

# RELIABILITY PREDICTION STANDARD REPORT

Applicant: *SURE STAR* Computer. CO., LTD

Address: No. 2-1, Da'an Rd., Shulin Dist., New Taipei City 238 Taiwan

Date: Jan -09-2012

Commodity: Power Supply

End Item Part Number: SS-1U46ES

Power Unit Module:

Testing Item:

Environmental Condition: GB

Ambient Temperature: 40°C

Referring to MIL-HDBK-217F, Notice2, APPENDIX A: PARTS

COUNT RELIABILITY PREDICTION , PREDICT THE VALUE OF MTBF

## SS-1U46ES

PCB Name:SS-700SH (Excluded:FAN)

Unit : Failures/10<sup>6</sup> hours

No.	Part Type	$\lambda_g$	$\pi_q$	$\pi_L$	N	$\lambda_{eq}$
1	Capacitor (Aluminum Dry) , CE	0.0012	15	1.0	17	0.306
2	Capacitor (Ceramic, Gen. Purpose) , CK	0.00037	5.5	1.0	4	0.00814
3	Capacitor (Chip)Ceramic	0.00050	10	1.0	17	0.085
4	Capacitor (Metallized plastic/plastic)	0.00051	10	1.0	2	0.0102
5	Resistor (Chip)	0.0028	10	1.0	73	2.044
6	Resistor (Film), RN	0.0028	5.5	1.0	6	0.0924
7	Diode (General Purpose Analog)	0.0036	3	1.0	13	0.1404
8	Diode (Voltage Reg. ; Zener)	0.0033	3	1.0	2	0.0198
9	Diode (Power Rectifier/Schottky Pwr.)	0.0028	10	1.0	1	0.028
10	Diode (fast Recovery Pwr. Rectifier)	0.0230	10	1.0	4	0.92
11	Bridge Diode	0.0030	3	1.0	2	0.018
12	FUSE	0.01	3	1.0	1	0.03
13	Thermistor , RTH	0.0014	10	1.0	1	0.014
14	OPTO- Isolator	0.027	3	1.0	4	0.324
15	Semiconductor	0.00012	3	1.0	6	0.00216
16	Transistor ( NPN/PNP)	0.00015	2	1.0	7	0.0021
17	Integrated Circuit	0.0033	3	10.0	6	0.594
18	Inductive Device ( Coil, Fixed Inductor)	0.000032	3	1.0	7	0.000672
19	Transformer,Switching	0.02200	3	1.0	3	0.198
20	Plated Through Hole Circuit Boards	0.022	2	1.0	1	0.044
21	Switche	0.100	3	1.0	1	0.3
Total Failure rate (Failures/10 <sup>6</sup> hours)						5.180872

**PCB Name: SS-PPC**Unit : Failures/ $10^6$  hours

No.	Part Type	$\lambda_g$	$\pi_Q$	$\pi_L$	N	$\lambda_{eq}$
1	Capacitor (Chip)	0.00050	10	1.0	16	0.08
2	Resistor (Chip)	0.0028	10	1.0	21	0.588
3	Diode (Power Rectifier/Schottky Pwr.)	0.0036	3	1.0	2	0.0216
4	Integrated Circuit	0.0033	3	1.0	2	0.0198
5	Plated Through Hole Circuit Boards	0.022	2	1.0	1	0.044
Total Failure rate (Failures/ $10^6$ hours)						0.7534

**PCB Name: SS-232**Unit : Failures/ $10^6$  hours

No.	Part Type	$\lambda_g$	$\pi_Q$	$\pi_L$	N	$\lambda_{eq}$
1	Capacitor (Aluminum Dry) , CE	0.0012	10	1.0	1	0.012
2	Capacitor (Chip)	0.00050	10	1.0	18	0.09
3	Resistor (Chip)	0.0028	10	1.0	25	0.7
4	Diode (General Purpose Analog)	0.0036	3	1.0	4	0.0432
5	Transistor ( NPN/PNP)	0.00015	3	1.0	1	0.00045
6	Integrated Circuit	0.0033	3	1.0	1	0.0099
7	Plated Through Hole Circuit Boards	0.022	2	1.0	1	0.044
Total Failure rate (Failures/ $10^6$ hours)						0.89955

**PCB Name:SS-DD35**Unit : Failures/ $10^6$  hours

No.	Part Type	$\lambda_g$	$\pi_Q$	$\pi_L$	N	$\lambda_{eq}$
1	Capacitor (Chip)	0.00050	10	1.0	8	0.04
2	Resistor (Chip)	0.0028	10	1.0	26	0.728
3	Diode (General Purpose Analog)	0.0036	3	1.0	4	0.0432
4	Semiconductor	0.00012	3	1.0	8	0.00288
5	Integrated Circuit	0.0033	3	1.0	2	0.0198
6	Plated Through Hole Circuit Boards	0.022	2	1.0	2	0.088
Total Failure rate (Failures/ $10^6$ hours)						0.92188

**Total Failure rate= 7.755702****MTBF(hours)= 128937.39**