

ZIPPY TECHNOLOGY CORP
10F, No. 50, MIN CHYUAN RD
XINDIAN DIST., NEW TAIPEI CITY, TAIWAN, R.O.C.
RELIABILITY PREDICTION STANDARD REPORT
(Sorted by Part Number)
MIL-HDBK-217F, Notice 2

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

Date: SEP-26-2014
End Item Title : DM1S2 SERIES MTBF
End Item Part Number : DM1S2-5501V4H (RoHS)
DM1S2-5501V4H (RoHS) MTBF : 205,804
Module Title: ZIPPY TECHNOLOGY CORP
Module Part Number : DM1S / MTBF
Power Unit Module : DM1S-3501V (RoHS)
Environmental Condition: GB
Ambient Temperature: 25°C

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.

$$\text{Total Failure Rate}(F) = M \lambda / (3/2) + B \lambda = 6.245253 / (3/2) + 0.695472 = 4.858974$$

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

$$\text{DM1S2-5501V4H (RoHS)(MTBF)} = F / 10^6 \text{Hrs} = 4.858974 / 10^6 = 205,804$$

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Date : SEP-26-2014 Time : 14:46:52
End Item Title : DM1S SERIES MTBF
End Item Part Number : DM1S-3501V (RoHS)
DM1S-3501V (RoHS) MTBF : 160,122
Module Title : ZIPPY TECHNOLOGY CORP
Module Part Number : DM1S / MTBF
Module Reference Designation : DM1S
Environmental Condition : GB
Ambient Temperature: 25°C

DM1S-3501V (RoHS)

ITEM #	Part Number	Ref Desig	Qual Level	Quant	Individual Failure Rate (F/10 ⁶ Hrs)	Total Failure Rate (F/10 ⁶ Hrs)
1	B102330004	BOM	NMIL	1	0.069564	0.069564
2	B103210004	BOM	NMIL	1	0.065162	0.065162
3	B103730006	BOM	NMIL	1	0.080219	0.080219
4	B104090002	BOM	NMIL	1	0.411835	0.411835
5	B104090003	BOM	NMIL	1	0.132621	0.132621
6	B104090004	BOM	NMIL	1	0.033705	0.033705
7	B200000080	BOM	SPECIAL	2	0.094935	0.189870
8	B200000144	BOM	SPECIAL	1	0.094935	0.094935
9	B200000207	BOM	SPECIAL	1	0.094935	0.094935
10	B200000257	BOM	SPECIAL	1	0.094935	0.094935
11	B200000268	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	B200000443	BOM	SPECIAL	1	0.094935	0.094935
16	B200010009	BOM	NMIL	1	0.000798	0.000798
17	B200010022	BOM	NMIL	1	0.000798	0.000798
18	B200010056	BOM	NMIL	5	0.000798	0.003990
19	B200010080	BOM	NMIL	2	0.031398	0.062796
20	B200010153	BOM	NMIL	2	0.031398	0.062796
21	B200010161	BOM	NMIL	2	0.031398	0.062796
22	B200010162	BOM	NMIL	1	0.031398	0.031398
23	B200010192	BOM	NMIL	2	0.000798	0.001596
24	B200020024	BOM	NMIL	16	0.005156	0.082496

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25	B200030069	BOM	NMIL	4	0.007617	0.030468
26	B200030081	BOM	NMIL	1	0.003446	0.003446
27	B200040012	BOM	NMIL	1	0.005967	0.005967
28	B200040063	BOM	NMIL	1	0.016111	0.016111
29	B200040084	BOM	NMIL	1	0.016111	0.016111
30	B200040117	BOM	NMIL	1	0.005967	0.005967
31	B200050024	BOM	NMIL	1	0.005218	0.005218
32	B200050027	BOM	NMIL	2	0.005218	0.010436
33	B200050036	BOM	NMIL	4	0.005218	0.020872
34	B200050039	BOM	NMIL	1	0.005218	0.005218
35	B200090005	BOM	NMIL	1	0.001518	0.001518
36	B200110001	BOM	NMIL	1	0.004650	0.004650
37	B200110042	BOM	NMIL	7	0.004650	0.032550
38	B200110046	BOM	NMIL	8	0.004650	0.037200
39	B200110073	BOM	NMIL	2	0.005115	0.010230
40	B200110120	BOM	NMIL	15	0.004650	0.069750
41	B200110123	BOM	NMIL	6	0.004650	0.027900
42	B200110172	BOM	NMIL	3	0.004650	0.013950
43	B200110190	BOM	NMIL	1	0.004650	0.004650
44	B200110192	BOM	NMIL	3	0.004650	0.013950
45	B200110202	BOM	NMIL	1	0.004650	0.004650
46	B200110227	BOM	NMIL	2	0.004650	0.009300
47	B200110276	BOM	NMIL	1	0.004650	0.004650
48	B200110279	BOM	NMIL	3	0.004650	0.013950
49	B200110343	BOM	NMIL	1	0.004650	0.004650
50	B200110379	BOM	NMIL	1	0.004650	0.004650
51	B200110488	BOM	NMIL	1	0.004650	0.004650
52	B200110493	BOM	NMIL	1	0.005115	0.005115
53	B200110494	BOM	NMIL	2	0.004650	0.009300
54	B200110498	BOM	NMIL	1	0.004650	0.004650
55	B200110501	BOM	NMIL	1	0.004650	0.004650
56	B200110503	BOM	NMIL	1	0.005115	0.005115
57	B200110505	BOM	NMIL	1	0.004650	0.004650
58	B200110506	BOM	NMIL	1	0.004650	0.004650
59	B200110508	BOM	NMIL	4	0.004650	0.018600
60	B200110510	BOM	NMIL	1	0.004650	0.004650
61	B200110519	BOM	NMIL	2	0.004650	0.009300
62	B200110523	BOM	NMIL	1	0.004650	0.004650
63	B200110525	BOM	NMIL	1	0.004650	0.004650
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	B200110551	BOM	NMIL	1	0.004650	0.004650
68	B200110554	BOM	NMIL	4	0.004650	0.018600

