 / 0 80,000	
						LIFE EM		80 / 0	
5483	ADDER FULL	B-2 36	H FPK 16 77/77	209C	NR N/R	LIFE STGLIFE	150C	45 / 0 45,000	

DIGITAL DEVICE DATA

SIGNETICS TTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER			
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO.: /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
						LIFE		45 / 0	
						EM			
5483	ADDER FULL	X 36	H DIP 16: 77/77	155C	NR N/R	LIFE OP DYN	125C	220 / 0 220,000	
						LIFE		220 / 1	2298 / 1
						EM			
5483	ADDER FULL	X 36	H DIP 16: 77/77	180C	NR N/R	LIFE STGLIFE	150C	38 / 0 38,000	
						LIFE		38 / 0	
						EM			
5485	COMPARATOR	X 31	H DIP 16: 77/77	156C	NR N/R	LIFE OP DYN	125C	132 / 0 132,000	
						LIFE		132 / 0	
						EM			
5486	GATE	D 4	H FPK 14: 77/77	182C	NR N/R	LIFE STGLIFE	150C	45 / 0 45,000	
						LIFE		45 / 0	
						EM			
5486	GATE	X 4	H DIP 14: 77/77	142C	NR N/R	LIFE OP DYN	125C	221 / 0 221,000	
						LIFE		221 / 0	
						EM			
5492	COUNTER BINARY	D 26	H DIP 14: 77/77	166C	NR N/R	LIFE STGLIFE	150C	45 / 0 45,000	
						LIFE		45 / 0	
						EM			
5492	COUNTER BINARY	D 26	H DIP 14: 77/77	143C	NR N/R	LIFE OP DYN	125C	110 / 0 110,000	
						LIFE		110 / 0	
						EM			
5492	COUNTER BINARY	D 26	H DIP 14: 77/77	168C	NR N/R	LIFE STGLIFE	150C	19 / 0 19,000	
						LIFE		19 / 0	
						EM			
5495	SHIFT REG	X 37	H DIP 14: 77/77	153C	NR N/R	LIFE OP DYN	125C	220 / 0 220,000	
						LIFE		220 / 0	
						EM			
5495	SHIFT REG	X 37	H DIP 14: 77/77	178C	NR N/R	LIFE STGLIFE	150C	38 / 0 38,000	
						LIFE		38 / 0	
						EM			
7400	GATE	D 4	H FPK 14: 77/77	134C	NR N/R	LIFE OP DYN	125C	40 / 0 40,000	
						LIFE		40 / 0	
						EM			

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MANUFACTURER
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RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO./ QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
7400	GATE	D	H FPK 14	159C	NR	LIFE	150C	40 / 0	
		4	77/77		N/R	STGLIFE		40,000	
						LIFE		40 / 0	
						EM			
7400	GATE	D	H DIP 14	130C	NR	LIFE	125C	35 / 0	
		4	77/77		N/R	OP DYN		35,000	
						LIFE		35 / 0	
						EM			
7400	GATE	D-1	P DIP 14	132C	NR	LIFE	125C	419 / 0	
		4	77/77		N/R	OP DYN		419,000	
						LIFE		419 / 0	
						EM			
7400	GATE	D-1	P DIP 14	132C	NR	LIFE	125C	149 / 0	
		4	77/77		N/R	OP DYN		151,000	
						LIFE		149 / 0	
						EM			
7400	GATE	D-1	P DIP 14	132C	NR	LIFE	125C	246 / 0	
		4	77/77		N/R	OP DYN		249,000	
						LIFE		246 / 0	
						EM			
7400	GATE	D-1	P DIP 14	132C	NR	LIFE	125C	59 / 0	
		4	77/77		N/R	OP DYN		60,000	
						LIFE		59 / 0	
						EM			
7400	GATE	D-1	P DIP 14	132C	NR	LIFE	125C	19 / 0	
		4	77/77		N/R	OP DYN		19,000	
						LIFE		19 / 1	2299/ 1
						EM			
7400	GATE	D-1	P DIP 14	132C	NR	LIFE	125C	50 / 0	
		4	77/77		N/R	OP DYN		101,000	
						LIFE		50 / 1	2300/ 1
						EM			
7400	GATE	D-1	P DIP 14	132C	NR	LIFE	125C	246 / 0	
		4	77/77		N/R	OP DYN		497,000	
						LIFE		246 / 0	
						EM			
7400	GATE	D-1	P DIP 14	132C	NR	LIFE	125C	47 / 0	
		4	77/77		N/R	OP DYN		95,000	
						LIFE		47 / 0	
						EM			
7400	GATE	D-1	P DIP 14	132C	NR	LIFE	125C	95 / 0	
		4	77/77		N/R	OP DYN		96,000	
						LIFE		95 / 0	
						EM			
7400	GATE	D-1	P DIP 14	132C	NR	LIFE	125C	49 / 0	
		4	77/77		N/R	OP DYN		103,000	
						LIFE			
						EM			

DIGITAL DEVICE DATA

SIGNETICS TTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT. TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	REF REPORT NO. /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
						LIFE		49 / 0			
						EM					
7400	GATE	D-1	P DIP 14: 77/77	132C	NR	LIFE	125C	47 / 0			
		4			N/R	OP DYN		95,000			
						LIFE		47 / 5	2301/	5	
						EM					
7400	GATE	D-1	P DIP 14: 77/77	132C	NR	LIFE	125C	50 / 0			
		4			N/R	OP DYN		50,000			
						LIFE		50 / 1			
						EM					
7400	GATE	D-1	P DIP 14: 77/77	157C	NR	LIFE	150C	241 / 0			
		4			N/R	STGLIFE		241,000			
						LIFE		241 / 0			
						EM					
7400	GATE	D-1	P DIP 14: 77/77	157C	NR	LIFE	150C	40 / 0			
		4			N/R	STGLIFE		40,000			
						LIFE		40 / 1	2303/	1	
						EM					
7400	GATE	D-1	P DIP 14: 77/77	157C	NR	LIFE	150C	466 / 0			
		4			N/R	STGLIFE		469,000			
						LIFE		466 / 0			
						EM					
7400	GATE	D-1	P DIP 14: 77/77	157C	NR	LIFE	150C	198 / 0			
		4			N/R	STGLIFE		400,000			
						LIFE		198 / 0			
						EM					
7400	GATE	D-1	P DIP 14: 77/77	157C	NR	LIFE	150C	49 / 0			
		4			N/R	STGLIFE		99,000			
						LIFE		49 / 1	2304/	1	
						EM					
7400	GATE	D-1	P DIP 14: 77/77	157C	NR	LIFE	150C	46 / 0			
		4			N/R	STGLIFE		139,000			
						LIFE		46 / 0			
						EM					
7400	GATE	D-1	P DIP 14: 77/77	157C	NR	LIFE	150C	46 / 0			
		4			N/R	STGLIFE		139,000			
						LIFE		46 / 0			
						EM					
7400	GATE	D-1	P DIP 14: 77/77	157C	NR	LIFE	150C	47 / 0			
		4			N/R	STGLIFE		95,000			
						LIFE		47 / 5	2305/	5	
						EM					
7404	INVERTER	D	H DIP 14: 77/77	132C	NR	LIFE	125C	40 / 0			
		6			N/R	OP DYN		40,000			
						LIFE		40 / 0			
						EM					

DIGITAL DEVICE DATA

SIGNETICS TTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO. /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
7404	INVERTER	D 6	H DIP 14 77/77	157C	NR N/R	LIFE STGLIFE	150C	40 / 0 40,000		
7404	INVERTER	D-1 6	P DIP 14 77/77	160C	NR N/R	LIFE STGLIFE	150C	48 / 0 48,000		
7405	INVERTER	D-1 6	P DIP 14 77/77	160C	NR N/P	LIFE STGLIFE	150C	40 / 0 40,000		
7408	GATE	D-1 4	P DIP 14 77/77	161C	NR N/R	LIFE STGLIFE	150C	25 / 0 25,000		
74121	FLIP-FLOP MONOSTABLE	D 8	H DIP 14 77/77	135C	NR N/R	LIFE OP DYN	125C	45 / 0 45,000		
74121	FLIP-FLOP MONOSTABLE	D-1 8	P DIP 14 77/77	139C	NR N/R	LIFE OP DYN	125C	89 / 0 90,000		
74123	FLIP-FLOP MONOSTABLE	D-1 20	P DIP 16 77/77	158C	NR N/R	LIFE OP DYN	125C	70 / 0 71,000		
74123	FLIP-FLOP MONOSTABLE	D-1 20	P DIP 16 77/77	183C	NR N/R	LIFE STGLIFE	150C	74 / 0 75,000		
74147	ENCODER	D-1 31	P DIP 16 77/77	158C	NR N/R	LIFE OP DYN	125C	46 / 0 46,000		
74147	ENCODER	D-1 31	P DIP 16 77/77	183C	NR N/R	LIFE STGLIFE	150C	46 / 0 46,000		
74150	MULTIPLEXER	D-1 26	P DIP 24 77/77	175C	NR N/R	LIFE STGLIFE	150C	45 / 0 45,000		
74156	DECODER/DEMULTIPLX	D-1 15	P DIP 16 77/77	160C	NR N/R	LIFE STGLIFE	150C	45 / 0 45,000	2306/ 1	

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PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO.: /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
								45 / 0	
74160	COUNTER DECADE	D-1 60	P DIP 16: 77/77	193C	NR N/R	LIFE STGLIFE	150C	45 / 0 45,000	
74161	COUNTER BINARY	D-1 57	P DIP 16: 77/77	168C	NR N/R	LIFE OP DYN	125C	102 / 0 102,000	
74161	COUNTER BINARY	D-1 57	P DIP 16: 77/77	193C	NR N/R	LIFE STGLIFE	150C	102 / 0 102,000	
74164	SHIFT REG	D-1 36	P DIP 14: 77/77	151C	NR N/R	LIFE OP DYN	125C	45 / 0 45,000	
74175	FLIP-FLOP D	D 24	H DIP 16: 77/77	141C	NR N/R	LIFE OP DYN	125C	46 / 0 46,000	
74175	FLIP-FLOP D	D 24	H DIP 16: 77/77	166C	NR N/R	LIFE STGLIFE	150C	46 / 0 46,000	
74175	FLIP-FLOP D	D-1 24	P DIP 16: 77/77	147C	NR N/R	LIFE OP DYN	125C	46 / 0 46,000	2307/ 1
74193	COUNTER BINARY	D 48	H DIP 16: 77/77	158C	NR N/R	LIFE OP DYN	125C	46 / 0 46,000	
74193	COUNTER BINARY	D-1 48	P DIP 16: 77/77	171C	NR N/R	LIFE OP DYN	125C	83 / 0 83,000	
74193	COUNTER BINARY	D-1 48	P DIP 16: 77/77	196C	NR N/R	LIFE STGLIFE	150C	46 / 0 46,000	
7420	GATE	D 2	H DIP 14: 77/77	128C	NR N/R	LIFE OP DYN	125C	46 / 0 46,000	

DIGITAL DEVICE DATA

SIGNETICS TTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO. /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
7420	GATE	D 2	H DIP 77/77	14 153C	NR	LIFE	150C	46 / 0	46,000	
					N/R	STGLIFE				
						LIFE		46 / 0		
						EM				
7420	GATE	D-1 2	P DIP 77/77	14 129C	NR	LIFE	125C	46 / 0	46,000	
					N/R	OP DYN				
						LIFE		46 / 0		
						EM				
7420	GATE	D-1 2	P DIP 77/77	14 154C	NR	LIFE	150C	46 / 0	46,000	
					N/R	STGLIFE				
						LIFE		46 / 0		
						EM				
7426	INTERFACE TRANSLATOR	D-1 4	P DIP 77/77	14 132C	NR	LIFE	125C	46 / 0	46,000	
					N/R	OP DYN				
						LIFE		46 / 0		
						EM				
7426	INTERFACE TRANSLATOR	D-1 4	P DIP 77/77	14 157C	NR	LIFE	150C	46 / 0	46,000	
					N/R	STGLIFE				
						LIFE		46 / 0		
						EM				
7440	BUFFER	D-1 2	P DIP 77/77	14 133C	NR	LIFE	125C	54 / 0	54,000	
					N/R	OP DYN				
						LIFE		54 / 0		
						EM				
7440	BUFFER	D-1 2	P DIP 77/77	14 158C	NR	LIFE	150C	45 / 0	40,000	
					N/R	STGLIFE				
						LIFE		45 / 0		
						EM				
7440	BUFFER	D-1 2	P DIP 77/77	14 158C	NR	LIFE	150C	46 / 0	46,000	
					N/R	STGLIFE				
						LIFE		46 / 0		
						EM				
7442	DECODER BCD/DECIMAL	D-1 18	P DIP 77/77	16 145C	NR	LIFE	125C	40 / 0	40,000	
					N/R	OP DYN				
						LIFE		40 / 0		
						EM				
7442	DECODER BCD/DECIMAL	D-1 18	P DIP 77/77	16 145C	NR	LIFE	125C	77 / 0	78,000	
					N/R	OP DYN				
						LIFE		77 / 0		
						EM				
7442	DECODER BCD/DECIMAL	D-1 18	P DIP 77/77	16 170C	NR	LIFE	150C	40 / 0	40,000	
					N/R	STGLIFE				
						LIFE		40 / 0		
						EM				
7442	DECODER BCD/DECIMAL	D-1 18	P DIP 77/77	16 170C	NR	LIFE	150C	46 / 0	46,000	
					N/R	STGLIFE				
						LIFE		46 / 0		
						STGLIFE				

DIGITAL DEVICE DATA

RELIABILITY ANALYSIS CENTER

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OPERATIONAL TYPE

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	INFEF REPORT NO. /OTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
7443	DECODER DECIMAL	D-1 18	P DIP 77/77	16: 170C	NR N/R	LIFE EM LIFE STGLIFE	150C	46 / 0 40 / 0 40,000:	2308/ 1
7473	FLIP-FLOP JK	D-1 16	P DIP 77/77	14: 166C	NR N/R	LIFE STGLIFE	150C	45 / 0 45,000:	
7474	FLIP-FLOP D	D 12	H DIP 77/77	14: 138C	NR N/R	LIFE OP DYN	125C	45 / 0 45,000:	
7490	COUNTER DECADE	D-1 15	P DIP 77/77	14: 150C	NR N/R	LIFE OP DYN	125C	146 / 0 146,000:	
7490	COUNTER DECADE	D-1 15	P DIP 77/77	14: 150C	NR N/R	LIFE OP DYN	125C	77 / 0 78,000:	
7490	COUNTER DECADE	D-1 15	P DIP 77/77	14: 175C	NR N/R	LIFE STGLIFE	150C	102 / 0 102,000:	
7491	SHIFT REG	D-1 67	P DIP 77/77	14: 152C	NR N/R	LIFE OP DYN	125C	43 / 0 43,000:	
7491	SHIFT REG	D-1 67	P DIP 77/77	14: 152C	NR N/R	LIFE OP DYN	125C	46 / 0 46,000:	2309/ 1
8200	SHIFT REG	D 62	H FPK 77/77	24: 216C	NR N/R	LIFE STGLIFE	150C	45 / 0 45,000:	
8200	SHIFT REG	D 62	H DIP 77/77	24: 175C	NR N/R	LIFE STGLIFE	150C	40 / 0 40,000:	2310/ 1
8201	SHIFT REG	D 62	H DIP 77/77	24: 175C	NR N/R	LIFE STGLIFE	150C	90 / 0 90,000:	

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MANUFACTURER
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RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
8202	SHIFT REG	D 62	H FPK 24: 77/77	216C	NR	LIFE	150C	85 / 0	
					N/R	STGLIFE		85,000	
						LIFE		85 / 0	
						EM			
8202	SHIFT REG	D 62	H DIP 24: 77/77	175C	NR	LIFE	150C	40 / 0	
					N/R	STGLIFE		40,000	
						LIFE		40 / 0	
						EM			
8202	SHIFT REG	D-1 62	P DIP 24: 77/78	69C	DSPY	FIELD	040C 55XPWR	3029 / 7	3,937,700
					GBC				
8202	SHIFT REG	D-1 62	P DIP 24: 78/79	69C	DSPY	FIELD	040C 55XPWR	3220 / 0	4,186,000
					GBC				
8203	SHIFT REG	D 62	H FPK 24: 77/77	216C	NR	LIFE	150C	40 / 0	
					N/R	STGLIFE		40,000	
						LIFE		40 / 0	
						EM			
8230	MULTIPLEXER	D 17	H FPK 16: 77/77	160C	NR	LIFE	150C	40 / 0	
					N/R	STGLIFE		40,000	
						LIFE		40 / 0	
						EM			
8233	MULTIPLEXER	D 14	H DIP 16: 77/77	169C	NR	LIFE	150C	40 / 0	
					N/R	STGLIFE		40,000	
						LIFE		40 / 0	
						EM			
8233	MULTIPLEXER	D 14	H DIP 16: 77/77	169C	NR	LIFE	150C	45 / 0	
					N/R	STGLIFE		45,000	
						LIFE		45 / 0	
						EM			
8234	MULTIPLEXER	D-1 14	P DIP 16: 77/78	56C	DSPY	FIELD	040C 55XPWR	8 / 0	
					GBC			10,400	
8242	GATE	D 20	H FPK 14: 77/77	158C	NR	LIFE	125C	45 / 0	
					N/R	OP DYN		45,000	
						LIFE		45 / 0	
						EM			
8242	GATE	D 20	H FPK 14: 77/77	183C	NR	LIFE	150C	45 / 0	
					N/R	STGLIFE		45,000	
						LIFE		45 / 0	
						EM			
8242	GATE	D-1 20	P DIP 14: 77/77	151C	NR	LIFE	125C	45 / 0	
					N/R	OP DYN		45,000	
						LIFE		45 / 0	
						EM			
8243	SCALER	D-1 70	P DIP 24: 77/78	62C	DSPY	FIELD	040C 55XPWR	6 / 0	7,800
					GBC				
8260	LOGIC UNIT ARITHMETIC	D 56	H DIP 24: 77/77	179C	NR	LIFE	150C	45 / 0	
					N/R	STGLIFE		45,000	

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SIGNETICS TTL		:MANUFACTURER :OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
: PART NO. :	: DEVICE FUNCTION :	: SCRN. CLASS :	: PACKAGE/ PINS :	: JCT.* TEMP. :	: EQUIP. TYPE :	: DATA CLASS. :	: STRESS LEVEL :	: #TESTED/ #FAILED :	: MPEF REPORT NO. /QTY FAILED :		
:	: CIRCUIT FUNCTION :	: NO. GATES :	: TEST DATE :	:	: APPL. Lvl. :	: TEST TYPE :	:	: Pwr. HOURS :			
:	:	:	:	:	:	: LIFE :	:	: 45 / 0 :			
:	:	:	:	:	:	: EM :	:	:			
: 8263 :	: MULTIPLEXER :	: D 34 :	: H FPK 24: 77/77 :	: 175C :	: NR :	: LIFE :	: 150C :	: 40 / 0 :			
:	:	:	:	:	: N/R :	: STGLIFE :	:	: 40,000 :			
:	:	:	:	:	:	: LIFE :	:	: 40 / 0 :			
:	:	:	:	:	:	: EM :	:	:			
: 8263 :	: MULTIPLEXER :	: D-1 34 :	: P DIP 24: 77/78 :	: 66C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 311 / 0 :			
:	:	:	:	:	: CRC :	:	:	: 404,300 :			
: 8263 :	: MULTIPLEXER :	: D-1 34 :	: P DIP 24: 78/79 :	: 66C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 554 / 0 :			
:	:	:	:	:	: GBC :	:	:	: 720,200 :			
: 8267 :	: MULTIPLEXER :	: D-1 18 :	: P DIP 16: 77/78 :	: 60C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 1490 / 1 :			
:	:	:	:	:	: GBC :	:	:	: 1,937,000 :			
: 8267 :	: MULTIPLEXER :	: D-1 18 :	: P DIP 16: 78/79 :	: 60C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 2560 / 0 :			
:	:	:	:	:	: GBC :	:	:	: 3,328,000 :			
: 8271 :	: SHIFT REG :	: D-1 58 :	: P DIP 16: 77/78 :	: 67C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 3642 / 0 :			
:	:	:	:	:	: GBC :	:	:	: 4,734,600 :			
: 8271 :	: SHIFT REG :	: D-1 58 :	: P DIP 16: 78/79 :	: 67C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 6131 / 0 :			
:	:	:	:	:	: GBC :	:	:	: 7,970,300 :			
: 8273 :	: SHIFT REG :	: D-1 63 :	: P DIP 16: 77/78 :	: 74C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 326 / 0 :			
:	:	:	:	:	: GBC :	:	:	: 423,800 :			
: 8273 :	: SHIFT REG :	: D-1 63 :	: P DIP 16: 78/79 :	: 74C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 1154 / 0 :			
:	:	:	:	:	: GBC :	:	:	: 1,500,200 :			
: 8280 :	: COUNTER DECADE :	: D-1 44 :	: P DIP 14: 77/77 :	: 153C :	: NR :	: LIFE :	: 125C :	: 40 / 0 :			
:	:	:	:	:	: N/R :	: OP DYN :	:	: 40,000 :			
:	:	:	:	:	:	: LIFE :	:	: 40 / 0 :			
:	:	:	:	:	:	: EM :	:	:			
: 8280 :	: COUNTER DECADE :	: D-1 44 :	: P DIP 14: 77/78 :	: 60C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 168 / 0 :			
:	:	:	:	:	: GBC :	:	:	: 218,400 :			
: 8280 :	: COUNTER DECADE :	: D-1 44 :	: P DIP 14: 78/79 :	: 60C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 82 / 0 :			
:	:	:	:	:	: GBC :	:	:	: 106,600 :			
: 8281 :	: COUNTER BINARY :	: D-1 43 :	: P DIP 14: 77/78 :	: 60C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 1529 / 0 :			
:	:	:	:	:	: GBC :	:	:	: 1,987,700 :			
: 8281 :	: COUNTER BINARY :	: D-1 43 :	: P DIP 14: 78/79 :	: 60C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 2543 / 0 :			
:	:	:	:	:	: GBC :	:	:	: 3,305,900 :			
: 8290 :	: COUNTER DECADE :	: D-1 44 :	: P DIP 14: 77/78 :	: 61C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 3402 / 2 :			
:	:	:	:	:	: GBC :	:	:	: 4,422,600 :			
: 8290 :	: COUNTER DECADE :	: D-1 44 :	: P DIP 14: 78/79 :	: 61C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 5087 / 3 :			
:	:	:	:	:	: GBC :	:	:	: 6,613,100 :			
: 8291 :	: COUNTER BINARY :	: D-1 43 :	: P DIP 14: 77/78 :	: 61C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 370 / 0 :			
:	:	:	:	:	: GBC :	:	:	: 481,000 :			
: 8291 :	: COUNTER BINARY :	: D-1 43 :	: P DIP 14: 78/79 :	: 61C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 358 / 1 :			
:	:	:	:	:	: GBC :	:	:	: 465,400 :			
: 8292 :	: COUNTER DECADE :	: D 44 :	: H DIP 14: 77/78 :	: 46C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 840 / 0 :			
:	:	:	:	:	: GBC :	:	:	: 1,052,000 :			
: 8292 :	: COUNTER DECADE :	: D 44 :	: H DIP 14: 78/79 :	: 46C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 610 / 0 :			
:	:	:	:	:	: GBC :	:	:	: 793,000 :			

DIGITAL DEVICE DATA

SIGMETICS TTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
APT NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
8292	COUNTER DECADE	D-1 44	P DIP 14 77/78	48C	DSPY GBC	FIELD	040C 55XPWR	1983 / 1 2,577,900		
8292	COUNTER DECADE	D-1 44	P DIP 14 78/79	48C	DSPY GBC	FIELD	040C 55XPWR	3126 / 1 4,063,800		
8293	COUNTER BINARY	B-2/N 43	H DIP 14 76/77	77C	RADR AU	RELDEM TCVPC	-054C 071C 6CY 2. 27HZ	1881 / 0 90,288		
8680	INVERTER	B-2/N 6	H DIP 14 75/78	73C	RADR AUF	FIELD		29 / 0 6,781		
8680	INVERTER	B-2/N 6	H DIP 14 75/78	73C	RADR AUF	FIELD		45 / 0 5,442		
8680	INVERTER	B-2/N 6	H DIP 14 75/78	73C	RADR AUF	FIELD		12 / 0 24		
8680	INVERTER	B-2/N 6	H DIP 14 75/78	73C	RADR AUF	FIELD		62 / 0 11,468		
8680	INVERTER	B-2/N 6	H DIP 14 75/78	73C	RADR AUF	FIELD		85 / 0 8,680		
8680	INVERTER	B-2/N 6	H DIP 14 75/78	73C	RADR AUF	FIELD		713 / 0 154,054		
8680	INVERTER	B-2/N 6	H DIP 14 75/78	73C	RADP AUF	FIELD		29 / 0 3,314		
8680	INVERTER	B-2/N 6	H DIP 14 75/78	73C	RADR AUF	FIELD		102 / 0 9,588		
8680	INVERTER	B-2/N 6	H DIP 14 75/78	73C	RADR AUF	FIELD		342 / 0 70,680		
8680	INVERTER	B-2/N 6	H DIP 14 75/78	73C	RADR AUF	FIELD		11 / 0 11		
8824	FLIP-FLOP JK	D 22	H DIP 14 77/77	157C	NR N/R	LIFE STGLIFE	150C	45 / 0 45,000		
						LIFE EM		45 / 0		
8826	FLIP-FLOP JK	D-1 16	P DIP 14 77/78	44C	DSPY GBC	FIELD	040C 55XPWR	45 / 0 58,500		
8826	FLIP-FLOP JK	D-1 16	P DIP 14 78/79	44C	DSPY GBC	FIELD	040C 55XPWR	4 / 0 5,200		

TEXAS INSTRUMENTS TTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
5402	GATE	B-2/N 4	H DIP 14 76/77	76C	RADR AU	RELDEM TCVPC	-054C 071C 6CY 2. 27HZ	209 / 0 10,032		

DIGITAL DEVICE DATA

TEXAS INSTRUMENTS TTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFFF REPORT NO. / QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
5408	GATE	D-1 4	P DIP 14 77/78	48C	DSPY GBC	FIELD	040C 55XPWR	26 / 0 33,800			
5408	GATE	D-1 4	P DIP 14 78/79	48C	DSPY GBC	FIELD	040C 55XPWR	333 / 0 432,900			
54148	ENCODER	B-1/JB 29	H DIP 16 77/79	43C	RADR GF	FIELD	025C	3 / 0 41,040			
54148	ENCODER	B-1/JB 29	H DIP 16 79/79	43C	RADR GF	FIELD	025C	3 / 0 12,960			
54180	GENERATOR	B-1 14	H DIP 14 78/78	41C	COMP GT	RELDDEM	025C	15 / 0 5,273			
54191	COUNTER BINARY	B-1 60	H DIP 16 78/78	52C	COMP GT	RELDDEM	025C	9 / 0 3,164			
54193	COUNTER BINARY	B-1 48	H DIP 16 78/78	52C	COMP GT	RELDDEM	025C	12 / 0 4,218			
54196	COUNTER DECADE	D 39	H DIP 14 78/79	62C	DSPY GBC	FIELD	040C 55XPWR	40 / 0 52,000			
5423	GATE EXPANDABLE	D 2	H DIP 16 77/78	45C	DSPY GBC	FIELD	040C 55XPWR	738 / 0 959,400			
5423	GATE EXPANDABLE	D 2	H DIP 16 78/79	45C	DSPY GBC	FIELD	040C 55XPWR	676 / 2 878,800			
54298	MULTIPLEXER	B-1/JB 51	H DIP 16 77/79	43C	RADR GF	FIELD	025C	14 / 0 191,520			
54298	MULTIPLEXER	B-1/JB 51	H DIP 16 79/79	43C	RADR GF	FIELD	025C	14 / 0 60,480			
5442A	DECODER BCD/DECIMAL	D 18	H DIP 16 77/78	53C	DSPY GBC	FIELD	040C 55XPWR	1253 / 0 1,628,900			
5442A	DECODER BCD/DECIMAL	D 18	H DIP 16 78/79	53C	DSPY GBC	FIELD	040C 55XPWR	2902 / 0 3,772,600			
5483A	ADDER FULL	B-1/JB 36	H DIP 16 77/79	61C	RADR GF	FIELD	025C	80 / 0 1,094,400			
5483A	ADDER FULL	B-1/JB 36	H DIP 16 79/79	61C	RADR GF	FIELD	025C	80 / 0 345,600			
7400	GATE	D-1 4	P DIP 14 77/77	30C	INTR GBC	CHECK OPERATE	025C	4 / 0 1,160			
7402	GATE	D-1 4	P DIP 14 77/77	31C	INTR GBC	CHECK OPERATE	025C	2 / 0 880			
7403	GATE	D-1 4	P DIP 14 77/77	30C	INTR GBC	CHECK OPERATE	025C	1 / 0 440			
7404	INVERTER	D-1 6	P DIP 14 77/77	32C	INTR GBC	CHECK OPERATE	025C	6 / 0 2,640			
7406	INTERFACE BUFFER/DRIVER	D-1 6	P DIP 14 77/78	56C	DSPY GBC	FIELD	040C 55XPWR	745 / 8 968,500			
7406	INTERFACE BUFFER/DRIVER	D-1 6	P DIP 14 78/79	56C	DSPY GBC	FIELD	040C 55XPWR	1280 / 5 1,664,000			
7408	GATE	D-1 4	P DIP 14 77/77	33C	INTR GBC	CHECK OPERATE	025C	1 / 0 440			

DIGITAL DEVICE DATA

TEXAS INSTRUMENTS TTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
7409	GATE	D-1 4	P DIP 14: 77/78	48C	DSPY GBC	FIELD	040C 55XPWR:	13977 / 8 18,170,100			
7409	GATE	D-1 4	P DIP 14: 78/79	48C	DSPY GBC	FIELD	040C 55XPWR:	17627 / 7 22,915,100			
7410	GATE	D-1 3	P DIP 14: 77/77	29C	INTR GBC	CHECK OPERATE	025C	1 / 0 440			
74100	LATCH BISTABLE	D-1 56	P DIP 24: 77/78	65C	DSPY GBC	FIELD	040C 55XPWR:	5936 / 1 7,716,800			
74100	LATCH BISTABLE	D-1 56	P DIP 24: 78/79	65C	DSPY GBC	FIELD	040C 55XPWR:	9681 / 0 12,585,300			
7412	GATE	D-1 3	P DIP 14: 77/78	44C	DSPY GBC	FIELD	040C 55XPWR:	2665 / 0 3,464,500			
7412	GATE	D-1 3	P DIP 14: 78/79	44C	DSPY GBC	FIELD	040C 55XPWR:	5037 / 0 6,548,100			
74123	FLIP-FLOP MONOSTABLE	D-1 20	P DIP 14: 77/78	64C	DSPY GBC	FIELD	040C 55XPWR:	25607 / 10 33,289,100			
74123	FLIP-FLOP MONOSTABLE	D-1 20	P DIP 14: 78/79	64C	DSPY GBC	FIELD	040C 55XPWR:	36007 / 9 46,809,100			
74125	BUFFER	D-1 4	P DIP 14: 77/77	42C	INTR GBC	CHECK OPERATE	025C	1 / 0 440			
74132	GATE SCHMITT TRIGGER	D-1 4	P DIP 14: 77/78	51C	DSPY GBC	FIELD	040C 55XPWR:	25539 / 11 33,200,700			
74132	GATE SCHMITT TRIGGER	D-1 4	P DIP 14: 78/79	51C	DSPY GBC	FIELD	040C 55XPWR:	30983 / 15 40,277,900			
7414	INVERTER SCHMITT TRIGGER	D-1 6	P DIP 14: 77/78	56C	DSPY GBC	FIELD	040C 55XPWR:	18690 / 4 24,297,000			
7414	INVERTER SCHMITT TRIGGER	D-1 6	P DIP 14: 78/79	56C	DSPY GBC	FIELD	040C 55XPWR:	24683 / 7 32,087,900			
7414	INVERTER SCHMITT TRIGGER	D-1 6	P DIP 14: 78/79	56C	DSPY GBC	FIELD	040C 55XPWR:	2201 / 2 2,861,300			
74145	INTERFACE DECODER/DRIVER	D-1 18	P DIP 16: 77/78	60C	DSPY GBC	FIELD	040C 55XPWR:	19976 / 9 25,468,800			
74145	INTERFACE DECODER/DRIVER	D-1 18	P DIP 16: 78/79	60C	DSPY GBC	FIELD	040C 55XPWR:	27063 / 10 35,181,900			
74147	ENCODER	D-1 31	P DIP 16: 78/79	61C	DSPY GBC	FIELD	040C 55XPWR:	154 / 0 200,200			
74148	ENCODER	D-1 29	P DIP 16: 77/78	57C	DSPY GBC	FIELD	040C 55XPWR:	1006 / 1 1,307,800			
74148	ENCODER	D-1 29	P DIP 16: 78/79	57C	DSPY GBC	FIELD	040C 55XPWR:	678 / 0 881,400			
74155	DECODER/DEMULTIPLX	D-1 15	P DIP 16: 77/78	52C	DSPY GBC	FIELD	040C 55XPWR:	220 / 0 286,000			
74155	DECODER/DEMULTIPLX	D-1 15	P DIP 16: 78/79	52C	DSPY GBC	FIELD	040C 55XPWR:	1744 / 0 2,267,200			
74156	DECODER/DEMULTIPLX	D-1 15	P DIP 16: 78/79	52C	DSPY GBC	FIELD	040C 55XPWR:	3 / 0 3,900			

DIGITAL DEVICE DATA

TEXAS INSTRUMENTS TTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE			PART HOURS		
74157	MULTIPLEXER	D-1 19	P DIP 16 77/78	54C	DSPY GBC	FIELD	040C 55XPWR:	1800 / 0 2,340,000:			
74157	MULTIPLEXER	D-1 19	P DIP 16 78/79	54C	DSPY GBC	FIELD	040C 55XPWR:	9808 / 3 12,750,400:			
74159	DECODER/DEMUTIPLEX	D-1 N/R	P DIP 24 77/78	52C	DSPY GBC	FIELD	040C 55XPWR:	135 / 0 175,500:			
74159	DECODER/DEMUTIPLEX	D-1 N/R	P DIP 24 78/79	52C	DSPY GBC	FIELD	040C 55XPWR:	184 / 0 239,200:			
74160	COUNTER DECADE	D-1 60	P DIP 16 77/78	68C	DSPY GBC	FIELD	040C 55XPWR:	7863 / 0 10,221,900:			
74160	COUNTER DECADE	D-1 60	P DIP 16 78/79	68C	DSPY GBC	FIELD	040C 55XPWR:	7303 / 2 9,493,900:			
74161	COUNTER BINARY	D-1 57	P DIP 16 77/77	58C	INTR GBC	CHECK OPERATE	025C	2 / 0 880:			
74161	COUNTER BINARY	D-1 57	P DIP 16 77/78	68C	DSPY GBC	FIELD	040C 55XPWR:	28739 / 7 37,360,700:			
74161	COUNTER BINARY	D-1 57	P DIP 16 78/79	68C	DSPY GBC	FIELD	040C 55XPWR:	29886 / 2 38,851,800:			
74167	MULTIPLIER	D-1 44	P DIP 16 77/78	65C	DSPY GBC	FIELD	040C 55XPWR:	333 / 0 432,900:			
74167	MULTIPLIER	D-1 44	P DIP 16 78/79	65C	DSPY GBC	FIELD	040C 55XPWR:	2936 / 0 3,816,800:			
74170	REGISTER	D-1 98	P DIP 16 77/78	98C	DSPY GBC	FIELD	040C 55XPWR:	13 / 0 16,900:			
74170	REGISTER	D-1 98	P DIP 16 78/79	98C	DSPY GBC	FIELD	040C 55XPWR:	14 / 0 18,200:			
74173	FLIP-FLOP D	D-1 45	P DIP 16 77/78	63C	DSPY GBC	FIELD	040C 55XPWR:	2028 / 0 2,636,400:			
74173	FLIP-FLOP D	D-1 45	P DIP 16 78/79	63C	DSPY GBC	FIELD	040C 55XPWR:	15680 / 2 20,384,000:			
74175	FLIP-FLOP D	D-1 24	P DIP 16 77/78	54C	DSPY GBC	FIELD	040C 55XPWR:	16387 / 10 21,303,100:			
74175	FLIP-FLOP D	D-1 24	P DIP 16 78/79	54C	DSPY GBC	FIELD	040C 55XPWR:	28610 / 3 37,193,000:			
74184	CONVERTER BCD/BINARY	D-1 N/R	P DIP 16 77/78	66C	DSPY GBC	FIELD	040C 55XPWR:	2791 / 0 3,628,300:			
74184	CONVERTER BCD/BINARY	D-1 N/R	P DIP 16 78/79	66C	DSPY GBC	FIELD	040C 55XPWR:	3972 / 4 5,163,600:			
74185A	CONVERTER BINARY/BCD	D-1 N/R	P DIP 16 77/78	66C	DSPY GBC	FIELD	040C 55XPWR:	3289 / 1 4,275,700:			
74185A	CONVERTER BINARY/BCD	D-1 N/R	P DIP 16 78/79	66C	DSPY GBC	FIELD	040C 55XPWR:	4459 / 3 5,796,700:			
74190	COUNTER BCD	D-1 62	P DIP 16 77/78	70C	DSPY GBC	FIELD	040C 55XPWR:	568 / 0 738,400:			
74190	COUNTER BCD	D-1 62	P DIP 16 78/79	70C	DSPY GBC	FIELD	040C 55XPWR:	611 / 0 794,300:			

DIGITAL DEVICE DATA

TEXAS INSTRUMENTS TTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO. /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
74191	COUNTER BINARY	D-1 60	P DIP 16 77/78	70C	DSPY GBC	FIELD	040C 55XPWR	5556 / 1	7,222,800		
74191	COUNTER BINARY	D-1 60	P DIP 16 78/79	70C	DSPY GBC	FIELD	040C 55XPWR	6325 / 0	8,222,500		
74194	SHIFT REG	D-1 47	P DIP 16 77/78	58C	DSPY GBC	FIELD	040C 55XPWR	7088 / 0	9,214,400		
74194	SHIFT REG	D-1 47	P DIP 16 78/79	58C	DSPY GBC	FIELD	040C 55XPWR	9818 / 2	12,763,400		
74195	SHIFT REG	D-1 41	P DIP 16 77/78	58C	DSPY GBC	FIELD	040C 55XPWR	6940 / 0	9,022,000		
74195	SHIFT REG	D-1 41	P DIP 16 78/79	58C	DSPY GBC	FIELD	040C 55XPWR	16740 / 0	21,762,000		
74196	COUNTER DECADE	D-1 39	P DIP 14 77/78	65C	DSPY GBC	FIELD	040C 55XPWR	40113 / 24	52,146,900		
74196	COUNTER DECADE	D-1 39	P DIP 14 78/79	65C	DSPY GBC	FIELD	040C 55XPWR	54261 / 8	70,539,300		
74197	COUNTER BINARY	D-1 34	P DIP 14 77/78	65C	DSPY GBC	FIELD	040C 55XPWR	4766 / 5	6,195,800		
74197	COUNTER BINARY	D-1 34	P DIP 14 78/79	65C	DSPY GBC	FIELD	040C 55XPWR	4248 / 2	5,522,400		
74221	FLIP-FLOP MONOSTABLE	D-1 16	P DIP 16 78/79	57C	DSPY GBC	FIELD	040C 55XPWR	1 / 0	1,300		
7426	INTERFACE TRANSLATOR	D-1 4	P DIP 14 77/78	45C	DSPY GBC	FIELD	040C 55XPWR	1184 / 0	1,539,200		
7426	INTERFACE TRANSLATOR	D-1 4	P DIP 14 78/79	45C	DSPY GBC	FIELD	040C 55XPWR	3628 / 0	4,716,400		
74273	FLIP-FLOP D	D-1 50	P DIP 20 77/78	65C	DSPY GBC	FIELD	040C 55XPWR	4 / 0	5,200		
74273	FLIP-FLOP D	D-1 50	P DIP 20 78/79	65C	DSPY GBC	FIELD	040C 55XPWR	1441 / 0	1,873,300		
74279	LATCH	D-1 8	P DIP 16 77/78	49C	DSPY GBC	FIELD	040C 55XPWR	1491 / 0	1,938,300		
74279	LATCH	D-1 8	P DIP 16 78/79	49C	DSPY GBC	FIELD	040C 55XPWR	3062 / 1	3,980,600		
74283	ADDER FULL	D-1 36	P DIP 16 77/78	68C	DSPY GBC	FIELD	040C 55XPWR	96 / 0	124,800		
74283	ADDER FULL	D-1 36	P DIP 16 78/79	68C	DSPY GBC	FIELD	040C 55XPWR	188 / 0	244,400		
74290	COUNTER DECADE	D-1 37	P DIP 14 77/78	54C	DSPY GBC	FIELD	040C 55XPWR	55 / 0	71,500		
74290	COUNTER DECADE	D-1 37	P DIP 14 78/79	54C	DSPY GBC	FIELD	040C 55XPWR	382 / 0	496,600		
74298	MULTIPLEXER	D-1 51	P DIP 16 77/78	58C	DSPY GBC	FIELD	040C 55XPWR	5821 / 2	7,567,300		
74298	MULTIPLEXER	D-1 51	P DIP 16 78/79	58C	DSPY GBC	FIELD	040C 55XPWR	13797 / 0	17,936,100		

DIGITAL DEVICE DATA

TEXAS INSTRUMENTS TTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRFSS LEVEL	#TESTED/ #FAILED	MFFF REPORT NO. /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TFST TYPE		PART HOURS			
7430	GATE	D-1	P DIP 14	27C	INTR	CHECK	025C	1 / 0			
		1	77/77		GBC	OPERATE		440			
7433	BUFFER	D-1	P DIP 14	37C	INTR	CHECK	025C	2 / 0			
		4	77/77		GBC	OPERATE		880			
7433	BUFFER	D-1	P DIP 14	52C	DSPY	FIELD	040C 55%PWR	2341 / 3			
		4	77/78		GBC			3,043,300			
7433	BUFFER	D-1	P DIP 14	52C	DSPY	FIELD	040C 55%PWR	2951 / 1			
		4	78/79		GBC			3,836,300			
74366	INTERFACE BUS DRIVER	D-1	P DIP 16	67C	DSPY	FIELD	040C 55%PWR	146 / 0			
		7	77/78		GBC			189,800			
74366	INTERFACE BUS DRIVER	D-1	P DIP 16	67C	DSPY	FIELD	040C 55%PWR	4775 / 1			
		7	78/79		GBC			6,207,500			
7437	BUFFER	D-1	P DIP 14	51C	DSPY	FIELD	040C 55%PWR	14817 / 5			
		4	77/78		GBC			10,262,100			
7437	BUFFER	D-1	P DIP 14	51C	DSPY	FIELD	040C 55%PWR	27439 / 5			
		4	78/79		GBC			35,670,700			
74390	COUNTER DECADE	D-1	P DIP 16	59C	DSPY	FIELD	040C 55%PWR	1297 / 0			
		60	77/78		GBC			1,686,100			
74390	COUNTER DECADE	D-1	P DIP 16	59C	DSPY	FIELD	040C 55%PWR	1823 / 0			
		60	78/79		GBC			2,369,900			
74393	COUNTER BINARY	D-1	P DIP 14	45C	COMP	FIELD	025C	3 / 0			
		50	76/78		GBC			30,720			
74393	COUNTER BINARY	D-1	P DIP 14	45C	COMP	FIELD	025C	12 / 0			
		50	76/78		GBC			66,528			
74393	COUNTER BINARY	D-1	P DIP 14	60C	DSPY	FIELD	040C 55%PWR	2565 / 1			
		50	77/78		GBC			3,334,500			
74393	COUNTER BINARY	D-1	P DIP 14	45C	COMP	FIELD	025C	3 / 0			
		50	78/78		GBC			8,640			
74393	COUNTER BINARY	D-1	P DIP 14	45C	COMP	FIELD	025C	12 / 0			
		50	78/78		GBC			34,560			
74393	COUNTER BINARY	D-1	P DIP 14	60C	DSPY	FIELD	040C 55%PWR	8133 / 0			
		50	78/79		GBC			10,572,900			
7445	INTERFACE DECODER/DRIVER	D-1	P DIP 16	60C	DSPY	FIELD	040C 55%PWR	585 / 0			
		18	77/78		GBC			760,500			
7445	INTERFACE DECODER/DRIVER	D-1	P DIP 16	60C	DSPY	FIELD	040C 55%PWR	5803 / 2			
		18	78/79		GBC			7,543,900			
7447A	INTERFACE DECODER/DRIVER	D-1	P DIP 16	69C	DSPY	FIELD	040C 55%PWR	4448 / 5			
		N/R	77/78		GBC			5,782,400			
7447A	INTERFACE DECODER/DRIVER	D-1	P DIP 16	69C	DSPY	FIELD	040C 55%PWR	5030 / 1			
		N/R	78/79		GBC			6,539,000			
7460	EXPANDER	D-1	P DIP 14	41C	DSPY	FIELD	040C 55%PWR	208 / 0			
		2	77/78		GBC			270,400			
7460	EXPANDER	D-1	P DIP 14	41C	DSPY	FIELD	040C 55%PWR	161 / 0			
		2	78/79		GBC			209,300			
7470	FLIP-FLOP JK	D-1	P DIP 14	47C	DSPY	FIELD	040C 55%PWR	8658 / 2			
		11	77/78		GBC			11,255,400			

