

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: FEB-16-2012
End Item Title : DR1U2 SERIES MTBF
End Item Part Number : DR1U2-5200V4H (RoHS)
DR1U2-5200V4H (RoHS) MTBF : 218,242
Module Title: ZIPPY TECHNOLOGY CORP
Module Part Number : DR1U / MTBF
Power Unit Module : DR1U-2200V (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.

$$\text{Total Failure Rate}(F) = M \lambda / (3/2) + B \lambda = 5.929675 / (3/2) + 0.628944 = 4.582061$$

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

$$\text{DR1U2-2200V4H (RoHS)(MTBF)} = F / 10^6 \text{Hrs} = 4.582061 / 10^6 = 218,242$$

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Date : FEB-16-2012 Time : 13:27:12
End Item Title : DR1U SERIES MTBF
End Item Part Number : DR1U-2200V (RoHS)
DR1U-2200V (RoHS) MTBF : 168,643
Module Title : ZIPPY TECHNOLOGY CORP
Module Part Number : DR1U / MTBF
Module Reference Designation : DR1U
Environmental Condition : GB
Ambient Temperature: 25°C

DR1U-2200V (RoHS)

ITEM #	Part Number	Ref Desig	Qual Level	Quant	Individual Failure Rate (F/10 ⁶ Hrs)	Total Failure Rate (F/10 ⁶ Hrs)
1	B102800004	BOM	NMIL	1	0.195486	0.195486
2	B103160002	BOM	NMIL	1	0.206970	0.206970
3	B104260002	BOM	NMIL	1	0.516703	0.516703
4	B200000001	BOM	SPECIAL	1	0.094935	0.094935
5	B200000296	BOM	SPECIAL	1	0.094935	0.094935
6	B200000316	BOM	SPECIAL	1	0.094935	0.094935
7	B200000357	BOM	SPECIAL	1	0.094935	0.094935
8	B200000364	BOM	SPECIAL	1	0.094935	0.094935
9	B200000378	BOM	SPECIAL	1	0.094935	0.094935
10	B200010052	BOM	NMIL	2	0.000121	0.000242
11	B200010088	BOM	NMIL	1	0.041400	0.041400
12	B200010109	BOM	NMIL	3	0.000121	0.000363
13	B200010116	BOM	NMIL	5	0.041400	0.207000
14	B200010125	BOM	NMIL	1	0.000244	0.000244
15	B200010165	BOM	NMIL	1	0.041400	0.041400
16	B200020004	BOM	NMIL	2	0.005156	0.010312
17	B200020017	BOM	NMIL	1	0.005156	0.005156
18	B200030019	BOM	NMIL	2	0.007617	0.015234
19	B200040005	BOM	NMIL	1	0.007909	0.007909
20	B200040063	BOM	NMIL	1	0.016111	0.016111
21	B200040073	BOM	NMIL	3	0.005967	0.017901
22	B200040075	BOM	NMIL	1	0.002929	0.002929
23	B200040084	BOM	NMIL	1	0.007909	0.007909
24	B200050024	BOM	NMIL	1	0.005218	0.005218

