

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: JAN-24-2013
End Item Title : DR1S2 SERIES MTBF
End Item Part Number : DR1S2-5380V4V (RoHS)
DR1S2-5380V4V (RoHS) MTBF : 226,662
Module Title: ZIPPY TECHNOLOGY CORP
Module Part Number : DP1S / MTBF
Power Unit Module : DP1S-2400V-R (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.

$$\text{Total Failure Rate}(F) = M \lambda / (3/2) + B \lambda = 5.575727 / (3/2) + 0.695472 = 4.412623$$

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

$$\text{DR1S2-5380V4V (RoHS)(MTBF)} = F / 10^6 \text{Hrs} = 4.412623 / 10^6 = 226,622$$

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MIL - HDBK - 217F, Notice 2

Date : JAN-24-2013 Time : 16:05:33
End Item Title : DP1S SERIES MTBF
End Item Part Number : DP1S-2400V-R (RoHS)
DP1S-2400V-R (RoHS) MTBF : 179,349
Module Title : ZIPPY TECHNOLOGY CORP
Module Part Number : DP1S / MTBF
Module Reference Designation : DP1S
Environmental Condition : GB
Ambient Temperature: 25°C

DP1S-2400V-R (RoHS)

ITEM #	Part Number	Ref Desig	Qual Level	Quant	Individual Failure Rate (F/10 ⁶ Hrs)	Total Failure Rate (F/10 ⁶ Hrs)
1	B103120002	BOM	NMIL	1	0.080219	0.080219
2	B103210004	BOM	NMIL	1	0.065162	0.065162
3	B104400003	BOM	NMIL	1	0.220943	0.220943
4	B200000001	BOM	SPECIAL	4	0.094935	0.379740
5	B200000144	BOM	SPECIAL	1	0.094935	0.094935
6	B200000207	BOM	SPECIAL	1	0.094935	0.094935
7	B200000242	BOM	SPECIAL	3	0.094935	0.284805
8	B200000268	BOM	SPECIAL	1	0.094935	0.094935
9	B200000276	BOM	SPECIAL	1	0.094935	0.094935
10	B200000377	BOM	SPECIAL	1	0.094935	0.094935
11	B200010009	BOM	NMIL	1	0.000798	0.000798
12	B200010056	BOM	NMIL	3	0.000798	0.002394
13	B200010067	BOM	NMIL	1	0.000798	0.000798
14	B200010080	BOM	NMIL	2	0.032654	0.065308
15	B200010088	BOM	NMIL	1	0.032654	0.032654
16	B200010153	BOM	NMIL	2	0.032654	0.065308
17	B200010161	BOM	NMIL	2	0.032654	0.065308
18	B200020024	BOM	NMIL	15	0.005156	0.077340
19	B200030018	BOM	NMIL	5	0.007617	0.038085
20	B200040029	BOM	NMIL	1	0.005967	0.005967
21	B200040084	BOM	NMIL	1	0.008225	0.008225
22	B200050024	BOM	NMIL	1	0.005218	0.005218
23	B200050027	BOM	NMIL	2	0.005218	0.010436
24	B200050036	BOM	NMIL	1	0.005218	0.005218