DIGITAL DEVICE DATA

TEXAS INSTRUMENTS
TTL

MANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
7470	FLIP-FLOP JK	D-1 11	P DIP 14 78/79	47C	DSPY GBC	FIELD	040C 55XPWR	12989 / 1 16,885,700	
7472	FLIP-FLOP JK	D-1 8	P DIP 14 77/78	46C	DSPY GBC	FIELD	040C 55XPWR	12445 / 10 16,191,500	
7472	FLIP-FLOP JK	D-1 8	P DIP 14 78/79	46C	DSPY GBC	FIELD	040C 55XPWR	15032 / 6 19,541,600	
7474	FLIP-FLOP D	D-1 12	P DIP 14 77/77	34C	INTR GBC	CHECK OPEPATE	025C	2 / 0 880	
7475	LATCH BISTABLE	B-1 24	P DIP 16 77/79	70C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	1912 / 0 52,120	
7475	LATCH BISTABLE	B-1 24	P DIP 16 77/79	70C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	3505 / 0 96,962	
7480	ADDER FULL	D-1 16	P DIP 14 77/78	51C	DSPY GBC	FIELD	040C 55XPWR	567 / 0 737,100	
7480	ADDER FULL	D-1 16	P DIP 14 78/79	51C	DSPY GBC	FIELD	040C 55XPWR	805 / 0 1,046,500	
7482	ADDER FULL	D-1 21	P DIP 14 77/78	58C	DSPY GBC	FIELD	040C 55XPWR	495 / 0 643,500	
7482	ADDER FULL	D-1 21	P DIP 14 78/79	58C	DSPY GBC	FIELD	040C 55XPWR	953 / 0 1,238,900	
7483A	ADDER FULL	D-1 36	P DIP 16 77/78	68C	DSPY GBC	FIELD	040C 55XPWR	14877 / 7 19,340,100	
7483A	ADDER FULL	D-1 36	P DIP 16 78/79	68C	DSPY GBC	FIELD	040C 55XPWR	9580 / 2 12,454,000	
7485	COMPARATOR	D-1 31	P DIP 16 77/78	65C	DSPY GBC	FIELD	040C 55XPWR	1948 / 0 2,532,400	
7485	COMPARATOR	D-1 31	P DIP 16 78/79	65C	DSPY GBC	FIELD	040C 55XPWR	4944 / 0 6,427,200	
7491A	SHIFT REG	D-1 67	P DIP 14 77/78	58C	DSPY GBC	FIELD	040C 55XPWR	222 / 0 288,600	
7491A	SHIFT REG	D-1 67	P DIP 14 78/79	58C	DSPY GBC	FIELD	040C 55XPWR	174 / 0 226,200	
7492A	COUNTER BINARY	D-1 26	P DIP 14 77/78	54C	DSPY GBC	FIELD	040C 55XPWR	8128 / 2 10,566,400	
7492A	COUNTER BINARY	D-1 26	P DIP 14 78/79	54C	DSPY GBC	FIELD	040C 55XPWR	7183 / 1 9,337,900	
7494	SHIFT REG	D-1 48	P DIP 16 77/78	56C	DSPY GBC	FIELD	040C 55XPWR	3672 / 3 4,773,600	
7494	SHIFT REG	D-1 48	P DIP 16 78/79	56C	DSPY GBC	FIELD	040C 55XPWR	7440 / 0 9,672,000	
7495A	SHIFT REG	D-1 37	P DIP 14 77/78	60C	DSPY GBC	FIELD	040C 55XPWR	6565 / 0 8,534,500	
7495A	SHIFT REG	D-1 37	P DIP 14 78/79	60C	DSPY GBC	FIELD	040C 55XPWR	8811 / 3 11,454,300	
7497	MULTIPLIER BINARY	D-1 54	P DIP 16 77/78	72C	DSPY GBC	FIELD	040C 55XPWR	1915 / 2 2,489,500	

DIGITAL DEVICE DATA

TEXAS INSTRUMENTS		:MANUFACTURER				RELIABILITY ANALYSIS CENTER				
TTL		:OPERATIONAL TYPE								
: PART NO.	: DEVICE FUNCTION	: SCR.N. CLASS	: PACKAGE/ PINS	: JCT.* TEMP.	: EQUIP. TYPE	: DATA CLASS.	: STRESS LEVEL	: #TESTED/ #FAILED	: MFLF REPORT NO. /QTY FAILED	:
:	: CIRCUIT FUNCTION	: NO. GATES	: TEST DATE	:	: APPL. ENV.	: TEST TYPE	:	: PART HOURS	:	:
: 7497	: MULTIPLIER	: D-1	: P DIP 16	: 72C	: DSPY	: FIELD	: 040C 55XPWR:	: 5761 / 14	:	:
:	: BINARY	: 54	: 78/79	:	: GBC	:	:	: 7,489,300:	:	:

VARIOUS		:MANUFACTURER				RELIABILITY ANALYSIS CENTER				
TTL		:OPERATIONAL TYPE								
: PART NO.	: DEVICE FUNCTION	: SCR.N. CLASS	: PACKAGE/ PINS	: JCT.* TEMP.	: EQUIP. TYPE	: DATA CLASS.	: STRESS LEVEL	: #TESTED/ #FAILED	: MFLF REPORT NO. /QTY FAILED	:
:	: CIRCUIT FUNCTION	: NO. GATES	: TEST DATE	:	: APPL. ENV.	: TEST TYPE	:	: PART HOURS	:	:
:	: ADDER	: B-1/JB:	: H DIP 16:	: 53C	: RADR	: FIELD	: 025C	: 329 / 0	:	:
:	: FULL	: 36	: 77/79	:	: GF	:	:	: 4,500,720:	:	:
:	: ADDER	: B-1/JB:	: H DIP 16:	: 53C	: RADR	: FIELD	: 025C	: 5 / 0	:	:
:	: FULL	: 36	: 77/79	:	: GF	:	:	: 68,400:	:	:
:	: ADDER	: B-1/JB:	: H DIP 16:	: 53C	: RADR	: FIELD	: 025C	: 195 / 0	:	:
:	: FULL	: 36	: 77/79	:	: GF	:	:	: 2,667,600:	:	:
:	: ADDER	: B-1/JB:	: H DIP 16:	: 53C	: RADR	: FIELD	: 025C	: 195 / 0	:	:
:	: FULL	: 36	: 79/79	:	: GF	:	:	: 842,400:	:	:
:	: ADDER	: B-1/JB:	: H DIP 16:	: 53C	: RADR	: FIELD	: 025C	: 329 / 0	:	:
:	: FULL	: 36	: 79/79	:	: GF	:	:	: 1,421,280:	:	:
:	: ADDER	: B-1/JB:	: H DIP 16:	: 53C	: RADR	: FIELD	: 025C	: 7 / 0	:	:
:	: FULL	: 36	: 79/79	:	: GF	:	:	: 30,240:	:	:
:	: ADDER	: B-1/JB:	: H DIP 16:	: 53C	: RADR	: FIELD	: 025C	: 5 / 0	:	:
:	: FULL	: 36	: 79/79	:	: GF	:	:	: 21,600:	:	:
:	: BUFFER	: B-1/JB:	: H DIP 16:	: 54C	: RADR	: FIELD	: 025C	: 611 / 0	:	:
:	:	: 7	: 77/79	:	: GF	:	:	: 8,358,480:	:	:
:	: BUFFER	: B-1/JB:	: H DIP 16:	: 54C	: RADR	: FIELD	: 025C	: 611 / 0	:	:
:	:	: 7	: 79/79	:	: GF	:	:	: 2,639,520:	:	:
:	: BUFFER	: B-1/JB:	: H DIP 16:	: 54C	: RADR	: FIELD	: 025C	: 60 / 0	:	:
:	:	: 8	: 77/79	:	: GF	:	:	: 820,800:	:	:
:	: BUFFER	: B-1/JB:	: H DIP 16:	: 54C	: RADR	: FIELD	: 025C	: 60 / 0	:	:
:	:	: 8	: 79/79	:	: GF	:	:	: 259,200:	:	:
:	: FLIP-FLOP	: D-1	: P DIP 16:	: 57C	: DSPY	: FIELD	: 040C 55XPWR:	: 41328 / 3	:	:
:	: MONOSTABLE	: 14	: 77/78	:	: GBC	:	:	: 53,726,400:	:	:
:	: FLIP-FLOP	: D-1	: P DIP 16:	: 57C	: DSPY	: FIELD	: 040C 55XPWR:	: 33398 / 2	:	:
:	: MONOSTABLE	: 14	: 78/79	:	: GBC	:	:	: 43,417,400:	:	:
: 100	: GATE	: C-1	: H FPK 14:	: 71C	: RADR	: FIELD	:	: 132 / 3	: 2174/ 2	:
:	:	: 2	: 75/78	:	: AUF	:	:	: 148,080:	:	:
:	:	:	:	:	:	:	:	:	: 2175/ 1	:
: 10105	: GATE	: D-1	: P DIP 16:	: 48C	: DSPY	: FIELD	: 040C 55XPWR:	: 16286 / 2	:	:
:	:	: 3	: 77/78	:	: GBC	:	:	: 21,171,800:	:	:
: 10105	: GATE	: D-1	: P DIP 16:	: 48C	: DSPY	: FIELD	: 040C 55XPWR:	: 27212 / 2	:	:
:	:	: 3	: 78/79	:	: GBC	:	:	: 35,375,600:	:	:

DIGITAL DEVICE DATA

VARIOUS TTL		:MANUFACTURER : :OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
: PART NO. :	: DEVICE FUNCTION :	: SCR. CLASS :	: PACKAGE/ PINS :	: JCT.* TEMP. :	: EQUIP. TYPE :	: DATA CLASS. :	: STRESS LEVEL :	: #TESTED/ #FAILED :	:MPEF REPORT NO. : : /QTY FAILED :		
:	: CIRCUIT FUNCTION :	: NO. GATES :	: TEST DATE :	:	: APPL. ENV. :	: TEST TYPE :	:	: PART HOURS :			
: 106 :	: GATE :	: B-2 :	: H FPK 14 :	: 35C :	: COMM :	: FIELD :	: 025C :	: 9 / 0 :			
:	:	: 4 :	: 75/78 :	:	: GT :	:	:	: 20,919 :			
: 106 :	: GATE :	: C-1 :	: H FPK 14 :	: 74C :	: RADR :	: FIELD :	:	: 33 / 2 :	2176/	1 :	
:	:	: 4 :	: 75/78 :	:	: AUF :	:	:	: 36,630 :			
:	:	:	:	:	:	:	:	:	2177/	1 :	
: 26365 :	: COUNTER DECADE :	: D-1 :	: P DIP 8 :	: 50C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 15636 / 2 :			
:	:	: N/R :	: 77/78 :	:	: GBC :	:	:	: 20,326,800 :			
: 26365 :	: COUNTER DECADE :	: D-1 :	: P DIP 8 :	: 50C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 14170 / 11 :			
:	:	: N/P :	: 78/79 :	:	: GBC :	:	:	: 18,421,000 :			
: 3002/8885 :	: GATE :	: D-1 :	: P DIP 14 :	: 53C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 888 / 0 :			
:	:	: 4 :	: 77/78 :	:	: GBC :	:	:	: 1,154,400 :			
: 3002/8885 :	: GATE :	: D-1 :	: P DIP 14 :	: 53C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 1355 / 0 :			
:	:	: 4 :	: 78/79 :	:	: GBC :	:	:	: 1,761,500 :			
: 5400 :	: GATE :	: J-B :	: H FPK 14 :	: 82C :	: NAVG :	: RELED :	: -054C 072C :	: 1 / 0 :			
:	:	: 4 :	: 77/77 :	:	: AI :	: TCVPC :	: 43CY 2 60HZ :	: 627 :			
: 5400 :	: GATE :	: J-B :	: H DIP 14 :	: 82C :	: NAVG :	: RELED :	: -054C 072C :	: 1 / 0 :			
:	:	: 4 :	: 77/77 :	:	: AI :	: TCVPC :	: 43CY 2 60HZ :	: 627 :			
: 5400 :	: GATE :	: J-B :	: H DIP 14 :	:	: RADR :	: RELED :	:	: 2585 / 0 :			
:	:	: 4 :	: 77/77 :	:	: AIU :	: OPERATE :	:	: 83,263 :			
: 5400 :	: GATE :	: J-B :	: H DIP 14 :	: 81C :	: RADR :	: RELED :	: -054C 071C :	: 6061 / 0 :			
:	:	: 4 :	: 76/77 :	:	: AU :	: TCVPC :	: 6CY 2. 27HZ :	: 1,266,749 :			
: 5400 :	: GATE :	: J-B :	: H DIP 14 :	: 29C :	: COMP :	: RELED :	: 025C :	: 201 / 0 :			
:	:	: 4 :	: 78/78 :	:	: GT :	:	:	: 70,651 :			
: 5400 :	: GATE :	: J-B :	: H FPK 14 :	: 60C :	: RADR :	: FIELD :	:	: 198 / 0 :			
:	:	: 4 :	: 75/78 :	:	: AIF :	:	:	: 225,720 :			
: 5400 :	: GATE :	: J-B :	: H FPK 14 :	: 60C :	: PROC :	: FIELD :	:	: 297 / 0 :			
:	:	: 4 :	: 75/78 :	:	: AIF :	:	:	: 338,580 :			
: 5400 :	: GATE :	: J-B :	: H FPK 14 :	: 75C :	: RADR :	: FIELD :	:	: 2442 / 0 :			
:	:	: 4 :	: 75/78 :	:	: AUF :	:	:	: 2,783,880 :			
: 5400 :	: GATE :	: B-2/N :	: H FPK 14 :	: 60C :	: RADR :	: FIELD :	:	: 20 / 0 :			
:	:	: 4 :	: 75/78 :	:	: AIF :	:	:	: 1,505 :			
: 5400 :	: GATE :	: B-2/N :	: H FPK 14 :	: 60C :	: RADR :	: FIELD :	:	: 26 / 0 :			
:	:	: 4 :	: 75/78 :	:	: AIF :	:	:	: 4,287 :			
: 5400 :	: GATE :	: B-2/N :	: H DIP 14 :	: 75C :	: RADR :	: FIELD :	:	: 272 / 0 :			
:	:	: 4 :	: 75/78 :	:	: AUF :	:	:	: 32,088 :			
: 5400 :	: GATE :	: B-2/N :	: H DIP 14 :	: 75C :	: RADR :	: FIELD :	:	: 225 / 0 :			
:	:	: 4 :	: 75/78 :	:	: AUF :	:	:	: 27,210 :			
: 5400 :	: GATE :	: B-2/N :	: H DIP 14 :	: 75C :	: RADR :	: FIELD :	:	: 116 / 0 :			
:	:	: 4 :	: 75/78 :	:	: AUF :	:	:	: 27,124 :			
: 5400 :	: GATE :	: B-2/N :	: H DIP 14 :	: 75C :	: RADR :	: FIELD :	:	: 32 / 0 :			
:	:	: 4 :	: 75/78 :	:	: AUF :	:	:	: 64 :			
: 5400 :	: GATE :	: B-2/N :	: H DIP 14 :	: 75C :	: RADR :	: FIELD :	:	: 1085 / 1 :	2319/	1 :	
:	:	: 4 :	: 75/78 :	:	: AUF :	:	:	: 200,690 :			
: 5400 :	: GATE :	: B-2/N :	: H DIP 14 :	: 75C :	: RADR :	: FIELD :	:	: 1071 / 2 :	2320/	2 :	
:	:	: 4 :	: 75/78 :	:	: AUF :	:	:	: 109,368 :			

DIGITAL DEVICE DATA

VARIOUS
TTL

: MANUFACTURER
: OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

: PART NO. :	: DEVICE FUNCTION :	: SCR. CLASS :	: PACKAGE/ PINS :	: JCT.* TEMP. :	: EQUIP. TYPE :	: DATA CLASS. :	: STRESS LEVEL :	: #TESTED/ #FAILED :	: MFLF REPORT NO. /QTY FAILED :
: :	: CIRCUIT FUNCTION :	: NO. GATES :	: TEST DATE :	: :	: APPL. ENV. :	: TEST TYPE :	: :	: PART HOURS :	: :
: 5400 :	: GATE :	: B-2/N :	: H DIP 14 :	: 75C :	: RADR :	: FIELD :	: :	: 4495 / 0 :	: :
: :	: :	: 4 :	: 75/78 :	: :	: AUF :	: :	: :	: 971,210 :	: :
: 5400 :	: GATE :	: B-2/N :	: H DIP 14 :	: 75C :	: RADR :	: FIELD :	: :	: 87 / 0 :	: :
: :	: :	: 4 :	: 75/78 :	: :	: AUF :	: :	: :	: 9,942 :	: :
: 5400 :	: GATE :	: B-2/N :	: H DIP 14 :	: 75C :	: RADR :	: FIELD :	: :	: 3 / 0 :	: :
: :	: :	: 4 :	: 75/78 :	: :	: AUF :	: :	: :	: 861 :	: :
: 5400 :	: GATE :	: B-2/N :	: H DIP 14 :	: 75C :	: RADR :	: FIELD :	: :	: 14 / 0 :	: :
: :	: :	: 4 :	: 75/78 :	: :	: AUF :	: :	: :	: 436 :	: :
: 5400 :	: GATE :	: B-2/N :	: H DIP 14 :	: 75C :	: RADR :	: FIELD :	: :	: 222 / 0 :	: :
: :	: :	: 4 :	: 75/78 :	: :	: AUF :	: :	: :	: 20,868 :	: :
: 5400 :	: GATE :	: B-2/N :	: H DIP 14 :	: 75C :	: RADR :	: FIELD :	: :	: 351 / 0 :	: :
: :	: :	: 4 :	: 75/78 :	: :	: AUF :	: :	: :	: 72,540 :	: :
: 5400 :	: GATE :	: B-2/N :	: H DIP 14 :	: 75C :	: RADR :	: FIELD :	: :	: 15 / 0 :	: :
: :	: :	: 4 :	: 75/78 :	: :	: AUF :	: :	: :	: 15 :	: :
: 5400 :	: GATE :	: B-1/JB :	: H DIP 14 :	: 29C :	: RADR :	: FIELD :	: 025C :	: 125 / 0 :	: :
: :	: :	: 4 :	: 77/79 :	: :	: GF :	: :	: :	: 1,710,000 :	: :
: 5400 :	: GATE :	: B-1/JB :	: H DIP 14 :	: 29C :	: RADR :	: FIELD :	: 025C :	: 13 / 0 :	: :
: :	: :	: 4 :	: 77/79 :	: :	: GF :	: :	: :	: 177,840 :	: :
: 5400 :	: GATE :	: B-1/JB :	: H DIP 14 :	: 29C :	: RADR :	: FIELD :	: 025C :	: 42 / 0 :	: :
: :	: :	: 4 :	: 77/79 :	: :	: GF :	: :	: :	: 574,560 :	: :
: 5400 :	: GATE :	: B-1/JB :	: H DIP 14 :	: 29C :	: RADR :	: FIELD :	: 025C :	: 83 / 0 :	: :
: :	: :	: 4 :	: 77/79 :	: :	: GF :	: :	: :	: 1,135,440 :	: :
: 5400 :	: GATE :	: B-1/JB :	: H DIP 14 :	: 29C :	: RADR :	: FIELD :	: 025C :	: 6 / 0 :	: :
: :	: :	: 4 :	: 77/79 :	: :	: GF :	: :	: :	: 82,080 :	: :
: 5400 :	: GATE :	: B-1/JB :	: H DIP 14 :	: 29C :	: RADR :	: FIELD :	: 025C :	: 55 / 1 :	: :
: :	: :	: 4 :	: 77/79 :	: :	: GF :	: :	: :	: 752,400 :	: :
: 5400 :	: GATE :	: B-1/JB :	: H DIP 14 :	: 29C :	: RADR :	: FIELD :	: 025C :	: 6 / 0 :	: :
: :	: :	: 4 :	: 79/79 :	: :	: GF :	: :	: :	: 25,920 :	: :
: 5400 :	: GATE :	: B-1/JB :	: H DIP 14 :	: 29C :	: RADR :	: FIELD :	: 025C :	: 55 / 0 :	: :
: :	: :	: 4 :	: 79/79 :	: :	: GF :	: :	: :	: 237,600 :	: :
: 5400 :	: GATE :	: B-1/JB :	: H DIP 14 :	: 29C :	: RADR :	: FIELD :	: 025C :	: 125 / 0 :	: :
: :	: :	: 4 :	: 79/79 :	: :	: GF :	: :	: :	: 540,000 :	: :
: 5400 :	: GATE :	: B-1/JB :	: H DIP 14 :	: 29C :	: RADR :	: FIELD :	: 025C :	: 13 / 0 :	: :
: :	: :	: 4 :	: 79/79 :	: :	: GF :	: :	: :	: 56,160 :	: :
: 5400 :	: GATE :	: B-1/JB :	: H DIP 14 :	: 29C :	: RADR :	: FIELD :	: 025C :	: 42 / 0 :	: :
: :	: :	: 4 :	: 79/79 :	: :	: GF :	: :	: :	: 181,440 :	: :
: 5400 :	: GATE :	: B-1/JB :	: H DIP 14 :	: 29C :	: RADR :	: FIELD :	: 025C :	: 83 / 0 :	: :
: :	: :	: 4 :	: 79/79 :	: :	: GF :	: :	: :	: 358,560 :	: :
: 5400 :	: GATE :	: B-1 :	: H FPK 14 :	: 75C :	: COMP :	: FIELD :	: :	: 3300 / 0 :	: :
: :	: :	: 4 :	: 75/78 :	: :	: AUF :	: :	: :	: 3,762,000 :	: :
: 5400 :	: GATE :	: B-1 :	: H FPK 14 :	: 75C :	: COMP :	: FIELD :	: :	: 1089 / 0 :	: :
: :	: :	: 4 :	: 75/78 :	: :	: AUF :	: :	: :	: 1,241,460 :	: :
: 5400 :	: GATE :	: B-1 :	: H FPK 14 :	: 75C :	: NAVG :	: FIELD :	: :	: 660 / 0 :	: :
: :	: :	: 4 :	: 75/78 :	: :	: AUF :	: :	: :	: 752,400 :	: :
: 5400 :	: GATE :	: B-1 :	: H FPK 14 :	: 75C :	: NAVG :	: FIELD :	: :	: 594 / 0 :	: :
: :	: :	: 4 :	: 75/78 :	: :	: AUF :	: :	: :	: 677,160 :	: :

DIGITAL DEVICE DATA

VARIOUS
TTL

MANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MEF REPORT NO./ QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
5400	GATE	B-1 4	H DIP 75/78	14 75C	COMP AUF	FIELD		1551 / 0 1,768,140	
5400	GATE	B-2 4	H FPK 77/77	14 75C	RADR AIU	RELDEN OPERATE		40 / 0 1,288	
5400	GATE	C-1 4	H FPK 75/78	14 75C	RADR AUF	FIELD		561 / 3 637,290	2178/ 1 2179/ 1 2180/ 1
5400	GATE	C-1 4	H FPK 75/78	14 75C	RADR AUF	FIELD		10560 / 1 12,037,590	2181/ 1
5400	GATE	C-1 4	H FPK 75/78	14 75C	RADR AUF	FIELD		7194 / 2 8,199,540	2182/ 2
5400	GATE	C-1 4	H FPK 75/78	14 75C	RADR AUF	FIELD		198 / 0 225,720	
5400	GATE	D 4	H DIP 77/78	14 44C	DSPY GBC	FIELD	040C 55XPWR	336 / 0 436,800	
5400	GATE	D 4	H DIP 78/79	14 44C	DSPY GBC	FIELD	040C 55XPWR	244 / 0 317,200	
5400	GATE	D 4	H DIP 77/78	14 29C	COMM GF	FIELD	025C	N/R / 0 314,750	
5400	GATE	D 4	H DIP 79/79	14 29C	COMM GF	FIELD	025C	N/R / 0 1,781,130	
5401	GATE	J-B 4	H FPK 75/78	14 60C	PROC AIF	FIELD		33 / 0 75,240	
5401	GATE	J-B 4	H FPK 75/78	14 75C	RADR AUF	FIELD		660 / 0 752,400	
5401	GATE	B-2/N 4	H DIP 75/78	14 75C	RADR AUF	FIELD		391 / 0 39,928	
5401	GATE	B-2/N 4	H DIP 75/78	14 75C	RADR AUF	FIELD		3007 / 0 649,706	
5401	GATE	B-2/N 4	H DIP 75/78	14 75C	RADR AUF	FIELD		66 / 0 6,204	
5401	GATE	B-1/JB 4	H DIP 77/79	14 35C	RADR GF	FIELD	025C	96 / 0 1,313,280	
5401	GATE	B-1/JB 4	H DIP 79/79	14 35C	RADR GF	FIELD	025C	96 / 0 414,720	
5401	GATE	B-1 4	H FPK 75/78	14 75C	COMP AUF	FIELD		1518 / 0 1,730,520	
5401	GATE	B-1 4	H FPK 75/78	14 75C	NAVG AUF	FIELD		99 / 0 112,860	
5401	GATE	B-1 4	H FPK 75/78	14 75C	NAVG AUF	FIELD		264 / 0 300,960	
5401	GATE	C-1 4	H FPK 75/78	14 75C	RADR AUF	FIELD		99 / 0 112,860	

DIGITAL DEVICE DATA

VARIOUS TTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	FOUJIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFF REPORT NO. /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
5402	GATE	J-B 4	H DIP 14 76/77	81C	RADR AU	RELDEM TCVPC	-054C 071C 6CY 2. 27HZ	4180 / 0 200,640		
5402	GATE	J-B 4	H DIP 14 78/78	31C	COMP GT	RFLDEM	025C	96 / 0 33,744		
5402	GATE	J-B 4	H FPK 14 75/78	62C	PROC AIF	FIELD		363 / 0 413,820		
5402	GATE	B-2/N 4	H DIP 14 75/78	77C	RADR AUF	FIELD		15 / 0 2,556		
5402	GATE	B-2/N 4	H DIP 14 75/78	77C	RADR AUF	FIELD		29 / 0 6,781		
5402	GATE	B-2/N 4	H DIP 14 75/78	77C	RADR AUF	FIELD		31 / 0 5,734		
5402	GATE	B-2/N 4	H DIP 14 75/78	77C	RADR AUF	FIELD		119 / 0 12,152		
5402	GATE	B-2/N 4	H DIP 14 75/78	77C	RADR AUF	FIELD		81 / 0 16,740		
5402	GATE	B-2/N 4	H DIP 14 75/78	77C	RADR AUF	FIELD		1 / 0 1		
5402	GATE	B-1/JB 4	H DIP 14 77/79	31C	RADR GF	FIELD	025C	1 / 0 13,680		
5402	GATE	B-1/JB 4	H DIP 14 77/79	31C	RADR GF	FIELD	025C	23 / 0 314,640		
5402	GATE	B-1/JB 4	H DIP 14 77/79	31C	RADR GF	FIELD	025C	54 / 0 738,720		
5402	GATE	B-1/JB 4	H DIP 14 77/79	31C	RADR GF	FIELD	025C	5 / 0 68,400		
5402	GATE	B-1/JB 4	H DIP 14 79/79	31C	RADR GF	FIELD	025C	5 / 0 21,600		
5402	GATE	B-1/JB 4	H DIP 14 79/79	31C	RADR GF	FIELD	025C	1 / 0 4,320		
5402	GATE	B-1/JB 4	H DIP 14 79/79	31C	RADR GF	FIELD	025C	23 / 0 99,360		
5402	GATE	B-1/JB 4	H DIP 14 79/79	31C	RADR GF	FIELD	025C	54 / 0 233,280		
5402	GATE	B-1 4	H DIP 14 75/78	62C	NAVG AIF	FIELD		198 / 0 225,720		
5402	GATE	B-1 4	H DIP 14 75/78	77C	COMP AUF	FIELD		627 / 0 714,780		
5402	GATE	C-1 4	H FPK 14 75/78	77C	RADR AUF	FIELD		132 / 0 150,480		
5402	GATE	C-1 4	H FPK 14 75/78	77C	RADR AUF	FIELD		3300 / 0 3,762,000		
5402	GATE	C-1 4	H FPK 14 75/78	77C	RADR AUF	FIELD		165 / 0 188,100		
5402	GATE	C-1 4	H FPK 14 75/78	77C	RADR AUF	FIELD		33 / 0 37,620		

DIGITAL DEVICE DATA

VARIOUS
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MANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO./ QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
5402	GATE	D	H DIP 14	31C	COMM	FIELD	025C	N/R / 0	125,900
5402	GATE	D	M DIP 14	31C	COMM	FIELD	025C	N/R / 0	712,452
5403	GATE	J-B	H DIP 14		RADR	RELD		325 / 0	10,468
5403	GATE	J-E	H DIP 14	29C	COMP	RELD	025C	18 / 0	6,327
5404	INVERTER	J-B	H DIP 14	82C	NAVC	RELD	-054C 072C	7 / 0	4,387
5404	INVERTER	J-B	H DIP 14		RADR	RELD		4290 / 0	138,181
5404	INVERTER	J-B	H DIP 14	81C	RADR	RELD	-054C 071C	2090 / 0	100,320
5404	INVERTER	J-B	H DIP 14	31C	COMP	RELD	025C	114 / 0	40,071
5404	INVERTER	J-B	H FPK 14	63C	RADR	FIELD		231 / 1	262,860
5404	INVERTER	J-B	H FPK 14	63C	PROC	FIELD		297 / 0	338,580
5404	INVERTER	J-B	H FPK 14	78C	RADR	FIELD		2244 / 1	2,557,320
5404	INVERTER	E-2/N	H DIP 14	81C	RADR	RELD	-054C 071C	1881 / 1	2316 / 1
5404	INVERTER	B-1/JB	H DIP 14	63C	COMM	FIELD		15 / 0	10,227
5404	INVERTER	B-1/JB	H DIP 14	63C	COMM	FIELD		14 / 0	7,056
5404	INVERTER	B-2/N	H DIP 14	78C	RADR	FIELD		15 / 0	2,556
5404	INVERTER	B-1/JB	H DIP 14	31C	RADR	FIELD	025C	90 / 0	1,231,200
5404	INVERTER	B-1/JB	H DIP 14	31C	RADR	FIELD	025C	26 / 1	355,680
5404	INVERTER	B-1/JB	H DIP 14	31C	RADR	FIELD	025C	88 / 0	1,203,840
5404	INVERTER	B-1/JB	H DIP 14	31C	RADR	FIELD	025C	116 / 0	1,586,880
5404	INVERTER	B-1/JB	H DIP 14	31C	RADR	FIELD	025C	8 / 0	109,440
5404	INVERTER	B-1/JB	H DIP 14	31C	RADR	FIELD	025C	325 / 1	4,446,000
5404	INVERTER	B-1/JB	H DIP 14	31C	RADR	FIELD	025C	8 / 0	34,560
5404	INVERTER	B-1/JB	H DIP 14	31C	RADR	FIELD	025C	325 / 0	1,404,000

DIGITAL DEVICE DATA

RELIABILITY ANALYSIS CENTER

VARIOUS TTL	MANUFACTURER OPERATIONAL TYPE		SCRN. CLASS	PACKAGE/ PINS	JCT. TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED
	PART NO.	DEVICE FUNCTION								
5404	INVERTER	B-1/JB: 6	H DIP 14: 79/79	31C	RADR GF	FIELD	025C	90 / 0	388,800:	
5404	INVERTER	B-1/JB: 6	H DIP 14: 79/79	31C	RADR GF	FIELD	025C	26 / 0	112,320:	
5404	INVERTER	B-1/JB: 6	H DIP 14: 79/79	31C	PADR GF	FIELD	025C	88 / 0	380,160:	
5404	INVERTER	B-1/JB: 6	H DIP 14: 79/79	31C	RADR GF	FIELD	025C	116 / 0	501,120:	
5404	INVERTER	B-1	H DIP 14: 75/78	61C	NAVG AIF	FIELD		132 / 0	150,480:	
5404	INVERTER	B-1	H DIP 14: 76/77	61C	COMM AIF	FIELD		15 / 0	10,227:	
5404	INVERTER	B-1	H DIP 14: 76/77	61C	COMM AIF	FIELD		28 / 0	14,112:	
5404	INVERTER	B-1	H DIP 14: 76/77	61C	COMM AIF	FIELD		19 / 0	19,331:	
5404	INVERTER	B-1	H FPK 14: 75/78	78C	COMP AUF	FIELD		3234 / 0	2,686,760:	
5404	INVERTER	B-1	H FPK 14: 75/78	78C	NAVG AUF	FIELD		363 / 0	413,820:	
5404	INVERTER	B-1	H FPK 14: 75/78	78C	NAVG AUF	FIELD		231 / 0	263,340:	
5404	INVERTER	B-1	H DIP 14: 75/78	78C	COMP AUF	FIELD		627 / 0	714,780:	
5404	INVERTER	C-1	H FPK 14: 75/78	78C	RADR AUF	FIELD		99 / 0	112,860:	
5404	INVERTER	C-1	H FPK 14: 75/78	78C	RADR AUF	FIELD		8712 / 0	9,931,680:	
5404	INVERTER	C-1	H FPK 14: 75/78	78C	RADR AUF	FIELD		5280 / 1	6,020,070:	2183/ 1
5404	INVERTER	C-1	H FPK 14: 75/78	78C	RADR AUF	FIELD		33 / 0	37,620:	
5404	INVERTER	D	H DIP 14: 77/78	31C	COMM GF	FIELD	025C	N/R / 0	62,950:	
5404	INVERTER	D	H DIP 14: 79/79	31C	COMM GF	FIELD	025C	N/R / 0	356,226:	
5405	INVERTER	J-B	H DIP 14: 77/77		RADR AIU	RELDEN OPERATE		40 / 0	1,288:	
5405	INVERTER	B-1	H DIP 14: 75/78	61C	NAVG AIF	FIELD		33 / 0	37,620:	
5405	INVERTER	B-1	H FPK 14: 75/78	78C	NAVG AUF	FIELD		66 / 0	75,240:	
5405	INVERTER	B-1	H DIP 14: 75/78	78C	COMP AUF	FIELD		99 / 0	112,860:	
5405	INVERTER	D	H DIP 14: 77/78	31C	COMM GF	FIELD	025C	N/R / 0	62,950:	

DIGITAL DEVICE DATA

VARIOUS TTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
5405	INVERTER	D 6	H DIP 14: 79/79	31C	COMM GF	FIELD	025C	N/R / 0	356,226	
5406	INTERFACE BUFFER/DRIVER	J-B 6	H FPK 14: 75/78	73C	RADR AIF	FIELD		66 / 0	75,240	
5406	INTERFACE BUFFER/DRIVER	J-B 6	H FPK 14: 75/78	88C	RADR AUF	FIELD		264 / 0	300,960	
5406	INTERFACE BUFFER/DRIVER	B-2/N 6	H DIP 14: 76/77	81C	RADR AU	RELDEM	-054C 071C	1045 / 0	50,160	
5406	INTERFACE BUFFER/DRIVER	B-1/JB 6	H DIP 14: 77/79	40C	RADR GF	FIELD	025C	4 / 0	56,720	
5406	INTERFACE BUFFER/DRIVER	B-1/JB 6	H DIP 14: 79/79	40C	RADR GF	FIELD	025C	4 / 0	17,280	
5406	INTERFACE BUFFER/DRIVER	B-1 6	H DIP 14: 75/78	86C	COMP AUF	FIELD		33 / 0	37,620	
5407	INTERFACE BUFFER/DRIVER	B-1 6	H DIP 14: 75/78	86C	COMP AUF	FIELD		165 / 0	188,100	
5408	GATE	J-B 4	H DIP 14: 77/77		RADR AIU	RELDEM OPERATE		1570 / 0	50,570	
5408	GATE	B-1/JB 4	H DIP 14: 77/79	32C	RADR GF	FIELD	025C	5 / 0	68,400	
5408	GATE	B-1/JB 4	H DIP 14: 77/79	32C	RADR GF	FIELD	025C	25 / 0	342,000	
5408	GATE	B-1/JB 4	H DIP 14: 77/79	32C	RADR GF	FIELD	025C	1 / 0	13,680	
5408	GATE	B-1/JB 4	H DIP 14: 77/79	32C	RADR GF	FIELD	025C	19 / 0	259,920	
5408	GATE	B-1/JB 4	H DIP 14: 79/79	32C	RADR GF	FIELD	025C	5 / 0	21,600	
5408	GATE	B-1/JB 4	H DIP 14: 79/79	32C	RADR GF	FIELD	025C	25 / 0	108,000	
5408	GATE	B-1/JB 4	H DIP 14: 79/79	32C	RADR GF	FIELD	025C	1 / 0	4,320	
5408	GATE	B-1/JB 4	H DIP 14: 79/79	32C	RADR GF	FIELD	025C	19 / 0	82,080	
5409	GATE	J-B 4	H DIP 14: 77/77		RADR AIU	RELDEM OPERATE		10 / 0	322	
5410	GATE	J-B 3	H DIP 14: 77/77		RADR AIU	RELDEM OPERATE		760 / 0	24,480	
5410	GATE	J-B 3	H DIP 14: 76/77	81C	RADR AU	RELDEM	-054C 071C	4807 / 2	2314/ 2	
5410	GATE	J-B 3	H DIP 14: 78/78	28C	COMP GT	RELDEM	025C	57 / 0	20,036	
5410	GATE	J-B 3	H FPK 14: 75/78	73C	RADR AUF	FIELD		1518 / 0	1,730,520	
5410	GATE	B-2/N 3	H DIP 14: 75/78	73C	RADR AUF	FIELD		15 / 0	2,556	

DIGITAL DEVICE DATA

VARIOUS TTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.# TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEP REPORT NO. /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
5410	GATE	B-2/N 3	H DIP 14: 75/78	73C	RADR AUF	FIELD		4 / 0	8:	
5410	GATE	B-2/N 3	H DIP 14: 75/78	73C	RADR AUF	FIELD		217 / 0	40,138:	
5410	GATE	B-2/N 3	H DIP 14: 75/78	73C	RADR AUF	FIELD		425 / 0	43,400:	
5410	GATE	B-2/N 3	H DIP 14: 75/78	73C	RADR AUF	FIELD		1178 / 0	254,524:	
5410	GATE	B-2/N 3	H DIP 14: 75/78	73C	RADR AUF	FIELD		72 / 0	6,768:	
5410	GATE	B-2/N 3	H DIP 14: 75/78	73C	RADR AUF	FIELD		144 / 0	29,760:	
5410	GATE	B-2/N 3	H DIP 14: 75/78	73C	RADR AUF	FIELD		1 / 0	1:	
5410	GATE	B-1/JB: 3	H DIP 14: 77/79	28C	RADR GF	FIELD	025C	2 / 0	27,360:	
5410	GATE	B-1/JB: 3	H DIP 14: 77/79	28C	RADR GF	FIELD	025C	5 / 0	68,400:	
5410	GATE	B-1/JB: 3	H DIP 14: 77/79	28C	RADR GF	FIELD	025C	16 / 0	215,880:	
5410	GATE	B-1/JB: 3	H DIP 14: 77/79	28C	RADR GF	FIELD	025C	17 / 0	232,560:	
5410	GATE	B-1/JB: 3	H DIP 14: 77/79	28C	RADR GF	FIELD	025C	1 / 0	13,680:	
5410	GATE	B-1/JB: 3	H DIP 14: 77/79	28C	RADR GF	FIELD	025C	10 / 0	136,800:	
5410	GATE	B-1/JB: 3	H DIP 14: 79/79	28C	RADR GF	FIELD	025C	1 / 0	4,320:	
5410	GATE	B-1/JB: 3	H DIP 14: 79/79	28C	RADR GF	FIELD	025C	10 / 0	43,200:	
5410	GATE	B-1/JB: 3	H DIP 14: 79/79	28C	RADR GF	FIELD	025C	2 / 0	8,640:	
5410	GATE	B-1/JB: 3	H DIP 14: 79/79	28C	RADR GF	FIELD	025C	5 / 0	21,600:	
5410	GATE	B-1/JB: 3	H DIP 14: 79/79	28C	RADR GF	FIELD	025C	16 / 0	69,120:	
5410	GATE	B-1/JB: 3	H DIP 14: 79/79	28C	RADR GF	FIELD	025C	17 / 0	73,440:	
5410	GATE	B-1 3	H DIP 14: 75/78	58C	NAVG AUF	FIELD		66 / 0	75,240:	
5410	GATE	B-1 3	H FPK 14: 75/78	74C	COMP AUF	FIELD		1881 / 0	2,144,340:	
5410	GATE	B-1 3	H FPK 14: 75/78	74C	NAVG AUF	FIELD		264 / 0	300,960:	
5410	GATE	B-1 3	H FPK 14: 75/78	74C	NAVG AUF	FIELD		495 / 0	564,300:	

DIGITAL DEVICE DATA

VARIOUS TTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
5410	GATE	B-1 3	H DIP 14: 75/78	74C	COMP AUF	FIELD		957 / 0 1,090,980			
5410	GATE	C-1 3	H FPK 14: 75/78	74C	RADR AUF	FIELD		66 / 0 75,240			
5410	GATE	C-1 3	H FPK 14: 75/78	74C	RADR AUF	FIELD		4653 / 0 5,304,420			
5410	GATE	C-1 3	H FPK 14: 75/78	74C	RADR AUF	FIELD		4158 / 1 4,739,640	2184/	1	
5410	GATE	C-1 3	H FPK 14: 75/78	74C	RADR AUF	FIELD		33 / 0 37,620			
5410	GATF	D 3	H DIP 14: 77/78	43C	DSPY GBC	FIELD	040C 55XPWR	168 / 0 218,400			
5410	GATE	D 3	H DIP 14: 78/79	43C	DSPY GBC	FIELD	040C 55XPWR	82 / 0 106,600			
5410	GATE	D 3	H DIP 14: 77/78	28C	COMM GF	FIELD	025C	N/R / 0 125,900			
5410	GATE	D 3	H DIP 14: 79/79	28C	COMM GF	FIELD	025C	N/R / 0 712,452			
5410/7410	GATE	NONE 3	N/R DIP 14: 77/79	28C	COMP GR	FIELD	025C	8 / 0 153,872			
5410/7410	GATE	NONE 3	N/R DIP 14: 77/79	28C	COMP GB	FIELD	025C	16 / 0 318,080			
54107	FLIP-FLOP JK	J-B 16	H DIP 14: 78/78	35C	COMP GT	RELDEM	025C	39 / 0 13,709			
54107	FLIP-FLOP JK	B-1 16	H DIP 14: 75/78	80C	COMP AUF	FIELD		66 / 0 75,240			
5411	GATE	B-1/JB 3	H DIP 14: 77/79	30C	RADR GF	FIELD	025C	14 / 0 191,520			
5411	GATE	B-1/JB 3	H DIP 14: 79/79	30C	RADR GF	FIELD	025C	14 / 0 60,480			
54121	FLIP-FLOP MONOSTABLE	J-B 8	H DIP 14: 77/77		RADR AIU	RELDEM OPERATE		335 / 0 10,790			
54121	FLIP-FLOP MONOSTABLE	B-1/JB 8	H DIP 14: 77/79	35C	RADR GF	FIELD	025C	4 / 0 54,720			
54121	FLIP-FLOP MONOSTABLE	B-1/JB 8	H DIP 14: 77/79	35C	RADR GF	FIELD	025C	545 / 0 7,455,600			
54121	FLIP-FLOP MONOSTABLE	B-1/JB 8	H DIP 14: 77/79	35C	RADR GF	FIELD	025C	105 / 0 1,436,400			
54121	FLIP-FLOP MONOSTABLE	B-1/JB 8	H DIP 14: 77/79	35C	RADR GF	FIELD	025C	10 / 0 136,800			
54121	FLIP-FLOP MONOSTABLE	B-1/JB 8	H DIP 14: 77/79	35C	RADR GF	FIELD	025C	291 / 0 3,980,880			
54121	FLIP-FLOP MONOSTABLE	B-1/JB 8	H DIP 14: 77/79	35C	RADR GF	FIELD	025C	98 / 0 1,340,640			
54121	FLIP-FLOP MONOSTABLE	B-1/JB 8	H DIP 14: 79/79	35C	RADR GF	FIELD	025C	10 / 0 43,200			

