

RELIABILITY PREDICTION STANDARD REPORT

(Sorted by Part Number)

MIL-HDBK-217F, Notice 2

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

Date: SEP-18-2009

End Item Title : DM1S2 SERIES MTBF

End Item Part Number : DM1S2-5400V4H (RoHS)

DM1S2-5400V4H (RoHS) MTBF : 208,942

Module Title: ZIPPY TECHNOLOGY CORP

Module Part Number : DM1S / MTBF

Power Unit Module : DM1S-3400V (RoHS)

Environmental Condition: GB

Ambient Temperature: 25

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.

$$\begin{aligned}\text{Total Failure Rate}(F) &= M \lambda / (3 / 2) + B \lambda \\ &= 6.160757 / (3 / 2) + 0.678840 = 4.786011\end{aligned}$$

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

$$\begin{aligned}\text{DM1S2-5400V4H (RoHS)(MTBF)} &= F / 10^6 \text{Hrs} = 4.786011 / 10^6 \\ &= 208,942\end{aligned}$$

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 : SEP-18-2009 Time : 11:08:39						
End Item Title : DM1S SERIES MTBF						
End Item Part Number : DM1S-3400V (RoHS)						
Module Title : ZIPPY TECHNOLOGY CORP						
Module Part Number : DM1S/MTBF						
Module Reference Designation : DM1S						
Environmental Condition : GB						
Ambient Temperature: 25						
<u>DM1S-3400V (RoHS)</u>						
ITEM	Part	Ref	Qual	Quant	Individual	Total
#	Number	Desig	Level		Failure Rate	Failure Rate
					(F/10^6Hrs)	(F/10^6Hrs)
1	B102330004	BOM	NMIL	1	0.069564	0.069564
2	B103040003	BOM	NMIL	1	0.140787	0.140787
3	B103040004	BOM	NMIL	1	0.134918	0.134918
4	B103210002	BOM	NMIL	1	0.414132	0.414132
5	B103210004	BOM	NMIL	1	0.065162	0.065162
6	B200000058	BOM	SPECIAL	1	0.094935	0.094935
7	B200000144	BOM	SPECIAL	1	0.094935	0.094935
8	B200000207	BOM	SPECIAL	1	0.094935	0.094935
9	B200000242	BOM	SPECIAL	2	0.094935	0.189870
10	B200000268	BOM	SPECIAL	1	0.094935	0.094935
11	B200000276	BOM	SPECIAL	1	0.094935	0.094935
12	B200000308	BOM	SPECIAL	1	0.094935	0.094935
13	B200000316	BOM	SPECIAL	1	0.094935	0.094935
14	B200000377	BOM	SPECIAL	1	0.094935	0.094935
15	B200010009	BOM	NMIL	1	0.000798	0.000798
16	B200010022	BOM	NMIL	1	0.000798	0.000798
17	B200010056	BOM	NMIL	5	0.000798	0.003990
18	B200010067	BOM	NMIL	2	0.000798	0.001596
19	B200010080	BOM	NMIL	2	0.030142	0.060284
20	B200010088	BOM	NMIL	1	0.030142	0.030142
21	B200010132	BOM	NMIL	2	0.030142	0.060284

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22	B200010133	BOM	NMIL	2	0.030142	0.060284
23	B200020004	BOM	NMIL	16	0.005156	0.082489
24	B200030018	BOM	NMIL	5	0.018136	0.090680
25	B200030042	BOM	NMIL	1	0.010519	0.010519
26	B200040012	BOM	NMIL	1	0.005967	0.005967
27	B200040056	BOM	NMIL	1	0.007593	0.007593
28	B200040059	BOM	NMIL	1	0.005967	0.005967
29	B200040063	BOM	NMIL	1	0.015467	0.015467
30	B200050024	BOM	NMIL	1	0.005218	0.005218
31	B200050027	BOM	NMIL	2	0.005218	0.010436
32	B200050036	BOM	NMIL	4	0.005218	0.020872
33	B200050039	BOM	NMIL	1	0.005218	0.005218
34	B200090005	BOM	NMIL	1	0.018095	0.018095
35	B200110001	BOM	NMIL	2	0.004650	0.009300
36	B200110035	BOM	NMIL	1	0.004650	0.004650
37	B200110042	BOM	NMIL	9	0.004650	0.041850
38	B200110046	BOM	NMIL	7	0.004650	0.032550
39	B200110073	BOM	NMIL	2	0.005115	0.010230
40	B200110087	BOM	NMIL	2	0.004650	0.009300
41	B200110119	BOM	NMIL	1	0.004650	0.004650
42	B200110120	BOM	NMIL	15	0.004650	0.069750
43	B200110123	BOM	NMIL	9	0.004650	0.041850
44	B200110172	BOM	NMIL	2	0.004650	0.009300
45	B200110190	BOM	NMIL	1	0.004650	0.004650
46	B200110192	BOM	NMIL	2	0.004650	0.009300
47	B200110276	BOM	NMIL	1	0.004650	0.004650
48	B200110279	BOM	NMIL	1	0.004650	0.004650
49	B200110311	BOM	NMIL	1	0.004650	0.004650
50	B200110317	BOM	NMIL	1	0.004650	0.004650
51	B200110343	BOM	NMIL	1	0.004650	0.004650
52	B200110398	BOM	NMIL	1	0.004650	0.004650
53	B200110488	BOM	NMIL	1	0.004650	0.004650
54	B200110494	BOM	NMIL	1	0.004650	0.004650
55	B200110498	BOM	NMIL	2	0.004650	0.009300
56	B200110501	BOM	NMIL	1	0.004650	0.004650
57	B200110503	BOM	NMIL	1	0.005115	0.005115
58	B200110505	BOM	NMIL	1	0.004650	0.004650
59	B200110506	BOM	NMIL	1	0.004650	0.004650
60	B200110508	BOM	NMIL	3	0.004650	0.013950
61	B200110510	BOM	NMIL	1	0.004650	0.004650

