

RELIABILITY PREDICTION REPORT

FOR THE

SAM POWER SUPPLY

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1.0 INTRODUCTION AND SUMMARY

This document presents the Sample Company Reliability Prediction Report performed on the SAM Power Supply. It was analyzed for Mean Time Between Failure (MTBF) in accordance with Task 203 of MIL-STD-785B; paragraph 2.4 of Task 100 of MIL-STD-756B; and the Parts Count Analysis method of MIL-HDBK-217F(N1/2), Appendix A.

The SAM Power Supply was found to have a Mean Time Between Failure (MTBF) of 5,383,000.48 hours of operation. This statement is fully supported by the reliability mathematical model presented in Section 3.0, the Table 1 Failure Rate Data Summary and the detailed reliability parts count failure rate data tables presented in the Appendix A of this report.

This example is not a complete report. The remaining text, mathematical models and detailed appendix data tables will be provided upon the purchase of this report. Continue to scroll down to view example appendix data tables.

APPENDIX A

Reliability Parts Count Failure Rate Data Tabulation for the SAM Power Supply

RELIABILITY PARTS COUNT FAILURE RATE DATA

System: SAM Power Supply

Page 1

Assembly: Converter

Parts List: 30684941

Environment: Space, Flight (SF)

Description/ Generic Part Type	Specification/ Quality Level	Quantity	Quality Factor (Pi Q)	Failure Rate in Parts Per Million Hours	
				Generic	Total
Integrated Circuit/ Bipolar, Digital 1-100 Gates	Mil-M-38510/ B	4	1.00	0.00360	0.01440
Integrated Circuit/ MOS, Digital 1-100 Gates	Mil-M-38510/ B	4	1.00	0.00570	0.02280
Diode/ General Purpose Analog	Mil-S-19500/ JAN	4	2.40	0.00180	0.01728
Diode/ Voltage Ref./Reg. (Avalanche & Zener)	Mil-S-19500/ JAN	2	2.40	0.00160	0.00768
Transistor/ NPN/PNP (f < 200MHz)	Mil-S-19500/ JAN	4	2.40	0.00007	0.00067
Resistor/ RCR Insulated Fixed Composition	Mil-R-39008/ Mil-Spec	12	3.00	0.00025	0.00900
Resistor/ RLR Insulated Fixed Film	Mil-R-39017/ Mil-Spec	6	3.00	0.00025	0.00450
Resistor/ RZ Fixed Film Network	Mil-R-83401/ Mil-Spec	2	3.00	0.00110	0.00660
Capacitor/ CKR Ceramic General Purpose	Mil-C-39014/ Mil-Spec	8	3.00	0.00140	0.03360
Capacitor/ CLR Nonsolid Tantalum Electrolytic	Mil-C-39006/ Mil-Spec	2	3.00	0.00300	0.01800

RELIABILITY PARTS COUNT FAILURE RATE DATA

System: SAM Power Supply

Page 2

Assembly: Converter

Parts List: 30684941

Environment: Space, Flight (SF)

Description/ Generic Part Type	Specification/ Quality Level	Quantity	Quality Factor (Pi Q)	Failure Rate in Parts Per Million Hours	
				Generic	Total
Transformer/ High Power Pulse and Power, Filter	Mil-T-27/ Mil-Spec	1	1.00	0.01100	0.01100
Coil/ Radio Frequency, Variable	Mil-C-15305/ Mil-Spec	1	1.00	0.00170	0.00170
Connector/ Circular, Rack or Panel	Mil-Spec	1	1.00	0.00540	0.00540
Connector/ Printed Circuit Board	Mil-Spec	1	1.00	0.00270	0.00270
Interconnect Assy./ Printed Circuit Board (PCB)	Mil-Spec	1	1.00	0.02700	0.02700
Single Connections/ Clip Termination	Mil-Spec	4	1.00	0.00006	0.00024
Single Connections/ Reflow Solder	Mil-Spec	80	1.00	0.00004	0.00320

Total Assembly Quantity of Parts = 137

Total Assembly Failure Rate = 0.18577 Parts Per Million Hours.