DIGITAL DEVICE DATA

VARIOUS TTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO./ QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
54121	FLIP-FLOP MONOSTABLE	B-1/JB: 8	H DIP 14: 79/79	35C	RADR: GF	FIELD	025C	291 / 0 1,257,120			
54121	FLIP-FLOP MONOSTABLE	B-1/JB: 8	H DIP 14: 79/79	35C	RADR: GF	FIELD	025C	98 / 0 423,360			
54121	FLIP-FLOP MONOSTABLE	B-1/JB: 8	H DIP 14: 79/79	35C	RADR: GF	FIELD	025C	4 / 0 17,280			
54121	FLIP-FLOP MONOSTABLE	B-1/JB: 8	H DIP 14: 79/79	35C	RADR: GF	FIELD	025C	545 / 0 2,354,400			
54121	FLIP-FLOP MONOSTABLE	B-1/JB: 8	H DIP 14: 79/79	35C	RADR: GF	FIELD	025C	105 / 0 453,600			
54121	FLIP-FLOP MONOSTABLE	B-1: 8	H FPK 14: 75/78	81C	COMP: AUF	FIELD		132 / 0 150,480			
54121	FLIP-FLOP MONOSTABLE	B-1: 8	H DIP 14: 75/78	81C	COMP: AUF	FIELD		66 / 0 75,240			
54121	FLIP-FLOP MONOSTABLE	D: 8	H DIP 14: 77/78	50C	DSPY: GBC	FIELD	040C 55XPWR	764 / 0 993,200			
54121	FLIP-FLOP MONOSTABLE	D: 8	H DIP 14: 78/79	50C	DSPY: GBC	FIELD	040C 55XPWR	1009 / 0 1,311,700			
54122	FLIP-FLOP MONOSTABLE	B-1/JB: 10	H DIP 14: 77/79	37C	RADR: GF	FIELD	025C	2 / 0 27,360			
54122	FLIP-FLOP MONOSTABLE	B-1/JB: 10	H DIP 14: 77/79	37C	RADR: GF	FIELD	025C	12 / 0 164,160			
54122	FLIP-FLOP MONOSTABLE	B-1/JB: 10	H DIP 14: 77/79	37C	RADR: GF	FIELD	025C	10 / 0 136,800			
54122	FLIP-FLOP MONOSTABLE	B-1/JB: 10	H DIP 14: 79/79	37C	RADR: GF	FIELD	025C	12 / 0 51,840			
54122	FLIP-FLOP MONOSTABLE	B-1/JB: 10	H DIP 14: 79/79	37C	RADR: GF	FIELD	025C	10 / 0 43,200			
54122	FLIP-FLOP MONOSTABLE	B-1: 10	H FPK 14: 75/78	67C	RADR: AIF	FIELD		33 / 1 36,960	2185/ 1		
54122	FLIP-FLOP MONOSTABLE	B-1: 10	H FPK 14: 75/78	82C	RADR: AUF	FIELD		33 / 0 37,620			
54123	FLIP-FLOP MONOSTABLE	J-B: 20	H DIP 16: 77/77	82C	NAV: AI	RELD: TCVPC	-054C 072C 43CY 2 60HZ	6 / 0 3,760			
54123	FLIP-FLOP MONOSTABLE	J-B: 20	H DIP 16: 77/77		RADR: AIU	RELD: OPERATE		25 / 0 805			
54123	FLIP-FLOP MONOSTABLE	B-1/JB: 20	H DIP 16: 77/79	46C	RADR: GF	FIELD	025C	3 / 0 41,040			
54123	FLIP-FLOP MONOSTABLE	B-1/JB: 20	H DIP 16: 79/79	46C	RADR: GF	FIELD	025C	3 / 0 12,960			
54123	FLIP-FLOP MONOSTABLE	B-1: 20	H DIP 16: 75/78	76C	RADR: AIF	FIELD		165 / 0 188,100			
54123	FLIP-FLOP MONOSTABLE	B-1: 20	H DIP 16: 75/78	76C	PROC: AIF	FIELD		99 / 0 112,860			

DIGITAL DEVICE DATA

VARIOUS : : : : : :		: MANUFACTURER : : : : : :				RELIABILITY ANALYSIS CENTER				
: PART : NO.	: DEVICE : FUNCTION	: SCR.N. : CLASS	: PACKAGE/ : PINS	: JCT.* : TEMP.	: EQUIP. : TYPE	: DATA : CLASS.	: STRESS : LEVEL	: #TESTED/ : #FAILED	: MPEF REPORT NO. : /QTY FAILED	
:	: CIRCUIT : FUNCTION	: NO. : GATES	: TEST : DATE	:	: APPL. : ENV.	: TEST : TYPE	:	: PART : HOURS	:	
: 54123	: FLIP-FLOP	: B-1	: H DIP 16:	: 91C	: RADR	: FIELD	:	: 198 / 0 :	:	
:	: MONOSTABLE	: 20	: 75/78	:	: AUF	:	:	: 225,720:	:	
: 54125	: BUFFER	: B-2	: H DIP 14:	:	: RADR	: RELED	:	: 380 / 0 :	:	
:	:	: 4	: 77/77	:	: AIU	: OPERATE	:	: 12,236:	:	
: 54126	: BUFFER	: B-2	: H DIP 14:	:	: RADR	: RELED	:	: 7380 / 0 :	:	
:	:	: 4	: 77/77	:	: AIU	: OPERATE	:	: 237,636:	:	
: 5413	: GATE	: B-1/JB:	: H DIP 14:	: 35C	: RADR	: FIELD	: 025C	: 97 / 0 :	:	
:	: SCHMITT TRIGGER	: 2	: 77/79	:	: GF	:	:	: 1,326,960:	:	
: 5413	: GATE	: B-1/JB:	: H DIP 14:	: 35C	: RADR	: FIELD	: 025C	: 3 / 0 :	:	
:	: SCHMITT TRIGGER	: 2	: 77/79	:	: GF	:	:	: 41,040:	:	
: 5413	: GATE	: B-1/JB:	: H DIP 14:	: 35C	: RADR	: FIELD	: 025C	: 15 / 0 :	:	
:	: SCHMITT TRIGGER	: 2	: 77/79	:	: GF	:	:	: 205,200:	:	
: 5413	: GATE	: B-1/JB:	: H DIP 14:	: 35C	: RADR	: FIELD	: 025C	: 36 / 0 :	:	
:	: SCHMITT TRIGGER	: 2	: 77/79	:	: GF	:	:	: 492,480:	:	
: 5413	: GATE	: B-1/JB:	: H DIP 14:	: 35C	: RADR	: FIELD	: 025C	: 15 / 0 :	:	
:	: SCHMITT TRIGGER	: 2	: 79/79	:	: GF	:	:	: 64,800:	:	
: 5413	: GATE	: B-1/JB:	: H DIP 14:	: 35C	: RADR	: FIELD	: 025C	: 36 / 0 :	:	
:	: SCHMITT TRIGGER	: 2	: 79/79	:	: GF	:	:	: 135,520:	:	
: 5413	: GATE	: B-1/JB:	: H DIP 14:	: 35C	: RADR	: FIELD	: 025C	: 97 / 0 :	:	
:	: SCHMITT TRIGGER	: 2	: 79/79	:	: GF	:	:	: 419,040:	:	
: 5413	: GATE	: B-1/JB:	: H DIP 14:	: 35C	: PADR	: FIELD	: 025C	: 3 / 0 :	:	
:	: SCHMITT TRIGGER	: 2	: 79/79	:	: GF	:	:	: 12,960:	:	
: 5413	: GATE	: B-1	: H DIP 14:	: 79C	: COMP	: FIELD	:	: 33 / 0 :	:	
:	: SCHMITT TRIGGER	: 2	: 75/78	:	: AUF	:	:	: 37,620:	:	
: 5414	: INVERTER	: B-2	: H DIP 14:	: 82C	: NAVG	: RELED	: -054C 072C	: 2 / 0 :	:	
:	: SCHMITT TRIGGER	: 6	: 77/77	:	: AI	: TCVPC	: 43CY 2 60HZ	: 1,253:	:	
: 54145	: INTERFACE	: B-1/JB:	: H DIP 16:	: 44C	: RADR	: FIELD	: 025C	: 5 / 0 :	:	
:	: DECODER/DRIVER	: 18	: 77/79	:	: GF	:	:	: 68,400:	:	
: 54145	: INTERFACE	: B-1/JB:	: H DIP 16:	: 44C	: RADR	: FIELD	: 025C	: 5 / 0 :	:	
:	: DECODER/DRIVER	: 18	: 79/79	:	: GF	:	:	: 21,600:	:	
: 54148	: ENCODER	: B-2	: H DIP 16:	:	: RADR	: RELED	:	: 90 / 0 :	:	
:	:	: 29	: 77/77	:	: AIU	: OPERATE	:	: 2,898:	:	
: 54150	: MULTIPLEXER	: D	: H DIP 24:	: 71C	: COMB	: FIELD	:	: 64 / 0 :	:	
:	:	: 26	: 77/78	:	: AIT	:	:	: 608,000:	:	
: 54151	: MULTIPLEXER	: B-1	: H DIP 16:	: 83C	: RADR	: FIELD	:	: 33 / 0 :	:	
:	:	: 17	: 75/78	:	: AUF	:	:	: 37,620:	:	
: 54152	: MULTIPLEXER	: B-2	: H DIP 14:	: 38C	: COMB	: FIELD	: 025C	: 9 / 0 :	:	
:	:	: 15	: 75/78	:	: GT	:	:	: 20,919:	:	
: 54153	: MULTIPLEXER	: J-B	: H DIP 16:	:	: RADR	: RELED	:	: 10 / 0 :	:	
:	:	: 16	: 77/77	:	: AIU	: OPERATE	:	: 322:	:	

DIGITAL DEVICE DATA

VARIOUS TTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO./ QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
54153	MULTIPLEXER	B-1/JB: 16	H DIP 16: 77/79	41C	RADR GF	FIELD	025C	400 / 0 5,472,000		
54153	MULTIPLEXER	B-1/JB: 16	H DIP 16: 77/79	41C	RADR GF	FIELD	025C	38 / 0 514,840		
54153	MULTIPLEXER	B-1/JB: 16	H DIP 16: 77/79	41C	RADR GF	FIELD	025C	123 / 0 1,682,640		
54153	MULTIPLEXER	B-1/JB: 16	H DIP 16: 79/79	41C	RADR GF	FIELD	025C	123 / 0 531,360		
54153	MULTIPLEXER	B-1/JB: 16	H DIP 16: 79/79	41C	RADR GF	FIELD	025C	406 / 0 1,728,000		
54153	MULTIPLEXER	B-1/JB: 16	H DIP 16: 79/79	41C	RADR GF	FIELD	025C	38 / 0 164,160		
54153	MULTIPLEXER	B-1: 16	H DIP 16: 75/78	86C	RADR AUF	FIELD		99 / 0 112,860		
54153	MULTIPLEXER	B-1: 16	H DIP 16: 75/78	86C	COMP AUF	FIELD		198 / 0 225,720		
54154	DECODER/DEMULTIPLX	B-1: 25	H DIP 24: 75/78	85C	COMP AUF	FIELD		33 / 0 37,620		
54154	DECODER/DEMULTIPLX	B-2: 25	H DIP 24: 77/77		RADR AIU	PELDEM OPERATE		15 / 0 483		
54155	DECODER/DEMULTIPLX	B-1/JB: 15	H DIP 16: 77/79	35C	RADR GF	FIELD	025C	8 / 0 109,440		
54155	DECODER/DEMULTIPLX	B-1/JB: 15	H DIP 16: 77/79	35C	RADR GF	FIELD	025C	3 / 0 41,040		
54155	DECODER/DEMULTIPLX	B-1/JB: 15	H DIP 16: 79/79	35C	RADR GF	FIELD	025C	3 / 0 12,960		
54155	DECODER/DEMULTIPLX	B-1/JB: 15	H DIP 16: 79/79	35C	RADR GF	FIELD	025C	8 / 0 34,560		
54155	DECODER/DEMULTIPLX	B-1: 15	H DIP 16: 75/78	81C	RADR AUF	FIELD		264 / 0 300,960		
54155	DECODER/DEMULTIPLX	C-1: 15	H FPK 16: 75/78	81C	RADR AUF	FIELD		792 / 1 902,610	2186/ 1	
54155	DECODER/DEMULTIPLX	D: 15	H FPK 16: 77/79	35C	COMP GB	FIELD	025C	2 / 0 39,760		
54157	MULTIPLEXER	B-1/JB: 19	H DIP 16: 77/79	39C	RADR GF	FIELD	025C	4 / 0 54,720		
54157	MULTIPLEXER	B-1/JB: 19	H DIP 16: 77/79	39C	RADR GF	FIELD	025C	228 / 0 3,119,040		
54157	MULTIPLEXER	B-1/JB: 19	H DIP 16: 77/79	39C	RADR GF	FIELD	025C	2 / 0 27,360		
54157	MULTIPLEXER	B-1/JB: 19	H DIP 16: 77/79	39C	RADR GF	FIELD	025C	49 / 0 670,320		
54157	MULTIPLEXER	B-1/JB: 19	H DIP 16: 79/79	39C	RADR GF	FIELD	025C	49 / 0 211,680		
54157	MULTIPLEXER	B-1/JB: 19	H DIP 16: 79/79	39C	RADR GF	FIELD	025C	4 / 0 17,280		

DIGITAL DEVICE DATA

VARIOUS TTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO. /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
54157	MULTIPLEXER	B-1/JB: 19	H DIP 79/79	16: 39C	RADR: GF	FIELD	025C	228 / 0	984,960		
54157	MULTIPLEXER	B-1/JB: 19	H DIP 79/79	16: 39C	RADR: GF	FIELD	025C	2 / 0	8,640		
54157	MULTIPLEXER	B-1: 19	H FPK 75/78	16: 88C	RADR: AUF	FIELD		858 / 0	978,120		
54157	MULTIPLEXER	B-2: 15	H DIP 77/77	16:	RADR: ATU	RELDEN: OPERATE		4575 / 0	147,315		
5416	INTERFACE BUFFER/DRIVER	B-2/N: 6	H DIP 76/77	14: 81C	RADR: AU	RELDEN: TCVPC	-054C 071C 6CY 2. 27HZ	418 / 0	20,064		
5416	INTERFACE BUFFER/DRIVER	D: 6	H DIP 77/78	14: 55C	DSPY: GBC	FIELD	040C 55ZPWR	59 / 0	76,700		
5416	INTERFACE BUFFER/DRIVER	D: 6	H DIP 78/79	14: 55C	DSPY: GBC	FIELD	040C 55ZPWR	2 / 0	2,600		
54160	COUNTER DECADE	B-1/JB: 60	H DIP 77/79	16: 52C	RADR: GF	FIELD	025C	4 / 0	54,720		
54160	COUNTER DECADE	B-1/JB: 60	H DIP 77/79	16: 52C	RADR: GF	FIELD	025C	13 / 0	177,840		
54160	COUNTER DECADE	B-1/JB: 60	H DIP 79/79	16: 52C	RADR: GF	FIELD	025C	13 / 0	56,160		
54160	COUNTER DECADE	B-1/JB: 60	H DIP 79/79	16: 52C	RADR: GF	FIELD	025C	4 / 0	17,280		
54161	COUNTER BINARY	B-1/JB: 57	H DIP 77/79	16: 52C	RADR: GF	FIELD	025C	2 / 0	27,360		
54161	COUNTER BINARY	B-1/JB: 57	H DIP 77/79	16: 52C	RADR: GF	FIELD	025C	8 / 0	109,440		
54161	COUNTER BINARY	B-1/JB: 57	H DIP 77/79	16: 52C	RADR: GF	FIELD	025C	83 / 0	1,135,440		
54161	COUNTER BINARY	B-1/JB: 57	H DIP 77/79	16: 52C	RADR: GF	FIELD	025C	56 / 0	766,080		
54161	COUNTER BINARY	B-1/JB: 57	H DIP 77/79	16: 52C	RADR: GF	FIELD	025C	65 / 0	889,200		
54161	COUNTER BINARY	B-1/JB: 57	H DIP 79/79	16: 52C	RADR: GF	FIELD	025C	65 / 0	280,800		
54161	COUNTER BINARY	B-1/JB: 57	H DIP 79/79	16: 52C	RADR: GF	FIELD	025C	2 / 0	8,640		
54161	COUNTER BINARY	B-1/JB: 57	H DIP 79/79	16: 52C	RADR: GF	FIELD	025C	8 / 0	34,560		
54161	COUNTER BINARY	B-1/JB: 57	H DIP 79/79	16: 52C	RADR: GF	FIELD	025C	83 / 0	358,560		
54161	COUNTER BINARY	B-1/JB: 57	H DIP 79/79	16: 52C	RADR: GF	FIELD	025C	56 / 0	241,920		
54161	COUNTER BINARY	B-1: 57	H DIP 75/78	16: 84C	RADR: AIF	FIELD		99 / 0	112,860		
54161	COUNTER BINARY	B-1: 57	H FPK 75/78	16: 91C	NAVG: AUF	FIELD		198 / 0	255,720		

DIGITAL DEVICE DATA

VARIOUS TTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT. # TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPPF REPORT NO. /OTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
54161	COUNTER BINARY	B-1 57	H FPK 75/78	16: 91C	NAVG AUF	FIELD		132 / 0 150,480			
54161	COUNTER BINARY	B-1 57	H DIP 75/78	16: 91C	RADR AUF	FIELD		132 / 0 150,480			
54163	COUNTER BINARY	B-1/JB 58	H DIP 77/79	16: 52C	RADR GF	FIELD	025C	19 / 0 259,920			
54163	COUNTER BINARY	B-1/JB 58	H DIP 79/79	16: 52C	RADR GF	FIELD	025C	19 / 0 82,080			
54164	SHIFT REG	B-1/JB 36	H DIP 77/79	14: 42C	RADR GF	FIELD	025C	17 / 0 232,560			
54164	SHIFT REG	B-1/JB 36	H DIP 77/79	14: 42C	RADR GF	FIELD	025C	8 / 0 109,440			
54164	SHIFT REG	B-1/JB 36	H DIP 79/79	14: 42C	RADR GF	FIELD	025C	17 / 0 73,440			
54164	SHIFT REG	B-1/JB 36	H DIP 79/79	14: 42C	RADR GF	FIELD	025C	8 / 0 34,560			
54164	SHIFT REG	B-1 36	H DIP 75/78	14: 87C	COMP AUF	FIELD		66 / 0 75,240			
54165	SHIFT REG	B-1/JB 62	H DIP 77/79	16: 44C	RADR GF	FIELD	025C	12 / 0 164,160			
54165	SHIFT REG	B-1/JB 62	H DIP 79/79	16: 44C	RADR GF	FIELD	025C	12 / 0 51,840			
54165	SHIFT REG	B-1 62	H DIP 75/78	16: 87C	COMP AUF	FIELD		66 / 0 75,240			
5417	INTERFACE BUFFER/DRIVER	B-1/JB 6	H DIP 77/79	14: 65C	COMM AI	CHECK TCVPFC	-054C 055C 14CY 2 22HZ	19437 / 12 531,666	2154/ 5 2155/ 7		
5417	INTERFACE BUFFER/DRIVER	B-1/JB 6	H DIP 76/77	14: 68C	COMM AIF	FIELD		45 / 2 30,681			
5417	INTERFACE BUFFER/DRIVER	B-1/JB 6	H DIP 76/77	14: 68C	COMM AIF	FIELD		30 / 0 12,573			
5417	INTERFACE BUFFER/DRIVER	B-1/JB 6	H DIP 76/77	14: 68C	COMM AIF	FIELD		42 / 0 21,168			
5417	INTERFACE BUFFER/DRIVER	B-1/JB 6	H DIP 76/77	14: 68C	COMM AIT	FIELD		57 / 0 57,993			
5417	INTERFACE BUFFER/DRIVER	B-1/JB 6	H DIP 77/79	14: 38C	RADR GF	FIELD	025C	1 / 0 13,680			
5417	INTERFACE BUFFER/DRIVER	B-1/JB 6	H DIP 79/79	14: 38C	RADR GF	FIELD	025C	1 / 0 4,320			
5417	INTERFACE BUFFER/DRIVER	B-1 6	H DIP 76/77	14: 68C	COMM AIF	FIELD		45 / 0 30,681			
5417	INTERFACE BUFFER/DRIVER	B-1 6	H DIP 76/77	14: 68C	COMM AIF	FIELD		84 / 0 42,336			
5417	INTERFACE BUFFER/DRIVER	B-1 6	H DIP 76/77	14: 68C	COMM AIT	FIELD		57 / 0 57,993			

DIGITAL DEVICE DATA

VARIOUS TTL		MANUFACTURER OPERATIONAL TYPE			RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT. TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO. /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
54174	FLIP-FLOP D	J-B 36	H DIP 16: 77/77		RADR AIU	RELDPM OPERATE		10635 / 0 342,553		
54174	FLIP-FLOP D	B-1/JB 36	H DIP 16: 77/79	46C	RADR GF	FIELD	025C	10 / 0 136,800		
54174	FLIP-FLOP D	B-1/JB 36	H DIP 16: 77/79	46C	RADR GF	FIELD	025C	2 / 0 27,360		
54174	FLIP-FLOP D	B-1/JB 36	H DIP 16: 79/79	46C	RADR GF	FIELD	025C	10 / 0 43,200		
54174	FLIP-FLOP D	B-1/JB 36	H DIP 16: 79/79	46C	RADR GF	FIELD	025C	2 / 0 8,640		
54175	FLIP-FLOP D	B-1/JB 24	H DIP 16: 77/79	39C	RADR GF	FIELD	025C	10 / 0 136,800		
54175	FLIP-FLOP D	B-1/JB 24	H DIP 16: 77/79	39C	RADR GF	FIELD	025C	81 / 0 1,108,080		
54175	FLIP-FLOP D	B-1/JB 24	H DIP 16: 77/79	39C	RADR GF	FIELD	025C	1 / 0 13,680		
54175	FLIP-FLOP D	B-1/JB 24	H DIP 16: 77/79	39C	RADR GF	FIELD	025C	310 / 0 4,240,800		
54175	FLIP-FLOP D	B-1/JB 24	H DIP 16: 79/79	39C	RADR GF	FIELD	025C	1 / 0 4,320		
54175	FLIP-FLOP D	B-1/JB 24	H DIP 16: 79/79	39C	RADR GF	FIELD	025C	310 / 0 1,339,200		
54175	FLIP-FLOP D	B-1/JB 24	H DIP 16: 79/79	39C	RADR GF	FIELD	025C	10 / 0 43,200		
54175	FLIP-FLOP D	B-1/JB 24	H DIP 16: 79/79	39C	RADR GF	FIELD	025C	81 / 0 349,920		
54180	GENERATOR	B-1 14	H DIP 14: 75/78	72C	NAVG AIF	FIELD		33 / 0 37,620		
54180	GENERATOR	B-1 14	H FPK 14: 75/78	91C	RADR AUF	FIELD		165 / 0 188,100		
54180	GENERATOR	B-2 14	H DIP 14: 77/77		RADR AIU	RELDPM OPERATE		375 / 0 12,075		
54181	LOGIC UNIT ARITHMETIC	B-1 63	H FPK 24: 75/78	115C	COMP AUF	FIELD		264 / 0 300,960		
54181	LOGIC UNIT ARITHMETIC	B-1 63	H DIP 24: 75/78	115C	RADR AUF	FIELD		264 / 0 300,960		
54181	LOGIC UNIT ARITHMETIC	C-1 63	H FPK 24: 75/78	115C	RADR AUF	FIELD		3861 / 1 4,401,270	2187 / 1	
54182	GENERATOR	B-1 19	H FPK 16: 75/78	90C	COMP AUF	FIELD		66 / 0 75,240		
54182	GENERATOR	B-1 19	H DIP 16: 75/78	90C	RADR AUF	FIELD		33 / 0 37,620		
54191	COUNTER BINARY	B-1/JB 60	H DIP 16: 77/79	54C	RADR GF	FIELD	025C	11 / 0 150,480		
54191	COUNTER BINARY	B-1/JB 60	H DIP 16: 79/79	54C	RADR GF	FIELD	025C	11 / 0 47,520		

DIGITAL DEVICE DATA

VARIOUS TTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	DOUFP. TYPE	DATA CLASS.	STRESS LEVEL	TESTED/ #FAILED	MEFL REPORT NO./QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
54192	COUNTER BCD	B-1 50	H FPK 16: 75/78	99C	RADR AUF	FIELD		99 / 0 112,860		
54192	COUNTER BCD	D 50	H DIP 16: 77/78	54C	COMM GF	FIELD	025C	N/R / 0 188,850		
54192	COUNTER BCD	D 50	H DIP 16: 79/79	54C	COMM GF	FIELD	025C	N/R / 0 1,068,678		
54193	COUNTER BINARY	B-1/JB 48	H DIP 16: 77/79	54C	RADR GF	FIELD	025C	4 / 0 54,720		
54193	COUNTER BINARY	B-1/JB 48	H DIP 16: 79/79	54C	RADR GF	FIELD	025C	4 / 0 17,280		
54193	COUNTER BINARY	B-1 48	H FPK 16: 75/78	98C	COMP AUF	FIELD		627 / 0 714,780		
54193	COUNTER BINARY	B-1 48	H FPK 16: 75/78	98C	RADR AUF	FIELD		561 / 0 639,540		
54193/74193	COUNTER BINARY	NONE 48	N/R DIP 16: 77/79	53C	COMP GB	FIELD	025C	3 / 0 57,707		
54193/74193	COUNTER BINARY	NONE 48	N/R DIP 16: 77/79	53C	COMP GB	FIELD	025C	6 / 0 119,280		
54195	SHIFT REG	J-B 41	H DIP 16: 77/77		RADR AIU	RELDEN OPERATE		515 / 0 16,588		
54195	SHIFT REG	J-B 41	H DIP 16: 78/78	43C	COMP GT	RELDEN	025C	87 / 0 30,581		
54196	COUNTER DECADE	B-1/JB 38	H DIP 14: 77/79	47C	RADR GF	FIELD	025C	3 / 0 41,040		
54196	COUNTER DECADE	B-1/JB 38	H DIP 14: 79/79	47C	RADR GF	FIELD	025C	3 / 0 12,960		
54196	COUNTER DECADE	B-2 39	H FPK 14: 77/77	97C	NAVG AI	RELDEN TCVPC	-054C 072C 43CY 2 60HZ	1 / 0 627		
54197	COUNTER BINARY	B-1/JB 34	H DIP 14: 77/79	47C	RADR GF	FIELD	025C	3 / 0 41,040		
54197	COUNTER BINARY	B-1/JB 34	H DIP 14: 79/79	47C	RADR GF	FIELD	025C	3 / 0 12,960		
54197	COUNTER BINARY	B-1 34	H DIP 14: 75/78	94C	COMP AUF	FIELD		99 / 0 112,860		
54197	COUNTER BINARY	D 34	H DIP 14: 77/78	65C	DSPY GBC	FIELD	040C 55XPWR	26 / 0 33,800		
54197	COUNTER BINARY	D 34	H DIP 14: 78/79	65C	DSPY GBC	FIELD	040C 55XPWR	333 / 0 432,900		
5420	GATE	J-B 2	H DIP 14: 77/77		RADR AIU	RELDEN OPERATE		525 / 0 16,910		
5420	GATE	J-B 2	H DIP 14: 76/77	81C	RADR AU	RELDEN TCVPC	-054C 071C 6CY 2. 27HZ	2717 / 0 130,416		
5420	GATE	J-B 2	H DIP 14: 78/78	27C	COMP GT	RELDEN	025C	39 / 0 13,709		
5420	GATE	J-B 2	H FPK 14: 75/78	58C	RADR AIF	FIELD		132 / 0 150,480		

DIGITAL DEVICE DATA

VARIOUS TTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO./QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
5420	GATE	J-B 2	H FPK 75/78	14: 58C	PROC AIF	FIELD		165 / 0 188,100:		
5420	GATE	J-B 2	H FPK 75/78	14: 73C	RADR AUF	FIELD		891 / 0 1,015,740:		
5420	GATE	B-2/N 2	H DIP 75/78	14: 73C	RADR AUF	FIELD		34 / 0 4,011:		
5420	GATE	B-2/N 2	H DIP 75/78	14: 73C	RADR AUF	FIELD		75 / 0 9,070:		
5420	GATE	B-2/N 2	H DIP 75/78	14: 73C	RADR AUF	FIELD		16 / 0 32:		
5420	GATE	B-2/N 2	H DIP 75/78	14: 73C	RADR AUF	FIELD		31 / 0 5,734:		
5420	GATE	B-2/N 2	H DIP 75/78	14: 73C	RADR AUF	FIELD		204 / 0 20,832:		
5420	GATE	B-2/N 2	H DIP 75/78	14: 73C	RADR AUF	FIELD		1302 / 0 281,316:		
5420	GATE	B-2/N 2	H DIP 75/78	14: 73C	RADR AUF	FIELD		120 / 0 11,280:		
5420	GATE	B-2/N 2	H DIP 75/78	14: 73C	RADR AUF	FIELD		1 / 0 1:		
5420	GATE	B-1/JB 2	H DIP 77/79	14: 27C	RADP GF	FIELD	025C	3 / 0 41,040:		
5420	GATE	B-1/JB 2	H DIP 77/79	14: 27C	RADR GF	FIELD	025C	3 / 0 41,040:		
5420	GATE	B-1/JB 2	H DIP 77/79	14: 27C	RADR GF	FIELD	025C	2 / 0 27,360:		
5420	GATE	B-1/JB 2	H DIP 79/79	14: 27C	RADR GF	FIELD	025C	3 / 0 12,960:		
5420	GATE	B-1/JB 2	H DIP 79/79	14: 27C	RADR GF	FIELD	025C	3 / 0 12,960:		
5420	GATE	B-1/JB 2	H DIP 79/79	14: 27C	RADR GF	FIELD	025C	2 / 0 8,640:		
5420	GATE	B-1 2	H DIP 75/78	14: 58C	NAV AIF	FIELD		33 / 0 37,620:		
5420	GATE	B-1 2	H FPK 75/78	14: 73C	COMP AUF	FIELD		1221 / 0 1,391,940:		
5420	GATE	B-1 2	H FPK 75/78	14: 73C	COMP AUF	FIELD		396 / 0 451,440:		
5420	GATE	B-1 2	H FPK 75/78	14: 73C	NAV AUF	FIELD		99 / 0 112,860:		
5420	GATE	B-1 2	H FPK 75/78	14: 73C	NAV AUF	FIELD		66 / 0 75,240:		
5420	GATE	B-1 2	H DIP 75/78	14: 73C	COMP AUF	FIELD		165 / 0 188,100:		
5420	GATE	C-1 2	H FPK 75/78	14: 73C	RADR AUF	FIELD		231 / 0 263,340:		

DIGITAL DEVICE DATA

VARIOUS TTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT. # TEMP.	EQUIP. TYPE	DATA CLASS.	STRFSS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO. /%TY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
5420	GATE	C-1 2	H FPK 14: 75/78	73C	RADR AUF	FIELD		3135 / 1 3,573,510	2189/ 1	
5420	GATE	C-1 2	H FPK 14: 75/78	73C	RADP AUF	FIELD		2079 / 0 2,370,060		
5425	GATE	J-B 2	H FPK 14: 75/78	73C	RADR AUF	FIELD		297 / 0 338,580		
5425	GATE	B-1/JB 2	H DIP 14: 77/79	30C	RADR GF	FIELD	025C	53 / 0 725,040		
5425	GATE	B-1/JB 2	H DIP 14: 79/79	30C	RADR GF	FIELD	025C	53 / 0 228,960		
5425	GATE	C-1 2	H FPK 14: 75/78	73C	RADR AUF	FIELD		33 / 0 37,620		
5425	GATE	D 2	H DIP 14: 77/78	30C	COMM GF	FIELD	025C	N/R / 0 62,950		
5425	GATE	D 2	H DIP 14: 79/79	30C	COMM GF	FIELD	025C	N/R / 0 356,226		
5427	GATE	C-1 3	H FPK 14: 75/78	78C	RADR AUF	FIELD		33 / 0 36,780		
54283	ADDER FULL	B-1/JB 36	H DIP 16: 77/79	52C	RADR GF	FIELD	025C	1 / 0 13,680		
54283	ADDER FULL	B-1/JB 36	H DIP 16: 79/79	52C	RADR GF	FIELD	025C	1 / 0 4,320		
54283	ADDER BINARY	B-2 36	H DIP 16: 77/77		RADR AIU	RELDEM OPERATE		3550 / 0 114,310		
5430	GATE	J-B 1	H DIP 14: 77/77		RADR AIU	RELDEM OPERATE		680 / 0 21,903		
5430	GATE	J-B 1	H DIP 14: 76/77	81C	RADR AU	RELDEI TCVPC	-054C 071C 6CY 2. 27HZ	1254 / 0 80,192		
5430	GATE	J-B 1	H DIP 14: 78/78	26C	COMP GT	RELDEM	025C	6 / 0 2,109		
5430	GATE	J-B 1	H FPK 14: 75/78	56C	PROC AIF	FIELD		165 / 0 188,100		
5430	GATE	J-B 1	H FPK 14: 75/78	71C	RADR AUF	FIELD		297 / 0 338,580		
5430	GATE	B-2/N 1	H DIP 14: 75/78	71C	RADR AUF	FIELD		102 / 0 12,033		
5430	GATE	B-2/N 1	H DIP 14: 75/78	71C	RADR AUF	FIELD		15 / 0 1,814		
5430	GATE	B-2/N 1	H DIP 14: 75/78	71C	RADR AUF	FIELD		217 / 0 40,138		
5430	GATE	B-2/N 1	H DIP 14: 75/78	71C	RADR AUF	FIELD		837 / 0 180,846		
5430	GATE	B-2/N 1	H DIP 14: 75/78	71C	RADR AUF	FIELD		42 / 0 3,948		
5430	GATE	B-2/N 1	H DIP 14: 75/78	71C	RADR AUF	FIELD		153 / 0 31,620		

DIGITAL DEVICE DATA

VARIOUS TTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRM. CLASS	PACKAGE/PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO./ QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
5430	GATE	B-1/JB: 1	H DIP 14: 77/79	26C	RADR GF	FIELD	025C	36 / 0 492,480		
5430	GATE	B-1/JB: 1	H DIP 14: 77/79	26C	RADR GF	FIELD	025C	3 / 0 41,040		
5430	GATE	B-1/JB: 1	H DIP 14: 79/79	26C	RADR GF	FIELD	025C	36 / 0 155,520		
5430	GATE	B-1/JB: 1	H DIP 14: 79/79	26C	RADR GF	FIELD	025C	3 / 0 12,960		
5430	GATE	B-1	H DIP 14: 75/78	56C	NAVG AIF	FIELD		66 / 0 75,240		
5430	GATE	B-1	H FPK 14: 75/78	71C	COMP AUF	FIELD		627 / 0 714,780		
5430	GATE	B-1	H FPK 14: 75/78	71C	NAVG AUF	FIELD		66 / 0 75,240		
5430	GATE	B-1	H FPK 14: 75/78	71C	NAVG AUF	FIELD		66 / 0 75,240		
5430	GATE	B-1	H DIP 14: 75/78	71C	COMP AUF	FIELD		33 / 0 37,620		
5430	GATE	C-1	H FPK 14: 75/78	71C	RADR AUF	FIELD		264 / 0 300,960		
5430	GATE	C-1	H FPK 14: 75/78	71C	RADR AUF	FIELD		3201 / 0 3,649,140		
5430	GATE	C-1	H FPK 14: 75/78	71C	RADR AUF	FIELD		1716 / 0 1,956,240		
5430	GATE	D	H DIP 14: 77/78	41C	DSPY CBC	FIELD	040C 55XPWR	168 / 0 218,400		
5430	GATE	D	H DIP 14: 78/79	41C	DSPY CBC	FIELD	040C 55XPWR	82 / 0 106,600		
5437	BUFFER	J-B	H DIP 14: 77/77	82C	NAVG AI	RELDEN TCVPC	-054C 072C 43CY 2 60HZ	4 / 0 2,507		
5437	BUFFER	J-B	H DIP 14: 77/77		RADR AIU	RELDEN OPERATE		2300 / 0 74,083		
5437	BUFFER	J-B	H DIP 14: 78/78	35C	COMP GT	RELDEN	025C	6 / 0 2,109		
5437	BUFFER	J-B	H FPK 14: 75/78	73C	RADR AUF	FIELD		396 / 0 451,440		
5437	BUFFER	B-1/JB: 4	H DIP 14: 77/79	35C	RADR GF	FIELD	025C	9 / 0 123,120		
5437	BUFFER	B-1/JB: 4	H DIP 14: 77/79	35C	RADR GF	FIELD	025C	8 / 0 109,440		
5437	BUFFER	B-1/JB: 4	H DIP 14: 77/79	35C	RADR GF	FIELD	025C	30 / 0 410,400		
5437	BUFFER	B-1/JB: 4	H DIP 14: 77/79	35C	RADR GF	FIELD	025C	53 / 0 725,040		
5437	BUFFER	B-1/JB: 4	H DIP 14: 77/79	35C	RADR GF	FIELD	025C	159 / 0 2,175,120		

DIGITAL DEVICE DATA

VARIOUS TTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/PINS	JCT. TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEE REPORT NO. /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
5437	BUFFER	B-1/JB 4	H DIP 14 79/79	35C	RADR GF	FIELD	025C	159 / 0 686,880		
5437	BUFFER	B-1/JB 4	H DIP 14 79/79	35C	RADR GF	FIELD	025C	9 / 0 38,880		
5437	BUFFER	B-1/JB 4	H DIP 14 79/79	35C	RADR GF	FIELD	025C	8 / 0 34,560		
5437	BUFFER	B-1/JB 4	H DIP 14 79/79	35C	RADR GF	FIELD	025C	30 / 0 129,600		
5437	BUFFER	B-1/JB 4	H DIP 14 79/79	35C	RADR GF	FIELD	025C	53 / 0 228,960		
5438	BUFFER	J-B 4	H DIP 14 77/77		RADR AIU	RELDEM OPERATE		170 / 0 5,476		
5438	BUFFER	B-1/JB 4	H DIP 14 77/79	35C	RADR GF	FIELD	025C	9 / 0 123,120		
5438	BUFFER	B-1/JB 4	H DIP 14 77/79	35C	RADR GF	FIELD	025C	23 / 0 314,640		
5438	BUFFER	B-1/JB 4	H DIP 14 77/79	35C	RADR GF	FIELD	025C	26 / 0 355,680		
5438	BUFFER	B-1/JB 4	H DIP 14 77/79	35C	RADR GF	FIELD	025C	370 / 0 5,061,600		
5438	BUFFER	B-1/JB 4	H DIP 14 79/79	35C	RADR GF	FIELD	025C	26 / 0 112,320		
5438	BUFFER	B-1/JB 4	H DIP 14 79/79	35C	RADR GF	FIELD	025C	370 / 0 1,598,400		
5438	BUFFER	B-1/JB 4	H DIP 14 79/79	35C	RADR GF	FIELD	025C	9 / 0 38,880		
5438	BUFFER	B-1/JB 4	H DIP 14 79/79	35C	RADR GF	FIELD	025C	23 / 0 99,360		
5440	BUFFER	J-B 2	H DIP 14 76/77	81C	RADR AU	RELDEM TCVPC	-054C 071C 6CY 2. 27HZ	418 / 0 20,064		
5440	BUFFER	J-B 2	H DIP 14 78/78	30C	COMP GT	RELDEM	025C	3 / 0 1,055		
5440	BUFFER	J-B 2	H FPK 14 75/78	62C	PROC AIF	FIELD		33 / 0 75,240		
5440	BUFFER	J-B 2	H FPK 14 75/78	77C	RADR AUF	FIELD		198 / 0 225,720		
5440	BUFFER	B-2/N 2	H DIP 14 75/78	77C	RADR AUF	FIELD		279 / 0 51,606		
5440	BUFFER	B-2/W 2	H DIP 14 75/78	77C	RADR AUF	FIELD		476 / 0 48,608		
5440	BUFFER	B-2/N 2	H DIP 14 75/78	77C	RADR AUF	FIELD		2914 / 0 629,612		
5440	BUFFER	B-2/N 2	H DIP 14 75/78	77C	RADR AUF	FIELD		168 / 0 15,792		
5440	BUFFER	B-2/N 2	H DIP 14 75/78	77C	RADR AUF	FIELD		45 / 0 9,300		

DIGITAL DEVICE DATA

VARIOUS TTL		MANUFACTURER OPERATIONAL TYPE			RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEP REPORT NO. /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
5440	BUFFER	B-2/N 2	H DIP 14 75/78	77C	RADR AUF	FIELD		2 / 0 2		
5440	BUFFER	B-1/JB 2	H DIP 14 77/79	30C	RADR GF	FIELD	025C	7 / 0 95,760		
5440	BUFFER	B-1/JB 2	H DIP 14 77/79	30C	RADR GF	FIELD	025C	57 / 0 779,760		
5440	BUFFER	B-1/JB 2	H DIP 14 77/79	30C	RADR GF	FIELD	025C	7 / 0 95,760		
5440	BUFFER	B-1/JB 2	H DIP 14 77/79	30C	RADR GF	FIELD	025C	1 / 0 13,680		
5440	BUFFER	B-1/JB 2	H DIP 14 77/79	30C	RADR GF	FIELD	025C	34 / 0 465,120		
5440	BUFFER	B-1/JB 2	H DIP 14 79/79	30C	RADR GF	FIELD	025C	34 / 0 146,880		
5440	BUFFER	B-1/JB 2	H DIP 14 79/79	30C	RADR GF	FIELD	025C	7 / 0 30,240		
5440	BUFFER	B-1/JB 2	H DIP 14 79/79	30C	RADR GF	FIELD	025C	57 / 0 246,240		
5440	BUFFER	B-1/JB 2	H DIP 14 79/79	30C	RADR GF	FIELD	025C	7 / 0 30,240		
5440	BUFFER	B-1/JB 2	H DIP 14 79/79	30C	RADR GF	FIELD	025C	1 / 0 4,320		
5440	BUFFER	B-1 2	H DIP 14 79/79	30C	COMM GF	FIELD	025C	N/R / 0 356,226		
5440	BUFFER	D 2	H DIP 14 77/78	30C	COMM GF	FIELD	025C	N/R / 0 62,950		
5442	DECODER BCD/DECIMAL	J-B 18	H DIP 16 77/77		RADR AIU	RELDEN OPERATE		300 / 0 9,663		
5442	DECODER BCD/DECIMAL	B-1/JB 18	H DIP 16 77/79	38C	RADR GF	FIELD	025C	34 / 0 465,120		
5442	DECODER BCD/DECIMAL	B-1/JB 18	H DIP 16 77/79	38C	RADR GF	FIELD	025C	2 / 0 27,360		
5442	DECODER BCD/DECIMAL	B-1/JB 18	H DIP 16 79/79	38C	RADR GF	FIELD	025C	34 / 0 146,880		
5442	DECODER BCD/DECIMAL	B-1/JB 18	H DIP 16 79/79	38C	RADR GF	FIELD	025C	2 / 0 8,640		
5442	DECODER BCD/DECIMAL	B-1 18	H DIP 16 75/78	83C	COMP AUF	FIELD		264 / 0 300,960		
5445	INTERFACE DECODER/DRIVER	B-1/JB 18	H DIP 16 77/79	65C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	5015 / 0 141,720		
5445	INTERFACE DECODER/DRIVER	B-1/JB 18	H DIP 16 76/77	74C	COMM AIF	FIELD		50 / 0 20,955		
5445	INTERFACE DECODER/DRIVER	B-1/JB 18	H DIP 16 76/77	74C	COMM AIF	FIELD		140 / 0 70,560		
5445	INTERFACE DECODER/DRIVER	B-1 18	H DIP 16 75/78	89C	COMP AUF	FIELD		66 / 0 75,240		

