

RELIABILITY PREDICTION STANDARD REPORT

(Sorted by Part Number)

MIL-HDBK-217F, Notice 2

PRED-FIRST (c) Reliability Prediction Program, BJM Engineering Services

Date: MAR-06-2009

End Item Title : R1S SERIES MTBF

End Item Part Number : R1S2-5300V4H (RoHS)

R1S2-5300V4H (RoHS) MTBF : 225,551

Module Title: ZIPPY TECHNOLOGY CORP

Module Part Number : P1S/MTBF

Power Unit Module : P1S-2300V-R (RoHS)

Environmental Condition: GB

RELIABILITY MODELING OF REDUNDANT UNITS

Two Redundant Units:

Two identical units may be connected in parallel, each capable of supplying the total required output. If one unit fails and can be removed from the system (does not interfere with the operation of the other unit), then the other unit supplies the required output. Using a constant failure rate, the following relations apply.

$$\begin{aligned}\text{Total Failure Rate}(F) &= M\lambda / (3/2) + B\lambda \\ &= 5.632109 / (3/2) + 0.678840 = 4.433579\end{aligned}$$

$M\lambda$ = Main power failure rate , $B\lambda$ = Back plane failure rate

$$\begin{aligned}\text{P1S2-5300V4H (RoHS)(MTBF)} &= F / 10^6 \text{Hrs} = 4.433579 / 10^6 \\ &= 225,551\end{aligned}$$

ZIPPY TECHNOLOGY CORP
10F,No.50,MIN CHYUAN RD
SHIN-TIEN,TAIPEI HSIEN,TAIWAN,R.O.C.

	RELIABILITY PREDICTION STANDARD REPORT					
		(Sorted by Part Number)				
		MIL - HDBK - 217F, Notice 2				
Date : MAR-06-2009 Time : 08:39:23						
End Item Title : P1S SERIES MTBF						
End Item Part Number : P1S-2300V-R (RoHS)						
Module Title : ZIPPY TECHNOLOGY CORP						
Module Part Number : P1S/MTBF						
Module Reference Designation : P1S						
Environmental Condition : GB						
<u>P1S-2300V-R (RoHS)</u>						
ITEM	Part	Ref	Qual	Quant	Individual	Total
#	Number	Desig	Level		Failure Rate	Failure Rate
					(F/10^6Hrs)	(F/10^6Hrs)
1	B103120002	BOM	NMIL	1	0.290448	0.290448
2	B103120007	BOM	NMIL	1	0.220943	0.220943
3	B200000001	BOM	SPECIAL	3	0.094935	0.284805
4	B200000092	BOM	SPECIAL	1	0.091138	0.091138
5	B200000144	BOM	SPECIAL	1	0.094935	0.094935
6	B200000242	BOM	SPECIAL	2	0.094935	0.189870
7	B200000272	BOM	SPECIAL	1	0.094935	0.094935
8	B200000276	BOM	SPECIAL	1	0.094935	0.094935
9	B200010057	BOM	NMIL	4	0.030142	0.120568
10	B200010067	BOM	NMIL	1	0.000798	0.000798
11	B200010083	BOM	NMIL	1	0.000766	0.000766
12	B200020004	BOM	NMIL	8	0.005156	0.041248
13	B200030018	BOM	NMIL	2	0.018136	0.036272
14	B200030019	BOM	NMIL	1	0.018136	0.018136
15	B200040029	BOM	NMIL	1	0.005967	0.005967
16	B200050036	BOM	NMIL	1	0.005218	0.005218
17	B200050040	BOM	NMIL	1	0.005218	0.005218
18	B200050045	BOM	NMIL	3	0.005218	0.015654
19	B200050054	BOM	NMIL	1	0.074906	0.074906
20	B200060007	BOM	NMIL	1	0.012450	0.012450
21	B200110001	BOM	NMIL	1	0.004650	0.004650

