

ZIPPY TECHNOLOGY CORP.
10F.,No.50,MINQUAN 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: MAR-11-2016
End Item Title : M1R2 SERIES MTBF
End Item Part Number : M1R2-5400V0H(RoHS)
M1R2-5400V0H(RoHS) MTBF : 238,589
Module Title: ZIPPY TECHNOLOGY CORP
Module Part Number : M1R / MTBF
Power Unit Module : M1R-2400V(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.

$$\text{Total Failure Rate}(F) = M \lambda / (3/2) + B \lambda = 5.245823 / (3/2) + 0.694086 = 4.191301$$

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

$$\text{M1R2-5400V0H(RoHS)(MTBF)} = F / 10^6 \text{ (Hrs)} = 1 / (4.191301 / 10^6) = 238,589$$

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RELIABILITY PREDICTION STANDARD REPORT
(Sorted by Part Number)
MIL-HDBK-217F, Notice 2

Date : MAR-11-2016 Time : 16:33:12
End Item Title : M1R SERIES MTBF
End Item Part Number : M1R-2400V(RoHS)
M1R-2400V(RoHS) MTBF : 190,628
Module Title : ZIPPY TECHNOLOGY CORP
Module Part Number : M1R / MTBF
Module Reference Designation : M1R
Environmental Condition : GB
Ambient Temperature: 25°C

M1R-2400V(RoHS)

ITEM #	Part Number	Ref Desig	Qual Level	Quant	Individual Failure Rate (F/10 ⁶ Hrs)	Total Failure Rate (F/10 ⁶ Hrs)
1	B105190002	BOM	NMIL	1	0.265242	0.265242
2	B105190004	BOM	NMIL	1	0.802617	0.802617
3	B105190012	BOM	NMIL	1	0.193828	0.193828
4	B105190013	BOM	NMIL	1	0.318861	0.318861
5	B200000001	BOM	SPECIAL	1	0.094935	0.094935
6	B200000516	BOM	SPECIAL	1	0.094935	0.094935
7	B200010052	BOM	NMIL	2	0.000798	0.001596
8	B200010091	BOM	NMIL	1	0.000766	0.000766
9	B200010098	BOM	NMIL	1	0.000798	0.000798
10	B200010105	BOM	NMIL	3	0.030142	0.090426
11	B200010109	BOM	NMIL	3	0.000798	0.002394
12	B200020020	BOM	NMIL	2	0.005156	0.010312
13	B200020021	BOM	NMIL	1	0.006751	0.006751
14	B200040053	BOM	NMIL	1	0.015467	0.015467
15	B200040065	BOM	NMIL	1	0.005967	0.005967
16	B200040073	BOM	NMIL	4	0.005967	0.023868
17	B200040083	BOM	NMIL	1	0.015467	0.015467
18	B200040104	BOM	NMIL	1	0.015467	0.015467
19	B200050024	BOM	NMIL	1	0.005218	0.005218
20	B200050070	BOM	NMIL	2	0.005218	0.010436
21	B200050081	BOM	NMIL	4	0.005218	0.020872
22	B200060022	BOM	NMIL	1	0.014023	0.014023
23	B200070007	BOM	NMIL	2	0.005980	0.011960
24	B200090005	BOM	NMIL	1	0.001518	0.001518

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25	B200110030	BOM	NMIL	4	0.005115	0.020460
26	B200110042	BOM	NMIL	4	0.004650	0.018600
27	B200110120	BOM	NMIL	4	0.004650	0.018600
28	B200110172	BOM	NMIL	2	0.004650	0.009300
29	B200110192	BOM	NMIL	1	0.004650	0.004650
30	B200110202	BOM	NMIL	1	0.004650	0.004650
31	B200110223	BOM	NMIL	4	0.005115	0.020460
32	B200110227	BOM	NMIL	6	0.004650	0.027900
33	B200110235	BOM	NMIL	2	0.004650	0.009300
34	B200110279	BOM	NMIL	2	0.004650	0.009300
35	B200110313	BOM	NMIL	1	0.004650	0.004650
36	B200110325	BOM	NMIL	1	0.004650	0.004650
37	B200110406	BOM	NMIL	1	0.004650	0.004650
38	B200110488	BOM	NMIL	1	0.004650	0.004650
39	B200110494	BOM	NMIL	2	0.004650	0.009300
40	B200110498	BOM	NMIL	2	0.004650	0.009300
41	B200110502	BOM	NMIL	1	0.004650	0.004650
42	B200110508	BOM	NMIL	1	0.004650	0.004650
43	B200110514	BOM	NMIL	1	0.004650	0.004650
44	B200110523	BOM	NMIL	1	0.004650	0.004650
45	B200110524	BOM	NMIL	1	0.004650	0.004650
46	B200110525	BOM	NMIL	1	0.004650	0.004650
47	B200110551	BOM	NMIL	1	0.004650	0.004650
48	B200110608	BOM	NMIL	3	0.007440	0.022320
49	B200110611	BOM	NMIL	1	0.004650	0.004650
50	B200110636	BOM	NMIL	1	0.005115	0.005115
51	B200110930	BOM	NMIL	3	0.004650	0.013950
52	B200160028	BOM	NMIL	1	0.065000	0.065000
53	B200170035	BOM	NMIL	1	0.004005	0.004005
54	B200170041	BOM	NMIL	2	0.005940	0.011880
55	B200170055	BOM	NMIL	1	0.002700	0.002700
56	B200180075	BOM	N/A	1	0.008923	0.008923
57	B200180092	BOM	N/A	1	0.008923	0.008923
58	B200190084	BOM	N/A	1	0.015889	0.015889
59	B200190085	BOM	N/A	1	0.015889	0.015889
60	B200200064	BOM	N/A	1	0.008470	0.008470
61	B200200069	BOM	N/A	1	0.006575	0.006575
62	B200200075	BOM	N/A	1	0.018108	0.018108
63	B200200083	BOM	N/A	1	0.007144	0.007144
64	B200200156	BOM	N/A	4	0.011856	0.047424
65	B200200158	BOM	N/A	1	0.007791	0.007791
66	B200220010	BOM	N/A	1	0.002761	0.002761
67	B200220021	BOM	N/A	1	0.002337	0.002337
68	B200220036	BOM	N/A	3	0.013891	0.041673

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69	B200220073	BOM	N/A	1	0.008751	0.008751
70	B200220074	BOM	N/A	1	0.006445	0.006445
71	B200230277	BOM	N/A	1	0.039833	0.039833
72	B200230381	BOM	N/A	2	0.045236	0.090472
73	B200230434	BOM	N/A	2	0.144415	0.288830
74	B200230443	BOM	N/A	1	0.021165	0.021165
75	B200230444	BOM	N/A	2	0.024393	0.048786
76	B200240006	BOM	N/A	1	0.027583	0.027583
77	B200260208	BOM	NMIL	1	0.026342	0.026342
78	B200260281	BOM	NMIL	1	0.026342	0.026342
79	B200260353	BOM	NMIL	1	0.026342	0.026342
80	B200280012	BOM	NMIL	1	0.015958	0.015958
81	B200300284	BOM	NMIL	1	0.003691	0.003691
82	B210090091	BOM	KNOWNFR	1	2.030495	2.030495
83	B210160038	BOM	N/A	1	0.010000	0.010000
84	B210191933	N/A	STANDARD	1	0.016567	0.016567

Total Failure Rate (F/10⁶Hrs) : 5.245823
 Mean Time (in hours) Between Failures (MTBF) : **190,628**