DIGITAL DEVICE DATA

VARIOUS TTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEY REPORT NO. /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
5445	INTERFACE DECODER/DRIVER	B-2 18	H DIP 16 75/78	38C	COMM GT	FIELD	025C	9 / 0 20,919			
5448	INTERFACE DECODER/DRIVER	B-2 37	H FPK 16 75/78	55C	COMM GT	FIELD	025C	27 / 0 62,757			
5450	GATE EXPANDABLE	J-B 6	H DIP 14 77/77		RADR AIU	RELDEN OPERATE		70 / 0 2,255			
5450	GATE EXPANDABLE	B-2/N 6	H DIP 14 75/78	73C	RADR AUF	FIELD		31 / 0 5,734			
5450	GATE EXPANDABLE	B-2/N 6	H DIP 14 75/78	73C	RADR AUF	FIELD		663 / 0 67,704			
5450	GATE EXPANDABLE	B-1 6	H DIP 14 75/78	73C	COMP AUF	FIELD		495 / 0 564,300			
5451	GATE	J-B 6	H FPK 14 75/78	73C	RADR AUF	FIELD		66 / 0 75,240			
5451	GATE	B-1 6	H DIP 14 75/78	73C	NAVG AIF	FIELD		66 / 0 75,240			
5451	GATE	B-1 6	H FPK 14 75/78	73C	COMP AUF	FIELD		2013 / 1 2,294,250	2189/	1	
5451	GATE	B-1 6	H DIP 14 75/78	73C	COMP AUF	FIELD		495 / 0 564,300			
5451	GATE	C-1 6	H FPK 14 75/78	73C	RADR AUF	FIELD		1122 / 0 1,279,080			
5451	GATE	C-1 6	H FPK 14 75/78	73C	RADR AUF	FIELD		3234 / 0 3,686,760			
5453	GATE	B-2/N 5	H DIP 14 75/78	73C	RADR AUF	FIELD		17 / 0 1,736			
5454	GATE	B-1 5	H FPK 14 75/78	76C	COMP AUF	FIELD		528 / 0 601,920			
5454	GATE	C-1 5	H FPK 14 75/78	76C	RADR AUF	FIELD		99 / 0 112,860			
5454	GATE	C-1 5	H FPK 14 75/78	76C	RADR AUF	FIELD		957 / 0 1,090,980			
5470	FLIP-FLOP JK	J-B 11	H DIP 14 77/77		RADR AIU	RELDEN OPERATE		150 / 0 4,832			
5472	FLIP-FLOP JK	J-B 8	H DIP 14 76/77	81C	RADR AU	RELDEN TCVPC	-054C 071C 6CY 2. 27HZ	209 / 0 10,032			
5472	FLIP-FLOP JK	J-B 8	H FPK 14 75/78	76C	RADR AUF	FIELD		132 / 0 150,480			
5472	FLIP-FLOP JK	B-2/N 16	H FPK 14 75/78	61C	RADR AIF	FIELD		20 / 0 1,505			
5472	FLIP-FLOP JK	B-2/N 16	H FPK 14 75/78	61C	RADR AIF	FIELD		26 / 0 4,287			
5472	FLIP-FLOP JK	B-2/N 8	H DIP 14 75/78	76C	RADR AUF	FIELD		75 / 0 9,070			
5472	FLIP-FLOP JK	B-2/N 8	H DIP 14 75/78	76C	RADR AUF	FIELD		341 / 0 73,678			

DIGITAL DEVICE DATA

VARIOUS TTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFE REPORT NO. /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
5472	FLIP-FLOP JK	B-2/N 8	H DIP 75/78	14 76C	RADR AUF	FIELD		29 / 0 3,314			
5472	FLIP-FLOP JK	B-1 8	H FPK 75/78	14 76C	NAVG AUF	FIELD		66 / 0 75,240			
5472	FLIP-FLOP JK	C-1 16	H FPK 75/78	14 76C	RADR AUF	FIELD		264 / 1 300,210	2190/	1	
5472	FLIP-FLOP JK	C-1 8	H FPK 75/78	14 76C	RADR AUF	FIELD		990 / 0 1,128,600			
5472	FLIP-FLOP JK	C-1 8	H FPK 75/78	14 76C	RADR AUF	FIELD		33 / 4 34,920	2191/	1	
									2192/	1	
									2193/	1	
									2194/	1	
5472	FLIP-FLOP JK	C-1 8	H FPK 75/78	14 76C	RADR AUF	FIELD		33 / 0 37,620			
5472	FLIP-FLOP JK	D 8	H DIP 77/78	14 30C	COMM GF	FIELD	025C	N/R / 0 188,850			
5472	FLIP-FLOP JK	D 8	H DIP 79/79	14 30C	COMM GF	FIELD	025C	N/R / 0 1,068,678			
5473	FLIP-FLOP JK	J-B 16	H FPK 77/77	14 82C	NAVG AI	RELDEN TCVPC	-054C 072C 43CY 2 60HZ	3 / 0 1,880			
5473	FLIP-FLOP JK	J-B 16	H DIP 77/77	14 81C	RADR AIU	RELDEN OPERATE		10 / 0 322			
5473	FLIP-FLOP JK	J-B 16	H DIP 76/77	14 81C	RADR AU	RELDEN TCVPC	-054C 071C 6CY 2. 27HZ	9196 / 2 441,408	2315/	2	
5473	FLIP-FLOP JK	J-B 16	H FPK 75/78	14 67C	RADR AIF	FIELD		231 / 0 263,340			
5473	FLIP-FLOP JK	J-B 16	H FPK 75/78	14 82C	RADR AUF	FIELD		1617 / 0 1,843,380			
5473	FLIP-FLOP JK	B-2/N 16	H DIP 75/78	14 80C	RADR AUF	FIELD		68 / 0 8,022			
5473	FLIP-FLOP JK	B-2/N 16	H DIP 75/78	14 80C	RADR AUF	FIELD		4 / 0 8			
5473	FLIP-FLOP JK	B-1 16	H DIP 75/78	14 80C	NAVG AIF	FIELD		264 / 0 300,960			
5473	FLIP-FLOP JK	B-1 16	H FPK 75/78	14 81C	NAVG AUF	FIELD		33 / 0 37,620			
5473	FLIP-FLOP JK	B-1 16	H FPK 75/78	14 81C	NAVG AUF	FIELD		66 / 0 75,240			
5473	FLIP-FLOP JK	C-1 16	H FPK 75/78	14 81C	RADR AUF	FIELD		66 / 0 75,240			
5473	FLIP-FLOP JK	C-1 16	H FPK 75/78	14 81C	RADR AUF	FIELD		4356 / 1 4,965,000	2195/	1	

DIGITAL DEVICE DATA

VARIOUS
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MANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
5473	FLIP-FLOP JK	D 16	H DIP 14 77/78	65C	COMB AIT	FIELD		8 / 0 76,000	
5473	FLIP-FLOP JK	D 16	H DIP 14 77/78	35C	COMM GF	FIELD	025C	N/R / 0 188,850	
5473	FLIP-FLOP JK	D 16	H DIP 14 79/79	35C	COMM GF	FIELD	025C	N/R / 0 1,068,678	
5473/7473	FLIP-FLOP JK	NONE 16	N/R DIP 14 77/79	35C	COMP GB	FIELD	025C	4 / 0 76,936	
5473/7473	FLIP-FLOP JK	NONE 16	N/R DIP 14 77/79	35C	COMP GB	FIELD	025C	8 / 0 159,040	
5474	FLIP-FLOP D	J-B 12	H DIP 14 77/77	82C	NAVG AI	RELDEN TCVPC	-054C 072C 43CY 2 60HZ	6 / 0 3,760	
5474	FLIP-FLOP D	J-B 12	H DIP 14 77/77		RADR AIU	RELDEN OPERATE		2355 / 0 75,855	
5474	FLIP-FLOP D	J-B 12	H DIP 14 78/78	35C	COMP GT	RELDEN	025C	93 / 0 32,690	
5474	FLIP-FLOP D	J-B 12	H FPK 14 75/78	66C	RADR AIF	FIELD		99 / 0 112,860	
5474	FLIP-FLOP D	J-B 12	H FPK 14 75/78	81C	RADR AUF	FIELD		132 / 0 150,480	
5474	FLIP-FLOP D	B-2/N 12	H DIP 14 75/78	79C	RADR AUF	FIELD		48 / 0 96	
5474	FLIP-FLOP D	B-2/N 12	H DIP 14 75/78	79C	RADR AUF	FIELD		3 / 0 861	
5474	FLIP-FLOP D	B-2/N 12	H DIP 14 75/78	79C	RADR AUF	FIELD		7 / 0 218	
5474	FLIP-FLOP D	B-2/N 12	H DIP 14 75/78	79C	RADR AUF	FIELD		7 / 0 7	
5474	FLIP-FLOP D	B-1/JB 12	H DIP 14 77/79	34C	RADR GF	FIELD	025C	205 / 0 2,804,400	
5474	FLIP-FLOP D	B-1/JB 12	H DIP 14 77/79	34C	RADR GF	FIELD	025C	13 / 0 177,840	
5474	FLIP-FLOP D	B-1/JB 12	H DIP 14 77/79	34C	RADR GF	FIELD	025C	36 / 0 492,480	
5474	FLIP-FLOP D	B-1/JB 12	H DIP 14 77/79	34C	RADR GF	FIELD	025C	28 / 0 383,040	
5474	FLIP-FLOP D	B-1/JB 12	H DIP 14 77/79	34C	RADR GF	FIELD	025C	7 / 0 95,760	
5474	FLIP-FLOP D	B-1/JB 12	H DIP 14 77/79	34C	RADR GF	FIELD	025C	40 / 0 547,200	
5474	FLIP-FLOP D	B-1/JB 12	H DIP 14 79/79	34C	RADR GF	FIELD	025C	7 / 0 30,240	
5474	FLIP-FLOP D	B-1/JB 12	H DIP 14 79/79	34C	RADR GF	FIELD	025C	40 / 0 172,800	
5474	FLIP-FLOP D	B-1/JB 12	H DIP 14 79/79	34C	RADR GF	FIELD	025C	205 / 0 885,600	

DIGITAL DEVICE DATA

VARIOUS TTL	MANUFACTURER				RELIABILITY ANALYSIS CENTER						
	OPERATIONAL TYPE				JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MVEF REPORT NO. /QTY FAILED	
	PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS							CIRCUIT FUNCTION
5474	FLIP-FLOP D	B-1/JB 12	H DIP 79/79	14	34C	RADR GF	FIELD	025C	13 / 0 56,160		
5474	FLIP-FLOP D	B-1/JB 12	H DIP 79/79	14	34C	RADR GF	FIELD	025C	36 / 0 155,520		
5474	FLIP-FLOP D	B-1/JB 12	H DIP 79/79	14	34C	RADR GF	FIELD	025C	28 / 0 120,960		
5474	FLIP-FLOP D	B-1 12	H FPK 75/78	14	81C	COMP AUF	FIELD		3069 / 0 3,529,440		
5474	FLIP-FLOP D	B-1 12	H DIP 75/78	16	81C	COMP AUF	FIELD		330 / 0 376,200		
5474	FLIP-FLOP D	B-2 12	P DIP 77/77	14		RADR AIU	RELDEN OPERATE		5 / 0 161		
5474	FLIP-FLOP D	C-1 12	H FPK 75/78	14	81C	RADR AUF	FIELD		2607 / 1 2,971,410	2196/ 1	
5474	FLIP-FLOP D	D 12	H DIP 77/78	14	34C	COMM GF	FIELD	025C	N/R / 0 62,950		
5474	FLIP-FLOP D	D 12	H DIP 79/79	14	34C	COMM GF	FIELD	025C	N/R / 0 356,226		
5475	LATCH BISTABLE	J-B 24	H DIP 77/77	16		RADR AIU	RELDEN OPERATE		5 / 0 161		
5475	LATCH BISTABLE	B-2/N 24	H DIP 75/78	16	69C	RADR AUF	FIELD		100 / 0 7,525		
5475	LATCH BISTABLE	B-2/N 24	H DIP 75/78	16	84C	RADR AUF	FIELD		54 / 0 5,076		
5475	LATCH BISTABLE	B-2/N 24	H DIP 75/78	16	84C	RADR AUF	FIELD		3 / 0 3		
5475	LATCH BISTABLE	B-1 24	H DIP 75/78	16	69C	NAVG AUF	FIELD		99 / 0 112,860		
5475	LATCH BISTABLE	B-1 24	H DIP 75/78	16	84C	COMP AUF	FIELD		594 / 0 677,160		
5476	FLIP-FLOP JK	J-R 16	H DIP 75/78	16	79C	RADR AUF	FIELD		66 / 0 75,240		
5476	FLIP-FLOP JK	B-2/N 16	H DIP 75/78	16	79C	RADR AUF	FIELD		29 / 0 6,781		
5476	FLIP-FLOP JK	B-2/N 16	H DIP 75/78	16	79C	RADR AUF	FIELD		248 / 0 45,872		
5476	FLIP-FLOP JK	B-2/N 16	H DIP 75/78	16	79C	RADR AUF	FIELD		850 / 0 86,800		
5476	FLIP-FLOP JK	B-2/N 16	H DIP 75/78	16	79C	RADR AUF	FIELD		3441 / 1 743,478	2321/ 1	
5476	FLIP-FLOP JK	B-2/N 16	H DIP 75/78	16	79C	RADR AUF	FIELD		180 / 0 16,920		
5476	FLIP-FLOP JK	B-2/N 16	H DIP 75/78	16	79C	RADR AUF	FIELD		180 / 0 37,200		
5476	FLIP-FLOP JK	B-2/N 16	H DIP 75/78	16	79C	RADR AUF	FIELD		5 / 0 5		

DIGITAL DEVICE DATA

VARIOUS
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MANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
5476	FLIP-FLOP JK	B-1 16	H FPK 16 75/78	79C	RADR AUF	FIELD		132 / 0 150,480	
5476/7476	FLIP-FLOP JK	NONE 16	N/R DIP 16 77/79	35C	COMP GB	FIELD	025C	4 / 0 76,936	
5476/7476	FLIP-FLOP JK	NONE 16	N/R DIP 16 77/79	35C	COMP GB	FIELD	025C	8 / 0 159,040	
5477	LATCH BISTABLE	B-1 24	H FPK 14 75/78	90C	RADR AUF	FIELD		363 / 0 413,820	
5482	ADDER FULL	J-B 21	H FPK 14 75/78	92C	RADR AUF	FIELD		33 / 0 37,620	
5482	ADDER FULL	B-2/N 21	H DIP 14 75/78	92C	RADR AUF	FIELD		310 / 0 66,980	
5482	ADDER FULL	C-1 21	H FPK 14 75/78	92C	RADR AUF	FIELD		4521 / 1 5,154,120	2197/ 1
5483	ADDER FULL	B-1 36	H DIP 16 75/78	101C	COMP AUF	FIELD		66 / 0 75,240	
5485	COMPARATOR	B-1/JB 31	H DIP 16 77/79	50C	RADR GF	FIELD	025C	5 / 0 68,400	
5485	COMPARATOR	B-1/JB 31	H DIP 16 77/79	50C	RADR GF	FIELD	025C	38 / 1 519,840	
5485	COMPARATOR	B-1/JB 31	H DIP 16 79/79	50C	RADR GF	FIELD	025C	38 / 0 164,160	
5485	COMPARATOR	B-1/JB 31	H DIP 16 79/79	50C	RADR GF	FIELD	025C	5 / 0 21,600	
5486	GATE	J-B 4	H DIP 14 77/77		RADR AIU	RELDEN OPERATE		875 / 0 28,184	
5486	GATE	J-B 4	H DIP 14 78/78	40C	COMP GT	RELDEN	025C	9 / 0 3,164	
5486	GATE	J-B 4	H FPK 14 75/78	70C	PROC AIF	FIELD		33 / 0 75,240	
5486	GATE	B-1/JB 4	H DIP 14 77/79	40C	RADR GF	FIELD	025C	7 / 0 95,760	
5486	GATE	B-1/JB 4	H DIP 14 77/79	40C	RADR GF	FIELD	025C	65 / 0 889,200	
5486	GATE	B-1/JB 4	H DIP 14 77/79	40C	RADR GF	FIELD	025C	4 / 0 54,720	
5486	GATE	B-1/JB 4	H DIP 14 77/79	40C	RADR GF	FIELD	025C	59 / 0 807,120	
5486	GATE	B-1/JB 4	H DIP 14 79/79	40C	RADR GF	FIELD	025C	4 / 0 17,280	
5486	GATE	B-1/JB 4	H DIP 14 79/79	40C	RADR GF	FIELD	025C	59 / 0 254,880	
5486	GATE	B-1/JB 4	H DIP 14 79/79	40C	RADR GF	FIELD	025C	7 / 0 30,240	
5486	GATE	B-1/JB 4	H DIP 14 79/79	40C	RADR GF	FIELD	025C	65 / 0 280,800	

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MANUFACTURER
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RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEY REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
5486	GATE	B-1	H FPK 14	89C	COMP	FIELD		528 / 0	
		4	75/78		AUF			601,920	
5486	GATE	B-2	H DIP 14	89C	RADR	RELDEN		5 / 0	
		4	77/77		AIU	OPERATE		161	
5490	COUNTER DECADE	B-2/N	H DIP 14	81C	RADR AU	RELDEN TCVPC	-054C 071C 6CY 2. 27HZ	1463 / 0	70,224
5490	COUNTER DECADE	B-2/N	H DIP 14	86C	RADR AUF	FIELD		90 / 0	15,336
5490	COUNTER DECADE	B-2/N	H DIP 14	86C	RADR AUF	FIELD		81 / 0	16,740
5490	COUNTER DECADE	B-1	H DIP 14	86C	COMP AUF	FIELD		66 / 0	75,240
5492	COUNTER	B-1	H FPK 14	86C	RADR AUF	FIELD		66 / 0	75,240
5492	COUNTER	B-1	H DIP 14	86C	COMP AUF	FIELD		66 / 0	75,240
5493	COUNTER BINARY	B-2/N	H DIP 14	81C	RADR AU	RELDEN TCVPC	-054C 071C 6CY 2. 27HZ	836 / 0	40,128
5493	COUNTER BINARY	B-2/N	H DIP 14	86C	RADR AUF	FIELD		12 / 0	24
5493	COUNTER BINARY	B-2/N	H DIP 14	86C	RADR AUF	FIELD		3 / 0	861
5493	COUNTER BINARY	B-2/N	H DIP 14	86C	RADR AUF	FIELD		7 / 0	218
5493	COUNTER BINARY	B-2/N	H DIP 14	86C	RADR AUF	FIELD		36 / 0	3,384
5493	COUNTER BINARY	B-1	H FPK 14	75C	RADR AUF	FIELD		99 / 0	112,860
5493	COUNTER BINARY	B-1	H FPK 14	90C	RADR AUF	FIELD		330 / 0	376,200
5493	COUNTER BINARY	B-1	H DIP 14	86C	COMP AUF	FIELD		396 / 0	451,440
5493	COUNTER BINARY	D	H DIP 14	41C	COMM GF	FIELD	025C	N/R / 0	125,900
5493	COUNTER BINARY	D	H DIP 14	41C	COMM GF	FIELD	025C	N/R / 0	712,452
5493/7493	COUNTER BINARY	NONE	N/R DIP 14	41C	COMP GB	FIELD	025C	4 / 0	76,936
5493/7493	COUNTER BINARY	NONE	N/R DIP 14	41C	COMP GB	FIELD	025C	8 / 2	159,040
5495	SHIFT REC	J-B	H DIP 14		RADR AIU	RELDEN OPERATE		90 / 0	2,899
5495	SHIFT REC	B-2/N	H DIP 14	90C	RADR AUF	FIELD		42 / 0	3,948
5495	SHIFT REC	B-1	H DIP 14	80C	NAVG AUF	FIELD		132 / 0	150,480

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MANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO./ QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
5495	SHIFT REG	B-1	H FPK 14	101C	RADR	FIELD		1023 / 0	
		37	75/78		AUF			1,166,220	
5495	SHIFT REG	B-1	H FPK 14	101C	COMP	FIELD		1485 / 0	
		37	75/78		AUF			1,692,900	
5496	SHIFT REG	J-B	H DIP 16		RADR	RELDEM		260 / 0	
		39	77/77		AIU	OPERATE		8,375	
5496	SHIFT REG	B-1	H DIP 16	92C	RADR	FIELD		198 / 2	
		39	75/78		AUF			223,800	
5496	SHIFT REG	D	H DIP 16	77C	COMB	FIELD		332 / 0	
		39	77/78		AIT			3,154,000	
5497	MULTIPLIER BINARY	B-1	H DIP 16	56C	COMP	RELDEM	025C	6 / 0	
		54	78/78		GT			2,109	
7093	BUFFER	B-1	H DIP 14	30C	COMP	RELDEM	025C	63 / 0	
		4	78/78		GT			22,145	
7270	SHIFT REG	D-1	P DIP 14	44C	DSPY	FIELD	040C 55XPWR	8661 / 1	
		57	77/78		GBC			11,259,300	
7270	SHIFT REG	D-1	P DIP 14	44C	DSPY	FIELD	040C 55XPWR	14024 / 6	
		57	78/79		GBC			18,231,200	
7400	GATE	D	H DIP 14	59C	COMM	FIELD		100 / 0	
		4	78/79		AIF			30,888	
7400	GATE	D	H DIP 14	29C	COMP	FIELD	025C	73 / 0	
		4	77/79		GB			1,404,082	
7400	GATE	D	H DIP 14	29C	COMP	FIELD	025C	146 / 0	
		4	77/79		GB			2,902,480	
7400	GATE	D-1	P DIP 14	30C	COMP	FIELD	025C	40 / 0	
		4	76/78		GBC			403,200	
7400	GATE	D-1	P DIP 14	30C	COMP	FIELD	025C	40 / 0	
		4	78/78		GBC			115,200	
7400	GATE	D-1	P DIP 14	35C	COMM	FIELD	030C	2250 / 9	
		4	77/77		GBC			10,174,500	
7400	GATE	D-1	P DIP 14	45C	DSPY	FIELD	040C 55XPWR	99999 / 97	
		4	77/78		GBC			536,069,300	
						FIELD		99999 / 0	
						FIELD		99999 / 0	
						FIELD		12365 / 0	
7400	GATE	D-1	P DIP 14	45C	DSPY	FIELD	040C 55XPWR	99999 / 81	
		4	78/79		GBC			612,231,100	
						FIELD		99999 / 0	
						FIELD		99999 / 0	
						FIELD		99999 / 0	

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VARIOUS TTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
						FIELD		70951 / 0			
7400	GATE	NONE 4	N/R DIP 77/79	14 30C	COMP GB	FIELD	025C	134 / 1 2,577,358	2247/ 1		
7400	GATE	NONE 4	N/R DIP 77/79	14 30C	COMP GB	FIELD	025C	256 / 1 4,612,160	2248/ 1		
7400	GATE	X 4	P DIP 76/78	14 30C	COMP GBC	FIELD	025C	30 / 0 459,204			
7400	GATE	X 4	P DIP 76/78	14 30C	COMP GBC	FIELD	025C	21 / 0 194,112			
7400	GATE	X 4	P DIP 78/78	14 30C	COMP GBC	FIELD	025C	30 / 0 86,400			
7400	GATE	X 4	P DIP 78/78	14 30C	COMP GBC	FIELD	025C	21 / 0 60,480			
7401	GATE	D 4	H DIP 77/79	14 30C	COMP GB	FIELD	025C	82 / 1 1,577,188	2249/ 1		
7401	GATE	D 4	H DIP 77/79	14 30C	COMP GB	FIELD	025C	164 / 0 3,260,320			
7401	GATE	D-1 4	P DIP 77/78	14 45C	DSPY GBC	FIELD	040C 55XPWR	7387 / 6 9,603,100			
7401	GATE	D-1 4	P DIP 78/79	14 45C	DSPY GBC	FIELD	040C 55XPWR	8116 / 0 10,550,800			
7402	GATE	D 4	H DIP 77/79	14 31C	COMP GB	FIELD	025C	6 / 0 115,404			
7402	GATE	D 4	H DIP 77/79	14 31C	COMP GB	FIELD	025C	12 / 0 238,560			
7402	GATE	D-1 4	P DIP 77/78	14 46C	DSPY GBC	FIELD	040C 55XPWR	99999 / 28 179,808,200			
						FIELD		38315 / 0			
7402	GATE	D-1 4	P DIP 78/79	14 46C	DSPY GBC	FIELD	040C 55XPWR	99999 / 16 209,697,800			
						FIELD		61307 / 0			
7402	GATE	NONE 4	N/R DIP 77/79	14 31C	COMP GB	FIELD	025C	3 / 0 57,702			
7402	GATE	NONE 4	N/R DIP 77/79	14 31C	COMP GB	FIELD	025C	4 / 0 79,520			
7402	GATE	X 4	P DIP 76/78	14 31C	COMP GBC	FIELD	025C	17 / 0 191,376			
7403	GATE	D-1 4	P DIP 77/78	14 45C	DSPY GBC	FIELD	040C 55XPWR	65503 / 16 85,153,900			
7403	GATE	D-1 4	P DIP 78/79	14 45C	DSPY GBC	FIELD	040C 55XPWR	96170 / 24 125,021,000			
7404	INVERTER	D 6	H DIP 77/79	14 31C	COMP GB	FIELD	025C	297 / 1 5,712,498	2250/ 1		

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PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TFST TYPE		PART HOURS			
7404	INVERTER	D 6	H DIP 14: 77/79	31C	COMP GB	FIELD	025C	592 / 1 11,768,960	2251/ 1		
7404	INVERTER	D 6	H FPK 14: 77/78	48C	DSPY GBC	FIELD	040C 55XPWR:	3507 / 0 4,559,100			
7404	INVERTER	D 6	H FPK 14: 78/79	48C	DSPY GBC	FIELD	040C 55XPWR:	2995 / 0 3,893,500			
7404	INVERTER	D-1 6	P DIP 14: 76/78	32C	COMP GBC	FIELD	025C	9 / 0 93,600			
7404	INVERTER	D-1 6	P DIP 14: 76/78	32C	COMP GBC	FIELD	025C	50 / 0 504,000			
7404	INVERTER	D-1 6	P DIP 14: 78/78	32C	COMP GBC	FIELD	025C	9 / 0 25,920			
7404	INVERTER	D-1 6	P DIP 14: 78/78	32C	COMP GBC	FIELD	025C	50 / 0 144,000			
7404	INVERTER	D-1 6	P DIP 14: 77/78	47C	DSPY GBC	FIELD	040C 55XPWR:	99999 / 37 250,400,800			
						FIELD		92617 / 0			
7404	INVERTER	D-1 6	P DIP 14: 78/79	47C	DSPY GBC	FIELD	040C 55XPWR:	99999 / 61 313,107,600			
						FIELD		99999 / 0			
						FIELD		40854 / 0			
7404	INVERTER	NONE 6	N/R DIP 14: 77/79	32C	COMP GB	FIELD	025C	311 / 4 5,981,774	2252/ 4		
7404	INVERTER	NONE 6	N/R DIP 14: 77/79	32C	COMP GB	FIELD	025C	620 / 4 12,325,600	2253/ 2		
									2254/ 1		
									2255/ 1		
7404	INVERTER	X 6	P DIP 14: 76/78	32C	COMP GBC	FIELD	025C	10 / 0 459,204			
7404	INVERTER	X 6	P DIP 14: 78/78	32C	COMP GBC	FIELD	025C	10 / 0 28,800			
7405	INVERTER	D 6	H DIP 14: 77/79	32C	COMP GB	FIELD	025C	2 / 0 38,468			
7405	INVERTER	D 6	H DIP 14: 77/79	32C	COMP GB	FIELD	025C	4 / 0 79,520			
7405	INVERTER	D-1 6	P DIP 14: 77/78	47C	DSPY GBC	FIELD	040C 55XPWR:	23818 / 11 30,963,400			
7405	INVERTER	D-1 6	P DIP 14: 78/79	47C	DSPY GBC	FIELD	040C 55XPWR:	33060 / 9 42,978,000			
7405	INVERTER	NONE 6	N/R DIP 14: 77/79	32C	COMP GB	FIELD	025C	3 / 0 57,702			

DIGITAL DEVICE DATA

VARIOUS TTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO. /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
7405	INVERTER	NONE	N/R DIP 14	32C	COMP GB	FIELD	025C	6 / 0 119,280			
7406	INTERFACE BUFFER/DRIVER	D	H DIP 14	40C	COMP GB	FIELD	025C	39 / 1 750,126	2256 / 1		
7406	INTERFACE BUFFER/DRIVER	D	H DIP 14	40C	COMP GB	FIELD	025C	78 / 0 1,550,640			
7406	INTERFACE BUFFER/DRIVER	D-1	P DIP 14	57C	DSPY GBC	FIELD	040C	55XPWR: 40226 / 19 52,293,800			
7406	INTERFACE BUFFER/DRIVER	D-1	P DIP 14	57C	DSPY GBC	FIELD	040C	55XPWR: 68042 / 23 88,454,600			
7406	INTERFACE BUFFER/DRIVER	NONE	N/R DIP 14	42C	COMP GB	FIELD	025C	3 / 0 57,702			
7406	INTERFACE BUFFER/DRIVER	NONE	N/R DIP 14	42C	COMP GB	FIELD	025C	6 / 1 119,280	2257 / 1		
7407	INTERFACE BUFFER/DRIVER	D-1	P DIP 14	54C	DSPY GBC	FIELD	040C	55XPWR: 26422 / 6 34,348,600			
7407	INTERFACE BUFFER/DRIVER	D-1	P DIP 14	54C	DSPY GBC	FIELD	040C	55XPWR: 34743 / 9 45,165,900			
7408	GATE	D-1	P DIP 14	33C	COMP GBC	FIELD	025C	3 / 0 31,104			
7408	GATE	D-1	P DIP 14	33C	COMP GBC	FIELD	025C	40 / 0 403,200			
7408	GATE	D-1	P DIP 14	28C	COMP GBC	FIELD	020C	6 / 0 67,578			
7408	GATE	D-1	P DIP 14	33C	COMP GBC	FIELD	025C	3 / 0 8,640			
7408	GATE	D-1	P DIP 14	33C	COMP GBC	FIELD	025C	40 / 0 115,200			
7408	GATE	D-1	P DIP 14	48C	DSPY GBC	FIELD	040C	55XPWR: 75492 / 11 98,139,600			
7408	GATE	D-1	P DIP 14	48C	DSPY GBC	FIELD	040C	55XPWR: 91741 / 17 119,263,300			
7408	GATE	X	P DIP 14	33C	COMP GBC	FIELD	025C	34 / 0 382,752			
7408	GATE	X	P DIP 14	33C	COMP GBC	FIELD	025C	17 / 0 48,960			
7408	GATE	X	P DIP 14	33C	COMP GBC	FIELD	025C	34 / 0 97,920			
7410	GATE	D	H DIP 14	28C	COMP GB	FIELD	025C	6 / 0 115,404			
7410	GATE	D-1	P DIP 14	28C	COMP GBC	FIELD	025C	20 / 0 201,600			
7410	GATE	D-1	P DIP 14	28C	COMP GBC	FIELD	025C	20 / 0 57,600			
7410	GATE	D-1	P DIP 14	43C	DSPY GBC	FIELD	040C	55XPWR: 86771 / 18 112,802,300			

DIGITAL DEVICE DATA

VARIOUS TTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
7410	GATE	D-1 3	P DIP 14 78/79	43C	DSPY GBC	FIELD	040C 55XPWR	92111 / 14 11,974,300			
7410	GATE	NONE 3	N/R DIP 14 77/79	28C	COMP GB	FIELD	025C	41 / 0 788,594			
7410	GATE	NONE 3	N/R DIP 14 77/79	28C	COMP GB	FIELD	025C	72 / 0 1,312,080			
7410	GATE	X 3	P DIP 14 76/78	28C	COMP GBC	FIELD	025C	17 / 0 191,376			
7410	GATE	X 3	P DIP 14 78/78	28C	COMP GBC	FIELD	025C	17 / 0 48,960			
74107	FLIP-FLOP JK	D 16	H DIP 14 77/79	28C	COMP GB	FIELD	025C	12 / 1 230,808	2258/ 1		
74107	FLIP-FLOP JK	D 16	H DIP 14 77/79	35C	COMP GB	FIELD	025C	24 / 0 477,120			
74107	FLIP-FLOP JK	D-1 16	P DIP 14 77/78	50C	DSPY GBC	FIELD	040C 55XPWR	13876 / 1 18,038,800			
74107	FLIP-FLOP JK	D-1 16	P DIP 14 78/79	50C	DSPY GBC	FIELD	040C 55XPWR	20054 / 8 26,070,200			
74107	FLIP-FLOP JK	NONE 16	N/R DIP 14 77/79	35C	COMP GB	FIELD	025C	45 / 0 865,530			
74107	FLIP-FLOP JK	NONE 16	N/R DIP 14 77/79	35C	COMP GB	FIELD	025C	84 / 1 1,669,920	2259/ 1		
74109	FLIP-FLOP JK	D-1 16	P DIP 16 77/78	48C	DSPY GBC	FIELD	040C 55XPWR	6516 / 2 8,470,800			
74109	FLIP-FLOP JK	D-1 16	P DIP 16 78/79	48C	DSPY GBC	FIELD	040C 55XPWR	13167 / 0 17,117,100			
7411	GATE	D-1 3	P DIP 14 77/78	46C	DSPY GBC	FIELD	040C 55XPWR	903 / 0 1,173,900			
7411	GATE	D-1 3	P DIP 14 78/79	46C	DSPY GBC	FIELD	040C 55XPWR	1320 / 0 1,716,000			
7412	GATE	D-1 3	P DIP 14 77/77	34C	COMM GBC	FIELD	030C	2250 / 2 10,174,500			
74121	FLIP-FLOP MONOSTABLE	D 8	H DIP 14 77/79	33C	COMP GB	FIELD	025C	7 / 0 134,638			
74121	FLIP-FLOP MONOSTABLE	D 8	H DIP 14 77/79	33C	COMP GB	FIELD	025C	14 / 0 278,320			
74121	FLIP-FLOP MONOSTABLE	D-1 8	P DIP 14 77/78	50C	DSPY GBC	FIELD	040C 55XPWR	17582 / 4 22,856,600			
74121	FLIP-FLOP MONOSTABLE	D-1 8	P DIP 14 78/79	50C	DSPY GBC	FIELD	040C 55XPWR	26225 / 6 34,092,500			
74121	FLIP-FLOP MONOSTABLE	NONE 8	N/R DIP 14 77/79	35C	COMP GB	FIELD	025C	13 / 0 250,042			
74121	FLIP-FLOP MONOSTABLE	NONE 8	N/R DIP 14 77/79	35C	COMP GB	FIELD	025C	26 / 0 516,880			
74122	FLIP-FLOP MONOSTABLE	D-1 10	P DIP 14 77/78	53C	DSPY GBC	FIELD	040C 55XPWR	8804 / 5 11,445,200			

DIGITAL DEVICE DATA

VARIOUS TTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO./QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
74122	FLIP-FLOP MONOSTABLE	D-1 10	P DIP 14: 78/79	53C	DSPY GBC	FIELD	040C 55XPWR	9839 / 1 12,790,700		
74123	FLIP-FLOP MONOSTABLE	D 20	H DIP 16: 78/79	48C	COMM GF	FIELD	025C	2 / 0 26,000		
74123	FLIP-FLOP MONOSTABLE	D-1 20	P DIP 16: 76/78	48C	COMP GBC	FIELD	025C	20 / 0 201,600		
74123	FLIP-FLOP MONOSTABLE	D-1 20	P DIP 16: 78/78	48C	COMP GBC	FIELD	025C	20 / 0 57,600		
74123	FLIP-FLOP MONOSTABLE	D-1 20	P DIP 16: 77/78	48C	DSPY GBC	FIELD	040C 55XPWR	13 / 0 16,900		
74123	FLIP-FLOP MONOSTABLE	D-1 20	P DIP 16: 78/79	48C	DSPY GBC	FIELD	040C 55XPWR	14 / 0 18,200		
74123	FLIP-FLOP MONOSTABLE	X 20	P DIP 16: 76/78	48C	COMP GBC	FIELD	025C	21 / 0 194,112		
74123	FLIP-FLOP MONOSTABLE	X 20	P DIP 16: 78/78	48C	COMP GBC	FIELD	025C	21 / 0 60,480		
74125	BUFFER	D-1 4	P DIP 14: 76/78	43C	COMP GBC	FIELD	025C	10 / 0 100,800		
74125	BUFFER	D-1 4	P DIP 14: 78/78	43C	COMP GBC	FIELD	025C	10 / 0 28,800		
74125	BUFFER	D-1 4	P DIP 14: 77/78	58C	DSPY GBC	FIELD	040C 55XPWR	116 / 0 150,800		
74125	BUFFER	D-1 4	P DIP 14: 78/79	58C	DSPY GBC	FIELD	040C 55XPWR	106 / 0 137,800		
7413	GATE SCHMITT TRIGGER	D-1 2	P DIP 14: 77/78	49C	DSPY GBC	FIELD	040C 55XPWR	28537 / 15 37,098,100		
7413	GATE SCHMITT TRIGGER	D-1 2	P DIP 14: 78/79	49C	DSPY GBC	FIELD	040C 55XPWR	31620 / 10 41,106,000		
74148	ENCODER	D-1 29	P DIP 16: 76/78	44C	COMP GBC	FIELD	025C	6 / 0 61,440		
74148	ENCODER	D-1 29	P DIP 16: 76/78	44C	COMP GBC	FIELD	025C	6 / 0 62,400		
74148	ENCODER	D-1 29	P DIP 16: 76/78	44C	COMP GBC	FIELD	025C	3 / 0 16,632		
74148	ENCODER	D-1 29	P DIP 16: 78/78	44C	COMP GBC	FIELD	025C	6 / 0 17,280		
74148	ENCODER	D-1 29	P DIP 16: 78/78	44C	COMP GBC	FIELD	025C	6 / 0 17,280		
74148	ENCODER	D-1 29	P DIP 16: 78/78	44C	COMP GBC	FIELD	025C	3 / 0 8,640		
74150	MULTIPLEXER	D-1 26	P DIP 24: 77/79	39C	COMP GB	FIELD	025C	12 / 1 230,808	2260/ 1	
74150	MULTIPLEXER	D-1 26	P DIP 24: 77/79	39C	COMP GB	FIELD	025C	24 / 0 477,120		
74150	MULTIPLEXER	D-1 26	P DIP 24: 77/78	54C	DSPY GBC	FIELD	040C 55XPWR	24265 / 9 31,544,500		

DIGITAL DEVICE DATA

VARIOUS TTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT. # TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /OTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
74150	MULTIPLEXER	D-1 26	P DIP 24 78/79	54C	DSPY GBC	FIELD	040C 55XPWR	28352 / 10 36,857,600			
74151	MULTIPLEXER	D-1 17	P DIP 16 77/78	54C	DSPY GBC	FIELD	040C 55XPWR	14188 / 6 18,444,400			
74151	MULTIPLEXER	D-1 17	P DIP 16 78/79	54C	DSPY GBC	FIELD	040C 55XPWR	18809 / 3 24,451,700			
74151	MULTIPLEXER	NONE 17	N/R DIP 16 77/79	39C	COMP GB	FIELD	025C	10 / 0 192,340			
74151	MULTIPLEXER	NONE 17	N/R DIP 16 77/79	39C	COMP GB	FIELD	025C	20 / 1 397,600	2261/ 1		
74153	MULTIPLEXER	D 16	H DIP 16 77/79	43C	COMP GB	FIELD	025C	7 / 0 134,638			
74153	MULTIPLEXER	D 16	H DIP 16 77/79	43C	COMP GB	FIELD	025C	14 / 0 278,320			
74153	MULTIPLEXER	D-1 16	P DIP 16 76/78	43C	COMP GBC	FIELD	025C	20 / 0 201,600			
74153	MULTIPLEXER	D-1 16	P DIP 16 78/78	43C	COMP GBC	FIELD	025C	20 / 0 57,600			
74153	MULTIPLEXER	D-1 16	P DIP 16 77/78	58C	DSPY GBC	FIELD	040C 55XPWR	5386 / 0 7,001,900			
74153	MULTIPLEXER	D-1 16	P DIP 16 78/79	58C	DSPY GBC	FIELD	040C 55XPWR	9050 / 1 11,65,000			
74153	MULTIPLEXER	NONE 16	N/R DIP 16 77/79	43C	COMP GB	FIELD	025C	3 / 0 57,702			
74153	MULTIPLEXER	NONE 16	N/R DIP 16 77/79	43C	COMP GB	FIELD	025C	6 / 0 119,280			
74154	DECODER/DEMUTIPLEX	D-1 25	P DIP 24 77/79	37C	COMP GB	FIELD	025C	11 / 0 211,574			
74154	DECODER/DEMUTIPLEX	D-1 25	P DIP 24 77/79	37C	COMP GB	FIELD	025C	22 / 0 437,360			
74154	DECODER/DEMUTIPLEX	NONE 25	N/R DIP 24 77/78	52C	DSPY GBC	FIELD	040C 55XPWR	21582 / 4 28,056,600			
74154	DECODER/DEMUTIPLEX	NONE 25	N/R DIP 24 78/79	52C	DSPY GBC	FIELD	040C 55XPWR	29993 / 5 38,990,900			
74155	DECODER/DEMUTIPLEX	NONE 15	N/R DIP 16 77/79	37C	COMP GB	FIELD	025C	7 / 1 134,638	2262/ 1		
74155	DECODER/DEMUTIPLEX	NONE 15	N/R DIP 16 77/79	37C	COMP GB	FIELD	025C	14 / 0 278,320			
74155	DECODER/DEMUTIPLEX	X 15	P DIP 16 76/78	37C	COMP GBC	FIELD	025C	17 / 0 191,376			
74155	DECODER/DEMUTIPLEX	X 15	P DIP 16 78/78	37C	COMP GBC	FIELD	025C	17 / 0 48,960			
74157	MULTIPLEXER	X 19	P DIP 16 76/78	40C	COMP GBC	FIELD	025C	51 / 0 574,128			
74157	MULTIPLEXER	X 19	P DIP 16 78/78	40C	COMP GBC	FIELD	025C	51 / 0 146,880			

DIGITAL DEVICE DATA

VARIOUS TTL		:MANUFACTURER : :OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
: PART NO. :	: DEVICE FUNCTION :	: SCR. CLASS :	: PACKAGE/ PINS :	: JCT.* TEMP. :	: EQUIP. TYPE :	: DATA CLASS. :	: STRESS LEVEL :	: #TESTED/ #FAILED :	: MFEF REPORT NO. /QTY FAILED :		
:	: CIRCUIT FUNCTION :	: NO. GATES :	: TEST DATE :	:	: APPL. ENV. :	: TEST TYPE :	:	: PART HOURS :			
: 74163 :	: COUNTER :	: D-1 :	: P DIP 16 :	: 70C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 2740 / 0 :			
:	: BINARY :	: 58 :	: 77/78 :	:	: GBC :	:	:	: 3,562,000 :			
: 74163 :	: COUNTER :	: D-1 :	: P DIP 16 :	: 70C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 6673 / 1 :			
:	: BINARY :	: 58 :	: 78/79 :	:	: GBC :	:	:	: 8,674,900 :			
: 74164 :	: SHIPT REC :	: D-1 :	: P DIP 14 :	: 58C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 3314 / 2 :			
:	:	: 36 :	: 77/78 :	:	: GBC :	:	:	: 4,308,200 :			
: 74164 :	: SHIPT REC :	: D-1 :	: P DIP 14 :	: 58C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 5347 / 4 :			
:	:	: 36 :	: 78/79 :	:	: GBC :	:	:	: 6,951,100 :			
: 74165 :	: SHIPT REC :	: D-1 :	: P DIP 16 :	: 61C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 5946 / 0 :			
:	:	: 62 :	: 77/78 :	:	: GBC :	:	:	: 77,298,000 :			
: 74165 :	: SHIPT REC :	: D-1 :	: P DIP 16 :	: 61C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 15365 / 2 :			
:	:	: 62 :	: 78/79 :	:	: GBC :	:	:	: 19,974,500 :			
: 74170 :	: REGISTER :	: D :	: H DIP 16 :	: 97C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 955 / 0 :			
:	:	: 98 :	: 77/78 :	:	: GBC :	:	:	: 1,241,500 :			
: 74170 :	: REGISTER :	: D :	: H DIP 16 :	: 97C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 2968 / 0 :			
:	:	: 98 :	: 78/79 :	:	: GBC :	:	:	: 3,858,400 :			
: 74173 :	: FLIP-FLOP :	: D-1 :	: P DIP 16 :	: 45C :	: COMB :	: FIELD :	: 020C :	: 12 / 2 :	: 2318 / 2 :		
:	: D :	: 45 :	: 77/78 :	:	: GBC :	:	:	: 135,156 :			
: 74173 :	: FLIP-FLOP :	: D-1 :	: P DIP 16 :	: 65C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 4674 / 1 :			
:	: D :	: 45 :	: 77/78 :	:	: GBC :	:	:	: 6,076,200 :			
: 74173 :	: FLIP-FLOP :	: D-1 :	: P DIP 16 :	: 65C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 9214 / 1 :			
:	: D :	: 45 :	: 78/79 :	:	: GBC :	:	:	: 11,978,200 :			
: 74174 :	: FLIP-FLOP :	: D-1 :	: P DIP 16 :	: 48C :	: COMP :	: FIELD :	: 025C :	: 1 / 0 :			
:	: D :	: 36 :	: 77/79 :	:	: GB :	:	:	: 19,234 :			
: 74174 :	: FLIP-FLOP :	: D-1 :	: P DIP 16 :	: 48C :	: COMP :	: FIELD :	: 025C :	: 2 / 0 :			
:	: D :	: 36 :	: 77/79 :	:	: GB :	:	:	: 39,760 :			
: 74174 :	: FLIP-FLOP :	: D-1 :	: P DIP 16 :	: 53C :	: COMP :	: FIELD :	: 030C :	: 2250 / 7 :			
:	: D :	: 36 :	: 77/77 :	:	: GBC :	:	:	: 10,174,500 :			
: 74174 :	: FLIP-FLOP :	: D-1 :	: P DIP 16 :	: 63C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 22802 / 22 :			
:	: D :	: 36 :	: 77/78 :	:	: GBC :	:	:	: 29,642,600 :			
: 74174 :	: FLIP-FLOP :	: D-1 :	: P DIP 16 :	: 63C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 31694 / 8 :			
:	: D :	: 36 :	: 78/79 :	:	: GBC :	:	:	: 41,202,200 :			
: 74175 :	: FLIP-FLOP :	: D-1 :	: P DIP 16 :	: 40C :	: COMP :	: FIELD :	: 025C :	: 1 / 0 :			
:	: D :	: 24 :	: 77/79 :	:	: GB :	:	:	: 19,234 :			
: 74175 :	: FLIP-FLOP :	: D-1 :	: P DIP 16 :	: 40C :	: COMP :	: FIELD :	: 025C :	: 2 / 0 :			
:	: D :	: 24 :	: 77/79 :	:	: GB :	:	:	: 39,760 :			
: 74175 :	: FLIP-FLOP :	: D-1 :	: P DIP 16 :	: 40C :	: COMP :	: FIELD :	: 025C :	: 3 / 0 :			
:	: D :	: 24 :	: 76/78 :	:	: GBC :	:	:	: 31,104 :			
: 74175 :	: FLIP-FLOP :	: D-1 :	: P DIP 16 :	: 40C :	: COMP :	: FIELD :	: 025C :	: 3 / 0 :			
:	: D :	: 24 :	: 76/78 :	:	: GBC :	:	:	: 16,632 :			
: 74175 :	: FLIP-FLOP :	: D-1 :	: P DIP 16 :	: 40C :	: COMP :	: FIELD :	: 025C :	: 30 / 1 :			
:	: D :	: 24 :	: 76/78 :	:	: GBC :	:	:	: 302,400 :			
: 74175 :	: FLIP-FLOP :	: D-1 :	: P DIP 16 :	: 40C :	: COMP :	: FIELD :	: 025C :	: 3 / 0 :			
:	: D :	: 24 :	: 78/78 :	:	: GBC :	:	:	: 8,640 :			
: 74175 :	: FLIP-FLOP :	: D-1 :	: P DIP 16 :	: 40C :	: COMP :	: FIELD :	: 025C :	: 3 / 0 :			
:	: D :	: 24 :	: 78/78 :	:	: GBC :	:	:	: 8,640 :			