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62	B200110519	BOM	NMIL	1	0.004650	0.004650
63	B200110524	BOM	NMIL	2	0.004650	0.009300
64	B200110530	BOM	NMIL	1	0.004650	0.004650
65	B200110545	BOM	NMIL	1	0.004650	0.004650
66	B200110550	BOM	NMIL	1	0.004650	0.004650
67	B200110554	BOM	NMIL	1	0.004650	0.004650
68	B200110560	BOM	NMIL	1	0.004650	0.004650
69	B200110561	BOM	NMIL	4	0.004650	0.018600
70	B200110571	BOM	NMIL	1	0.004650	0.004650
71	B200110584	BOM	NMIL	2	0.004650	0.009300
72	B200110588	BOM	NMIL	1	0.004650	0.004650
73	B200110589	BOM	NMIL	1	0.005115	0.005115
74	B200110590	BOM	NMIL	1	0.005115	0.005115
75	B200110594	BOM	NMIL	1	0.004650	0.004650
76	B200110598	BOM	NMIL	2	0.004650	0.009300
77	B200110689	BOM	NMIL	1	0.004650	0.004650
78	B200120001	BOM	NMIL	1	0.007735	0.007735
79	B200120011	BOM	NMIL	1	0.007735	0.007735
80	B200120032	BOM	NMIL	1	0.006870	0.006870
81	B200120174	BOM	NMIL	1	0.008705	0.008705
82	B200160017	BOM	NMIL	1	0.065000	0.065000
83	B200160034	BOM	NMIL	1	0.105000	0.105000
84	B200170020	BOM	NMIL	2	0.005156	0.010312
85	B200170029	BOM	NMIL	2	0.005156	0.010312
86	B200200006	BOM	N/A	2	0.007144	0.014288
87	B200200012	BOM	N/A	2	0.009203	0.018406
88	B200200017	BOM	N/A	3	0.011856	0.035568
89	B200200021	BOM	N/A	4	0.015274	0.061096
90	B200200054	BOM	N/A	2	0.014056	0.028112
91	B200200060	BOM	N/A	1	0.012930	0.012930
92	B200200061	BOM	N/A	4	0.008470	0.033880
93	B200200062	BOM	N/A	2	0.007791	0.015582
94	B200200069	BOM	N/A	1	0.006575	0.006575
95	B200200071	BOM	N/A	1	0.006048	0.006048
96	B200210007	BOM	N/A	1	0.021805	0.021805
97	B200220018	BOM	N/A	2	0.002416	0.004832
98	B200220020	BOM	N/A	1	0.002337	0.002337
99	B200220036	BOM	N/A	2	0.002647	0.005294
100	B200220048	BOM	N/A	1	0.002647	0.002647
101	B200230198	BOM	N/A	5	0.055882	0.279410

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102	B200230236	BOM	N/A	1	0.016116	0.016116
103	B200230276	BOM	N/A	1	0.026317	0.026317
104	B200230277	BOM	N/A	2	0.039833	0.079666
105	B200230338	BOM	N/A	3	0.027965	0.083895
106	B200230377	BOM	N/A	2	0.027442	0.054884
107	B200230379	BOM	N/A	4	0.035085	0.140340
108	B200250009	BOM	NMIL	1	0.022234	0.022234
109	B200260265	BOM	NMIL	1	0.042202	0.042202
110	B200260271	BOM	NMIL	1	0.042202	0.042202
111	B200260280	BOM	NMIL	1	0.042202	0.042202
112	B200300219	BOM	NMIL	1	0.003691	0.003691
113	B200300236	BOM	NMIL	1	0.003691	0.003691
114	B200300298	BOM	NMIL	1	0.025098	0.025098
115	B200300299	BOM	NMIL	1	0.003691	0.003691
116	B210090116	BOM	KNOWNFR	1	2.068077	2.068077
117	B210160052	BOM	N/A	1	0.010000	0.010000
118	B210191090	N/A	STANDARD	1	0.020588	0.020588
			Total Failure Rate (F/10 ⁶ Hrs) :			6.160757
			Mean Time (in hours) Between Failures (MTBF) :			162,318