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22	B200110035	BOM	NMIL	1	0.004650	0.004650
23	B200110042	BOM	NMIL	3	0.004650	0.013950
24	B200110046	BOM	NMIL	6	0.004650	0.027900
25	B200110073	BOM	NMIL	2	0.005115	0.010230
26	B200110087	BOM	NMIL	5	0.004650	0.023250
27	B200110120	BOM	NMIL	1	0.004650	0.004650
28	B200110123	BOM	NMIL	3	0.004650	0.013950
29	B200110172	BOM	NMIL	1	0.004650	0.004650
30	B200110192	BOM	NMIL	1	0.004650	0.004650
31	B200110261	BOM	NMIL	1	0.004650	0.004650
32	B200110282	BOM	NMIL	4	0.004650	0.018600
33	B200110311	BOM	NMIL	1	0.004650	0.004650
34	B200110340	BOM	NMIL	1	0.004650	0.004650
35	B200110343	BOM	NMIL	1	0.004650	0.004650
36	B200110489	BOM	NMIL	1	0.004650	0.004650
37	B200110494	BOM	NMIL	1	0.004650	0.004650
38	B200110498	BOM	NMIL	1	0.004650	0.004650
39	B200110503	BOM	NMIL	1	0.005115	0.005115
40	B200110506	BOM	NMIL	1	0.004650	0.004650
41	B200110510	BOM	NMIL	1	0.004650	0.004650
42	B200110519	BOM	NMIL	3	0.004650	0.013950
43	B200110520	BOM	NMIL	1	0.004650	0.004650
44	B200110521	BOM	NMIL	1	0.004650	0.004650
45	B200110523	BOM	NMIL	1	0.004650	0.004650
46	B200110524	BOM	NMIL	1	0.004650	0.004650
47	B200110544	BOM	NMIL	1	0.004650	0.004650
48	B200110549	BOM	NMIL	1	0.004650	0.004650
49	B200110550	BOM	NMIL	2	0.004650	0.009300
50	B200110561	BOM	NMIL	4	0.004650	0.018600
51	B200110588	BOM	NMIL	1	0.004650	0.004650
52	B200110594	BOM	NMIL	1	0.004650	0.004650
53	B200110598	BOM	NMIL	2	0.004650	0.009300
54	B200110599	BOM	NMIL	1	0.004650	0.004650
55	B200110659	BOM	NMIL	1	0.004650	0.004650
56	B200120015	BOM	NMIL	1	0.008509	0.008509
57	B200120017	BOM	NMIL	1	0.009576	0.009576
58	B200120102	BOM	NMIL	1	0.007735	0.007735
59	B200120156	BOM	NMIL	1	0.006870	0.006870
60	B200140018	BOM	NMIL	1	0.035297	0.035297
61	B200160011	BOM	NMIL	1	0.065000	0.065000

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62	B200160017	BOM	NMIL	1	0.065000	0.065000
63	B200170026	BOM	NMIL	2	0.005156	0.010312
64	B200180016	BOM	N/A	1	0.008923	0.008923
65	B200190064	BOM	N/A	1	0.016840	0.016840
66	B200200006	BOM	N/A	2	0.007144	0.014288
67	B200200012	BOM	N/A	2	0.009203	0.018406
68	B200200017	BOM	N/A	5	0.011856	0.059280
69	B200200060	BOM	N/A	1	0.012930	0.012930
70	B200200061	BOM	N/A	3	0.008470	0.025410
71	B200200069	BOM	N/A	1	0.006575	0.006575
72	B200200101	BOM	N/A	2	0.016657	0.033314
73	B200220018	BOM	N/A	3	0.002416	0.007248
74	B200220021	BOM	N/A	1	0.002337	0.002337
75	B200220043	BOM	N/A	1	0.002416	0.002416
76	B200230132	BOM	N/A	1	0.034771	0.034771
77	B200230198	BOM	N/A	5	0.055882	0.279410
78	B200230210	BOM	N/A	1	0.048488	0.048488
79	B200230229	BOM	N/A	1	0.223135	0.223135
80	B200230338	BOM	N/A	2	0.027965	0.055930
81	B200250009	BOM	NMIL	1	0.079544	0.079544
82	B200260212	BOM	NMIL	1	0.084529	0.084529
83	B200260227	BOM	NMIL	1	0.084529	0.084529
84	B200260255	BOM	NMIL	1	0.084529	0.084529
85	B200280002	BOM	NMIL	1	0.015958	0.015958
86	B200300236	BOM	NMIL	1	0.003691	0.003691
87	B200300267	BOM	NMIL	1	0.003691	0.003691
88	B200300278	BOM	NMIL	1	0.025098	0.025098
89	B200310007	BOM	NMIL	1	0.029376	0.029376
90	B210090122	BOM	KNOWNFR	1	2.134055	2.134055
91	B210160006	BOM	N/A	1	0.010000	0.010000
92	B210190989	N/A	STANDARD	1	0.022077	0.022077
93	B210190990	N/A	STANDARD	1	0.022077	0.022077
			Total Failure Rate (F/10^6Hrs) :			5.632109
			Mean Time (in hours) Between Failures (MTBF) :			177,553