DIGITAL DEVICE DATA

VARIOUS
TTL

MANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT. TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
74175	FLIP-FLOP D	D-1 24	P DIP 16: 78/78	40C	COMP GBC	FIELD	025C	30 / 0 86,400	
74175	FLIP-FLOP D	X 24	P DIP 16: 76/78	40C	COMP GBC	FIELD	025C	17 / 0 191,376	
74175	FLIP-FLOP D	X 24	P DIP 16: 78/78	40C	COMP GBC	FIELD	025C	17 / 0 48,960	
74180	GENERATOR	D 14	H DIP 14: 77/79	42C	COMP GB	FIELD	025C	11 / 0 211,574	
74180	GENERATOR	D 14	H DIP 14: 77/79	42C	COMP GB	FIELD	025C	22 / 0 437,360	
74180	GENERATOR	NONE 14	N/R DIP 14: 77/79	42C	COMP GB	FIELD	025C	5 / 0 96,170	
74180	GENERATOR	NONE 14	N/R DIP 14: 77/79	42C	COMP GB	FIELD	025C	10 / 0 198,800	
74181	LOGIC UNIT ARITHMETIC	D 63	H DIP 24: 77/79	57C	COMP GB	FIELD	025C	4 / 0 76,936	
74181	LOGIC UNIT ARITHMETIC	D-1 63	P DIP 24: 77/79	57C	COMP GB	FIELD	025C	4 / 0 76,936	
74181	LOGIC UNIT ARITHMETIC	D-1 63	P DIP 24: 77/79	57C	COMP GB	FIELD	025C	8 / 0 159,040	
74181	LOGIC UNIT ARITHMETIC	D-1 63	P DIP 24: 77/78	72C	DSPY GBC	FIELD	040C 55XPWR	1573 / 0 2,044,900	
74181	LOGIC UNIT ARITHMETIC	D-1 63	P DIP 24: 78/79	72C	DSPY GBC	FIELD	040C 55XPWR	1644 / 0 2,137,200	
74182	GENERATOR	D 19	H DIP 16: 77/79	41C	COMP GB	FIELD	025C	2 / 0 38,468	
74182	GENERATOR	D 19	H DIP 16: 77/79	41C	COMP GB	FIELD	025C	4 / 0 79,520	
74182	GENERATOR	D-1 19	P DIP 16: 77/78	58C	DSPY GBC	FIELD	040C 55XPWR	4 / 0 5,200	
74190	COUNTER BCD	D-1 62	P DIP 16: 77/79	58C	COMP GB	FIELD	025C	1 / 0 19,234	
74190	COUNTER BCD	D-1 62	P DIP 16: 77/79	58C	COMP GB	FIELD	025C	2 / 0 39,760	
74191	COUNTER BINARY	D-1 60	P DIP 16: 77/79	58C	COMP GB	FIELD	025C	2 / 0 38,468	
74191	COUNTER BINARY	D-1 60	P DIP 16: 77/79	58C	COMP GB	FIELD	025C	4 / 0 79,520	
74192	COUNTER VOLTAGE	D-1 50	P DIP 16: 77/78	73C	DSPY GBC	FIELD	040C 55XPWR	20897 / 3 27,166,100	
74192	COUNTER VOLTAGE	D-1 50	P DIP 16: 78/79	73C	DSPY GBC	FIELD	040C 55XPWR	33522 / 7 43,578,600	
74193	COUNTER BINARY	D 48	H DIP 16: 77/79	55C	COMP GB	FIELD	025C	48 / 0 923,232	
74193	COUNTER BINARY	D 48	H DIP 16: 77/79	55C	COMP GB	FIELD	025C	96 / 0 1,908,480	

DIGITAL DEVICE DATA

VARIOUS TTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER						
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT. TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO. / QTY FAILED			
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS				
74193	COUNTER BINARY	D-1 48	P DIP 16: 77/78	73C	DSPY GBC	FIELD	040C 55XPWR	8869 / 5 11,529,700				
74193	COUNTER BINARY	D-1 48	P DIP 16: 78/79	73C	DSPY GBC	FIELD	040C 55XPWR	5488 / 1 7,134,400				
74193	COUNTER BINARY	D-1 48	P DIP 16: 76/78	58C	COMP GRC	FIELD	025C	6 / 0 33,264				
74193	COUNTER BINARY	D-1 48	P DIP 16: 78/78	58C	COMP GBC	FIELD	025C	6 / 0 17,280				
74193	COUNTER BINARY	NONE 48	N/R DIP 16: 77/79	58C	COMP GB	FIELD	025C	7 / 0 134,638				
74193	COUNTER BINARY	NONE 48	N/R DIP 16: 77/79	58C	COMP GB	FIELD	025C	14 / 0 278,320				
7420	GATE	D 2	H DIP 14: 77/79	27C	COMP GB	FIELD	025C	19 / 0 365,446				
7420	GATE	D 2	H DIP 14: 77/79	27C	COMP GB	FIELD	025C	28 / 4 556,640	2263 / 1			
7420	GATE	D-1 2	P DIP 14: 76/78	27C	COMP GBC	FIELD	025C	10 / 0 100,800				
7420	GATE	D-1 2	P DIP 14: 78/78	27C	COMP GBC	FIELD	025C	10 / 0 28,800				
7420	GATE	D-1 2	P DIP 14: 77/78	42C	DSPY GBC	FIELD	040C 55XPWR	45567 / 13 59,237,100				
7420	GATE	D-1 2	P DIP 14: 78/79	42C	DSPY GBC	FIELD	040C 55XPWR	48495 / 11 63,043,500				
7420	GATE	NONE 2	N/R DIP 14: 77/79	27C	COMP GB	FIELD	025C	11 / 0 19,234				
7420	GATE	NONE 2	N/R DIP 14: 77/79	27C	COMP GB	FIELD	025C	26 / 0 516,880				
7423	GATE EXPANDABLE	D-1 2	P DIP 16: 77/78	45C	DSPY GBC	FIELD	040C 55XPWR	8711 / 3 11,324,300				
7423	GATE EXPANDABLE	D-1 2	P DIP 16: 78/79	45C	DSPY GBC	FIELD	040C 55XPWR	12893 / 4 16,760,900				
7425	GATE	D-1 2	P DIP 14: 77/78	45C	DSPY GBC	FIELD	040C 55XPWR	21477 / 14 27,920,100				
7425	GATE	D-1 2	P DIP 14: 78/79	45C	DSPY GBC	FIELD	040C 55XPWR	24199 / 3 31,458,700				
74251	MULTIPLEXER	D-1 17	P DIP 16: 76/78	42C	COMP GBC	FIELD	025C	10 / 0 100,800				
74251	MULTIPLEXER	D-1 17	P DIP 16: 78/78	42C	COMP GBC	FIELD	025C	10 / 0 28,800				
74259	LATCH ADDRESSABLE	D-1 59	P DIP 16: 76/78	54C	COMP GBC	FIELD	025C	9 / 0 92,160				
74259	LATCH ADDRESSABLE	D-1 59	P DIP 16: 76/78	54C	COMP GBC	FIELD	025C	6 / 0 62,208				
74259	LATCH ADDRESSABLE	D-1 59	P DIP 16: 78/78	54C	COMP GBC	FIELD	025C	9 / 0 25,920				

DIGITAL DEVICE DATA

VARIOUS TTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFFF REPORT NO./ OTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
74259	LATCH ADDRESSABLE	D-1 59	P DIP 78/78	16 54C	COMP GRC	FIELD	025C	6 / 0 17,280		
7427	GATE	D-1 3	P DIP 76/78	14 32C	COMP GRC	FIELD	025C	3 / 0 16,632		
7427	GATE	D-1 3	P DIP 78/78	14 32C	COMP GRC	FIELD	025C	3 / 0 8,640		
7427	GATE	D-1 3	P DIP 77/78	14 47C	DSPY GRC	FIELD	040C 55XPWR	15819 / 8 20,564,700		
7427	GATE	D-1 3	P DIP 78/79	14 47C	DSPY GRC	FIELD	040C 55XPWR	23138 / 3 30,079,400		
74279	LATCH RS	D-1 8	P DIP 76/78	16 35C	COMP GRC	FIELD	025C	3 / 0 31,104		
74279	LATCH RS	D-1 8	P DIP 78/78	16 35C	COMP GRC	FIELD	025C	3 / 0 8,640		
7428	BUFFER	D-1 4	P DIP 77/77	14 42C	COMM GRC	FIELD	030C	2250 / 14 10,174,500		
7428	BUFFER	D-1 4	P DIP 77/78	14 52C	DSPY GRC	FIELD	040C 55XPWR	159 / 0 206,700		
7428	BUFFER	D-1 4	P DIP 78/79	14 52C	DSPY GRC	FIELD	040C 55XPWR	315 / 0 409,500		
74298	MULTIPLEXER	D-1 51	P DIP 76/78	16 45C	COMP GRC	FIELD	025C	3 / 0 30,720		
74298	MULTIPLEXER	D-1 51	P DIP 76/78	16 45C	COMP GRC	FIELD	025C	9 / 0 93,600		
74298	MULTIPLEXER	D-1 51	P DIP 78/78	16 45C	COMP GRC	FIELD	025C	3 / 0 8,640		
74298	MULTIPLEXER	D-1 51	P DIP 78/78	16 45C	COMP GRC	FIELD	025C	9 / 0 25,920		
7430	GATE	D 1	H DIP 77/79	14 26C	COMP GB	FIELD	025C	1 / 0 19,234		
7430	GATE	D-1 1	P DIP 77/78	14 41C	DSPY GRC	FIELD	040C 55XPWR	48657 / 10 63,254,100		
7430	GATE	D-1 1	P DIP 78/79	14 41C	DSPY GRC	FIELD	040C 55XPWR	57288 / 18 74,474,400		
7430	GATE	NONE 1	N/R DIP 77/79	14 26C	COMP GB	FIELD	025C	56 / 0 1,077,104		
7430	GATE	NONE 1	N/R DIP 77/79	14 26C	COMP GB	FIELD	025C	110 / 0 2,186,800		
7430	GATE	X 1	P DIP 76/78	14 26C	COMP GRC	FIELD	025C	17 / 0 191,376		
7430	GATE	X 1	P DIP 78/78	14 26C	COMP GRC	FIELD	025C	17 / 0 48,960		
7432	GATE	D-1 4	P DIP 76/78	14 35C	COMP GRC	FIELD	025C	30 / 0 302,400		
7432	GATE	D-1 4	P DIP 78/78	14 35C	COMP GRC	FIELD	025C	30 / 0 86,400		

DIGITAL DEVICE DATA

VARIOUS TTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO. /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
7432	GATE	D-1 4	P DIP 14 77/78	50C	DSPY GBC	FIELD	040C 55XPWR	46764 / 9 60,793,200			
7432	GATE	D-1 4	P DIP 14 78/79	50C	DSPY GBC	FIELD	040C 55XPWR	59316 / 7 77,110,800			
7433	BUFFER	D-1 4	P DIP 14 76/78	35C	COMP GBC	FIELD	025C	3 / 0 16,632			
74367	INTERFACE BUS DRIVER	D-1 8	P DIP 16 78/79	70C	DSPY GBC	FIELD	040C 55XPWR	4294 / 2 5,582,200			
74367	INTERFACE BUS DRIVER	D-1 8	P DIP 16 76/78	58C	COMP GBC	FIELD	025C	18 / 0 184,320			
74367	INTERFACE BUS DRIVER	D-1 8	P DIP 16 76/78	58C	COMP GBC	FIELD	025C	21 / 0 218,400			
74367	INTERFACE BUS DRIVER	D-1 8	P DIP 16 76/78	58C	COMP GBC	FIELD	025C	6 / 0 62,208			
74367	INTERFACE BUS DRIVER	D-1 8	P DIP 16 76/78	58C	COMP GBC	FIELD	025C	20 / 0 201,600			
74367	INTERFACE BUS DRIVER	D-1 8	P DIP 16 78/78	58C	COMP GBC	FIELD	025C	18 / 0 51,840			
74367	INTERFACE BUS DRIVER	D-1 8	P DIP 16 78/78	58C	COMP GBC	FIELD	025C	21 / 0 60,480			
74367	INTERFACE BUS DRIVER	D-1 8	P DIP 16 78/78	58C	COMP GBC	FIELD	025C	6 / 0 17,280			
74367	INTERFACE BUS DRIVER	D-1 8	P DIP 16 78/78	58C	COMP GBC	FIELD	025C	20 / 0 57,600			
74368	INTERFACE BUS DRIVER	D-1 8	P DIP 16 77/78	70C	DSPY GBC	FIELD	040C 55XPWR	2111 / 0 2,744,300			
74368	INTERFACE BUS DRIVER	D-1 8	P DIP 16 78/79	70C	DSPY GBC	FIELD	040C 55XPWR	10771 / 0 14,002,300			
74368	INTERFACE BUS DRIVER	D-1 8	P DIP 16 76/78	55C	COMP GBC	FIELD	025C	3 / 0 31,200			
74368	INTERFACE BUS DRIVER	D-1 8	P DIP 16 76/78	55C	COMP GBC	FIELD	025C	9 / 0 93,312			
74368	INTERFACE BUS DRIVER	D-1 8	P DIP 16 78/78	55C	COMP GBC	FIELD	025C	3 / 0 8,640			
74368	INTERFACE BUS DRIVER	D-1 8	P DIP 16 78/78	55C	COMP GBC	FIELD	025C	9 / 0 25,920			
7437	BUFFER	D-1 4	P DIP 14 77/78	32C	COMP GBC	FIELD	020C	6 / 0 67,578			
7438	BUFFER	D-1 4	P DIP 14 76/78	36C	COMP GBC	FIELD	025C	3 / 0 30,720			
7438	BUFFER	D-1 4	P DIP 14 76/78	36C	COMP GBC	FIELD	025C	30 / 0 302,400			
7438	BUFFER	D-1 4	P DIP 14 78/78	36C	COMP GBC	FIELD	025C	3 / 0 8,640			
7438	BUFFER	D-1 4	P DIP 14 78/78	36C	COMP GBC	FIELD	025C	30 / 0 86,400			

DIGITAL DEVICE DATA

VARIOUS TTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
7438	BUFFER	D-1 4	P DIP 14 77/77	41C	COMM GBC	FIELD	030C	15750 / 41 71,221,500		
7438	BUFFER	D-1 4	P DIP 14 77/78	51C	DSPY GBC	FIELD	040C 55XPWR	51872 / 29 67,433,600		
7438	BUFFER	D-1 4	P DIP 14 78/79	51C	DSPY GBC	FIELD	040C 55XPWR	75879 / 34 98,642,700		
7440	BUFFER	D 2	H DIP 14 77/79	30C	COMP GB	FIELD	025C	1 / 0 19,234		
7440	BUFFER	D 2	H DIP 14 77/79	30C	COMP GB	FIELD	025C	2 / 0 30,760		
7440	BUFFER	D-1 2	P DIP 14 77/78	46C	DSPY GBC	FIELD	040C 55XPWR	8971 / 0 11,662,300		
7440	BUFFER	D-1 2	P DIP 14 78/79	46C	DSPY GBC	FIELD	040C 55XPWR	7593 / 1 9,870,900		
7440	BUFFER	NONE 2	N/R DIP 14 77/79	31C	COMP GB	FIELD	025C	41 / 0 786,594		
7440	BUFFER	NONE 2	N/R DIP 14 77/79	31C	COMP GB	FIELD	025C	4 / 0 79,520		
7441	INTERFACE DECODER/DRIVER	D-1 N/R	P DIP 16 77/78	53C	DSPY GBC	FIELD	040C 55XPWR	1330 / 0 1,729,000		
7441	INTERFACE DECODER/DRIVER	D-1 N/R	P DIP 16 78/79	53C	DSPY GBC	FIELD	040C 55XPWR	1375 / 30 1,787,500		
7442	DECODER BCD/DECIMAL	D 18	H DIP 16 77/79	38C	COMP GB	FIELD	025C	5 / 0 96,170		
7442	DECODER BCD/DECIMAL	D 18	H DIP 16 77/79	38C	COMP GB	FIELD	025C	10 / 0 198,800		
7442	DECODER BCD/DECIMAL	D-1 18	P DIP 16 77/78	34C	COMB GBC	FIELD	020C	6 / 0 67,578		
7442	DECODER BCD/DECIMAL	D-1 18	P DIP 16 77/78	54C	DSPY GBC	FIELD	040C 55XPWR	43696 / 20 56,804,800		
7442	DECODER BCD/DECIMAL	D-1 18	P DIP 16 78/79	54C	DSPY GBC	FIELD	040C 55XPWR	47152 / 20 61,297,600		
7442	DECODER BCD/DECIMAL	NONE 18	N/R DIP 16 77/79	39C	COMP GB	FIELD	025C	2 / 0 38,468		
7442	DECODER BCD/DECIMAL	NONE 18	N/R DIP 16 77/79	39C	COMP GB	FIELD	025C	4 / 0 79,520		
7442	DECODER BCD/DECIMAL	X 18	P DIP 16 78/78	39C	COMP GBC	FIELD	025C	10 / 0 28,800		
7445	INTERFACE DECODER/DRIVER	D 18	H DIP 16 77/79	44C	COMP GB	FIELD	025C	40 / 0 769,360		
7445	INTERFACE DECODER/DRIVER	D 18	H DIP 16 77/79	44C	COMP GB	FIELD	025C	80 / 0 1,590,400		
7445	INTERFACE DECODER/DRIVER	D-1 18	P DIP 16 77/79	46C	COMP GB	FIELD	025C	3 / 0 57,702		
7445	INTERFACE DECODER/DRIVER	D-1 18	P DIP 16 77/79	46C	COMP GB	FIELD	025C	6 / 0 119,280		

DIGITAL DEVICE DATA

VARIOUS TTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
7445	INTERFACE DECODER/DRIVER	D-1 18	P DIP 76/78	16: 46C	COMP GBC	FIELD	025C	20 / 0 201,600			
7445	INTERFACE DECODER/DRIVER	D-1 18	P DIP 78/78	16: 46C	COMP GBC	FIELD	025C	20 / 0 57,600			
7450	GATE EXPANDABLE	D-1 6	P DIP 77/78	14: 43C	DSPY GBC	FIELD	040C 55ZPWR:	15684 / 5 20,389,200			
7450	GATE EXPANDABLE	D-1 6	P DIP 78/79	14: 43C	DSPY GBC	FIELD	040C 55ZPWR:	17650 / 4 22,945,000			
7451	GATE	D 6	H DIP 77/79	14: 28C	COMP GB	FIELD	025C	7 / 0 134,638			
7451	GATE	D-1 6	P DIP 76/78	14: 28C	COMP GBC	FIELD	025C	20 / 0 201,600			
7451	GATE	D-1 6	P DIP 78/78	14: 28C	COMP GBC	FIELD	025C	20 / 0 57,600			
7451	GATE	D-1 6	P DIP 77/78	14: 43C	DSPY GBC	FIELD	040C 55ZPWR:	14640 / 3 19,032,000			
7451	GATE	D-1 6	P DIP 78/79	14: 43C	DSPY GBC	FIELD	040C 55ZPWR:	12693 / 0 16,500,900			
7451	GATE	NONE 6	N/R DIP 77/79	14: 28C	COMP GB	FIELD	025C	187 / 0 3,596,758			
7451	GATE	NONE 6	N/R DIP 77/79	14: 28C	COMP GB	FIELD	025C	327 / 0 7,395,360			
7453	GATE EXPANDABLE	D-1 5	P DIP 77/78	14: 43C	DSPY GBC	FIELD	040C 55ZPWR:	7761 / 0 10,089,300			
7453	GATE EXPANDABLE	D-1 5	P DIP 78/79	14: 43C	DSPY GBC	FIELD	040C 55ZPWR:	8032 / 1 10,441,600			
7454	GATE	D-1 5	P DIP 77/78	14: 43C	DSPY GBC	FIELD	040C 55ZPWR:	10610 / 0 13,793,000			
7454	GATE	D-1 5	P DIP 78/79	14: 43C	DSPY GBC	FIELD	040C 55ZPWR:	11100 / 4 14,430,000			
7472	FLIP-FLOP JK	D-1 8	P DIP 77/79	14: 31C	COMP GB	FIELD	025C	10 / 0 198,800			
7472	FLIP-FLOP JK	D-1 8	P DIP 77/79	14: 31C	COMP GB	FIELD	025C	8 / 0 159,040			
7472	FLIP-FLOP JK	NONE 8	N/R DIP 77/79	14: 31C	COMP GB	FIELD	025C	6 / 0 115,404			
7472	FLIP-FLOP JK	NONE 8	N/R DIP 77/79	14: 31C	COMP GB	FIELD	025C	12 / 0 238,560			
7473	FLIP-FLOP JK	D 16	H DIP 77/79	14: 35C	COMP GB	FIELD	025C	18 / 0 346,212			
7473	FLIP-FLOP JK	D 16	H DIP 77/79	14: 35C	COMP GB	FIELD	025C	3 / 0 57,702			
7473	FLIP-FLOP JK	D 16	H DIP 77/79	14: 35C	COMP GB	FIELD	025C	4 / 0 79,520			
7473	FLIP-FLOP JK	D-1 16	P DIP 77/78	14: 50C	DSPY GBC	FIELD	040C 55ZPWR:	32148 / 10 41,792,400			

DIGITAL DEVICE DATA

VARIOUS TTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /OTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
7473	FLIP-FLOP JK	D-1 16	P DIP 14: 78/79	50C	DSPY GBC	FIELD	040C 55XPWR	26011 / 5	33,814,300		
7473	FLIP-FLOP JK	NONE 16	N/R DIP 14: 77/79	35C	COMP GB	FIELD	025C	38 / 0	730,892		
7473	FLIP-FLOP JK	NONE 16	N/R DIP 14: 77/79	35C	COMP GB	FIELD	025C	76 / 0	1,510,880		
7474	FLIP-FLOP D	D 12	H DIP 14: 77/79	35C	COMP GB	FIELD	025C	60 / 0	115,404		
7474	FLIP-FLOP D	D 12	H DIP 14: 77/79	35C	COMP GB	FIELD	025C	120 / 0	2,385,600		
7474	FLIP-FLOP D	D-1 12	P DIP 14: 76/78	35C	COMP GBC	FIELD	025C	3 / 0	31,200		
7474	FLIP-FLOP D	D-1 12	P DIP 14: 76/78	35C	COMP GBC	FIELD	025C	3 / 1	31,104		
7474	FLIP-FLOP D	D-1 12	P DIP 14: 76/78	35C	COMP GBC	FIELD	025C	70 / 0	705,600		
7474	FLIP-FLOP D	D-1 12	P DIP 14: 78/78	35C	COMP GBC	FIELD	025C	3 / 0	8,640		
7474	FLIP-FLOP D	D-1 12	P DIP 14: 78/78	35C	COMP GBC	FIELD	025C	3 / 0	8,640		
7474	FLIP-FLOP D	D-1 12	P DIP 14: 78/78	35C	COMP GBC	FIELD	025C	70 / 0	201,600		
7474	FLIP-FLOP D	D-1 12	P DIP 14: 77/78	50C	DSPY GBC	FIELD	040C 55XPWR	99999 / 70	218,809,500		
						FIELD		68316 / 0			
7474	FLIP-FLOP D	D-1 12	P DIP 14: 77/78	50C	DSPY GBC	FIELD	040C 55XPWR	15578 / 0	20,251,400		
7474	FLIP-FLOP D	D-1 12	P DIP 14: 78/79	50C	DSPY GBC	FIELD	040C 55XPWR	99999 / 72	246,567,100		
						FIELD		89668 / 0			
7474	FLIP-FLOP D	X 12	P DIP 14: 76/78	35C	COMP GBC	FIELD	025C	50 / 0	765,340		
7474	FLIP-FLOP D	X 12	P DIP 14: 76/78	35C	COMP GBC	FIELD	025C	51 / 0	574,128		
7474	FLIP-FLOP D	X 12	P DIP 14: 78/78	35C	COMP GBC	FIELD	025C	50 / 1	144,000		
7474	FLIP-FLOP D	X 12	P DIP 14: 78/78	35C	COMP GBC	FIELD	025C	51 / 0	146,880		
7475	LATCH BISTABLE	D 24	H DIP 16: 77/79	39C	COMP GB	FIELD	025C	8 / 0	153,872		
7475	LATCH BISTABLE	D 24	H DIP 16: 77/79	39C	COMP GB	FIELD	025C	146 / 0	2,902,480		
7475	LATCH BISTABLE	D-1 24	P DIP 16: 77/78	54C	DSPY GBC	FIELD	040C 55XPWR	60987 / 17	79,283,100		

DIGITAL DEVICE DATA

VARIOUS TTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MWFF REPORT NO./QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
7475	LATCH BISTABLE	D-1 24	P DIP 16 78/79	54C	DSPY GBC	FIELD	040C 55XPWR	74108 / 13 96,340,400			
7475	LATCH BISTABLE	NONE 24	N/R DIP 16 77/79	39C	COMP GB	FIELD	025C	4 / 0 76,936			
7475	LATCH BISTABLE	X 24	P DIP 16 76/78	39C	COMP GBC	FIELD	025C	40 / 0 612,272			
7475	LATCH BISTABLE	X 24	P DIP 16 76/78	39C	COMP GBC	FIELD	025C	84 / 0 776,448			
7475	LATCH BISTABLE	X 24	P DIP 16 78/78	39C	COMP GBC	FIELD	025C	40 / 0 115,200			
7475	LATCH BISTABLE	X 24	P DIP 16 78/78	39C	COMP GBC	FIELD	025C	84 / 0 241,920			
7476	FLIP-FLOP JK	D-1 16	P DIP 16 77/78	50C	DSPY GBC	FIELD	040C 55XPWR	19062 / 11 24,780,600			
7476	FLIP-FLOP JK	D-1 16	P DIP 16 78/79	50C	DSPY GBC	FIELD	040C 55XPWR	23180 / 8 30,134,000			
7476	FLIP-FLOP JK	NONE 16	N/R DIP 16 77/79	35C	COMP GB	FIELD	025C	3 / 0 57,702			
7476	FLIP-FLOP JK	NONE 16	N/R DIP 16 77/79	35C	COMP GB	FIELD	025C	6 / 0 119,280			
7483	ADDER FULL	X 36	P DIP 16 76/78	59C	COMP GBC	FIELD	025C	10 / 0 99,168			
7483	ADDER FULL	X 36	P DIP 16 78/78	59C	COMP GBC	FIELD	025C	10 / 0 28,800			
7486	GATE	D-1 4	P DIP 14 77/78	57C	DSPY GBC	FIELD	040C 55XPWR	45968 / 15 59,758,400			
7486	GATE	D-1 4	P DIP 14 78/79	57C	DSPY GBC	FIELD	040C 55XPWR	53602 / 15 69,682,600			
7490/7490A	COUNTER DECADE	NONE 15	N/R DIP 14 77/79	35C	COMP GB	FIELD	025C	2 / 0 38,468			
7490/7490A	COUNTER DECADE	NONE 15	N/R DIP 14 77/79	35C	COMP GB	FIELD	025C	4 / 0 79,520			
7490A	COUNTER DECADE	D-1 15	P DIP 14 77/78	57C	DSPY GBC	FIELD	040C 55XPWR	84488 / 30 10,983,440			
7490A	COUNTER DECADE	D-1 15	P DIP 14 78/79	57C	DSPY GBC	FIELD	040C 55XPWR	99999 / 25 134,313,400			
						FIELD		3319 / 0			
7493	COUNTER BINARY	D 25	H DIP 14 77/79	41C	COMP GB	FIELD	025C	11 / 0 211,574			
7493	COUNTER BINARY	D 25	H DIP 14 77/79	41C	COMP GB	FIELD	025C	22 / 0 4,413,360			
7493	COUNTER BINARY	D-1 25	P DIP 14 78/79	71C	COMM AIF	FIELD		100 / 0 30,888			
7493	COUNTER BINARY	D-1 25	P DIP 14 77/78	56C	DSPY GBC	FIELD	040C 55XPWR	34413 / 8 44,736,900			

DIGITAL DEVICE DATA

VARIOUS TTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE			PART HOURS		
7493	COUNTER BINARY	D-1 : 25	P DIP 14 : 78/79	56C	DSPY : GBC	FIELD	040C 55XPWR	39923 / 4	51,899,900		
7493	COUNTER BINARY	NONE : 25	N/R DIP 14 : 77/79	41C	COMP : GB	FIELD	025C	40 / 0	769,360		
7493	COUNTER BINARY	NONE : 25	N/R DIP 14 : 77/79	41C	COMP : GB	FIELD	025C	84 / 1	1,669,920	2264 / 1	
7493	COUNTER BINARY	X : 25	P DIP 14 : 76/78	41C	COMP : GBC	FIELD	025C	17 / 0	191,376		
7493	COUNTER BINARY	X : 25	P DIP 14 : 76/78	41C	COMP : GRC	FIELD	025C	20 / 0	198,336		
7493	COUNTER BINARY	X : 25	P DIP 14 : 78/78	41C	COMP : GBC	FIELD	025C	17 / 0	48,960		
7493	COUNTER BINARY	X : 25	P DIP 14 : 78/78	41C	COMP : GBC	FIELD	025C	20 / 0	57,600		
7494	SHIFT REG	NONE : 48	N/R DIP 16 : 77/79	43C	COMP : GB	FIELD	025C	30 / 0	577,020		
7494	SHIFT REG	NONE : 48	N/R DIP 16 : 77/79	43C	COMP : GB	FIELD	025C	64 / 0	1,272,320		
7495	SHIFT REG	D : 37	H DIP 14 : 77/79	45C	COMP : GB	FIELD	025C	33 / 0	634,722		
7495	SHIFT REG	D : 37	H DIP 14 : 77/79	45C	COMP : GR	FIELD	025C	66 / 1	1,312,080	2265 / 1	
7495	SHIFT REG	NONE : 37	N/R DIP 14 : 77/79	45C	COMP : GB	FIELD	025C	3 / 0	19,234		
7496	SHIFT REG	D : 39	H DIP 16 : 77/79	50C	COMP : GB	FIELD	025C	27 / 0	519,318		
7496	SHIFT REG	D : 39	H DIP 16 : 77/79	50C	COMP : GB	FIELD	025C	54 / 0	1,073,520		
7496	SHIFT REG	D-1 : 39	P DIP 16 : 77/79	50C	COMP : GB	FIELD	025C	20 / 0	384,680		
7496	SHIFT REG	D-1 : 39	P DIP 16 : 77/79	50C	COMP : GB	FIELD	025C	40 / 0	795,200		
7496	SHIFT REG	D-1 : 39	P DIP 16 : 77/78	65C	DSPY : GBC	FIELD	040C 55XPWR	10398 / 10	13,517,400		
7496	SHIFT REG	D-1 : 39	P DIP 16 : 78/79	65C	DSPY : GBC	FIELD	040C 55XPWR	12108 / 9	15,740,400		
7496	SHIFT REG	NONE : 39	N/R DIP 16 : 77/79	50C	COMP : GB	FIELD	025C	23 / 0	442,382		
7496	SHIFT REG	NONE : 39	N/R DIP 16 : 77/79	50C	COMP : GB	FIELD	025C	50 / 0	994,000		
7497	MULTIPLIER BINARY	X : 54	P DIP 16 : 76/78	60C	COMP : GBC	FIELD	025C	10 / 0	153,068		
7497	MULTIPLIER BINARY	X : 54	P DIP 16 : 78/78	60C	COMP : GBC	FIELD	025C	10 / 0	28,800		
8200	SHIFT REG	G-1 : 62	H FPK 24 : 75/78	107C	RADR : AUF	FIELD		1881 / 0	2,144,340		

DIGITAL DEVICE DATA

VARIOUS TTL		:MANUFACTURER : :OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
: PART NO. :	: DEVICE FUNCTION :	: SCR. CLASS :	: PACKAGE/ PINS :	: JCT.* TEMP. :	: EQUIP. TYPE :	: DATA CLASS. :	: STRESS LEVEL :	: #TESTED/ #FAILED :	: MFEF REPORT NO. : : /QTY FAILED :		
:	: CIRCUIT FUNCTION :	: NO. GATES :	: TEST DATE :	:	: APPL. ENV. :	: TEST TYPE :	:	: PART HOURS :			
: 8202 :	: SHIFT REG :	: C-1 :	: H FPK 24 :	: 107C :	: RADR :	: FIELD :	:	: 6402 / 3 :	: 2198/ 1 :		
:	:	: 66 :	: 75/78 :	:	: AUF :	:	:	: 7,296,780 :	:		
:	:	:	:	:	:	:	:	:	: 2199/ 1 :		
:	:	:	:	:	:	:	:	:	: 2200/ 1 :		
: 8233 :	: MULTIPLEXER :	: C-1 :	: H FPK 16 :	: 91C :	: RADR :	: FIELD :	:	: 3729 / 0 :			
:	:	: 14 :	: 75/78 :	:	: AUF :	:	:	: 4,251,060 :			
: 8241 :	: GATE :	: C-1 :	: H FPK 14 :	: 98C :	: RADR :	: FIELD :	:	: 1947 / 0 :			
:	:	: 20 :	: 75/78 :	:	: AUF :	:	:	: 2,219,580 :			
: 8242 :	: GATE :	: X :	: H FPK 14 :	: 46C :	: COMP :	: FIELD :	: 025C :	: 21 / 0 :			
:	:	: 20 :	: 76/78 :	:	: GBC :	:	:	: 194,112 :			
: 8242 :	: GATE :	: X :	: H FPK 14 :	: 46C :	: COMP :	: FIELD :	: 025C :	: 21 / 0 :			
:	:	: 20 :	: 78/78 :	:	: GBC :	:	:	: 60,480 :			
: 8260 :	: LOGIC UNIT :	: C-1 :	: H FPK 24 :	: 107C :	: RADR :	: FIELD :	:	: 264 / 0 :			
:	: ARITHMETIC :	: 56 :	: 75/78 :	:	: AUF :	:	:	: 300,960 :			
: 8260 :	: LOGIC UNIT :	: D-1 :	: P DIP 24 :	: 53C :	: COMP :	: FIELD :	: 025C :	: 21 / 0 :			
:	: ARITHMETIC :	: 56 :	: 76/78 :	:	: GBC :	:	:	: 215,040 :			
: 8260 :	: LOGIC UNIT :	: D-1 :	: P DIP 24 :	: 53C :	: COMP :	: FIELD :	: 025C :	: 21 / 0 :			
:	: ARITHMETIC :	: 56 :	: 78/78 :	:	: GBC :	:	:	: 60,480 :			
: 8263 :	: MULTIPLEXER :	: C-1 :	: H FPK 24 :	: 104C :	: RADR :	: FIELD :	:	: 1353 / 0 :			
:	:	: 34 :	: 75/78 :	:	: AUF :	:	:	: 1,542,420 :			
: 8266 :	: MULTIPLEXER :	: D-1 :	: P DIP 16 :	: 60C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 3421 / 0 :			
:	:	: 18 :	: 77/78 :	:	: GBC :	:	:	: 4,447,300 :			
: 8266 :	: MULTIPLEXER :	: D-1 :	: P DIP 16 :	: 60C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 6094 / 2 :			
:	:	: 18 :	: 78/79 :	:	: GBC :	:	:	: 7,922,200 :			
: 8280 :	: COUNTER :	: D-1 :	: P DIP 14 :	: 57C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 7273 / 2 :			
:	: DECADE :	: 44 :	: 77/78 :	:	: GBC :	:	:	: 9,454,900 :			
: 8280 :	: COUNTER :	: D-1 :	: P DIP 14 :	: 57C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 8368 / 1 :			
:	: DECADE :	: 44 :	: 78/79 :	:	: GBC :	:	:	: 10,878,400 :			
: 8284 :	: COUNTER :	: C-1 :	: H FPK 14 :	: 107C :	: RADR :	: FIELD :	:	: 66 / 0 :			
:	:	: 48 :	: 75/78 :	:	: AUF :	:	:	: 75,240 :			
: 8284 :	: COUNTER :	: C-1 :	: H FPK 14 :	: 107C :	: RADR :	: FIELD :	:	: 2112 / 0 :			
:	:	: 48 :	: 75/78 :	:	: AUF :	:	:	: 2,407,680 :			
: 8307 :	: DECODER :	: D-1 :	: P DIP 16 :	: 57C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 9930 / 13 :			
:	:	: 35 :	: 77/78 :	:	: GBC :	:	:	: 12,909,000 :			
: 8307 :	: DECODER :	: D-1 :	: P DIP 16 :	: 57C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 12392 / 13 :			
:	:	: 35 :	: 78/79 :	:	: GBC :	:	:	: 16,109,600 :			
: 8308 :	: LATCH :	: D-1 :	: P DIP 24 :	: 63C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 28 / 0 :			
:	:	: 56 :	: 77/78 :	:	: GBC :	:	:	: 36,400 :			
: 8308 :	: LATCH :	: D-1 :	: P DIP 24 :	: 63C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 60 / 0 :			
:	:	: 56 :	: 78/79 :	:	: GBC :	:	:	: 78,000 :			
: 8309 :	: MULTIPLEXER :	: D-1 :	: P DIP 16 :	: 55C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 8559 / 0 :			
:	:	: 16 :	: 77/78 :	:	: GBC :	:	:	: 11,126,700 :			
: 8309 :	: MULTIPLEXER :	: D-1 :	: P DIP 16 :	: 55C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 11800 / 5 :			
:	:	: 16 :	: 78/79 :	:	: GBC :	:	:	: 15,340,000 :			

DIGITAL DEVICE DATA

VARIOUS TTL		:MANUFACTURER :OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
: PART NO. :	: DEVICE FUNCTION :	: SCR. CLASS :	: PACKAGE/ PINS :	: JCT.* TEMP. :	: EQUIP. TYPE :	: DATA CLASS. :	: STRESS LEVEL :	: #TESTED/ #FAILED :	:MPEF REPORT NO. : :/QTY FAILED :		
:	: CIRCUIT FUNCTION :	: NO. GATES :	: TEST DATE :	:	: APPL. ENV. :	: TEST TYPE :	:	: PART HOURS :	:	:	
: 8312 :	: MULTIPLEXER :	: D-1 :	: P DIP 16: 77/78 :	: 54C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 4406 / 3 :	:	:	
:	:	: 17 :	:	:	: GBC :	:	:	: 5,727,800:	:	:	
: 8312 :	: MULTIPLEXER :	: D-1 :	: P DIP 16: 78/79 :	: 54C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 4496 / 3 :	:	:	
:	:	: 17 :	:	:	: GBC :	:	:	: 5,844,800:	:	:	
: 8601 :	: FLIP-FLOP MONOSTABLE :	: D-1 :	: P DIP 14: 77/78 :	: 51C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 12232 / 5 :	:	:	
:	:	: 8 :	:	:	: GBC :	:	:	: 15,901,600:	:	:	
: 8601 :	: FLIP-FLOP MONOSTABLE :	: D-1 :	: P DIP 14: 78/79 :	: 51C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 16430 / 4 :	:	:	
:	:	: 8 :	:	:	: GBC :	:	:	: 21,359,000:	:	:	
: 9001 :	: FLIP-FLOP JK :	: D :	: H DIP 14: 78/79 :	: 66C :	: COMM :	: FIELD :	:	: 100 / 0 :	:	:	
:	:	: 10 :	:	:	: AIF :	:	:	: 30,888:	:	:	
: 9016 :	: INVERTER :	: B-2/N :	: H DIP 14: 75/78 :	: 61C :	: RADR :	: FIELD :	:	: 104 / 0 :	:	:	
:	:	: 6 :	:	:	: AUF :	:	:	: 17,148:	:	:	
: 9016 :	: INVERTER :	: B-2/N :	: H DIP 14: 75/78 :	: 76C :	: RADR :	: FIELD :	:	: 58 / 0 :	:	:	
:	:	: 6 :	:	:	: AUF :	:	:	: 13,562:	:	:	
: 9016 :	: INVERTER :	: B-2/N :	: H DIP 14: 75/78 :	: 76C :	: RADR :	: FIELD :	:	: 24 / 0 :	:	:	
:	:	: 6 :	:	:	: AUF :	:	:	: 48:	:	:	
: 9016 :	: INVERTER :	: B-2/N :	: H DIP 14: 75/78 :	: 76C :	: RADR :	: FIELD :	:	: 403 / 2 :	: 2322/ 1 :	:	
:	:	: 6 :	:	:	: AUF :	:	:	: 74,542:	:	:	
:	:	:	:	:	:	:	:	:	: 2323/ 1 :	:	
: 9016 :	: INVERTER :	: B-2/N :	: H DIP 14: 75/78 :	: 76C :	: RADR :	: FIELD :	:	: 578 / 0 :	:	:	
:	:	: 6 :	:	:	: AUF :	:	:	: 59,024:	:	:	
: 9016 :	: INVERTER :	: B-2/N :	: H DIP 14: 75/78 :	: 76C :	: RADR :	: FIELD :	:	: 4278 / 0 :	:	:	
:	:	: 6 :	:	:	: AUF :	:	:	: 924,324:	:	:	
: 9016 :	: INVERTER :	: B-2/N :	: H DIP 14: 75/78 :	: 76C :	: RADR :	: FIELD :	:	: 168 / 0 :	:	:	
:	:	: 6 :	:	:	: AUF :	:	:	: 15,792:	:	:	
: 9016 :	: INVERTER :	: B-2/N :	: H DIP 14: 75/78 :	: 76C :	: RADR :	: FIELD :	:	: 54 / 0 :	:	:	
:	:	: 6 :	:	:	: AUF :	:	:	: 11,160:	:	:	
: 9016 :	: INVERTER :	: B-2/N :	: H DIP 14: 75/78 :	: 76C :	: RADR :	: FIELD :	:	: 2 / 0 :	:	:	
:	:	: 6 :	:	:	: AUF :	:	:	: 2:	:	:	
: 9024 :	: FLIP-FLOP JK :	: C-1 :	: H FPK 16: 75/78 :	: 85C :	: RADR :	: FIELD :	:	: 66 / 0 :	:	:	
:	:	: N/R :	:	:	: AUF :	:	:	: 75,240:	:	:	
: 9024 :	: FLIP-FLOP JK :	: C-1 :	: H FPK 16: 75/78 :	: 85C :	: RADR :	: FIELD :	:	: 5808 / 4 :	: 2201/ 1 :	:	
:	:	: N/R :	:	:	: AUF :	:	:	: 6,618,810:	:	:	
:	:	:	:	:	:	:	:	:	: 2202/ 1 :	:	
:	:	:	:	:	:	:	:	:	: 2203/ 2 :	:	
: 9300 :	: SHIFT REG :	: B-2/N :	: H DIP 16: 75/78 :	: 99C :	: RADR :	: FIELD :	:	: 374 / 0 :	:	:	
:	:	: 48 :	:	:	: AUF :	:	:	: 44,121:	:	:	
: 9300 :	: SHIFT REG :	: B-2/N :	: H DIP 16: 75/78 :	: 99C :	: RADR :	: FIELD :	:	: 434 / 0 :	:	:	
:	:	: 48 :	:	:	: AUF :	:	:	: 80,276:	:	:	
: 9300 :	: SHIFT REG :	: B-2/N :	: H DIP 16: 75/78 :	: 99C :	: RADR :	: FIELD :	:	: 595 / 1 :	: 2324/ 1 :	:	
:	:	: 48 :	:	:	: AUF :	:	:	: 60,760:	:	:	
: 9300 :	: SHIFT REG :	: B-2/N :	: H DIP 16: 75/78 :	: 99C :	: RADR :	: FIELD :	:	: 1922 / 0 :	:	:	
:	:	: 48 :	:	:	: AUF :	:	:	: 415,276:	:	:	