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25	B200050037	BOM	NMIL	3	0.005218	0.015654
26	B200050077	BOM	NMIL	1	0.005218	0.005218
27	B200090005	BOM	NMIL	1	0.001518	0.001518
28	B200110001	BOM	NMIL	2	0.004650	0.009300
29	B200110016	BOM	NMIL	4	0.004650	0.018600
30	B200110042	BOM	NMIL	5	0.004650	0.023250
31	B200110046	BOM	NMIL	1	0.004650	0.004650
32	B200110054	BOM	NMIL	1	0.005115	0.005115
33	B200110084	BOM	NMIL	1	0.005115	0.005115
34	B200110120	BOM	NMIL	1	0.004650	0.004650
35	B200110123	BOM	NMIL	2	0.004650	0.009300
36	B200110172	BOM	NMIL	1	0.004650	0.004650
37	B200110177	BOM	NMIL	3	0.004650	0.013950
38	B200110192	BOM	NMIL	2	0.004650	0.009300
39	B200110202	BOM	NMIL	1	0.004650	0.004650
40	B200110227	BOM	NMIL	3	0.004650	0.013950
41	B200110235	BOM	NMIL	1	0.004650	0.004650
42	B200110261	BOM	NMIL	1	0.004650	0.004650
43	B200110293	BOM	NMIL	2	0.005115	0.010230
44	B200110311	BOM	NMIL	1	0.004650	0.004650
45	B200110357	BOM	NMIL	2	0.004650	0.009300
46	B200110488	BOM	NMIL	4	0.004650	0.018600
47	B200110489	BOM	NMIL	1	0.004650	0.004650
48	B200110490	BOM	NMIL	1	0.004650	0.004650
49	B200110494	BOM	NMIL	1	0.004650	0.004650
50	B200110503	BOM	NMIL	4	0.005115	0.020460
51	B200110506	BOM	NMIL	1	0.004650	0.004650
52	B200110507	BOM	NMIL	2	0.004650	0.009300
53	B200110508	BOM	NMIL	1	0.004650	0.004650
54	B200110512	BOM	NMIL	1	0.004650	0.004650
55	B200110523	BOM	NMIL	1	0.004650	0.004650
56	B200110571	BOM	NMIL	2	0.004650	0.009300
57	B200110584	BOM	NMIL	2	0.004650	0.009300
58	B200110659	BOM	NMIL	1	0.004650	0.004650
59	B200110691	BOM	NMIL	2	0.004650	0.009300
60	B200110727	BOM	NMIL	1	0.004650	0.004650
61	B200120039	BOM	NMIL	2	0.004820	0.009640
62	B200120109	BOM	NMIL	1	0.005425	0.005425
63	B200120135	BOM	NMIL	1	0.007735	0.007735
64	B200120153	BOM	NMIL	1	0.008705	0.008705
65	B200120179	BOM	NMIL	1	0.005425	0.005425
66	B200160034	BOM	NMIL	1	0.105000	0.105000
67	B200160035	BOM	NMIL	1	0.105000	0.105000
68	B200160040	BOM	NMIL	1	0.105000	0.105000

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69	B200170032	BOM	NMIL	1	0.004875	0.004875
70	B200170033	BOM	NMIL	1	0.004875	0.004875
71	B200200060	BOM	N/A	1	0.012930	0.012930
72	B200200064	BOM	N/A	1	0.008470	0.008470
73	B200200069	BOM	N/A	1	0.006575	0.006575
74	B200200074	BOM	N/A	2	0.015274	0.030548
75	B200200082	BOM	N/A	4	0.016657	0.066628
76	B200200092	BOM	N/A	2	0.019676	0.039352
77	B200200100	BOM	N/A	1	0.021459	0.021459
78	B200200104	BOM	N/A	2	0.007144	0.014288
79	B200200145	BOM	N/A	1	0.006048	0.006048
80	B200200153	BOM	N/A	1	0.009203	0.009203
81	B200200154	BOM	N/A	2	0.009203	0.018406
82	B200200156	BOM	N/A	7	0.011856	0.082992
83	B200200158	BOM	N/A	2	0.007791	0.015582
84	B200220010	BOM	N/A	3	0.002761	0.008283
85	B200220028	BOM	N/A	3	0.002647	0.007941
86	B200220048	BOM	N/A	1	0.002647	0.002647
87	B200230336	BOM	N/A	2	0.025409	0.050818
88	B200230337	BOM	N/A	1	0.022047	0.022047
89	B200230338	BOM	N/A	1	0.029130	0.029130
90	B200230381	BOM	N/A	2	0.047121	0.094242
91	B200230387	BOM	N/A	1	0.052193	0.052193
92	B200230388	BOM	N/A	1	0.032199	0.032199
93	B200230424	BOM	N/A	4	0.052193	0.208772
94	B200250009	BOM	NMIL	1	0.023160	0.023160
95	B200260276	BOM	NMIL	1	0.027440	0.027440
96	B200260329	BOM	NMIL	1	0.027440	0.027440
97	B200260330	BOM	NMIL	1	0.027440	0.027440
98	B200280017	BOM	NMIL	1	0.015958	0.015958
99	B200300347	BOM	NMIL	1	0.003845	0.003845
100	B200300358	BOM	NMIL	1	0.026144	0.026144
101	B210090162	BOM	KNOWNFR	1	2.376670	2.376670
102	B210150024	BOM	N/A	1	0.010000	0.010000
103	B210191634	N/A	STANDARD	1	0.020588	0.020588

Total Failure Rate (F/10⁶Hrs) : 5.929675
Mean Time (in hours) Between Failures (MTBF) : 168,643