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69	B200110560	BOM	NMIL	1	0.004650	0.004650
70	B200110561	BOM	NMIL	5	0.004650	0.023250
71	B200110571	BOM	NMIL	1	0.004650	0.004650
72	B200110584	BOM	NMIL	2	0.004650	0.009300
73	B200110588	BOM	NMIL	1	0.004650	0.004650
74	B200110590	BOM	NMIL	1	0.005115	0.005115
75	B200110594	BOM	NMIL	1	0.004650	0.004650
76	B200110613	BOM	NMIL	1	0.004650	0.004650
77	B200110640	BOM	NMIL	1	0.004650	0.004650
78	B200110658	BOM	NMIL	2	0.004650	0.009300
79	B200120011	BOM	NMIL	1	0.007735	0.007735
80	B200120017	BOM	NMIL	1	0.009576	0.009576
81	B200120032	BOM	NMIL	1	0.006870	0.006870
82	B200120101	BOM	NMIL	1	0.006105	0.006105
83	B200120174	BOM	NMIL	1	0.004820	0.004820
84	B200160017	BOM	NMIL	1	0.065000	0.065000
85	B200160034	BOM	NMIL	1	0.065000	0.065000
86	B200170020	BOM	NMIL	2	0.004875	0.009750
87	B200170029	BOM	NMIL	1	0.004875	0.004875
88	B200170033	BOM	NMIL	2	0.004875	0.009750
89	B200200021	BOM	N/A	4	0.015274	0.061096
90	B200200054	BOM	N/A	2	0.014056	0.028112
91	B200200061	BOM	N/A	4	0.008470	0.033880
92	B200200071	BOM	N/A	1	0.006048	0.006048
93	B200200083	BOM	N/A	3	0.007144	0.021432
94	B200200101	BOM	N/A	1	0.016657	0.016657
95	B200200153	BOM	N/A	4	0.009203	0.036812
96	B200200156	BOM	N/A	4	0.011856	0.047424
97	B200200158	BOM	N/A	2	0.007791	0.015582
98	B200200166	BOM	N/A	1	0.012930	0.012930
99	B200210007	BOM	N/A	2	0.021805	0.043610
100	B200220018	BOM	N/A	2	0.012681	0.025362
101	B200220021	BOM	N/A	1	0.002337	0.002337
102	B200220036	BOM	N/A	2	0.013891	0.027782
103	B200220048	BOM	N/A	1	0.013891	0.013891
104	B200230057	BOM	N/A	1	0.031594	0.031594
105	B200230198	BOM	N/A	5	0.058210	0.291050
106	B200230210	BOM	N/A	2	0.050508	0.101016
107	B200230236	BOM	N/A	1	0.016788	0.016788
108	B200230276	BOM	N/A	2	0.027414	0.054828
109	B200230277	BOM	N/A	1	0.041493	0.041493
110	B200230338	BOM	N/A	2	0.029130	0.058260
111	B200230377	BOM	N/A	2	0.028585	0.057170
112	B200230379	BOM	N/A	4	0.036547	0.146188

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113	B200250009	BOM	NMIL	1	0.023160	0.023160
114	B200260265	BOM	NMIL	1	0.027440	0.027440
115	B200260271	BOM	NMIL	1	0.027440	0.027440
116	B200260325	BOM	NMIL	1	0.027440	0.027440
117	B200300219	BOM	NMIL	1	0.003845	0.003845
118	B200300236	BOM	NMIL	1	0.003845	0.003845
119	B200300298	BOM	NMIL	1	0.026144	0.026144
120	B200300345	BOM	NMIL	1	0.003845	0.003845
121	B210090117	BOM	KNOWNFR	1	2.068077	2.068077
122	B210160052	BOM	N/A	1	0.010000	0.010000
123	B210191466	N/A	STANDARD	1	0.016567	0.016567

Total Failure Rate (F/10 ⁶ Hrs) :	6.245253
Mean Time (in hours) Between Failures (MTBF) :	160,122