DIGITAL DEVICE DATA

VARIOUS TTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEY REPORT NO. /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
9300	SHIFT REG	C-1	H FPK 16	106C	RADR	FIELD		3795 / 0		
		40	75/78		AUF			4,326,300		
9300	SHIFT REG	C-1	H FPK 16	106C	RADR	FIELD		2838 / 1	2204/ 1	
		40	75/78		AUF			3,234,600		
9301	DECODER	B-2/N	H DIP 16	83C	RADR	FIELD		136 / 0		
	BCD/DECIMAL	18	75/78		AUF			16,044		
9301	DECODER	B-2/N	H DIP 16	83C	RADR	FIELD		12 / 0		
	BCD/DECIMAL	18	75/78		AUF			24		
9301	DECODER	B-2/N	H DIP 16	83C	RADR	FIELD		93 / 0		
	BCD/DECIMAL	18	75/78		AUF			17,202		
9301	DECODER	B-2/N	H DIP 16	83C	RADR	FIELD		51 / 0		
	BCD/DECIMAL	18	75/78		AUF			5,208		
9301	DECODER	B-2/N	H DIP 16	83C	RADR	FIELD		1209 / 0		
	BCD/DECIMAL	18	75/78		AUF			261,222		
9301	DECODER	B-2/N	H DIP 16	83C	RADP	FIELD		6 / 0		
	BCD/DECIMAL	18	75/78		AUF			564		
9301	DECODER	B-2/N	H DIP 16	83C	RADR	FIELD		63 / 0		
	BCD/DECIMAL	18	75/78		AUF			13,020		
9301	DECODER	B-2	H FPK 16	41C	COMM	FIELD	025C	9 / 0		
	BCD/DECIMAL	18	75/78		GT			20,919		
9301	DECODER	C-1	H FPK 16	86C	RADR	FIELD		33 / 0		
	BCD/DECIMAL	18	75/78		AUF			37,620		
9301	DECODER	C-1	H FPK 16	86C	RADR	FIELD		924 / 0		
	BCD/DECIMAL	18	75/78		AUF			1,053,360		
9301	DECODER	C-1	H FPK 16	86C	RADR	FIELD		1089 / 0		
	BCD/DECIMAL	18	75/78		AUF			1,241,460		
9301	DECODER	NONE	N/R DIP 16	41C	COMP	FIELD	025C	6 / 0		
	BCD/DECIMAL	18	77/79		GB			115,404		
9301	DECODER	NONE	N/R DIP 16	41C	COMP	FIELD	025C	12 / 0		
	BCD/DECIMAL	18	77/79		GB			238,560		
9309	MULTIPLEXER	J-B	H DIP 16		RADR	RELD		1500 / 0		
		16	77/77		AIU	OPERATE		48,315		
9309	MULTIPLEXER	J-B	H DIP 16	39C	COMP	RELD	025C	24 / 0		
		16	78/78		GT			8,436		
9309	MULTIPLEXER	B-2/N	H DIP 16	87C	RADR	FIELD		372 / 0		
		16	75/78		AUF			80,376		
9309	MULTIPLEXER	C-1	H FPK 16	87C	RADR	FIELD		5610 / 4	2205/ 3	
		16	75/78		AUF			6,389,760	2206/ 1	
9309	MULTIPLEXER	C-1	H FPK 16	87C	RADR	FIELD		2640 / 1	2207/ 1	
		16	75/78		AUF			3,007,500		
9310	COUNTER	J-B	H DIP 16	54C	COMP	RELD	025C	21 / 0		
		60	78/78		GT			7,382		
9311	DECODER/DEMULPLX	B-2/N	H DIP 24	67C	RADR	FIELD		8 / 0		
		25	75/78		AIF			1,536		

DIGITAL DEVICE DATA

VARIOUS TTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT. TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO./ QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
9311	DECODER/DEMUTIPLEX	B-2/N	H DIP 24	67C	RADR	FIELD		20 / 0		
		25	75/78		AIF			1,505		
9311	DECODER/DEMUTIPLEX	B-2/N	H DIP 24	67C	RADR	FIELD		26 / 0		
		25	75/78		AIF			4,287		
9311	DECODER/DEMUTIPLEX	B-2/N	H DIP 24	82C	RADR	FIELD		68 / 0		
		25	75/78		AUF			6,944		
9311	DECODER/DEMUTIPLEX	B-2	H FPK 24	41C	COMM	FIELD	025C	18 / 0		
		25	75/78		GT			41,838		
9312	MULTIPLEXER	J-B	H DIP 16		RADR	RELDDEM		1595 / 0		
		17	77/77		AIU	OPERATE		51,375		
9312	MULTIPLEXER	J-B	H DIP 16	37C	COMP	RELDDEM	025C	60 / 0		
		17	78/78		GT			21,090		
9312	MULTIPLEXER	B-2/N	H DIP 16	85C	RADR	FIELD		2 / 0		
		17	75/78		AUF			2		
9312	MULTIPLEXER	B-2	H FPK 16	35C	COMM	FIELD	025C	36 / 0		
		17	75/78		GT			83,676		
9312	MULTIPLEXER	C-1	H FPK 16	85C	RADR	FIELD		33 / 1	2208/ 1	
		17	75/78		AUF			36,780		
9312	MULTIPLEXER	C-1	H FPK 16	85C	RADR	FIELD		5775 / 1	2209/ 1	
		17	75/78		AUF			6,583,050		
9312	MULTIPLEXER	C-1	H FPK 16	85C	RADR	FIELD		4257 / 0		
		17	75/78		AUF			4,852,980		
9312	MULTIPLEXER	D	H DIP 16	37C	COMP	FIELD	025C	1 / 0		
		17	77/79		GB			19,234		
9312	MULTIPLEXER	D	H DIP 16	37C	COMP	FIELD	025C	2 / 0		
		17	77/79		GB			39,760		
9314	LATCH	J-B	H DIP 16	41C	COMP	RELDDEM	025C	42 / 0		
		26	78/78		GT			14,763		
9314	LATCH	C-1	H FPK 16	90C	RADR	FIELD		66 / 0		
		26	75/78		AUF			75,240		
9316	COUNTER BINARY	J-B	H DIP 16	53C	COMP	RELDDEM	025C	81 / 0		
		57	78/78		GT			28,471		
9316	COUNTER BINARY	B-2/N	H FPK 16	89C	RADR	FIELD		100 / 0		
		57	75/78		AIF			7,525		
9316	COUNTER BINARY	B-2/N	H DIP 16	98C	RADR	FIELD		93 / 0		
		57	75/78		AUF			17,202		
9316	COUNTER BINARY	B-2/N	H DIP 16	98C	RADR	FIELD		646 / 0		
		57	75/78		AUF			65,968		
9316	COUNTER BINARY	B-2/N	H DIP 16	98C	RADR	FIELD		2945 / 0		
		57	75/78		AUF			636,310		
9316	COUNTER BINARY	B-2/N	H DIP 16	98C	RADR	FIELD		2 / 0		
		57	75/78		AUF			2		
9316	COUNTER BINARY	B-2	H FPK 16	59C	COMM	FIELD	025C	54 / 0		
		57	75/78		GT			125,514		
9316	COUNTER BINARY	C-1	H FPK 16	89C	RADR	FIELD		4719 / 0		
		57	75/78		AUF			5,379,660		

DIGITAL DEVICE DATA

VARIOUS TTL		: MANUFACTURER : : OPERATIONAL TYPE :				RELIABILITY ANALYSIS CENTER					
: PART NO. :	: DEVICE FUNCTION :	: SCR.N. CLASS :	: PACKAGE/ PINS :	: JCT.* TEMP. :	: EQUIP. TYPE :	: DATA CLASS. :	: STRESS LEVEL :	: #TESTED/ #FAILED :	: MVEF REPORT NO. /QTY FAILED :		
:	: CIRCUIT FUNCTION :	: NO. GATES :	: TEST DATE :	:	: APPL. ENV. :	: TEST TYPE :	:	: PART HOURS :			
: 9316 :	: COUNTER BINARY :	: C-1 57 :	: H FPK 75/78 :	: 16: 89C :	: RADR AUF :	: FIELD :	:	: 4158 / 1 : 4,739,820:	: 2210/ 1 :		
: 9316 :	: COUNTER BINARY :	: NONE 57 :	: N/R DIP 77/79 :	: 16: 59C :	: COMP GB :	: FIELD :	: 025C :	: 2 / 0 : 38,468:	:		
: 9316 :	: COUNTER BINARY :	: NONE 57 :	: N/R DIP 77/79 :	: 16: 59C :	: COMP GB :	: FIELD :	: 025C :	: 4 / 0 : 79,520:	:		
: 9318 :	: ENCODER :	: C-1 24 :	: H FPK 75/78 :	: 16: 95C :	: RADR AUF :	: FIELD :	:	: 33 / 0 : 37,620:	:		
: 9318 :	: ENCODER :	: C-1 24 :	: H FPK 75/78 :	: 16: 95C :	: RADR AUF :	: FIELD :	:	: 165 / 0 : 188,100:	:		
: 9322 :	: MULTIPLEXER :	: J-B 19 :	: H DIP 78/78 :	: 16: 39C :	: COMP GT :	: RELED :	: 025C :	: 18 / 0 : 6,327:	:		
: 9322 :	: MULTIPLEXER :	: B-2/N 19 :	: H DIP 76/77 :	: 16: 81C :	: RADR AU :	: RELED TCVPC :	: -054C 071C 6CY 2. 27HZ :	: 209 / 0 : 10,032:	:		
: 9322 :	: MULTIPLEXER :	: B-1 19 :	: H DIP 75/78 :	: 16: 84C :	: COMP AUF :	: FIELD :	:	: 132 / 0 : 150,480:	:		
: 9324 :	: COMPARATOR :	: B-2 32 :	: H DIP 77/77 :	: 16: :	: RADR AU :	: RELED OPERATE :	:	: 1615 / 0 : 52,003:	:		
: 9334 :	: LATCH ADDRESSABLE :	: D-1 59 :	: P DIP 76/78 :	: 16: 54C :	: COMP GBC :	: FIELD :	: 025C :	: 6 / 0 : 33,264:	:		
: 9334 :	: LATCH ADDRESSABLE :	: D-1 59 :	: P DIP 76/78 :	: 16: 54C :	: COMP GBC :	: FIELD :	: 025C :	: 10 / 0 : 100,800:	:		
: 9334 :	: LATCH ADDRESSABLE :	: D-1 59 :	: P DIP 78/78 :	: 16: 54C :	: COMP GBC :	: FIELD :	: 025C :	: 6 / 0 : 17,280:	:		
: 9334 :	: LATCH ADDRESSABLE :	: D-1 59 :	: P DIP 78/78 :	: 16: 54C :	: COMP GBC :	: FIELD :	: 025C :	: 10 / 0 : 28,800:	:		
: 956 :	: BUFFER :	: D-1 2 :	: P DIP 77/78 :	: 16: 54C :	: DSPY GBC :	: FIELD :	: 040C 55XPWR :	: 5863 / 0 : 7,621,900:	:		
: 956 :	: BUFFER :	: D-1 2 :	: P DIP 78/79 :	: 16: 54C :	: DSPY GBC :	: FIELD :	: 040C 55XPWR :	: 13640 / 0 : 17,732,000:	:		
: 9600 :	: FLIP-FLOP MONOSTABLE :	: B-2/N 11 :	: H DIP 76/77 :	: 14: 81C :	: RADR AU :	: RELED TCVPC :	: -054C 071C 6CY 2. 27HZ :	: 627 / 0 : 30,096:	:		
: 9601 :	: FLIP-FLOP MONOSTABLE :	: B-2/N 8 :	: H DIP 75/78 :	: 14: 66C :	: RADR AIF :	: FIELD :	:	: 80 / 0 : 6,020:	:		
: 9601 :	: FLIP-FLOP MONOSTABLE :	: B-2/N 8 :	: H DIP 75/78 :	: 14: 66C :	: RADR AIF :	: FIELD :	:	: 12 / 0 : 3,472:	:		
: 9601 :	: FLIP-FLOP MONOSTABLE :	: B-2/N 8 :	: H DIP 75/78 :	: 14: 66C :	: RADR AIF :	: FIELD :	:	: 338 / 0 : 55,731:	:		
: 9601 :	: FLIP-FLOP MONOSTABLE :	: B-2/N 8 :	: H DIP 75/78 :	: 14: 81C :	: RADR AUF :	: FIELD :	:	: 135 / 1 : 16,326:	: 2325/ 1 :		
: 9601 :	: FLIP-FLOP MONOSTABLE :	: B-2/N 8 :	: H DIP 75/78 :	: 14: 81C :	: RADR AUF :	: FIELD :	:	: 36 / 0 : 4,831:	:		
: 9601 :	: FLIP-FLOP MONOSTABLE :	: B-2/N 8 :	: H DIP 75/78 :	: 14: 81C :	: RADR AUF :	: FIELD :	:	: 87 / 0 : 20,343:	:		
: 9601 :	: FLIP-FLOP MONOSTABLE :	: B-2/N 8 :	: H DIP 75/78 :	: 14: 81C :	: RADR AUF :	: FIELD :	:	: 8 / 0 : 16:	:		

DIGITAL DEVICE DATA

VARIOUS TTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO.: /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
9601	FLIP-FLOP MONOSTABLE	B-2/N : 8	H DIP 14 : 75/78	81C	RADR : AUF	FIELD		93 / 0 : 17,202		
9601	FLIP-FLOP MONOSTABLE	B-2/N : 8	H DIP 14 : 75/78	81C	RADR : AUF	FIELD		663 / 0 : 67,704		
9601	FLIP-FLOP MONOSTABLE	B-2/N : 8	H DIP 14 : 75/78	81C	RADR : AUF	FIELD		93 / 0 : 20,094		
9601	FLIP-FLOP MONOSTABLE	B-2/N : 8	H DIP 14 : 75/78	81C	RADR : AUF	FIELD		145 / 0 : 16,570		
9601	FLIP-FLOP MONOSTABLE	B-2/N : 8	H DIP 14 : 75/78	81C	RADR : AUF	FIELD		6 / 0 : 2,583		
9601	FLIP-FLOP MONOSTABLE	B-2/N : 8	H DIP 14 : 75/78	81C	RADR : AUF	FIELD		14 / 0 : 436		
9601	FLIP-FLOP MONOSTABLE	B-2/N : 8	H DIP 14 : 75/78	81C	RADR : AUF	FIELD		13 / 0 : 13		
9601	FLIP-FLOP MONOSTABLE	B-1/JB : 8	H DIP 14 : 77/79	35C	RADR : GF	FIELD	025C	7 / 0 : 95,760		
9601	FLIP-FLOP MONOSTABLE	B-1/JB : 8	H DIP 14 : 79/79	35C	RADR : GF	FIELD	025C	7 / 0 : 30,240		
9601	FLIP-FLOP MONOSTABLE	B-1 : 8	H FPK 14 : 75/78	83C	COMP : AUF	FIELD		33 / 0 : 37,620		
9601	FLIP-FLOP MONOSTABLE	C-1 : 8	H FPK 14 : 75/78	83C	RADR : AUF	FIELD		363 / 3 : 415,020	2215/ 2 2216/ 1	
9601	FLIP-FLOP MONOSTABLE	C-1 : 8	H FPK 14 : 75/78	83C	RADR : AUF	FIELD		99 / 0 : 112,860		
9601	FLIP-FLOP MONOSTABLE	C-1 : 8	H FPK 14 : 75/78	83C	RADR : AUF	FIELD		495 / 0 : 564,300		
9602	FLIP-FLOP MONOSTABLE	B-2/N : 14	H DIP 16 : 76/77	81C	RADR : AU	RELDEN : TCVPC	-054C 071C 6CY 2. 27HZ	418 / 0 : 20,064		
9602	FLIP-FLOP MONOSTABLE	B-1 : 14	H DIP 16 : 75/78	86C	COMP : AUF	FIELD		99 / 0 : 112,860		
9602	FLIP-FLOP MONOSTABLE	B-2 : 14	H DIP 16 : 77/77		RADR : AIU	RELDEN : OPERATE		150 / 0 : 4,830		
9602	FLIP-FLOP MONOSTABLE	C-1 : 14	H FPK 16 : 75/78	86C	RADR : AUF	FIELD		165 / 0 : 188,100		
9602	FLIP-FLOP MONOSTABLE	D : 14	H DIP 16 : 77/78	51C	COMM : CF	FIELD	025C	N/R / 0 : 62,950		
9602	FLIP-FLOP MONOSTABLE	D : 14	H DIP 16 : 79/79	51C	COMM : GF	FIELD	025C	N/R / 0 : 356,226		
9602	FLIP-FLOP MONOSTABLE	D-1 : 14	P DIP 16 : 77/78	38C	COMM : GBC	FIELD	020C	6 / 0 : 67,578		
9602	FLIP-FLOP MONOSTABLE	NONE : 14	N/R DIP 16 : 77/79	40C	COMP : GB	FIELD	025C	6 / 0 : 115,404		
9602	FLIP-FLOP MONOSTABLE	NONE : 14	N/R DIP 16 : 77/79	40C	COMP : GB	FIELD	025C	12 / 0 : 238,560		

DIGITAL DEVICE DATA

VARIOUS TTL		:MANUFACTURER :OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
: PART NO. :	: DEVICE FUNCTION :	: SCR.N. CLASS :	: PACKAGE/ PINS :	: JCT.* TEMP. :	: EQUIP. TYPE :	: DATA CLASS. :	: STRESS LEVEL :	: #TESTED/ #FAILED :	: MFEF REPORT NO. : /QTY FAILED :	:
:	: CIRCUIT FUNCTION :	: NO. GATES :	: TEST DATE :	:	: APPL. ENV. :	: TEST TYPE :	:	: PART HOURS :	:	:
: 9614 :	: INTERFACE LINE DRIVER :	: B-1 6 :	: H DIP 16: 76/77 :	: 72C :	: COMM AIF :	: FIELD :	:	: 15 / 1 : 10,227:	:	:
: 9614 :	: INTERFACE LINE DRIVER :	: B-1 6 :	: H DIP 16: 76/77 :	: 72C :	: COMM AIF :	: FIELD :	:	: 14 / 0 : 7,056:	:	:
: 9614 :	: INTERFACE LINE DRIVER :	: B-2 6 :	: H DIP 16: 77/77 :	:	: RADR AIU :	: RELDEI OPERATE :	:	: 1380 / 0 : 44,436:	:	:
: 9614 :	: INTERFACE LINE DRIVER :	: C-1 6 :	: H FPK 16: 75/78 :	: 87C :	: RADR AUF :	: FIELD :	:	: 429 / 9 : 484,560:	: 1949/ 1 :	:
:	:	:	:	:	:	:	:	:	: 1948/ 1 :	:
:	:	:	:	:	:	:	:	:	: 1947/ 1 :	:
:	:	:	:	:	:	:	:	:	: 1946/ 1 :	:
:	:	:	:	:	:	:	:	:	: 1945/ 1 :	:
:	:	:	:	:	:	:	:	:	: 1944/ 1 :	:
:	:	:	:	:	:	:	:	:	: 1943/ 1 :	:
:	:	:	:	:	:	:	:	:	: 1942/ 2 :	:
: 9614 :	: INTERFACE LINE DRIVER :	: C-1 6 :	: H FPK 16: 75/78 :	: 87C :	: RADR AUF :	: FIELD :	:	: 165 / 0 : 188,100:	:	:
: 9614 :	: INTERFFACE LINE DRIVER :	: D 6 :	: H DIP 16: 77/78 :	: 72C :	: COMB AIT :	: FIELD :	:	: 40 / 0 : 380,000:	:	:
: 9614 :	: INTERFACE LINE DRIVER :	: D 6 :	: H DIP 16: 77/79 :	: 41C :	: COMP GB :	: FIELD : 025C :	:	: 1 / 0 : 19,234:	:	:
: 9614 :	: INTERFACE LINE DRIVER :	: D 6 :	: H DIP 16: 77/79 :	: 41C :	: COMP GB :	: FIELD : 025C :	:	: 2 / 0 : 39,760:	:	:
: 9614 :	: INTERFACE LINE DRIVER :	: D 6 :	: H DIP 16: 77/79 :	: 41C :	: COMP GB :	: FIELD : 025C :	:	: 32 / 0 : 636,160:	:	:
: 9614 :	: INTERFACE LINE DRIVER :	: D 6 :	: H DIP 16: 78/79 :	: 41C :	: COMM GF :	: FIELD : 025C :	:	: 2 / 0 : 26,000:	:	:

MICROCIRCUIT DEVICE RELIABILITY
DIGITAL FAILURE RATE DATA

SECTION 4

DIGITAL FAILURE ANALYSIS DATA SUMMARIZATION

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DIGITAL FAILURE ANALYSIS DATA SUMMARIZATION

The data tabulated within this section represents the summarization of reported digital SSI/MSI microcircuit verified failures which have occurred during various levels of testing as derived from the detailed data listings of Section 5. The tables included herein have been compiled to help illustrate the relative distribution of those factors commonly contributing to device failure in digital SSI/MSI microcircuits. The data have been grouped according to the hierarchy of failure descriptors (failure indicator, failure mode, failure defect, failure defect cause and failure activating stresses). (See Appendix A for an illustration of the failure event record structure).

This data summarization section is presented in two parts, first sorted by operation type (TTL, ECL, CMOS, etc.) and then by data source (LIFE, FIELD, RELED, etc.). Part one, therefore, contains failure descriptor distributions for a given operational type, giving an overall view of the failure characteristics of a set of devices utilizing the same operating technology. The second part of the data summaries gives the appropriate failure descriptor distributions as a function of the data source. This allows insight into the failure characteristics induced by actual field usage vs. life testing or reliability demonstration testing.

In the case of the part two summaries or distributions, not all of the failure descriptors have been used to generate separate tables due to the lack of sufficiently detailed failure analysis data. The available data in some cases, after being sorted and qualified, was simply too small to warrant a separate table. Summaries which contained less than five failure records for either part one or part two were not presented.

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The ensuing narrative, along with Figure 17, will provide an example and an explanation of a detailed failure descriptor summary.

Column 1 of Figure 17 represents the verbal description of the failure indicator, as supplied by the reporting agency, at up to three levels of detail. For example, OPEN is comprised of VERIFIED OPEN, which in turn breaks down into UNKNOWN, INPUT, OUTPUT, etc. Similarly, SHORT is comprised of VERIFIED SHORT and INTERMITTENT SHORT, while VERIFIED SHORT breaks down into UNKNOWN, INPUT, OUTPUT, etc., and INTERMITTENT SHORT breaks down into INPUT.

Column 2 represents the quantity totals for each level, with each Level 1 category being defined as the sum of the Level 2 quantities beneath it, and each Level 2 category being defined as the sum of the Level 3 quantities beneath it. From Figure 17, the quantity total for SHORT (Level 1) is the sum of the quantity totals for VERIFIED SHORT (Level 2) and INTERMITTENT SHORT (Level 2), whereas the quantity total for VERIFIED SHORT (Level 2) is the sum of the quantity totals for UNKNOWN, INPUT, OUTPUT, SUPPLY (all Level 3) and INTERMITTENT SHORT is the sum of the quantity totals for INPUT (Level 3).

Column 3 relates the percent contribution of each level with respect to the total quantity failed for the next higher level of structure. Calculation of the percent values at the (A) points of Figure 17 is based upon the quantity totals of each Level 1 indicator divided by the sum of the quantity totals of all of the Level 1 indicators. For example, the quantity totals for DEGRADED (9795) divided by the sum of the quantity totals for OPEN (8), SHORT (28), DEGRADED (9795), FUNCTIONAL ANOMALY (2942) and MECHANICAL ANOMALY (1785), then multiplied by 100, yields the result that 67% of all failure events reporting failure indicators were due to a degraded condition. Carrying the example further, 99% of those devices reported as degraded exhibited a PARAMETER OUT-OF-TOLERANCE condition ($9725 \div (53+17+9725)$, then multiply by 100). This type of calculation represents the percents found at the (B) points. Finally, of

DEVICE TECHNOLOGY: BIPOLAR

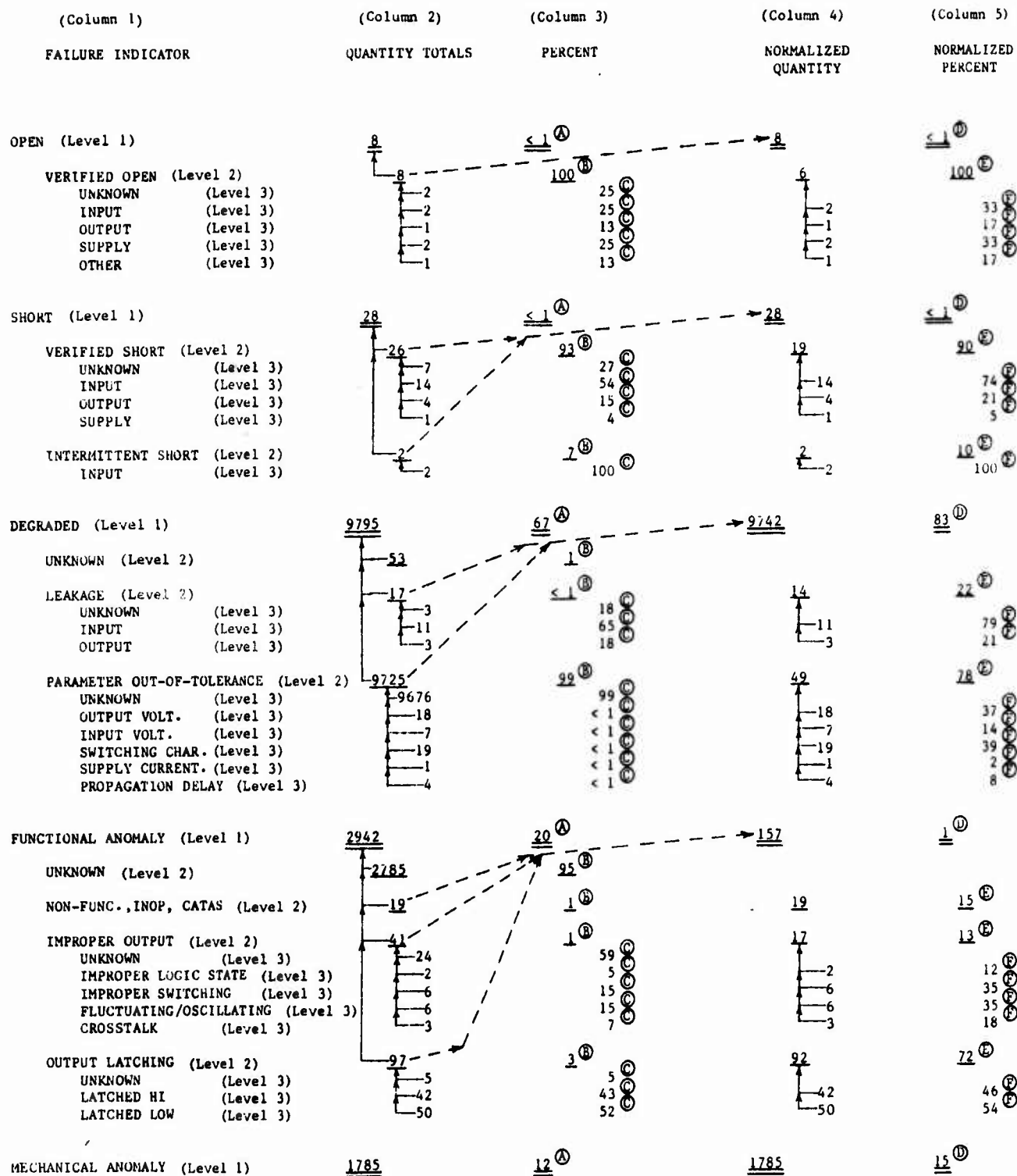


FIGURE 17: Illustration of Failure Indicator Hierarchy Structure

those devices reported as degraded due to out-of-tolerance parameters, less than 1% (<1) failed due to out-of-tolerance output voltage ($18 \div (9676+18+7+19+1+4)$), then multiply by 100). These calculations represent the point \textcircled{C} values.

Column 4, the NORMALIZED QUANTITY values, requires some care in interpretation. The intent of a normalized value is to eliminate unknown entities from the calculation process, thus providing a more realistic representation of the relative distributions of the remaining known entities. For a complex hierarchy structure, however, unknowns can appear at a number of levels. For the FAILURE INDICATOR tables, an UNKNOWN can be located at Level 2 or 3, while for the FAILURE MODE tables, an UNKNOWN may appear at Level 2, 3 or 4. Returning to Figure 17, the NORMALIZED QUANTITY for each level represents the sum of the known entities on the next lowest level only. Therefore, the FUNCTIONAL ANOMALY (Level 1) normalized quantity is based on the known Level 2 entities of NON-FUNC., INOP, CATAS, IMPROPER OUTPUT, and OUTPUT LATCHING and thus equals the sum of the QUANTITY TOTALS (from Column 2) for each of these categories ($19+41+97=157$). The Level 2 totals are the sum of the known Level 3 quantities within that category. That is, the IMPROPER OUTPUT normalized quantity of 17 is the sum of the IMPROPER LOGIC STATE ("2" from Column 4), IMPROPER SWITCHING ("6" from Column 4), FLUCTUATING/OSCILLATING ("6" from Column 4) and CROSSTALK ("3" from Column 4) normalized quantities. Notice that, for all of the UNKNOWN category levels, no entries appear in Columns 4 and 5. The Level 1 normalized quantities are not based on the sum of the Level 2 normalized quantities due to the normalization process itself. Eliminating the UNKNOWN normalized quantities at Level 3 will affect the normalized sums indicated at Level 2, but the UNKNOWN Level 3 entity is a known entity in relation to the appropriate Level 1 normalized quantity. To clarify with an example from Figure 17, although the UNKNOWN Level 3 quantity is normalized out of the Level 2 IMPROPER OUTPUT normalized quantity totals, this Level 3 UNKNOWN must still be considered as an IMPROPER OUTPUT quantity (Level 2) when considered in summing the normalized quantity for FUNCTIONAL ANOMALY (Level 1). Similarly, the

Level 3 UNKNOWN under OUTPUT LATCHING (Level 2) must still be considered as OUTPUT LATCHING in relation to the normalized quantity for FUNCTIONAL ANOMALY (Level 1).

Column 5 represents the NORMALIZED PERCENT contributions for each level of structure based upon the normalized quantity values of Column 4. The point (D) percentages represent the NORMALIZED QUANTITY of a specific Level 1 category, divided by the sum of all of the normalized quantities, then multiplied by 100. From Figure 17, the normalized quantity of 9742 for DEGRADED divided by the sum of normalized quantities for OPEN (8), SHORT (28), DEGRADED (9742), and FUNCTIONAL ANOMALY (157) means that failures reported as degraded represent 83% of all failures where an indicator was referenced. Level 2 normalized percents (reference points (E) on Figure 17) are based on the sum of the known indicator entities of Level 3 within each category (from Column 4). For example, IMPROPER OUTPUT represents a normalized 13% of FUNCTIONAL ANOMALY failures as derived from the calculation of 17 divided by the sum of 19 plus 17 plus 92, the result of which is multiplied by 100 to convert to percent. The value of 19+17+92 represents the Level 2 normalized quantity and is not indicated within the table, i.e., the Level 1 normalized quantity may or may not be indicated as the sum of the Level 2 normalized quantities, depending on the presence of a Level 2 UNKNOWN quantity. Finally, the normalized percents of point (F) equal the selected Level 3 normalized quantity divided by the normalized quantity indicated at Level 2 of the appropriate group, multiplied by 100. Again, as an example, IMPROPER SWITCHING represents 35% of all failures reported as having defined IMPROPER OUTPUT malfunctions based on the calculation of 6 (IMPROPER SWITCHING normalized quantity) divided by 17 (IMPROPER OUTPUT normalized quantity), then multiplied by 100.

During the examination of these failure event distributions, the reader must keep in mind that these summarized results represent only those data which were reported subject to the constraints of the extent of failure analysis performed and the quantity of data supplied by each data

source. In other words, where a detailed failure analysis has pinpointed a failure indicator of VERIFIED OPEN, INPUT, a less rigorous analysis may report this indicator as DEGRADED or FUNCTIONAL ANOMALY. Therefore, the relative distributions provided herein should not be strictly defined in terms of individual user expectations when comparing his results with these tables. Similarly, the presentation of failure defect description distributions may be questionable in the absence of a direct reference to the appropriate failure defect cause or failure mode within the device (i.e., a cracked package seal or a cracked internal bond wire). The inclusion of these tables may be justified, however, in terms of their intuitive value for comparing process-related defects, such as masking faults or mismarked packages, with actual physics-of-failure causes, (e.g., voids caused by electromigration) and activating stresses, (e.g., broken wires/package due to mechanical or thermomechanical stresses).

The use of these tables, particularly the failure indicator tables, will be beneficial to those people who perform Failure Modes and Effects Criticality Analysis (FMECA) in the evaluation of systems design. Further information on these data summaries and distributions may be obtained by contacting the Reliability Analysis Center directly.

TABLE 22: FAILURE INDICATOR DISTRIBUTION
DEVICE TECHNOLOGY: CMOS

<u>FAILURE INDICATOR</u>	<u>QUANTITY TOTALS</u>	<u>PERCENT</u>	<u>NORMALIZED QUANTITY</u>	<u>NORMALIZED PERCENT</u>
DEGRADED	[14]	(61)		
UNKNOWN	14	100		
FUNCTIONAL ANOMALY	[9]	(39)	[9]	(100)
NON-FUNC., INOP, CATAS	9	100	9	100

TABLE 23: FAILURE INDICATOR DISTRIBUTION
DEVICE TECHNOLOGY: DTL

<u>FAILURE INDICATOR</u>	<u>QUANTITY TOTALS</u>	<u>PERCENT</u>	<u>NORMALIZED QUANTITY</u>	<u>NORMALIZED PERCENT</u>
SHORT	[4]	(100)	[4]	(100)
VERIFIED SHORT	4	100		
UNKNOWN	4	100		

TABLE 24: FAILURE INDICATOR DISTRIBUTION
DEVICE TECHNOLOGY: ECL

<u>FAILURE INDICATOR</u>	<u>QUANTITY TOTALS</u>	<u>PERCENT</u>	<u>NORMALIZED QUANTITY</u>	<u>NORMALIZED PERCENT</u>
DEGRADED	[21]	(81)	[14]	(74)
UNKNOWN	7	33		
LEAKAGE	14	67		
UNKNOWN	14	100		
FUNCTIONAL ANOMALY	[5]	(19)	[5]	(26)
NON-FUNC., INOP, CATAS	5	100	5	100

TABLE 25: FAILURE MODE DISTRIBUTION
DEVICE TECHNOLOGY: ECL

<u>FAILURE MODES</u>	<u>QUANTITY TOTALS</u>	<u>PERCENT</u>	<u>NORMALIZED QUANTITY</u>	<u>NORMALIZED PERCENT</u>
DIE	[18]	(100)	[16]	(100)
UNKNOWN	2	11		
METALIZATION	1	6		
UNKNOWN	1	100		
SURFACE	15	83	15	100

TABLE 26: FAILURE INDICATOR DISTRIBUTION
DEVICE TECHNOLOGY: HTTL

<u>FAILURE INDICATOR</u>	<u>QUANTITY TOTALS</u>	<u>PERCENT</u>	<u>NORMALIZED QUANTITY</u>	<u>NORMALIZED PERCENT</u>
OPEN	[11]	(13)	[11]	(14)
VERIFIED OPEN	11	100		
UNKNOWN	11	100		
SHORT	[4]	(5)	[4]	(5)
VERIFIED SHORT	4	100		
UNKNOWN	4	100		
DEGRADED	[11]	(13)	[1]	(1)
UNKNOWN	10	91		
LEAKAGE	1	9		
UNKNOWN	1	100		
FUNCTIONAL ANOMALY	[57]	(66)	[57]	(75)
NON-FUNC., INOP, CATAS	57	100	57	100
MECHANICAL ANOMALY	[3]	(3)	[3]	(4)

TABLE 27: FAILURE MODE DISTRIBUTION
DEVICE TECHNOLOGY: HTTL

<u>FAILURE MODES</u>	<u>QUANTITY TOTALS</u>	<u>PERCENT</u>	<u>NORMALIZED QUANTITY</u>	<u>NORMALIZED PERCENT</u>
DIE	[3]	(100)	[2]	(100)
UNKNOWN	1	33		
SURFACE	2	67	2	100

TABLE 28: FAILURE INDICATOR DISTRIBUTION
DEVICE TECHNOLOGY: LSTTL

<u>FAILURE INDICATOR</u>	<u>QUANTITY TOTALS</u>	<u>PERCENT</u>	<u>NORMALIZED QUANTITY</u>	<u>NORMALIZED PERCENT</u>
SHORT	[1]	(14)	[1]	(14)
VERIFIED SHORT	1	100		
UNKNOWN	1	100		
DEGRADED	[3]	(43)	[3]	(43)
LEAKAGE	3	100		
UNKNOWN	3	100		
FUNCTIONAL ANOMALY	[3]	(43)	[3]	(43)
NON-FUNC., INOP, CATAS	2	67	2	67
IMPROPER OUTPUT	1	33	1	33
IMPROPER LOGIC STATE	1	100	1	100

TABLE 29: FAILURE MODE DISTRIBUTION
DEVICE TECHNOLOGY: LSTTL

<u>FAILURE MODES</u>	<u>QUANTITY TOTALS</u>	<u>PERCENT</u>	<u>NORMALIZED QUANTITY</u>	<u>NORMALIZED PERCENT</u>
DIE	(4)	(67)	(4)	(67)
BULK ASPECTS DIFFUSION	1 1	25 100	1 1	25 100
SURFACE	3	75	3	75
INTERCONNECTS	(2)	(33)	(2)	(33)
WIREBOND UNKNOWN	2 2	100 100		

TABLE 30: FAILURE INDICATOR DISTRIBUTION
DEVICE TECHNOLOGY: STTL

<u>FAILURE INDICATOR</u>	<u>QUANTITY TOTALS</u>	<u>PERCENT</u>	<u>NORMALIZED QUANTITY</u>	<u>NORMALIZED PERCENT</u>
OPEN	(1)	(8)	(1)	(14)
VERIFIED OPEN UNKNOWN	1 1	100 100		
DEGRADED	(6)	(50)	(1)	(14)
UNKNOWN	5	83		
LEAKAGE UNKNOWN	1 1	17 100		
FUNCTIONAL ANOMALY	(5)	(42)	(5)	(71)
NON-FUNC., IMOP, CATAS	4	80	4	80
OUTPUT LATCHING LATCHED HI	1 1	20 100	1 1	20 100

TABLE 31: FAILURE MODE DISTRIBUTION
DEVICE TECHNOLOGY: STTL

<u>FAILURE MODES</u>	<u>QUANTITY TOTALS</u>	<u>PERCENT</u>	<u>NORMALIZED QUANTITY</u>	<u>NORMALIZED PERCENT</u>
DIE	(2)	(33)	(1)	(20)
UNKNOWN	1	50		
SURFACE	1	50	1	100
INTERCONNECTS	(4)	(67)	(4)	(80)
WIRE	2	50	2	100
WIREBOND UNKNOWN	2 2	50 100		

TABLE 32: FAILURE DEFECT DISTRIBUTION
DEVICE TECHNOLOGY: STTL

<u>DEFECT DESCRIPTION</u>	<u>QUANTITY TOTALS</u>	<u>PERCENT</u>
SHORT (MOC)	1	50
MELTED-FUSED	1	50

TABLE 33: FAILURE INDICATOR DISTRIBUTION
DEVICE TECHNOLOGY: TTL

FAILURE INDICATOR	QUANTITY TOTALS	PERCENT	NORMALIZED QUANTITY	NORMALIZED PERCENT
OPEN	(16)	(8)	(16)	(10)
VERIFIED OPEN	16	100	5	100
UNKNOWN	11	69		
INPUT	3	19	3	60
OUTPUT	2	13	2	40
SHORT	(17)	(8)	(17)	(10)
VERIFIED SHORT	17	100	2	100
UNKNOWN	15	88		
OUTPUT	2	12	2	100
DEGRADED	(54)	(25)	(6)	(4)
UNKNOWN	48	89		
LEAKAGE	4	7		
UNKNOWN	4	100		
PARAMETER OUT-OF-TOLERANCE	2	4	1	100
UNKNOWN	1	50		
DYNAMIC CHAR.	1	50	1	100
FUNCTIONAL ANOMALY	(126)	(59)	(126)	(76)
NON-FUNC., INOP, CATAS	101	80	101	86
IMPROPER OUTPUT	8	6	1	1
UNKNOWN	7	88		
IMPROPER LOGIC STATE	1	13	1	100
OUTPUT LATCHING	5	4	4	3
UNKNOWN	1	20		
LATCHED HI	2	40	2	50
LATCHED LOW	2	40	2	50
INTERMITTENT	12	10	12	10

TABLE 34: FAILURE MODE DISTRIBUTION
DEVICE TECHNOLOGY: TTL

FAILURE MODES	QUANTITY TOTALS	PERCENT	NORMALIZED QUANTITY	NORMALIZED PERCENT
DIE	(28)	(88)	(15)	(79)
UNKNOWN	13	46		
BULK ASPECTS	2	7	2	14
JUNCTION	1	50	1	50
DIFFUSION	1	50	1	50
METALIZATION	2	7	1	7
UNKNOWN	1	50		
BOND PAD	1	50	1	100
OXIDE/DIELECTRIC	3	11	3	21
GATE OXIDE/DIELECTRIC	3	100	3	100
SURFACE	8	29	8	57
INTERCONNECTS	(4)	(13)	(4)	(21)
WIRE	1	25	1	100
WIREBOND	3	75		
UNKNOWN	3	100		

TABLE 35: FAILURE DEFECT DISTRIBUTION
DEVICE TECHNOLOGY: TTL

DEFECT DESCRIPTION	QUANTITY TOTALS	PERCENT
BROKEN	2	8
CHANNEL	1	4
MASK FAULT	15	58
SHORT (MOC)	1	4
ZAPPED-EVAPORATED	2	8
FAULT (MOC)	1	4
FLASHOVER-ARC	2	8
PUNCH THROUGH	1	4
DISCOLORED	1	4

TABLE 36: FAILURE DEFECT CAUSE DISTRIBUTION
DEVICE TECHNOLOGY: TTL

DEFECT CAUSE	QUANTITY TOTALS	PERCENT
CONTAMINATION	1	25
THERMAL DIFFUSION	1	25
PROCESS FLAW	2	50

TABLE 37: FAILURE ACTIVATING STRESS - A
DEVICE TECHNOLOGY: TTL

ACTIVATING STRESS	QUANTITY TOTALS	PERCENT
ELECTRICAL OVERSTRESS	9	69
TEMPERATURE	1	8
THERMO-MECHANICAL STRESS	1	8
VOLTAGE STRESS	2	15

TABLE 38: FAILURE INDICATOR DISTRIBUTION
DEVICE TECHNOLOGY: ECL
SOURCE: LIFE

FAILURE INDICATOR	QUANTITY TOTALS	PERCENT	NORMALIZED QUANTITY	NORMALIZED PERCENT
DEGRADED	[20]	(87)	[14]	(82)
UNKNOWN	6	30		
LEAKAGE	14	70		
UNKNOWN	14	100		
FUNCTIONAL ANOMALY	[3]	(13)	[3]	(18)
NON-FUNC., INOP, CATAS	3	100	3	100

TABLE 39: FAILURE MODE DISTRIBUTION
DEVICE TECHNOLOGY: ECL
SOURCE: LIFE

FAILURE MODES	QUANTITY TOTALS	PERCENT	NORMALIZED QUANTITY	NORMALIZED PERCENT
DIE	[18]	(100)	[16]	(100)
UNKNOWN	2	11		
METALIZATION	1	6		
UNKNOWN	1	100		
SURFACE	15	83	15	100

TABLE 40: FAILURE INDICATOR DISTRIBUTION
 DEVICE TECHNOLOGY: HTTL
 SOURCE: FIELD

FAILURE INDICATOR	QUANTITY TOTALS	PERCENT	NORMALIZED QUANTITY	NORMALIZED PERCENT
OPEN	[11]	(13)	[11]	(15)
VERIFIED OPEN	11	100		
UNKNOWN	11	100		
SHORT	[4]	(5)	[4]	(5)
VERIFIED SHORT	4	100		
UNKNOWN	4	100		
DEGRADED	[10]	(12)		
UNKNOWN	10	100		
FUNCTIONAL ANOMALY	[55]	(66)	[55]	(75)
NON-FUNC., INOP, CATAS	55	100	55	100
MECHANICAL ANOMALY	[3]	(4)	[3]	(4)