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25	B200050040	BOM	NMIL	1	0.005218	0.005218
26	B200090005	BOM	NMIL	1	0.001518	0.001518
27	B200110001	BOM	NMIL	1	0.004650	0.004650
28	B200110022	BOM	NMIL	1	0.004650	0.004650
29	B200110042	BOM	NMIL	7	0.004650	0.032550
30	B200110046	BOM	NMIL	6	0.004650	0.027900
31	B200110073	BOM	NMIL	2	0.005115	0.010230
32	B200110087	BOM	NMIL	6	0.004650	0.027900
33	B200110119	BOM	NMIL	1	0.004650	0.004650
34	B200110120	BOM	NMIL	1	0.004650	0.004650
35	B200110123	BOM	NMIL	6	0.004650	0.027900
36	B200110190	BOM	NMIL	2	0.004650	0.009300
37	B200110192	BOM	NMIL	3	0.004650	0.013950
38	B200110235	BOM	NMIL	1	0.004650	0.004650
39	B200110261	BOM	NMIL	3	0.004650	0.013950
40	B200110270	BOM	NMIL	2	0.004650	0.009300
41	B200110279	BOM	NMIL	1	0.004650	0.004650
42	B200110343	BOM	NMIL	1	0.004650	0.004650
43	B200110489	BOM	NMIL	1	0.004650	0.004650
44	B200110492	BOM	NMIL	1	0.004650	0.004650
45	B200110494	BOM	NMIL	1	0.004650	0.004650
46	B200110498	BOM	NMIL	2	0.004650	0.009300
47	B200110501	BOM	NMIL	1	0.004650	0.004650
48	B200110503	BOM	NMIL	1	0.005115	0.005115
49	B200110505	BOM	NMIL	1	0.004650	0.004650
50	B200110510	BOM	NMIL	1	0.004650	0.004650
51	B200110523	BOM	NMIL	2	0.004650	0.009300
52	B200110524	BOM	NMIL	1	0.004650	0.004650
53	B200110530	BOM	NMIL	1	0.004650	0.004650
54	B200110544	BOM	NMIL	1	0.004650	0.004650
55	B200110545	BOM	NMIL	1	0.004650	0.004650
56	B200110549	BOM	NMIL	1	0.004650	0.004650
57	B200110550	BOM	NMIL	3	0.004650	0.013950
58	B200110554	BOM	NMIL	1	0.004650	0.004650
59	B200110560	BOM	NMIL	1	0.004650	0.004650
60	B200110561	BOM	NMIL	4	0.004650	0.018600
61	B200110571	BOM	NMIL	1	0.004650	0.004650
62	B200110588	BOM	NMIL	1	0.004650	0.004650
63	B200110598	BOM	NMIL	3	0.004650	0.013950
64	B200110658	BOM	NMIL	2	0.004650	0.009300
65	B200120015	BOM	NMIL	1	0.007557	0.007557
66	B200120122	BOM	NMIL	1	0.005425	0.005425
67	B200120174	BOM	NMIL	1	0.004820	0.004820
68	B200140018	BOM	NMIL	1	0.035297	0.035297

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69	B200160017	BOM	NMIL	1	0.065000	0.065000
70	B200160034	BOM	NMIL	1	0.065000	0.065000
71	B200170029	BOM	NMIL	3	0.004875	0.014625
72	B200190031	BOM	N/A	1	0.017894	0.017894
73	B200200021	BOM	N/A	3	0.015274	0.045822
74	B200200061	BOM	N/A	3	0.008470	0.025410
75	B200200066	BOM	N/A	2	0.010911	0.021822
76	B200200069	BOM	N/A	1	0.006575	0.006575
77	B200200083	BOM	N/A	2	0.007144	0.014288
78	B200200089	BOM	N/A	2	0.016657	0.033314
79	B200200153	BOM	N/A	3	0.009203	0.027609
80	B200200156	BOM	N/A	4	0.011856	0.047424
81	B200200157	BOM	N/A	1	0.011856	0.011856
82	B200220021	BOM	N/A	1	0.002337	0.002337
83	B200220028	BOM	N/A	1	0.002647	0.002647
84	B200220038	BOM	N/A	1	0.002898	0.002898
85	B200220071	BOM	N/A	2	0.002767	0.005534
86	B200230198	BOM	N/A	4	0.060538	0.242152
87	B200230210	BOM	N/A	2	0.052528	0.105056
88	B200230338	BOM	N/A	2	0.030295	0.060590
89	B200230347	BOM	N/A	1	0.020016	0.020016
90	B200230370	BOM	N/A	1	0.048402	0.048402
91	B200230377	BOM	N/A	2	0.029728	0.059456
92	B200250021	BOM	NMIL	1	0.024086	0.024086
93	B200260271	BOM	NMIL	1	0.028538	0.028538
94	B200260325	BOM	NMIL	1	0.028538	0.028538
95	B200260327	BOM	NMIL	1	0.028538	0.028538
96	B200300236	BOM	NMIL	1	0.003999	0.003999
97	B200300298	BOM	NMIL	1	0.027190	0.027190
98	B200300301	BOM	NMIL	1	0.003999	0.003999
99	B210090122	BOM	KNOWNFR	1	2.134055	2.134055
100	B210160052	BOM	N/A	1	0.010000	0.010000
101	B210191285	N/A	STANDARD	1	0.014028	0.014028
102	B210191629	N/A	STANDARD	1	0.023798	0.023798

Total Failure Rate (F/10⁶Hrs) : 5.575727
Mean Time (in hours) Between Failures (MTBF) : 179,349