TABLE 41: FAILURE INDICATOR DISTRIBUTION
 DEVICE TECHNOLOGY: LSTTL
 SOURCE: LIFE

FAILURE INDICATOR	QUANTITY TOTALS	PERCENT	NORMALIZED QUANTITY	NORMALIZED PERCENT
DEGRADED	[3]	(60)	[3]	(60)
LEAKAGE	3	100		
UNKNOWN	3	100		
FUNCTIONAL ANOMALY	[2]	(40)	[2]	(40)
NON-FUNC., INOP, CATAS	2	100	2	100

TABLE 42: FAILURE MODE DISTRIBUTION
 DEVICE TECHNOLOGY: LSTTL
 SOURCE: LIFE

FAILURE MODES	QUANTITY TOTALS	PERCENT	NORMALIZED QUANTITY	NORMALIZED PERCENT
DIE	[3]	(60)	[3]	(60)
SURFACE	3	100	3	100
INTERCONNECTS	[2]	(40)	[2]	(40)
WIREBOND	2	100		
UNKNOWN	2	100		

TABLE 43: FAILURE INDICATOR DISTRIBUTION
 DEVICE TECHNOLOGY: STTL
 SOURCE: LIFE

FAILURE INDICATOR	QUANTITY TOTALS	PERCENT	NORMALIZED QUANTITY	NORMALIZED PERCENT
DEGRADED	[5]	(56)	[1]	(10)
UNKNOWN	4	80		
LEAKAGE	1	20		
UNKNOWN	1	100		
FUNCTIONAL ANOMALY	[4]	(44)	[4]	(80)
NON-FUNC., INOP, CATAS	3	75	3	75
OUTPUT LATCHING	1	25	1	25
LATCHED HI	1	100	1	100

TABLE 44: FAILURE MODE DISTRIBUTION
 DEVICE TECHNOLOGY: STTL
 SOURCE: LIFE

FAILURE MODES	QUANTITY TOTALS	PERCENT	NORMALIZED QUANTITY	NORMALIZED PERCENT
DIE	[2]	(33)	[1]	(20)
UNKNOWN	1	50		
SURFACE	1	50	1	100
INTERCONNECTS	[4]	(67)	[4]	(80)
WIRE	2	50	2	100
WIREBOND	2	50		
UNKNOWN	2	100		

TABLE 45: FAILURE INDICATOR DISTRIBUTION
 DEVICE TECHNOLOGY: TTL
 SOURCE: FIELD

FAILURE INDICATOR	QUANTITY TOTALS	PERCENT	NORMALIZED QUANTITY	NORMALIZED PERCENT
OPEN	[10]	(10)	[10]	(12)
VERIFIED OPEN	10	100		
UNKNOWN	10	100		
SHORT	[6]	(6)	[6]	(7)
VERIFIED SHORT	6	100		
UNKNOWN	6	100		
DEGRADED	[12]	(13)		
UNKNOWN	12	100		
FUNCTIONAL ANOMALY	[68]	(71)	[68]	(81)
NON-FUNC., INOP, CATAS	63	93	63	100
IMPROPER OUTPUT	5	7		
UNKNOWN	5	100		

TABLE 46: FAILURE INDICATOR DISTRIBUTION
 DEVICE TECHNOLOGY: TTL
 SOURCE: LIFE

FAILURE INDICATOR	QUANTITY TOTALS	PERCENT	NORMALIZED QUANTITY	NORMALIZED PERCENT
DEGRADED	[23]	(79)	[4]	(40)
UNKNOWN	19	83		
LEAKAGE	4	17		
UNKNOWN	4	100		
FUNCTIONAL ANOMALY	[6]	(21)	[6]	(60)
NON-FUNC., INOP, CATAS	6	100	6	100

TABLE 47: FAILURE MODE DISTRIBUTION
 DEVICE TECHNOLOGY: TTL
 SOURCE: LIFE

FAILURE MODES	QUANTITY TOTALS	PERCENT	NORMALIZED QUANTITY	NORMALIZED PERCENT
DIE	[19]	(90)	[6]	(75)
UNKNOWN	13	68		
BULK ASPECTS	1	5	1	17
DIFFUSION	1	100	1	100
SURFACE	5	26	5	83
INTERCONNECTS	[2]	(10)	[2]	(25)
WIREBOND	2	100		
UNKNOWN	2	100		

TABLE 48: FAILURE INDICATOR DISTRIBUTION
 DEVICE TECHNOLOGY: TTL
 SOURCE: REL DEMO

FAILURE INDICATOR	QUANTITY TOTALS	PERCENT	NORMALIZED QUANTITY	NORMALIZED PERCENT
OPEN	(1)	(3)	(1)	(6)
VERIFIED OPEN OUTPUT	1	100	1	100
SHORT	(4)	(12)	(4)	(22)
VERIFIED SHORT UNKNOWN OUTPUT	4	100	2	100
UNKNOWN OUTPUT	2	50	2	100
DEGRADED	(16)	(47)		
UNKNOWN	16	100		
FUNCTIONAL ANOMALY	(13)	(38)	(13)	(72)
NON-FUNC., INOP, CATAS	7	54	7	64
IMPROPER OUTPUT UNKNOWN	1	8		
UNKNOWN	1	100		
OUTPUT LATCHING UNKNOWN	5	38	4	36
UNKNOWN	1	20		
LATCHED HI	2	40	2	50
LATCHED LOW	2	40	2	50

TABLE 49: FAILURE MODE DISTRIBUTION
 DEVICE TECHNOLOGY: TTL
 SOURCE: REL DEMO

FAILURE MODES	QUANTITY TOTALS	PERCENT	NORMALIZED QUANTITY	NORMALIZED PERCENT
DIE	(8)	(80)	(8)	(80)
BULK ASPECTS JUNCTION	1	13	1	14
UNKNOWN	1	100	1	100
METALIZATION UNKNOWN BOND PAD	2	25	1	14
UNKNOWN	1	50		
BOND PAD	1	50	1	100
OXIDE/DIELECTRIC GATE OXIDE/DIELECTRIC	2	25	2	29
UNKNOWN	2	100	2	100
SURFACE	3	38	3	43
INTERCONNECTS	(2)	(20)	(2)	(20)
WIRE	1	50	1	100
WIREBOND UNKNOWN	1	50		
UNKNOWN	1	100		

MICROCIRCUIT DEVICE RELIABILITY
DIGITAL FAILURE RATE DATA

SECTION 5

DIGITAL FAILURE EVENT DATA - DETAILED LISTINGS

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DIGITAL FAILURE EVENT DATA - DETAILED LISTINGS

Introduction

The Usage Guide and computerized listings of this final section relate directly to those line entries within Section 2 of this publication where failures have occurred and where sufficient failure analysis results have been reported to justify the generation of a Microcircuit Failure Event Record. Each failure event record contains specific information regarding individual device characteristics, environmental and test conditions at the time of failure and the exact nature of the failure itself.

The nature of each failure has been categorized to follow a structured hierarchy of failure phenomena. Each condition, defined in Appendix A on page 397, is outlined below:

Failure Indicator -	How microcircuit failed within circuit prior to destructive analysis (i.e., output locked high)
Failure Mode -	Physical location of failure within the microcircuit (i.e., metalization, oxide, package seal, etc.)
Failure Defect -	Description of physical condition existing at the appropriate failure modes (i.e., melted, evaporated, voids, etc.)
Failure Defect Cause -	The physical phenomena which caused the occurrence of the failure defect (i.e., electromigration, workmanship, manufacturing process, etc.)

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Failure Activating Stress - The electrical/environmental parameter which may have introduced and/or accelerated the failure defect cause (i.e., humidity, temperature cycling, mechanical shock, voltage stress, etc.)

In addition, each failure event record may contain remarks which will further elaborate on device, test, environmental or failure information which may not appear elsewhere in the record. Hence, the reader is given the ability to correlate actual device test and field experience with its associated failure analysis results for large numbers and broad categories of microelectronic devices, enabling a clearer understanding of cause and effect criteria.

Those wishing a more extensive overview of failure mode or failure indicators distributions for digital SSI/MSI microcircuits may consult the RAC publication "Digital Evaluation and Failure Analysis Data" or else contact the Reliability Analysis Center directly.

As with Section 2, the reader is encouraged to spend a few moments reviewing the Usage Guide to this section in order to achieve familiarity with the format, abbreviations, and content of the computerized listings.

USAGE GUIDE
DIGITAL FAILURE ANALYSIS DATA (Cont'd)

③ DATA SOURCE. Indicates the unique data source from which each failure event was reported. The alphabetic characters of the code represent the intended/applied environment of the appropriate device/equipment. The final four integers of the code are assigned sequentially within each coded environment to maintain the identity of the data source. Data source prefixes are defined as follows:

AF Airborne, Fighter (Environment Unknown)
AI Airborne, Inhabited (Aircraft Type Unknown)
AT Airborne, Transport (Environment Unknown)
AU Airborne, Uninhabited (Aircraft Type Unknown)
FE Failure Data (Only Equipment Level)
FP Failure Data (Only Part Level)
GB Ground, Benign
GF Ground, Fixed
GM Ground, Mobile
GP Ground, Portable
GT Ground, Transport
ML Missile, Launch
NS Naval, Sheltered
NSS Naval, Sheltered, Submarine
NU Naval, Unsheltered
PA Part-Level, Government Agency Tested
PI Part-Level, Independent Test Lab Tested
PM Part-Level, Part Manufacturer Tested
PQ Part-Level, Government Qualification
PU Part-Level, Part User Tested
SF Space, Flight
SL Satellite, Launch

USAGE GUIDE
DIGITAL FAILURE ANALYSIS DATA (Cont'd)

④ SOURCE. Indicates the test environment to which the component/board/equipment was subjected. Categories are listed as follows:

BURN-IN	Device Burn-In (<250 hrs.)
CHECKOUT	Equipment Check
DEVICE EVALUATION	Non-Stress Evaluation
ENVIRONMENTAL	Environmental Test
FIELD	Field Experience
LIFE	Device Laboratory Life (>250 hrs.)
REL DEMO	Equipment Reliability Demonstration
REL PROD DEMO	Reliability Production Demonstration

NOTE: For DEVICE EVALUATION tests, quantity failed is indicated as zero, since no stress tests have been applied to verify the failure. These results, therefore, are excluded from the summary tables.

⑤ DATA TYPE. Identifies the data source level at which the failure(s) was reported, i.e., component level, board level, or equipment level.

⑥ APPLICATION ENV. The actual or intended environment from which the failure data was reported. The definitions used here are identical to the conventions defined in item ③, except that the part-level codes (PA, PI, PM, PQ, PU) do not constitute an operational environment and, hence, are not included within this category.

⑦ DEVICE FUNCTION. The device function represents the basic circuit function/classification of the device which failed under test.

⑧ CIRCUIT TYPE. The circuit type further identifies the specialized characteristics of a given device function.

USAGE GUIDE
DIGITAL FAILURE ANALYSIS DATA (Cont'd)

⑨ PART NUMBER. Represents the full manufacturer's commercial part number for the failed device including any stated prefix or suffix designations.

⑩ PART MANUFACTURER. Manufacturer of the failed device, indicated by the part number.

⑪ DATE CODE. This date is reported in the format of year/week (e.g., 7848) and is assigned by the device manufacturer to indicate the date of fabrication.

⑫ DEVICE TECHNOLOGY. Represents the fabrication technology applied in the implementation of the failed device.

⑬ SCREEN CLASS. Indicates the screen class of the failed device(s). The appropriate definitions are included below:

JS	38510, Class S
S-1	883 Method 5004, Screen Class S
JB	38510, Class B
B-1	883 Method 5004, Screen Class B
B-2	Class B, vendor or user equivalent
JC	38510, Class C
C-1	883 Method 5004, Screen Class C
C-2	Class C, vendor or user equivalent
D	Hermetic pkg., no screening beyond normal Q.C.
D-1	Plastic pkg., no screening beyond normal Q.C.
S/R	See Remarks. Device quality defined in item ⑭ REMARKS
JAN	38510, Screen Class not reported
883	883, probably Method 5004, Screen Class not reported

USAGE GUIDE
DIGITAL FAILURE ANALYSIS DATA (Cont'd)

⑭ COMPLEXITY. Represents the complexity of the failed device in terms of the number of gates (G), the number of bits (B), or the number of transistors (T).

⑮ PACKAGE. Indicates the materials used for package enclosure and the type of construction used in the package design, as follows:

PACKAGE ENCLOSURES:

NONHERMETIC

EPOXY
SILICONE
PHENOLIC

HERMETIC

CERAMIC
METAL
CERAMIC/METAL
METAL/GLASS
GLASS/GLASS

PACKAGE CONSTRUCTION:

DIP	Dual In-Line Package
CAN	Can Package
FPK	Flatpack
QIP	Quad In-Line Package
LLP	Leadless Package
CRR	Chip Carrier

⑯ NUMBER OF PINS. Represents the number of pins as applied to the package construction.

⑰ QUANTITY FAILED. The quantity of failures of identical parts exhibiting the exact failure description and occurring within the same

USAGE GUIDE
DIGITAL FAILURE ANALYSIS DATA (Cont'd)

failure event (meaning identical data source, test and device information, failure analysis description, time-to-detection, etc.).

⑱ TIME-TO-DETECTION. This value, expressed in hours, represents the reported or calculated time of the device under test before a) a verified failure actually occurs or b) a verified failure is finally detected.

⑲ FAILURE INDICATOR. The failure indicator is the first externally detectable effect of a part failure.

⑳ FAILURE MODE. Specifies the internal location of the defect.

㉑ FAILURE DEFECT DESCRIPTION. The failure defect is the actual flaw which causes the component to fail.

㉒ FAILURE DEFECT CAUSE. Failure cause is the condition which activates or leads to the defect.

㉓ ACTIVATING STRESS "A" OR "B". Is usually an environmental stress which influences the rate of defect formation.

㉔ REMARKS. Contains additional comments which describe, in detail, the conditions or activities which lead to the occurrence of a failure event. This section may also contain information about device screen class levels not defined sufficiently in item ⑬.

MPEF REPORT NUMBER: 1942

MPEF REPORT DATE: 7710

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: INTERFACE
PART NUMBER: 9614
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 2

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: LINE DRIVER
PART MANUFACTURER: NOT REPORTED DATE CODE: 0
SCREEN CLASS: J-C COMPLEXITY: 40 T
NUMBER OF PINS: 16
TIME TO DETECTION: 870

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MPEF REPORT NUMBER: 1943

MPEF REPORT DATE: 7610

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: INTERFACE
PART NUMBER: 9614
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: LINE DRIVER
PART MANUFACTURER: NOT REPORTED DATE CODE: 0
SCREEN CLASS: J-C COMPLEXITY: 40 T
NUMBER OF PINS: 16
TIME TO DETECTION: 480

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MPEF REPORT NUMBER: 1944

MPEF REPORT DATE: 7709

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: INTERFACE
PART NUMBER: 9614
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: LINE DRIVER
PART MANUFACTURER: NOT REPORTED DATE CODE: 0
SCREEN CLASS: J-C COMPLEXITY: 40 T
NUMBER OF PINS: 16
TIME TO DETECTION: 840

FAILURE INDICATOR: VERIFIED OPEN NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MPEF REPORT NUMBER: 1945

MPEF REPORT DATE: 7706

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: INTERFACE
PART NUMBER: 9614
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: LINE DRIVER
PART MANUFACTURER: NOT REPORTED DATE CODE: 0
SCREEN CLASS: J-C COMPLEXITY: 40 T
NUMBER OF PINS: 16
TIME TO DETECTION: 720

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MPEF REPORT NUMBER: 1946

MPEF REPORT DATE: 7606

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: INTERFACE
PART NUMBER: 9614
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: LINE DRIVER
PART MANUFACTURER: NOT REPORTED DATE CODE: 0
SCREEN CLASS: J-C COMPLEXITY: 40 T
NUMBER OF PINS: 16
TIME TO DETECTION: 360

FAILURE INDICATOR: VERIFIED OPEN NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 1947

MFEF REPORT DATE: 7604

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: INTERFACE
PART NUMBER: 9614
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: LINE DRIVER
PART MANUFACTURER: NOT REPORTED
SCREEN CLASS: J-C
NUMBER OF PINS: 16
TIME TO DETECTION: 660

DATE CODE: 0
COMPLEXITY: 40 T

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 1948

MFEF REPORT DATE: 7706

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: INTERFACE
PART NUMBER: 9614
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: LINE DRIVER
PART MANUFACTURER: NOT REPORTED
SCREEN CLASS: J-C
NUMBER OF PINS: 16
TIME TO DETECTION: 720

DATE CODE: 0
COMPLEXITY: 40 T

FAILURE INDICATOR: VERIFIED OPEN NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 1949

MFEF REPORT DATE: 7601

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: INTERFACE
PART NUMBER: 9614
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: LINE DRIVER
PART MANUFACTURER: NOT REPORTED
SCREEN CLASS: J-C
NUMBER OF PINS: 16
TIME TO DETECTION: 240

DATE CODE: 0
COMPLEXITY: 40 T

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2141

MFEF REPORT DATE: 7906

DATA SOURCE: AI-0023 SOURCE: CHECKOUT
DEVICE FUNCTION: FLIP-FLOP
PART NUMBER: 4013A
DEVICE TECHNOLOGY: CMOS
PACKAGE: HERMETIC DIP
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: NU
CIRCUIT TYPE: D
PART MANUFACTURER: VARIOUS
SCREEN CLASS: D-1
NUMBER OF PINS: 14
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 24 G

FAILURE INDICATOR: DEGRADED NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2142

MFEF REPORT DATE: 7906

DATA SOURCE: AI-0023 SOURCE: CHECKOUT
DEVICE FUNCTION: SHIFT REGISTER
PART NUMBER: 4015A
DEVICE TECHNOLOGY: CMOS
PACKAGE: HERMETIC DIP
QUANTITY FAILED: 4

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: D-1
NUMBER OF PINS: 16
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 58 G

FAILURE INDICATOR: DEGRADED NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2143

MFEF REPORT DATE: 7906

DATA SOURCE: AI-0023 SOURCE: CHECKOUT
DEVICE FUNCTION: SHIFT REGISTER
PART NUMBER: 4015A
DEVICE TECHNOLOGY: CMOS
PACKAGE: HERMETIC DIP
QUANTITY FAILED: 4

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: D-1
NUMBER OF PINS: 16
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 58 G

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2144

MFEF REPORT DATE: 7906

DATA SOURCE: AI-0023 SOURCE: CHECKOUT
DEVICE FUNCTION: SHIFT REGISTER
PART NUMBER: 4015A
DEVICE TECHNOLOGY: CMOS
PACKAGE: HERMETIC DIP
QUANTITY FAILED: 3

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: D-1
NUMBER OF PINS: 16
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 58 G

FAILURE INDICATOR: DEGRADED NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2145

MFEF REPORT DATE: 7906

DATA SOURCE: AI-0023 SOURCE: CHECKOUT
DEVICE FUNCTION: SHIFT REGISTER
PART NUMBER: 4015A
DEVICE TECHNOLOGY: CMOS
PACKAGE: HERMETIC DIP
QUANTITY FAILED: 5

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: D-1
NUMBER OF PINS: 16
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 58 G

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2146

MFEF REPORT DATE: 7906

DATA SOURCE: AI-0023 SOURCE: CHECKOUT
DEVICE FUNCTION: COUNTER
PART NUMBER: 4024A
DEVICE TECHNOLOGY: CMOS
PACKAGE: HERMETIC DIP
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: NU
CIRCUIT TYPE: BINARY
PART MANUFACTURER: VARIOUS
SCREEN CLASS: D-1
NUMBER OF PINS: 14
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 81 G

FAILURE INDICATOR: DEGRADED NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2147

MFEF REPORT DATE: 7906

DATA SOURCE: AI-0023 SOURCE: CHECKOUT
DEVICE FUNCTION: COUNTER
PART NUMBER: 4029A
DEVICE TECHNOLOGY: CMOS
PACKAGE: HERMETIC DIP
QUANTITY FAILED: 2

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: BINARY/BCD
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-B
NUMBER OF PINS: 16
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 72 G

FAILURE INDICATOR: DEGRADED NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2148

MFEF REPORT DATE: 7906

DATA SOURCE: AI-0023 SOURCE: CHECKOUT
DEVICE FUNCTION: CONVERTER
PART NUMBER: 4050A
DEVICE TECHNOLOGY: CMOS
PACKAGE: HERMETIC DIP
QUANTITY FAILED: 3

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: BUFFER
PART MANUFACTURER: VARIOUS
SCREEN CLASS: D-1
NUMBER OF PINS: 14
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 6 G

FAILURE INDICATOR: DEGRADED NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2149

MFEF REPORT DATE: 7906

DATA SOURCE: AI-0023 SOURCE: CHECKOUT
DEVICE FUNCTION: COUNTER
PART NUMBER: 95H90
DEVICE TECHNOLOGY: ECL
PACKAGE: HERMETIC DIP
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-B
NUMBER OF PINS: 16
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 0 0

FAILURE INDICATOR: DEGRADED NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2150

MFEF REPORT DATE: 7906

DATA SOURCE: AI-0023 SOURCE: CHECKOUT
DEVICE FUNCTION: FLIP-FLOP
PART NUMBER: 54S74
DEVICE TECHNOLOGY: STTL
PACKAGE: HERMETIC DIP
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: D
PART MANUFACTURER: VARIOUS
SCREEN CLASS: D-1
NUMBER OF PINS: 14
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 12 G

FAILURE INDICATOR: DEGRADED NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2151

MFEF REPORT DATE: 7906

DATA SOURCE: AI-0023 SOURCE: CHECKOUT
DEVICE FUNCTION: COUNTER
PART NUMBER: 151
DEVICE TECHNOLOGY: TTL
PACKAGE: METAL/GLASS DIP
QUANTITY FAILED: 4

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: BCD
PART MANUFACTURER: RAYTHEON
SCREEN CLASS: J-B
NUMBER OF PINS: 14
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 0 0

FAILURE INDICATOR: DEGRADED NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2152

MFEF REPORT DATE: 7906

DATA SOURCE: AI-0023 SOURCE: CHECKOUT
DEVICE FUNCTION: COUNTER
PART NUMBER: 151
DEVICE TECHNOLOGY: TTL
PACKAGE: METAL/GLASS DIP
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: BCD
PART MANUFACTURER: RAYTHEON
SCREEN CLASS: J-B
NUMBER OF PINS: 14
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 0 0

FAILURE INDICATOR: DEGRADED NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MPEF REPORT NUMBER: 2153

MPEF REPORT DATE: 7906

DATA SOURCE: AI-0023 SOURCE: CHECKOUT
DEVICE FUNCTION: COUNTER
PART NUMBER: 151
DEVICE TECHNOLOGY: TTL
PACKAGE: METAL/GLASS DIP
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: BCD
PART MANUFACTURER: RAYTHEON DATE CODE: 0
SCREEN CLASS: J-B COMPLEXITY: 0 0
NUMBER OF PINS: 14
TIME TO DETECTION: 0

FAILURE INDICATOR: DEGRADED NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MPEF REPORT NUMBER: 2154

MPEF REPORT DATE: 7906

DATA SOURCE: AI-0023 SOURCE: CHECKOUT
DEVICE FUNCTION: INTERFACE
PART NUMBER: 5417
DEVICE TECHNOLOGY: TTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 5

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: BUFFER/DRIVER
PART MANUFACTURER: VARIOUS DATE CODE: 0
SCREEN CLASS: D-1 COMPLEXITY: 6 C
NUMBER OF PINS: 14
TIME TO DETECTION: 0

FAILURE INDICATOR: DEGRADED NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MPEF REPORT NUMBER: 2155

MPEF REPORT DATE: 7906

DATA SOURCE: AI-0023 SOURCE: CHECKOUT
DEVICE FUNCTION: INTERFACE
PART NUMBER: 5417
DEVICE TECHNOLOGY: TTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 7

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: BUFFER/DRIVER
PART MANUFACTURER: VARIOUS DATE CODE: 0
SCREEN CLASS: D-1 COMPLEXITY: 6 C
NUMBER OF PINS: 14
TIME TO DETECTION: 0

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MPEF REPORT NUMBER: 2156

MPEF REPORT DATE: 7602

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: GATE
PART NUMBER: 323
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: EXPANDABLE
PART MANUFACTURER: VARIOUS DATE CODE: 0
SCREEN CLASS: J-C COMPLEXITY: 4 C
NUMBER OF PINS: 14
TIME TO DETECTION: 210

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MPEF REPORT NUMBER: 2157

MPEF REPORT DATE: 7606

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: GATE
PART NUMBER: 16638
DEVICE TECHNOLOGY: ECL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS DATE CODE: 0
SCREEN CLASS: J-C COMPLEXITY: 4 C
NUMBER OF PINS: 14
TIME TO DETECTION: 300

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2158

MFEF REPORT DATE: 7606

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: FLIP-FLOP
PART NUMBER: 1671
DEVICE TECHNOLOGY: ECL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: D
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 14
TIME TO DETECTION: 300

DATE CODE: 0
COMPLEXITY: 6 G

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2159

MFEF REPORT DATE: 7708

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: GATE
PART NUMBER: 54H00
DEVICE TECHNOLOGY: HTTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 14
TIME TO DETECTION: 720

DATE CODE: 0
COMPLEXITY: 4 G

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2160

MFEF REPORT DATE: 7801

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: GATE
PART NUMBER: 54H00
DEVICE TECHNOLOGY: HTTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 14
TIME TO DETECTION: 840

DATE CODE: 0
COMPLEXITY: 4 G

FAILURE INDICATOR: VERIFIED OPEN NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2161

MFEF REPORT DATE: 7706

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: GATE
PART NUMBER: 54H00
DEVICE TECHNOLOGY: HTTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 14
TIME TO DETECTION: 660

DATE CODE: 0
COMPLEXITY: 4 G

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2162

MFEF REPORT DATE: 7706

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: GATE
PART NUMBER: 54H00
DEVICE TECHNOLOGY: HTTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 14
TIME TO DETECTION: 660

DATE CODE: 0
COMPLEXITY: 4 G

FAILURE INDICATOR: VERIFIED OPEN NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2163

MFEF REPORT DATE: 7702

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: GATE
PART NUMBER: 54H00
DEVICE TECHNOLOGY: HTTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 14
TIME TO DETECTION: 540

DATE CODE: 0
COMPLEXITY: 4 G

FAILURE INDICATOR: MECHANICAL ANOMALY
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2164

MFEF REPORT DATE: 7702

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: INVERTER
PART NUMBER: 54H04
DEVICE TECHNOLOGY: HTTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 2

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 14
TIME TO DETECTION: 540

DATE CODE: 0
COMPLEXITY: 6 G

FAILURE INDICATOR: MECHANICAL ANOMALY
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2165

MFEF REPORT DATE: 7702

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: INVERTER
PART NUMBER: 54H04
DEVICE TECHNOLOGY: HTTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 14
TIME TO DETECTION: 540

DATE CODE: 0
COMPLEXITY: 6 G

FAILURE INDICATOR: VERIFIED SHORT NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2166

MFEF REPORT DATE: 7702

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: GATE
PART NUMBER: 54H10/74H10
DEVICE TECHNOLOGY: HTTL
PACKAGE: N/R DIP
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: N/R
NUMBER OF PINS: 14
TIME TO DETECTION: 540

DATE CODE: 0
COMPLEXITY: 3 G

FAILURE INDICATOR: VERIFIED SHORT NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2167

MFEF REPORT DATE: 7801

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: GATE
PART NUMBER: 54H10/74H10
DEVICE TECHNOLOGY: HTTL
PACKAGE: N/R DIP
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: N/R
NUMBER OF PINS: 14
TIME TO DETECTION: 870

DATE CODE: 0
COMPLEXITY: 3 G

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2168

MFEF REPORT DATE: 7702

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: GATE
PART NUMBER: 54H21
DEVICE TECHNOLOGY: HTTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS DATE CODE: 0
SCREEN CLASS: J-C COMPLEXITY: 2 G
NUMBER OF PINS: 14
TIME TO DETECTION: 540

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2169

MFEF REPORT DATE: 7603

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: GATE
PART NUMBER: 54H21
DEVICE TECHNOLOGY: HTTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS DATE CODE: 0
SCREEN CLASS: J-C COMPLEXITY: 2 G
NUMBER OF PINS: 14
TIME TO DETECTION: 210

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2170

MFEF REPORT DATE: 7605

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: GATE
PART NUMBER: 54H21
DEVICE TECHNOLOGY: HTTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS DATE CODE: 0
SCREEN CLASS: J-C COMPLEXITY: 2 G
NUMBER OF PINS: 14
TIME TO DETECTION: 300

FAILURE INDICATOR: VERIFIED SHORT NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2171

MFEF REPORT DATE: 7709

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: GATE
PART NUMBER: 54H21
DEVICE TECHNOLOGY: HTTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS DATE CODE: 0
SCREEN CLASS: J-C COMPLEXITY: 2 G
NUMBER OF PINS: 14
TIME TO DETECTION: 750

FAILURE INDICATOR: VERIFIED OPEN NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2172

MFEF REPORT DATE: 7604

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: BUFFER
PART NUMBER: 54H40
DEVICE TECHNOLOGY: HTTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS DATE CODE: 0
SCREEN CLASS: J-C COMPLEXITY: 2 G
NUMBER OF PINS: 14
TIME TO DETECTION: 240

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2173

MFEF REPORT DATE: 7710

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: FLIP-FLOP
PART NUMBER: 2124
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 2

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: JK
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 14
TIME TO DETECTION: 780

DATE CODE: 0
COMPLEXITY: 20 G

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2174

MFEF REPORT DATE: 7707

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: GATE
PART NUMBER: 100
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 2

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 14
TIME TO DETECTION: 690

DATE CODE: 0
COMPLEXITY: 2 G

FAILURE INDICATOR: VERIFIED SHORT NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2175

MFEF REPORT DATE: 7607

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: GATE
PART NUMBER: 100
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 14
TIME TO DETECTION: 330

DATE CODE: 0
COMPLEXITY: 2 G

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2176

MFEF REPORT DATE: 7704

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: GATE
PART NUMBER: 106
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 14
TIME TO DETECTION: 600

DATE CODE: 0
COMPLEXITY: 4 G

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2177

MFEF REPORT DATE: 7707

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: GATE
PART NUMBER: 106
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 14
TIME TO DETECTION: 690

DATE CODE: 0
COMPLEXITY: 4 G

FAILURE INDICATOR: VERIFIED SHORT NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2178

MFEF REPORT DATE: 7601

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: GATE
PART NUMBER: 5400
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 14
TIME TO DETECTION: 150

DATE CODE: 0
COMPLEXITY: 4 C

FAILURE INDICATOR: VERIFIED OPEN NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2179

MFEF REPORT DATE: 7601

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: GATE
PART NUMBER: 5400
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 14
TIME TO DETECTION: 150

DATE CODE: 0
COMPLEXITY: 4 C

FAILURE INDICATOR: IMPROPER OUTPUT NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2180

MFEF REPORT DATE: 7801

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: GATE
PART NUMBER: 5400
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 14
TIME TO DETECTION: 870

DATE CODE: 0
COMPLEXITY: 4 C

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2181

MFEF REPORT DATE: 7607

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: GATE
PART NUMBER: 5400
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 14
TIME TO DETECTION: 330

DATE CODE: 0
COMPLEXITY: 4 C

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2182

MFEF REPORT DATE: 7706

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: GATE
PART NUMBER: 5400
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 2

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 14
TIME TO DETECTION: 660

DATE CODE: 0
COMPLEXITY: 4 C

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2183

MFEF REPORT DATE: 7801

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: INVERTER
PART NUMBER: 5404
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 14
TIME TO DETECTION: 870

DATE CODE: 0
COMPLEXITY: 6 G

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2184

MFEF REPORT DATE: 7806

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: GATE
PART NUMBER: 5410
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 14
TIME TO DETECTION: 660

DATE CODE: 0
COMPLEXITY: 3 G

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2185

MFEF REPORT DATE: 7712

DATA SOURCE: A1-0022 SOURCE: FIELD
DEVICE FUNCTION: FLIP-FLOP
PART NUMBER: 54122
DEVICE TECHNOLOGY: TTL
PACKAGE: CERAMIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AIF
CIRCUIT TYPE: MONOSTABLE
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-B
NUMBER OF PINS: 14
TIME TO DETECTION: 480

DATE CODE: 0
COMPLEXITY: 10 G

FAILURE INDICATOR: VERIFIED OPEN NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2186

MFEF REPORT DATE: 7801

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: DECODER/DEMULTIPLEX
PART NUMBER: 54155
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 16
TIME TO DETECTION: 870

DATE CODE: 0
COMPLEXITY: 15 G

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2187

MFEF REPORT DATE: 7801

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: LOGIC UNIT
PART NUMBER: 54181
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: ARITHMETIC
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 24
TIME TO DETECTION: 870

DATE CODE: 0
COMPLEXITY: 63 G

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MPEF REPORT NUMBER: 2188

MPEF REPORT DATE: 7606

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: GATE
PART NUMBER: 5420
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC PPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 14
TIME TO DETECTION: 300

DATE CODE: 0
COMPLEXITY: 2 G

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MPEF REPORT NUMBER: 2189

MPEF REPORT DATE: 7703

DATA SOURCE: AU-0005 SOURCE: FIELD
DEVICE FUNCTION: GATE
PART NUMBER: 5451
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC PPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AUF
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-B
NUMBER OF PINS: 14
TIME TO DETECTION: 570

DATE CODE: 0
COMPLEXITY: 6 G

FAILURE INDICATOR: VERIFIED OPEN NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MPEF REPORT NUMBER: 2190

MPEF REPORT DATE: 7609

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: FLIP-FLOP
PART NUMBER: 5472
DEVICE TECHNOLOGY: TTL
PACKAGE: CERAMIC PPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: JK
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 14
TIME TO DETECTION: 300

DATE CODE: 0
COMPLEXITY: 16 G

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MPEF REPORT NUMBER: 2191

MPEF REPORT DATE: 7605

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: FLIP-FLOP
PART NUMBER: 5472
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC PPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: JK
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 14
TIME TO DETECTION: 270

DATE CODE: 0
COMPLEXITY: 8 G

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MPEF REPORT NUMBER: 2192

MPEF REPORT DATE: 7702

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: FLIP-FLOP
PART NUMBER: 5472
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC PPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: JK
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 14
TIME TO DETECTION: 540

DATE CODE: 0
COMPLEXITY: 8 G

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2193

MFEF REPORT DATE: 7709

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: FLIP-FLOP
PART NUMBER: 5472
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: JK
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 14
TIME TO DETECTION: 750

DATE CODE: 0
COMPLEXITY: 8 G

FAILURE INDICATOR: VERIFIED OPEN NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2194

MFEF REPORT DATE: 7606

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: FLIP-FLOP
PART NUMBER: 5472
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: JK
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 14
TIME TO DETECTION: 300

DATE CODE: 0
COMPLEXITY: 8 G

FAILURE INDICATOR: VERIFIED OPEN NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2195

MFEF REPORT DATE: 7606

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: FLIP-FLOP
PART NUMBER: 5473
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: JK
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 14
TIME TO DETECTION: 300

DATE CODE: 0
COMPLEXITY: 16 G

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2196

MFEF REPORT DATE: 7703

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: FLIP-FLOP
PART NUMBER: 5474
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: D
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 14
TIME TO DETECTION: 570

DATE CODE: 0
COMPLEXITY: 12 G

FAILURE INDICATOR: IMPROPER OUTPUT NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2197

MFEF REPORT DATE: 7602

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: ADDER
PART NUMBER: 5482
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: FULL
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 14
TIME TO DETECTION: 180

DATE CODE: 0
COMPLEXITY: 21 G

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2198

MFEF REPORT DATE: 7606

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: SHIFT REGISTER
PART NUMBER: 8202
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 24
TIME TO DETECTION: 300

DATE CODE: 0
COMPLEXITY: 66 G

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2199

MFEF REPORT DATE: 7709

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: SHIFT REGISTER
PART NUMBER: 8202
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 24
TIME TO DETECTION: 750

DATE CODE: 0
COMPLEXITY: 66 G

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2200

MFEF REPORT DATE: 7801

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: SHIFT REGISTER
PART NUMBER: 8202
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 24
TIME TO DETECTION: 870

DATE CODE: 0
COMPLEXITY: 66 G

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2201

MFEF REPORT DATE: 7602

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: FLIP-FLOP
PART NUMBER: 9024
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: JK
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 16
TIME TO DETECTION: 180

DATE CODE: 0
COMPLEXITY: 0 0

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2202

MFEF REPORT DATE: 7609

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: FLIP-FLOP
PART NUMBER: 9024
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: JK
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 16
TIME TO DETECTION: 390

DATE CODE: 0
COMPLEXITY: 0 0

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2203

MFEF REPORT DATE: 7712

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: FLIP-FLOP
PART NUMBER: 9024
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 2

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: JK
PART MANUFACTURER: VARIOUS DATE CODE: 0
SCREEN CLASS: J-C COMPLEXITY: 0 0
NUMBER OF PINS: 16
TIME TO DETECTION: 840

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2204

MFEF REPORT DATE: 7610

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: FLIP-FLOP
PART NUMBER: 9024
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: JK
PART MANUFACTURER: VARIOUS DATE CODE: 0
SCREEN CLASS: J-C COMPLEXITY: 0 0
NUMBER OF PINS: 16
TIME TO DETECTION: 420

FAILURE INDICATOR: IMPROPER OUTPUT NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2205

MFEF REPORT DATE: 7702

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: MULTIPLEXER
PART NUMBER: 9309
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 3

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS DATE CODE: 0
SCREEN CLASS: J-C COMPLEXITY: 16 0
NUMBER OF PINS: 16
TIME TO DETECTION: 540

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2206

MFEF REPORT DATE: 7706

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: MULTIPLEXER
PART NUMBER: 9309
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS DATE CODE: 0
SCREEN CLASS: J-C COMPLEXITY: 16 0
NUMBER OF PINS: 16
TIME TO DETECTION: 660

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2207

MFEF REPORT DATE: 7602

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: MULTIPLEXER
PART NUMBER: 9309
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS DATE CODE: 0
SCREEN CLASS: J-C COMPLEXITY: 16 0
NUMBER OF PINS: 16
TIME TO DETECTION: 180

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2208

MFEF REPORT DATE: 7606

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: MULTIPLEXER
PART NUMBER: 9312
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 16
TIME TO DETECTION: 300

DATE CODE: 0
COMPLEXITY: 17 G

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2209

MFEF REPORT DATE: 7707

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: MULTIPLEXER
PART NUMBER: 9312
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 16
TIME TO DETECTION: 690

DATE CODE: 0
COMPLEXITY: 17 G

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2210

MFEF REPORT DATE: 7712

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: COUNTER
PART NUMBER: 9316
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: BINARY
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 16
TIME TO DETECTION: 840

DATE CODE: 0
COMPLEXITY: 57 G

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2215

MFEF REPORT DATE: 7609

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: FLIP-FLOP
PART NUMBER: 9601
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 2

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: MONOSTABLE
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 14
TIME TO DETECTION: 390

DATE CODE: 0
COMPLEXITY: 8 G

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2216

MFEF REPORT DATE: 7610

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: FLIP-FLOP
PART NUMBER: 9601
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: MONOSTABLE
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 14
TIME TO DETECTION: 420

DATE CODE: 0
COMPLEXITY: 8 G

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2217

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: INVERTER
PART NUMBER: 836
DEVICE TECHNOLOGY: DTL
PACKAGE: N/R DIP
QUANTITY FAILED: 2

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS DATE CODE: 0
SCREEN CLASS: N/R COMPLEXITY: 6 G
NUMBER OF PINS: 14
TIME TO DETECTION: 0

FAILURE INDICATOR: VERIFIED SHORT NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2218

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: GATE
PART NUMBER: 946
DEVICE TECHNOLOGY: DTL
PACKAGE: EPOXY DIP
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS DATE CODE: 0
SCREEN CLASS: D COMPLEXITY: 4 G
NUMBER OF PINS: 14
TIME TO DETECTION: 0

FAILURE INDICATOR: VERIFIED SHORT NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2219

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: FLIP-FLOP
PART NUMBER: 951
DEVICE TECHNOLOGY: DTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: MONOSTABLE
PART MANUFACTURER: VARIOUS DATE CODE: 0
SCREEN CLASS: C-2 COMPLEXITY: 6 G
NUMBER OF PINS: 14
TIME TO DETECTION: 0

FAILURE INDICATOR: VERIFIED SHORT NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2220

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: FLIP-FLOP
PART NUMBER: 54/74H103
DEVICE TECHNOLOGY: HTTL
PACKAGE: N/R DIP
QUANTITY FAILED: 2

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: JK
PART MANUFACTURER: VARIOUS DATE CODE: 0
SCREEN CLASS: N/R COMPLEXITY: 12 G
NUMBER OF PINS: 14
TIME TO DETECTION: 0

FAILURE INDICATOR: VERIFIED OPEN NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2221

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: FLIP-FLOP
PART NUMBER: 54/74H106
DEVICE TECHNOLOGY: HTTL
PACKAGE: N/R DIP
QUANTITY FAILED: 2

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: JK
PART MANUFACTURER: VARIOUS DATE CODE: 0
SCREEN CLASS: N/R COMPLEXITY: 16 G
NUMBER OF PINS: 16
TIME TO DETECTION: 0

FAILURE INDICATOR: VERIFIED OPEN NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2222

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: GATE
PART NUMBER: 54H10/74H10
DEVICE TECHNOLOGY: HTTL
PACKAGE: N/R DIP
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: N/R
NUMBER OF PINS: 14
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 3 G

FAILURE INDICATOR: VERIFIED OPEN NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2223

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: GATE
PART NUMBER: 54H21/74H21
DEVICE TECHNOLOGY: HTTL
PACKAGE: N/R DIP
QUANTITY FAILED: 4

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: N/R
NUMBER OF PINS: 14
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 2 G

FAILURE INDICATOR: DEGRADED NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2224

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: GATE
PART NUMBER: 74H00
DEVICE TECHNOLOGY: HTTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: C-2
NUMBER OF PINS: 14
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 4 G

FAILURE INDICATOR: VERIFIED SHORT NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2225

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: INVERTER
PART NUMBER: 74H04
DEVICE TECHNOLOGY: HTTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: C-2
NUMBER OF PINS: 14
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 6 G

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2226

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: INVERTER
PART NUMBER: 74H04
DEVICE TECHNOLOGY: HTTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: C-2
NUMBER OF PINS: 14
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 6 G

FAILURE INDICATOR: VERIFIED OPEN NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2227

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: INVERTER
PART NUMBER: 74H04
DEVICE TECHNOLOGY: HTTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS DATE CODE: 0
SCREEN CLASS: C-2 COMPLEXITY: 6 C
NUMBER OF PINS: 14
TIME TO DETECTION: 0

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2228

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: INVERTER
PART NUMBER: 74H04
DEVICE TECHNOLOGY: HTTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 2

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS DATE CODE: 0
SCREEN CLASS: C-2 COMPLEXITY: 6 C
NUMBER OF PINS: 14
TIME TO DETECTION: 0

FAILURE INDICATOR: DEGRADED NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2229

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: INVERTER
PART NUMBER: 74H05
DEVICE TECHNOLOGY: HTTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS DATE CODE: 0
SCREEN CLASS: C-2 COMPLEXITY: 6 C
NUMBER OF PINS: 14
TIME TO DETECTION: 0

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2230

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: INVERTER
PART NUMBER: 74H05
DEVICE TECHNOLOGY: HTTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS DATE CODE: 0
SCREEN CLASS: C-2 COMPLEXITY: 6 C
NUMBER OF PINS: 14
TIME TO DETECTION: 0

FAILURE INDICATOR: VERIFIED OPEN NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2231

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: GATE
PART NUMBER: 74H10
DEVICE TECHNOLOGY: HTTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS DATE CODE: 0
SCREEN CLASS: C-2 COMPLEXITY: 3 C
NUMBER OF PINS: 14
TIME TO DETECTION: 0

FAILURE INDICATOR: VERIFIED OPEN NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2232

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: FLIP-FLOP
PART NUMBER: 74H103
DEVICE TECHNOLOGY: HTTL
PACKAGE: N/R DIP
QUANTITY FAILED: 3

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: JK
PART MANUFACTURER: VARIOUS DATE CODE: 0
SCREEN CLASS: N/R COMPLEXITY: 12 G
NUMBER OF PINS: 0
TIME TO DETECTION: 0

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2233

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: FLIP-FLOP
PART NUMBER: 74H106
DEVICE TECHNOLOGY: HTTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: JK
PART MANUFACTURER: VARIOUS DATE CODE: 0
SCREEN CLASS: C-2 COMPLEXITY: 16 G
NUMBER OF PINS: 16
TIME TO DETECTION: 0

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2234

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: FLIP-FLOP
PART NUMBER: 74H106
DEVICE TECHNOLOGY: HTTL
PACKAGE: N/R DIP
QUANTITY FAILED: 22

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: JK
PART MANUFACTURER: VARIOUS DATE CODE: 0
SCREEN CLASS: N/R COMPLEXITY: 16 G
NUMBER OF PINS: 16
TIME TO DETECTION: 0

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2235

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: GATE
PART NUMBER: 74H11
DEVICE TECHNOLOGY: HTTL
PACKAGE: N/R DIP
QUANTITY FAILED: 2

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS DATE CODE: 0
SCREEN CLASS: C-2 COMPLEXITY: 3 G
NUMBER OF PINS: 14
TIME TO DETECTION: 0

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2236

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: GATE
PART NUMBER: 74H20
DEVICE TECHNOLOGY: HTTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 3

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS DATE CODE: 0
SCREEN CLASS: C-2 COMPLEXITY: 2 G
NUMBER OF PINS: 14
TIME TO DETECTION: 0

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2237

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: BUFFER
PART NUMBER: 74H40
DEVICE TECHNOLOGY: HTTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: C-2
NUMBER OF PINS: 14
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 2 G

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2238

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: GATE
PART NUMBER: 74H51
DEVICE TECHNOLOGY: HTTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 2

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: C-2
NUMBER OF PINS: 14
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 6 G

FAILURE INDICATOR: DEGRADED NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2239

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: GATE
PART NUMBER: 74H52
DEVICE TECHNOLOGY: HTTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 2

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: EXPANDABLE
PART MANUFACTURER: VARIOUS
SCREEN CLASS: C-2
NUMBER OF PINS: 14
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 5 G

FAILURE INDICATOR: DEGRADED NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2240

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: GATE
PART NUMBER: 74H52
DEVICE TECHNOLOGY: HTTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 8

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: EXPANDABLE
PART MANUFACTURER: VARIOUS
SCREEN CLASS: C-2
NUMBER OF PINS: 14
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 5 G

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2241

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: EXPANDER
PART NUMBER: 74H61
DEVICE TECHNOLOGY: HTTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 2

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: C-2
NUMBER OF PINS: 14
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 3 G

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2242

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: FLIP-FLOP
PART NUMBER: 74H78
DEVICE TECHNOLOGY: HTTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: JK
PART MANUFACTURER: VARIOUS DATE CODE: 0
SCREEN CLASS: C-2 COMPLEXITY: 16 G
NUMBER OF PINS: 14
TIME TO DETECTION: 0

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2243

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: FLIP-FLOP
PART NUMBER: 74H78
DEVICE TECHNOLOGY: HTTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 3

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: JK
PART MANUFACTURER: VARIOUS DATE CODE: 0
SCREEN CLASS: C-2 COMPLEXITY: 16 G
NUMBER OF PINS: 14
TIME TO DETECTION: 0

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2246

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: COUNTER
PART NUMBER: 5493/7493
DEVICE TECHNOLOGY: TTL
PACKAGE: N/R DIP
QUANTITY FAILED: 2

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: BINARY
PART MANUFACTURER: VARIOUS DATE CODE: 0
SCREEN CLASS: N/R COMPLEXITY: 25 G
NUMBER OF PINS: 14
TIME TO DETECTION: 0

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2247

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: GATE
PART NUMBER: 7400
DEVICE TECHNOLOGY: TTL
PACKAGE: N/R DIP
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS DATE CODE: 0
SCREEN CLASS: N/R COMPLEXITY: 4 G
NUMBER OF PINS: 14
TIME TO DETECTION: 0

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2248

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: GATE
PART NUMBER: 7400
DEVICE TECHNOLOGY: TTL
PACKAGE: N/R DIP
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS DATE CODE: 0
SCREEN CLASS: N/R COMPLEXITY: 4 G
NUMBER OF PINS: 14
TIME TO DETECTION: 0

FAILURE INDICATOR: VERIFIED SHORT NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2249

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: GATE
PART NUMBER: 7401
DEVICE TECHNOLOGY: TTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS DATE CODE: 0
SCREEN CLASS: C-2 COMPLEXITY: 4 G
NUMBER OF PINS: 14
TIME TO DETECTION: 0

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2250

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: INVERTER
PART NUMBER: 7404
DEVICE TECHNOLOGY: TTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS DATE CODE: 0
SCREEN CLASS: C-2 COMPLEXITY: 6 G
NUMBER OF PINS: 14
TIME TO DETECTION: 0

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2251

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: INVERTER
PART NUMBER: 7404
DEVICE TECHNOLOGY: TTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS DATE CODE: 0
SCREEN CLASS: C-2 COMPLEXITY: 6 G
NUMBER OF PINS: 14
TIME TO DETECTION: 0

FAILURE INDICATOR: VERIFIED OPEN NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2252

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: INVERTER
PART NUMBER: 7404
DEVICE TECHNOLOGY: TTL
PACKAGE: N/R DIP
QUANTITY FAILED: 4

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS DATE CODE: 0
SCREEN CLASS: N/R COMPLEXITY: 6 G
NUMBER OF PINS: 14
TIME TO DETECTION: 0

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2253

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: INVERTER
PART NUMBER: 7404
DEVICE TECHNOLOGY: TTL
PACKAGE: N/R DIP
QUANTITY FAILED: 2

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS DATE CODE: 0
SCREEN CLASS: N/R COMPLEXITY: 6 G
NUMBER OF PINS: 14
TIME TO DETECTION: 0

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2254 MFEF REPORT DATE: 7803
DATA SOURCE: GB-0005 SOURCE: FIELD DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
DEVICE FUNCTION: INVERTER CIRCUIT TYPE: N/R
PART NUMBER: 7404 PART MANUFACTURER: VARIOUS DATE CODE: 0
DEVICE TECHNOLOGY: TTL SCREEN CLASS: N/R COMPLEXITY: 6 G
PACKAGE: N/R DIP NUMBER OF PINS: 14
QUANTITY FAILED: 1 TIME TO DETECTION: 0
FAILURE INDICATOR: VERIFIED SHORT NOC FAILURE MODE: N/R
DEFECT DESCRIPTION: N/R DEFECT CAUSE: N/R
ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2255 MFEF REPORT DATE: 7803
DATA SOURCE: GB-0005 SOURCE: FIELD DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
DEVICE FUNCTION: GATE CIRCUIT TYPE: N/R
PART NUMBER: 7404 PART MANUFACTURER: VARIOUS DATE CODE: 0
DEVICE TECHNOLOGY: TTL SCREEN CLASS: N/R COMPLEXITY: 6 G
PACKAGE: N/R DIP NUMBER OF PINS: 14
QUANTITY FAILED: 1 TIME TO DETECTION: 0
FAILURE INDICATOR: VERIFIED OPEN NOC FAILURE MODE: N/R
DEFECT DESCRIPTION: N/R DEFECT CAUSE: N/R
ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2256 MFEF REPORT DATE: 7803
DATA SOURCE: GB-0005 SOURCE: FIELD DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
DEVICE FUNCTION: INTERFACE CIRCUIT TYPE: BUFFER/DRIVER
PART NUMBER: 7406 PART MANUFACTURER: VARIOUS DATE CODE: 0
DEVICE TECHNOLOGY: TTL SCREEN CLASS: C-2 COMPLEXITY: 6 G
PACKAGE: CERAMIC DIP NUMBER OF PINS: 14
QUANTITY FAILED: 1 TIME TO DETECTION: 0
FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS FAILURE MODE: N/R
DEFECT DESCRIPTION: N/R DEFECT CAUSE: N/R
ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2257 MFEF REPORT DATE: 7803
DATA SOURCE: GB-0005 SOURCE: FIELD DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
DEVICE FUNCTION: INTERFACE CIRCUIT TYPE: BUFFER/DRIVER
PART NUMBER: 7406 PART MANUFACTURER: VARIOUS DATE CODE: 0
DEVICE TECHNOLOGY: TTL SCREEN CLASS: N/R COMPLEXITY: 6 G
PACKAGE: N/R DIP NUMBER OF PINS: 14
QUANTITY FAILED: 1 TIME TO DETECTION: 0
FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS FAILURE MODE: N/R
DEFECT DESCRIPTION: N/R DEFECT CAUSE: N/R
ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2258 MFEF REPORT DATE: 7803
DATA SOURCE: GB-0005 SOURCE: FIELD DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
DEVICE FUNCTION: FLIP-FLOP CIRCUIT TYPE: JK
PART NUMBER: 74107 PART MANUFACTURER: VARIOUS DATE CODE: 0
DEVICE TECHNOLOGY: TTL SCREEN CLASS: C-2 COMPLEXITY: 16 G
PACKAGE: CERAMIC DIP NUMBER OF PINS: 14
QUANTITY FAILED: 1 TIME TO DETECTION: 0
FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS FAILURE MODE: N/R
DEFECT DESCRIPTION: N/R DEFECT CAUSE: N/R
ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2259

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: FLIP-FLOP
PART NUMBER: 74107
DEVICE TECHNOLOGY: TTL
PACKAGE: N/R DIP
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: JK
PART MANUFACTURER: VARIOUS DATE CODE: 0
SCREEN CLASS: N/R COMPLEXITY: 16 G
NUMBER OF PINS: 14
TIME TO DETECTION: 0

FAILURE INDICATOR: VERIFIED SHORT NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2260

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: MULTIPLEXER
PART NUMBER: 74150
DEVICE TECHNOLOGY: TTL
PACKAGE: EPOXY DIP
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS DATE CODE: 0
SCREEN CLASS: D COMPLEXITY: 26 G
NUMBER OF PINS: 24
TIME TO DETECTION: 0

FAILURE INDICATOR: IMPROPER OUTPUT NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2261

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: MULTIPLEXER
PART NUMBER: 74151
DEVICE TECHNOLOGY: TTL
PACKAGE: N/R DIP
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS DATE CODE: 0
SCREEN CLASS: N/R COMPLEXITY: 17 G
NUMBER OF PINS: 16
TIME TO DETECTION: 0

FAILURE INDICATOR: VERIFIED OPEN NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2262

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: DECODER/DEMUTIPLEX
PART NUMBER: 74155
DEVICE TECHNOLOGY: TTL
PACKAGE: N/R DIP
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS DATE CODE: 0
SCREEN CLASS: N/R COMPLEXITY: 15 G
NUMBER OF PINS: 16
TIME TO DETECTION: 0

FAILURE INDICATOR: VERIFIED OPEN NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2263

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: GATE
PART NUMBER: 7420
DEVICE TECHNOLOGY: TTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 4

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS DATE CODE: 0
SCREEN CLASS: C-2 COMPLEXITY: 2 G
NUMBER OF PINS: 14
TIME TO DETECTION: 0

FAILURE INDICATOR: DEGRADED NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2264

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: COUNTER
PART NUMBER: 7493
DEVICE TECHNOLOGY: TTL
PACKAGE: N/R DIP
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: BINARY
PART MANUFACTURER: VARIOUS
SCREEN CLASS: N/R
NUMBER OF PINS: 14
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 25 G

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2265

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: SHIFT REGISTER
PART NUMBER: 7495
DEVICE TECHNOLOGY: TTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: C-2
NUMBER OF PINS: 14
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 37 G

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2266

MFEF REPORT DATE: 7711

DATA SOURCE: PM-0005 SOURCE: LIFE
DEVICE FUNCTION: GATE
PART NUMBER: 10102
DEVICE TECHNOLOGY: ECL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: SIGNETICS
SCREEN CLASS: C-2
NUMBER OF PINS: 16
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 4 G

FAILURE INDICATOR: LEAKAGE NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: SURFACE
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2267

MFEF REPORT DATE: 7711

DATA SOURCE: PM-0005 SOURCE: LIFE
DEVICE FUNCTION: GATE
PART NUMBER: 10109
DEVICE TECHNOLOGY: ECL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: SIGNETICS
SCREEN CLASS: C-2
NUMBER OF PINS: 16
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 2 G

FAILURE INDICATOR: DEGRADED NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2268

MFEF REPORT DATE: 7711

DATA SOURCE: PM-0005 SOURCE: LIFE
DEVICE FUNCTION: GATE
PART NUMBER: 10109
DEVICE TECHNOLOGY: ECL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: SIGNETICS
SCREEN CLASS: C-2
NUMBER OF PINS: 16
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 2 G

FAILURE INDICATOR: LEAKAGE NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: SURFACE
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2269

MFEF REPORT DATE: 7711

DATA SOURCE: PM-0005 SOURCE: LIFE
DEVICE FUNCTION: FLIP-FLOP
PART NUMBER: 10131
DEVICE TECHNOLOGY: TTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: D
PART MANUFACTURER: SIGNETICS DATE CODE: 0
SCREEN CLASS: C-2 COMPLEXITY: 14 0
NUMBER OF PINS: 16
TIME TO DETECTION: 0

FAILURE INDICATOR: DEGRADED NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2270

MFEF REPORT DATE: 7711

DATA SOURCE: PM-0005 SOURCE: LIFE
DEVICE FUNCTION: SHIFT REGISTER
PART NUMBER: 10141
DEVICE TECHNOLOGY: ECL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: SIGNETICS DATE CODE: 0
SCREEN CLASS: C-2 COMPLEXITY: 0 0
NUMBER OF PINS: 16
TIME TO DETECTION: 0

FAILURE INDICATOR: LEAKAGE NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: SURFACE
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2271

MFEF REPORT DATE: 7711

DATA SOURCE: PM-0005 SOURCE: LIFE
DEVICE FUNCTION: SHIFT REGISTER
PART NUMBER: 10141
DEVICE TECHNOLOGY: ECL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: SIGNETICS DATE CODE: 0
SCREEN CLASS: C-2 COMPLEXITY: 0 0
NUMBER OF PINS: 16
TIME TO DETECTION: 0

FAILURE INDICATOR: DEGRADED NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: METALIZATION NOC
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2272

MFEF REPORT DATE: 7711

DATA SOURCE: PM-0005 SOURCE: LIFE
DEVICE FUNCTION: SHIFT REGISTER
PART NUMBER: 10141
DEVICE TECHNOLOGY: ECL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: SIGNETICS DATE CODE: 0
SCREEN CLASS: C-2 COMPLEXITY: 0 0
NUMBER OF PINS: 16
TIME TO DETECTION: 0

FAILURE INDICATOR: DEGRADED NOC
DEFECT DESCRIPTION: MASK FAULT

FAILURE MODE: DIE NOC
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2273

MFEF REPORT DATE: 7711

DATA SOURCE: PM-0005 SOURCE: LIFE
DEVICE FUNCTION: SHIFT REGISTER
PART NUMBER: 10141
DEVICE TECHNOLOGY: ECL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: SIGNETICS DATE CODE: 0
SCREEN CLASS: C-2 COMPLEXITY: 0 0
NUMBER OF PINS: 16
TIME TO DETECTION: 0

FAILURE INDICATOR: DEGRADED NOC
DEFECT DESCRIPTION: MASK FAULT

FAILURE MODE: DIE NOC
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2274

MFEF REPORT DATE: 7711

DATA SOURCE: PH-0005 SOURCE: LIFE
DEVICE FUNCTION: SHIFT REGISTER
PART NUMBER: 10141
DEVICE TECHNOLOGY: ECL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: SIGNETICS DATE CODE: 0
SCREEN CLASS: C-2 COMPLEXITY: 0 0
NUMBER OF PINS: 16
TIME TO DETECTION: 0

FAILURE INDICATOR: DEGRADED NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2275

MFEF REPORT DATE: 7711

DATA SOURCE: PH-0005 SOURCE: LIFE
DEVICE FUNCTION: MULTIPLEXER
PART NUMBER: 10164
DEVICE TECHNOLOGY: ECL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: SIGNETICS DATE CODE: 0
SCREEN CLASS: C-2 COMPLEXITY: 12 G
NUMBER OF PINS: 16
TIME TO DETECTION: 0

FAILURE INDICATOR: LEAKAGE NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: SURFACE
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2277

MFEF REPORT DATE: 7711

DATA SOURCE: PH-0005 SOURCE: LIFE
DEVICE FUNCTION: MULTIPLEXER
PART NUMBER: 10164
DEVICE TECHNOLOGY: ECL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: SIGNETICS DATE CODE: 0
SCREEN CLASS: C-2 COMPLEXITY: 12 G
NUMBER OF PINS: 16
TIME TO DETECTION: 0

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: SURFACE
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2278

MFEF REPORT DATE: 7711

DATA SOURCE: PH-0005 SOURCE: LIFE
DEVICE FUNCTION: MULTIPLEXER
PART NUMBER: 10164
DEVICE TECHNOLOGY: ECL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 6

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: SIGNETICS DATE CODE: 0
SCREEN CLASS: C-2 COMPLEXITY: 12 G
NUMBER OF PINS: 16
TIME TO DETECTION: 0

FAILURE INDICATOR: LEAKAGE NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: SURFACE
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2279

MFEF REPORT DATE: 7711

DATA SOURCE: PH-0005 SOURCE: LIFE
DEVICE FUNCTION: MULTIPLEXER
PART NUMBER: 10164
DEVICE TECHNOLOGY: ECL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 3

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: SIGNETICS DATE CODE: 0
SCREEN CLASS: C-2 COMPLEXITY: 12 G
NUMBER OF PINS: 16
TIME TO DETECTION: 0

FAILURE INDICATOR: LEAKAGE NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: SURFACE
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2280

MFEF REPORT DATE: 7711

DATA SOURCE: PM-0005 SOURCE: LIFE
DEVICE FUNCTION: MULTIPLEXER
PART NUMBER: 10164
DEVICE TECHNOLOGY: ECL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: SIGNETICS DATE CODE: 0
SCREEN CLASS: C-2 COMPLEXITY: 12 G
NUMBER OF PINS: 16
TIME TO DETECTION: 0

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2281

MFEF REPORT DATE: 7711

DATA SOURCE: PM-0005 SOURCE: LIFE
DEVICE FUNCTION: FLIP-FLOP
PART NUMBER: 54H103
DEVICE TECHNOLOGY: HTTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: JK
PART MANUFACTURER: SIGNETICS DATE CODE: 0
SCREEN CLASS: D-1 COMPLEXITY: 12 G
NUMBER OF PINS: 14
TIME TO DETECTION: 0

FAILURE INDICATOR: LEAKAGE NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: SURFACE
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS: 168 HR BURN-IN

MFEF REPORT NUMBER: 2282

MFEF REPORT DATE: 7711

DATA SOURCE: PM-0005 SOURCE: LIFE
DEVICE FUNCTION: FLIP-FLOP
PART NUMBER: 54H72
DEVICE TECHNOLOGY: HTTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: JK
PART MANUFACTURER: SIGNETICS DATE CODE: 0
SCREEN CLASS: D-1 COMPLEXITY: 8 G
NUMBER OF PINS: 14
TIME TO DETECTION: 0

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: SURFACE
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS: 168 HR BURN-IN

MFEF REPORT NUMBER: 2283

MFEF REPORT DATE: 7711

DATA SOURCE: PM-0005 SOURCE: LIFE
DEVICE FUNCTION: FLIP-FLOP
PART NUMBER: 54H74
DEVICE TECHNOLOGY: HTTL
PACKAGE: CERAMIC FPK
QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: D
PART MANUFACTURER: SIGNETICS DATE CODE: 0
SCREEN CLASS: C-2 COMPLEXITY: 12 G
NUMBER OF PINS: 14
TIME TO DETECTION: 0

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: MASK FAULT

FAILURE MODE: DIE NOC
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2284

MFEF REPORT DATE: 7711

DATA SOURCE: PM-0005 SOURCE: LIFE
DEVICE FUNCTION: GATE
PART NUMBER: 74LS00
DEVICE TECHNOLOGY: LSTTL
PACKAGE: EPOXY DIP
QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: SIGNETICS DATE CODE: 0
SCREEN CLASS: D COMPLEXITY: 4 G
NUMBER OF PINS: 14
TIME TO DETECTION: 0

FAILURE INDICATOR: LEAKAGE NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: SURFACE
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MPEF REPORT NUMBER: 2285

MPEF REPORT DATE: 7711

DATA SOURCE: PM-0005 SOURCE: LIFE
DEVICE FUNCTION: INVERTER
PART NUMBER: 74LS04
DEVICE TECHNOLOGY: LSTTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: SIGNETICS DATE CODE: 0
SCREEN CLASS: C-2 COMPLEXITY: 6 G
NUMBER OF PINS: 14
TIME TO DETECTION: 0

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: WIREBOND NOC
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MPEF REPORT NUMBER: 2286

MPEF REPORT DATE: 7701

DATA SOURCE: PM-0005 SOURCE: LIFE
DEVICE FUNCTION: INVERTER
PART NUMBER: 74LS04
DEVICE TECHNOLOGY: LSTTL
PACKAGE: EPOXY DIP
QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: SIGNETICS DATE CODE: 0
SCREEN CLASS: C-2 COMPLEXITY: 6 G
NUMBER OF PINS: 14
TIME TO DETECTION: 0

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: WIREBOND NOC
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MPEF REPORT NUMBER: 2287

MPEF REPORT DATE: 7711

DATA SOURCE: PM-0005 SOURCE: LIFE
DEVICE FUNCTION: GATE
PART NUMBER: 74LS20
DEVICE TECHNOLOGY: LSTTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: SIGNETICS DATE CODE: 0
SCREEN CLASS: D COMPLEXITY: 2 G
NUMBER OF PINS: 14
TIME TO DETECTION: 0

FAILURE INDICATOR: LEAKAGE NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: SURFACE
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MPEF REPORT NUMBER: 2288

MPEF REPORT DATE: 7711

DATA SOURCE: PM-0005 SOURCE: LIFE
DEVICE FUNCTION: BUFFER
PART NUMBER: 74LS40
DEVICE TECHNOLOGY: LSTTL
PACKAGE: EPOXY DIP
QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: SIGNETICS DATE CODE: 0
SCREEN CLASS: D COMPLEXITY: 2 G
NUMBER OF PINS: 14
TIME TO DETECTION: 0

FAILURE INDICATOR: LEAKAGE NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: SURFACE
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MPEF REPORT NUMBER: 2289

MPEF REPORT DATE: 7711

DATA SOURCE: PM-0005 SOURCE: LIFE
DEVICE FUNCTION: GATE
PART NUMBER: 54803
DEVICE TECHNOLOGY: STTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: SIGNETICS DATE CODE: 0
SCREEN CLASS: D-1 COMPLEXITY: 4 G
NUMBER OF PINS: 14
TIME TO DETECTION: 0

FAILURE INDICATOR: DEGRADED NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS: 168 HR BURN-IN

MFEF REPORT NUMBER: 2290

MFEF REPORT DATE: 7711

DATA SOURCE: PM-0005 SOURCE: LIFE
DEVICE FUNCTION: GATE
PART NUMBER: 34851
DEVICE TECHNOLOGY: STTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: SIGNETICS DATE CODE: 0
SCREEN CLASS: D-1 COMPLEXITY: 6 G
NUMBER OF PINS: 14
TIME TO DETECTION: 0

FAILURE INDICATOR: LEAKAGE NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: SURFACE
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2291

MFEF REPORT DATE: 7711

DATA SOURCE: PM-0005 SOURCE: LIFE
DEVICE FUNCTION: GATE
PART NUMBER: 74800
DEVICE TECHNOLOGY: STTL
PACKAGE: EPOXY DIP
QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: SIGNETICS DATE CODE: 0
SCREEN CLASS: D COMPLEXITY: 4 G
NUMBER OF PINS: 14
TIME TO DETECTION: 0

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: DIE NOC
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2292

MFEF REPORT DATE: 7711

DATA SOURCE: PM-0005 SOURCE: LIFE
DEVICE FUNCTION: GATE
PART NUMBER: 74800
DEVICE TECHNOLOGY: STTL
PACKAGE: EPOXY DIP
QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: SIGNETICS DATE CODE: 0
SCREEN CLASS: D COMPLEXITY: 4 G
NUMBER OF PINS: 14
TIME TO DETECTION: 0

FAILURE INDICATOR: DEGRADED NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2293

MFEF REPORT DATE: 7711

DATA SOURCE: PM-0005 SOURCE: LIFE
DEVICE FUNCTION: FLIP-FLOP
PART NUMBER: 748112
DEVICE TECHNOLOGY: STTL
PACKAGE: EPOXY DIP
QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: JK
PART MANUFACTURER: SIGNETICS DATE CODE: 0
SCREEN CLASS: D COMPLEXITY: 16 G
NUMBER OF PINS: 16
TIME TO DETECTION: 0

FAILURE INDICATOR: DEGRADED NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2294

MFEF REPORT DATE: 7711

DATA SOURCE: PM-0005 SOURCE: LIFE
DEVICE FUNCTION: GATE
PART NUMBER: 74820
DEVICE TECHNOLOGY: STTL
PACKAGE: EPOXY DIP
QUANTITY FAILED: 2

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: SIGNETICS DATE CODE: 0
SCREEN CLASS: D COMPLEXITY: 2 G
NUMBER OF PINS: 14
TIME TO DETECTION: 0

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: WIREBOND NOC
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2295

MFEF REPORT DATE: 7711

DATA SOURCE: PH-0005 SOURCE: LIFE
DEVICE FUNCTION: MULTIPLEXER
PART NUMBER: 54151
DEVICE TECHNOLOGY: TTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: SIGNETICS DATE CODE: 0
SCREEN CLASS: D-1 COMPLEXITY: 17 G
NUMBER OF PINS: 16
TIME TO DETECTION: 0

FAILURE INDICATOR: LEAKAGE NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: SURFACE
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS: 168 HR BURN-IN

MFEF REPORT NUMBER: 2296

MFEF REPORT DATE: 7711

DATA SOURCE: PH-0005 SOURCE: LIFE
DEVICE FUNCTION: GENERATOR
PART NUMBER: 54180
DEVICE TECHNOLOGY: TTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: SIGNETICS DATE CODE: 0
SCREEN CLASS: D-1 COMPLEXITY: 14 G
NUMBER OF PINS: 14
TIME TO DETECTION: 0

FAILURE INDICATOR: LEAKAGE NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: SURFACE
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS: 168 HR BURN-IN

MFEF REPORT NUMBER: 2297

MFEF REPORT DATE: 7711

DATA SOURCE: PH-0005 SOURCE: LIFE
DEVICE FUNCTION: COUNTER
PART NUMBER: 54193
DEVICE TECHNOLOGY: TTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: BINARY
PART MANUFACTURER: SIGNETICS DATE CODE: 0
SCREEN CLASS: C-2 COMPLEXITY: 48 G
NUMBER OF PINS: 16
TIME TO DETECTION: 0

FAILURE INDICATOR: DEGRADED NOC
DEFECT DESCRIPTION: MASK FAULT

FAILURE MODE: DIE NOC
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2298

MFEF REPORT DATE: 7711

DATA SOURCE: PH-0005 SOURCE: LIFE
DEVICE FUNCTION: ADDER
PART NUMBER: 5483
DEVICE TECHNOLOGY: TTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: FULL
PART MANUFACTURER: SIGNETICS DATE CODE: 0
SCREEN CLASS: D-1 COMPLEXITY: 36 G
NUMBER OF PINS: 16
TIME TO DETECTION: 0

FAILURE INDICATOR: LEAKAGE NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: SURFACE
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS: 168 HR BURN-IN

MFEF REPORT NUMBER: 2299

MFEF REPORT DATE: 7711

DATA SOURCE: PH-0005 SOURCE: LIFE
DEVICE FUNCTION: GATE
PART NUMBER: 7400
DEVICE TECHNOLOGY: TTL
PACKAGE: EPOXY DIP
QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: SIGNETICS DATE CODE: 0
SCREEN CLASS: D COMPLEXITY: 4 G
NUMBER OF PINS: 14
TIME TO DETECTION: 0

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: WIREBOND NOC
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2300

MFEF REPORT DATE: 7711

DATA SOURCE: PM-0005 SOURCE: LIFE
DEVICE FUNCTION: GATE
PART NUMBER: 7400
DEVICE TECHNOLOGY: TTL
PACKAGE: EPOXY DIP
QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: SIGNETICS DATE CODE: 0
SCREEN CLASS: D COMPLEXITY: 4 G
NUMBER OF PINS: 14
TIME TO DETECTION: 0

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: WIREBOND NOC
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2301

MFEF REPORT DATE: 7711

DATA SOURCE: PM-0005 SOURCE: LIFE
DEVICE FUNCTION: GATE
PART NUMBER: 7400
DEVICE TECHNOLOGY: TTL
PACKAGE: EPOXY DIP
QUANTITY FAILED: 5

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: SIGNETICS DATE CODE: 0
SCREEN CLASS: D COMPLEXITY: 4 G
NUMBER OF PINS: 14
TIME TO DETECTION: 0

FAILURE INDICATOR: DEGRADED NOC
DEFECT DESCRIPTION: MASK FAULT

FAILURE MODE: DIE NOC
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2303

MFEF REPORT DATE: 7711

DATA SOURCE: PM-0005 SOURCE: LIFE
DEVICE FUNCTION: GATE
PART NUMBER: 7400
DEVICE TECHNOLOGY: TTL
PACKAGE: EPOXY DIP
QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: SIGNETICS DATE CODE: 0
SCREEN CLASS: D COMPLEXITY: 4 G
NUMBER OF PINS: 14
TIME TO DETECTION: 0

FAILURE INDICATOR: LEAKAGE NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: SURFACE
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2304

MFEF REPORT DATE: 7711

DATA SOURCE: PM-0005 SOURCE: LIFE
DEVICE FUNCTION: GATE
PART NUMBER: 7400
DEVICE TECHNOLOGY: TTL
PACKAGE: EPOXY DIP
QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: SIGNETICS DATE CODE: 0
SCREEN CLASS: D COMPLEXITY: 4 G
NUMBER OF PINS: 14
TIME TO DETECTION: 0

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: SURFACE
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2305

MFEF REPORT DATE: 7711

DATA SOURCE: PM-0005 SOURCE: LIFE
DEVICE FUNCTION: GATE
PART NUMBER: 7400
DEVICE TECHNOLOGY: TTL
PACKAGE: EPOXY DIP
QUANTITY FAILED: 5

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: SIGNETICS DATE CODE: 0
SCREEN CLASS: D COMPLEXITY: 4 G
NUMBER OF PINS: 14
TIME TO DETECTION: 0

FAILURE INDICATOR: DEGRADED NOC
DEFECT DESCRIPTION: MASK FAULT

FAILURE MODE: DIE NOC
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEP REPORT NUMBER: 2306

MFEP REPORT DATE: 7711

DATA SOURCE: PM-0005 SOURCE: LIFE
DEVICE FUNCTION: FLIP-FLOP
PART NUMBER: 74123
DEVICE TECHNOLOGY: TTL
PACKAGE: EPOXY DIP
QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: MONOSTABLE
PART MANUFACTURER: SIGNETICS DATE CODE: 0
SCREEN CLASS: D COMPLEXITY: 20 G
NUMBER OF PINS: 16
TIME TO DETECTION: 0

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEP REPORT NUMBER: 2307

MFEP REPORT DATE: 7711

DATA SOURCE: PM-0005 SOURCE: LIFE
DEVICE FUNCTION: FLIP-FLOP
PART NUMBER: 74175
DEVICE TECHNOLOGY: TTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: D
PART MANUFACTURER: SIGNETICS DATE CODE: 0
SCREEN CLASS: C-2 COMPLEXITY: 24 G
NUMBER OF PINS: 16
TIME TO DETECTION: 0

FAILURE INDICATOR: DEGRADED NOC
DEFECT DESCRIPTION: MASK FAULT

FAILURE MODE: DIE NOC
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEP REPORT NUMBER: 2308

MFEP REPORT DATE: 7711

DATA SOURCE: PM-0005 SOURCE: LIFE
DEVICE FUNCTION: DECODER
PART NUMBER: 7443
DEVICE TECHNOLOGY: TTL
PACKAGE: EPOXY DIP
QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: DECIMAL
PART MANUFACTURER: SIGNETICS DATE CODE: 0
SCREEN CLASS: D COMPLEXITY: 18 G
NUMBER OF PINS: 16
TIME TO DETECTION: 0

FAILURE INDICATOR: DEGRADED NOC
DEFECT DESCRIPTION: MASK FAULT

FAILURE MODE: DIE NOC
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEP REPORT NUMBER: 2309

MFEP REPORT DATE: 7711

DATA SOURCE: PM-0005 SOURCE: LIFE
DEVICE FUNCTION: SHIFT REGISTER
PART NUMBER: 7491
DEVICE TECHNOLOGY: TTL
PACKAGE: EPOXY DIP
QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: SIGNETICS DATE CODE: 0
SCREEN CLASS: D COMPLEXITY: 67 G
NUMBER OF PINS: 14
TIME TO DETECTION: 0

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEP REPORT NUMBER: 2310

MFEP REPORT DATE: 7711

DATA SOURCE: PM-0005 SOURCE: LIFE
DEVICE FUNCTION: SHIFT REGISTER
PART NUMBER: 8200
DEVICE TECHNOLOGY: TTL
PACKAGE: METAL/GLASS DIP
QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: SIGNETICS DATE CODE: 0
SCREEN CLASS: C-2 COMPLEXITY: 62 G
NUMBER OF PINS: 24
TIME TO DETECTION: 0

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: DIE DIFFUSION
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2311

MFEF REPORT DATE: 7905

DATA SOURCE: PM-0001 SOURCE: LIFE
DEVICE FUNCTION: GATE
PART NUMBER: 11C01
DEVICE TECHNOLOGY: ECL
PACKAGE: CERAMIC/METAL DIP
QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: FAIRCHILD SEMI DATE CODE: 0
SCREEN CLASS: D COMPLEXITY: 2 G
NUMBER OF PINS: 16
TIME TO DETECTION: 8

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2312

MFEF REPORT DATE: 7905

DATA SOURCE: PM-0001 SOURCE: LIFE
DEVICE FUNCTION: REGISTER LOGIC UNIT
PART NUMBER: 9405A
DEVICE TECHNOLOGY: ECL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: FAIRCHILD SEMI DATE CODE: 0
SCREEN CLASS: C-2 COMPLEXITY: 0 0
NUMBER OF PINS: 24
TIME TO DETECTION: 168

FAILURE INDICATOR: DEGRADED NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2313

MFEF REPORT DATE: 7612

DATA SOURCE: AU-0003 SOURCE: REL DEMO
DEVICE FUNCTION: FLIP-FLOP
PART NUMBER: 2602
DEVICE TECHNOLOGY: TTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AU
CIRCUIT TYPE: MONOSTABLE
PART MANUFACTURER: ADVANCED MICRO DEVICES DATE CODE: 0
SCREEN CLASS: D-1 COMPLEXITY: 14 G
NUMBER OF PINS: 16
TIME TO DETECTION: 0

FAILURE INDICATOR: DEGRADED NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2314

MFEF REPORT DATE: 7612

DATA SOURCE: AU-0003 SOURCE: REL DEMO
DEVICE FUNCTION: GATE
PART NUMBER: 5410
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC DIP
QUANTITY FAILED: 2

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AU
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS DATE CODE: 0
SCREEN CLASS: S-2 COMPLEXITY: 3 G
NUMBER OF PINS: 14
TIME TO DETECTION: 0

FAILURE INDICATOR: DEGRADED NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: ELECTRICAL OVERSTRESS
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2315

MFEF REPORT DATE: 7612

DATA SOURCE: AU-0003 SOURCE: REL DEMO
DEVICE FUNCTION: FLIP-FLOP
PART NUMBER: 5473
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC DIP
QUANTITY FAILED: 2

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AU
CIRCUIT TYPE: JK
PART MANUFACTURER: VARIOUS DATE CODE: 0
SCREEN CLASS: S-2 COMPLEXITY: 16 G
NUMBER OF PINS: 14
TIME TO DETECTION: 0

FAILURE INDICATOR: DEGRADED NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: ELECTRICAL OVERSTRESS
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2316

MFEF REPORT DATE: 7612

DATA SOURCE: AU-0003 SOURCE: REL DEMO
DEVICE FUNCTION: INVERTER
PART NUMBER: 5404
DEVICE TECHNOLOGY: TTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AU
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: D-1
NUMBER OF PINS: 14
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 6 G

FAILURE INDICATOR: VERIFIED SHORT NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: DIE JUNCTION
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2317

MFEF REPORT DATE: 7904

DATA SOURCE: PH-0003 SOURCE: LIFE
DEVICE FUNCTION: ENCODER
PART NUMBER: 165
DEVICE TECHNOLOGY: TTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: HARRIS SEMI
SCREEN CLASS: C-1
NUMBER OF PINS: 24
TIME TO DETECTION: 168

DATE CODE: 0
COMPLEXITY: 0 0

FAILURE INDICATOR: DEGRADED NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2318

MFEF REPORT DATE: 7809

DATA SOURCE: GB-0004 SOURCE: FIELD
DEVICE FUNCTION: FLIP-FLOP
PART NUMBER: 74173
DEVICE TECHNOLOGY: TTL
PACKAGE: NONHERMETIC DIP
QUANTITY FAILED: 2

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: D
PART MANUFACTURER: VARIOUS
SCREEN CLASS: N/R
NUMBER OF PINS: 16
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 45 G

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2319

MFEF REPORT DATE: 7804

DATA SOURCE: AU-0004 SOURCE: FIELD
DEVICE FUNCTION: GATE
PART NUMBER: 5400
DEVICE TECHNOLOGY: TTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 2

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AU
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: D-1
NUMBER OF PINS: 14
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 4 G

FAILURE INDICATOR: DEGRADED NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2320

MFEF REPORT DATE: 7804

DATA SOURCE: AU-0004 SOURCE: FIELD
DEVICE FUNCTION: GATE
PART NUMBER: 5400
DEVICE TECHNOLOGY: TTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 2

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AU
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: D-1
NUMBER OF PINS: 14
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 4 G

FAILURE INDICATOR: DEGRADED NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2321

MFEF REPORT DATE: 7804

DATA SOURCE: AU-0004 SOURCE: FIELD
DEVICE FUNCTION: FLIP-FLOP
PART NUMBER: 5476
DEVICE TECHNOLOGY: TTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AU
CIRCUIT TYPE: JK
PART MANUFACTURER: VARIOUS DATE CODE: 0
SCREEN CLASS: D-1 COMPLEXITY: 16 G
NUMBER OF PINS: 14
TIME TO DETECTION: 0

FAILURE INDICATOR: DEGRADED NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2322

MFEF REPORT DATE: 7804

DATA SOURCE: AU-0004 SOURCE: FIELD
DEVICE FUNCTION: INVERTER
PART NUMBER: 9016
DEVICE TECHNOLOGY: TTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AU
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS DATE CODE: 0
SCREEN CLASS: D-1 COMPLEXITY: 6 G
NUMBER OF PINS: 14
TIME TO DETECTION: 0

FAILURE INDICATOR: DEGRADED NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2323

MFEF REPORT DATE: 7804

DATA SOURCE: AU-0004 SOURCE: FIELD
DEVICE FUNCTION: INVERTER
PART NUMBER: 9016
DEVICE TECHNOLOGY: TTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AU
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS DATE CODE: 0
SCREEN CLASS: D-1 COMPLEXITY: 6 G
NUMBER OF PINS: 14
TIME TO DETECTION: 0

FAILURE INDICATOR: VERIFIED OPEN NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2324

MFEF REPORT DATE: 7804

DATA SOURCE: AU-0004 SOURCE: FIELD
DEVICE FUNCTION: SHIFT REGISTER
PART NUMBER: 9300
DEVICE TECHNOLOGY: TTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AU
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS DATE CODE: 0
SCREEN CLASS: D-1 COMPLEXITY: 48 G
NUMBER OF PINS: 16
TIME TO DETECTION: 0

FAILURE INDICATOR: DEGRADED NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2325

MFEF REPORT DATE: 7804

DATA SOURCE: AU-0005 SOURCE: FIELD
DEVICE FUNCTION: FLIP-FLOP
PART NUMBER: 9601
DEVICE TECHNOLOGY: TTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AU
CIRCUIT TYPE: MONOSTABLE
PART MANUFACTURER: VARIOUS DATE CODE: 0
SCREEN CLASS: D-1 COMPLEXITY: 8 G
NUMBER OF PINS: 14
TIME TO DETECTION: 0

FAILURE INDICATOR: DEGRADED NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

APPENDIX A

**DEFINITIONS OF THE FIVE MAJOR FAILURE DESCRIPTOR CATEGORIES AND
ILLUSTRATION OF FAILURE EVENT RECORD STRUCTURE**

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APPENDIX A
Definitions of the Five Major Failure
Descriptor Categories

- (1) Failure Indicator - Is the first externally detectable effect of a part failure

Example:

Indicator: Open

- (2) Failure Mode - Specifies the internal location of the defect

Example:

Mode: Die

- (3) Failure Defect Description - Is the actual flaw which causes the component to fail

Example:

Defect: Cracked

- (4) Failure Defect Cause - Is the condition which activates or leads to the defect

Example:

Cause: Process Flaw

- (5) Activating Stress "A" or "B" - Is usually an environmental stress which influences the rate of defect formation

Example:

Activating Stress "A": Thermo-Mechanical

Below each of the definitions for each of the five major failure descriptors is an example of each of the descriptors. These descriptors

would be the type of attributes which would be retrieved from a typical detailed part failure analysis, therefore providing an accurate overview of the failure occurrence from the initial failure indicator down to the activating stress for that particular failure. This link between each of the major failure descriptors can be seen in the example.

APPENDIX A

ILLUSTRATION OF FAILURE EVENT RECORD STRUCTURE

<u>Failure Indicators</u>	<u>Failure Modes</u>
Open	Die
Verified Open	Unknown
Unknown	Bulk Aspects
Input	Unknown
Output	Junction
Supply	Diffusion
Combination	Expitaxial Layer
Other	Crystal
Intermittent Open	Metalization
Unknown	Unknown
Input	Oxide Step
Output	PROM Fuze
Supply	Contact Window
Combination	Polysilicon Conductor
Other	Multi-Level Interface
	Multi-Layer Interface
	Bond Pad
Short	Oxide/Dielectric
Verified Short	Unknown
Unknown	Gate Oxide/Dielectric
Input	Field Oxide/Dielectric
Output	Capacitor Dielectric
Supply	Crossover Dielectric
Combination	Glassivation
Other	Surface
Intermittent Short	Interconnects
Unknown	Unknown
Input	Wire
Output	Wirebond
Supply	Unknown
Combination	Wirebond at Die Pad
Other	Unknown
	Die Pad Heel
	Die Pad Neck
Degraded	Wirebond at Lead Frame
Unknown	Unknown
Leakage	Lead Frame Heel
Unknown	Lead Frame Neck
Input	Beam Lead
Output	Unknown
Supply	Die Pad
Combination	Lead Frame
Other	Bump
Parameter Out-of-Tolerance	
Unknown	
Output Voltage	

APPENDIX A

ILLUSTRATION OF FAILURE EVENT RECORD STRUCTURE (Cont'd)

Failure Indicators (Cont'd)

Failure Modes (Cont'd)

Degraded (Cont'd)

Input Voltage
 Input Offset Voltage
 Switching Characteristics
 Supply Current
 Propagation Delay
 Input Offset Current
 Gain Characteristics
 Dynamic Characteristics

Package

Unknown
 Package Seal
 Package Lid
 Package Body
 Package Lead
 Die Attach Bond
 Package Encapsulant

Functional Anomaly

Defect Cause

Unknown
 Non-Func., Inoper., Catastrophic
 Improper Output
 Unknown
 Improper Logic State
 Memory Data Loss
 Improper Output Switching
 Fluct./Oscillating Output
 Distorted/Clipped Output
 Crosstalk
 Output Latching
 Unknown
 Output Latched High
 Output Latched Low

Contamination
 Corrosion
 Dendrite Growth
 Dielectric Breakdown
 Electrolysis
 Electromigration
 Fatigue
 Growback
 Intermetallic Formation
 Ionic Drift
 Microplasma
 Oxidation
 Thermal Diffusion
 Workmanship
 Process Flaw
 Troubleshooting

Mechanical Anomaly

Defect Description

Brittle
 Broken
 Channel
 Chipout
 Cracked
 Crazed
 Delaminated
 Dislocation
 Etch Fault
 Etch Pit
 Extraneous Wire
 Flaking
 Fracture
 Hillock
 Impurities

Failure Activating Stress

Electrical Overstress
 Electrostatic Discharge
 Current Stress
 Humidity
 Mechanical Stress
 Pressure
 Radiation-Nuclear
 Radiation-Electromagnetic
 Radiation-X-ray
 Temperature
 Thermo-Mechanical Stress
 Voltage Stress
 Voltage and Current Stress

APPENDIX A

ILLUSTRATION OF FAILURE EVENT RECORD STRUCTURE (Cont'd)

Defect Description (Cont'd)

Lifted .
Loose
Mask Fault
Misaligned/Misplaced
Missing
Necked Down
Ohmic
Open (NOC)
Particle Bridge
Peeling
Pinhole
Pipe
Scratch
Short (NOC)
Smear
Spike
Stacking Fault
Voids
Zapped-Evaporated
Fault (NOC)
Flashover-Arc
Punch Through
Poor Plating
Discolored
Corroded
Melted-Fused
Diffusion Fault
Reversed
Deformed
Hole
Tunneled
Inadequate
Exposed
Mismarked
Swollen

APPENDIX B

ADDITIONAL RAC SERVICES

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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.

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