

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: JUN-25-2015
End Item Title : DM1R2 SERIES MTBF
End Item Part Number : DM1R2-5400V0H (RoHS)(PMBus NP1.2)
DM1R2-5400V0H (RoHS)(PMBus NP1.2) MTBF : 227,900
Module Title: ZIPPY TECHNOLOGY CORP
Module Part Number : DM1R / MTBF
Power Unit Module : DM1R-2400V (RoHS)(PMBus NP1.2)
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.

$$\text{Total Failure Rate}(F) = M \lambda / (3/2) + B \lambda = 5.540691 / (3/2) + 0.694086 = 4.387880$$

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

$$\text{DM1R2-5400V0H (RoHS)(PMBus NP1.2)(MTBF)} = F / 10^6 \text{Hrs} = 4.387880 / 10^6 = 227,900$$

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Date : JUN-25-2015 Time : 11:22:13
End Item Title : DM1R SERIES MTBF
End Item Part Number : DM1R-2400V (RoHS)(PMBus NP1.2)
DM1R-2400V (RoHS)(PMBus NP1.2) MTBF : 180,483
Module Title : ZIPPY TECHNOLOGY CORP
Module Part Number : DM1R / MTBF
Module Reference Designation : DM1R
Environmental Condition : GB
Ambient Temperature: 25°C

DM1R-2400V (RoHS)(PMBus NP1.2)

ITEM #	Part Number	Ref Desig	Qual Level	Quant	Individual Failure Rate (F/10 ⁶ Hrs)	Total Failure Rate (F/10 ⁶ Hrs)
1	B105190012	BOM	SPECIAL	1	0.193828	0.193828
2	B105550002	BOM	SPECIAL	1	0.802617	0.802617
3	B105550003	BOM	SPECIAL	1	0.269836	0.269836
4	B105550008	BOM	SPECIAL	1	0.318861	0.318861
5	B105550009	BOM	SPECIAL	1	0.026430	0.026430
6	B200000001	BOM	NMIL	1	0.029860	0.029860
7	B200000316	BOM	NMIL	1	0.031585	0.031585
8	B200000357	BOM	NMIL	1	0.030903	0.030903
9	B200000574	BOM	NMIL	1	0.033691	0.033691
10	B200010052	BOM	NMIL	1	0.000326	0.000326
11	B200010105	BOM	NMIL	1	0.030600	0.030600
12	B200010109	BOM	NMIL	3	0.000798	0.002394
13	B200010116	BOM	NMIL	2	0.030600	0.061200
14	B200010125	BOM	NMIL	1	0.000730	0.000730
15	B200010153	BOM	NMIL	3	0.030600	0.091800
16	B200020017	BOM	NMIL	1	0.005156	0.005156
17	B200030019	BOM	NMIL	4	0.007617	0.030468
18	B200040065	BOM	NMIL	1	0.005967	0.005967
19	B200040073	BOM	NMIL	4	0.005967	0.023868
20	B200040083	BOM	NMIL	1	0.015467	0.015467
21	B200040110	BOM	NMIL	1	0.015467	0.015467
22	B200040123	BOM	NMIL	1	0.015467	0.015467
23	B200050024	BOM	NMIL	1	0.005218	0.005218
24	B200050082	BOM	NMIL	2	0.005218	0.010436

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25	B200090005	BOM	NMIL	1	0.001518	0.001518
26	B200110030	BOM	NMIL	7	0.005115	0.035805
27	B200110042	BOM	NMIL	5	0.004650	0.023250
28	B200110120	BOM	NMIL	2	0.004650	0.009300
29	B200110172	BOM	NMIL	2	0.004650	0.009300
30	B200110177	BOM	NMIL	3	0.004650	0.013950
31	B200110192	BOM	NMIL	1	0.004650	0.004650
32	B200110202	BOM	NMIL	1	0.004650	0.004650
33	B200110227	BOM	NMIL	6	0.004650	0.027900
34	B200110235	BOM	NMIL	1	0.004650	0.004650
35	B200110254	BOM	NMIL	2	0.004650	0.009300
36	B200110303	BOM	NMIL	2	0.005115	0.010230
37	B200110313	BOM	NMIL	1	0.004650	0.004650
38	B200110317	BOM	NMIL	1	0.004650	0.004650
39	B200110322	BOM	NMIL	1	0.004650	0.004650
40	B200110325	BOM	NMIL	1	0.004650	0.004650
41	B200110357	BOM	NMIL	2	0.004650	0.009300
42	B200110488	BOM	NMIL	2	0.004650	0.009300
43	B200110490	BOM	NMIL	1	0.004650	0.004650
44	B200110506	BOM	NMIL	1	0.004650	0.004650
45	B200110512	BOM	NMIL	1	0.004650	0.004650
46	B200110523	BOM	NMIL	2	0.004650	0.009300
47	B200110524	BOM	NMIL	1	0.004650	0.004650
48	B200110541	BOM	NMIL	1	0.004650	0.004650
49	B200110545	BOM	NMIL	1	0.004650	0.004650
50	B200110551	BOM	NMIL	1	0.004650	0.004650
51	B200110571	BOM	NMIL	2	0.004650	0.009300
52	B200110715	BOM	NMIL	4	0.004650	0.018600
53	B200110857	BOM	NMIL	4	0.004650	0.018600
54	B200111017	BOM	NMIL	1	0.004650	0.004650
55	B200120179	BOM	NMIL	1	0.005425	0.005425
56	B200160034	BOM	NMIL	1	0.065000	0.065000
57	B200170035	BOM	NMIL	1	0.004005	0.004005
58	B200170055	BOM	NMIL	1	0.002700	0.002700
59	B200200021	BOM	NMIL	2	0.015274	0.030548
60	B200200069	BOM	NMIL	1	0.006575	0.006575
61	B200200082	BOM	NMIL	7	0.016657	0.116599
62	B200200083	BOM	NMIL	1	0.007144	0.007144
63	B200200153	BOM	NMIL	2	0.009203	0.018406
64	B200200156	BOM	NMIL	2	0.011856	0.023712
65	B200200158	BOM	NMIL	1	0.007791	0.007791
66	B200200177	BOM	NMIL	1	0.018108	0.018108
67	B200220010	BOM	NMIL	2	0.002761	0.005522
68	B200220021	BOM	NMIL	1	0.002337	0.002337

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69	B200220051	BOM	NMIL	2	0.009620	0.019240
70	B200220071	BOM	NMIL	2	0.014520	0.029040
71	B200220073	BOM	NMIL	1	0.008751	0.008751
72	B200220074	BOM	NMIL	1	0.006445	0.006445
73	B200230277	BOM	NMIL	1	0.039833	0.039833
74	B200230381	BOM	NMIL	2	0.045236	0.090472
75	B200230388	BOM	NMIL	2	0.030911	0.061822
76	B200230417	BOM	NMIL	2	0.031659	0.063318
77	B200230443	BOM	NMIL	1	0.021165	0.021165
78	B200230451	BOM	NMIL	1	0.024469	0.024469
79	B200230461	BOM	NMIL	2	0.074399	0.148798
80	B200240007	BOM	NMIL	2	0.071440	0.142880
81	B200260276	BOM	NMIL	1	0.026342	0.026342
82	B200260277	BOM	NMIL	1	0.026342	0.026342
83	B200260369	BOM	NMIL	1	0.026342	0.026342
84	B200260376	BOM	NMIL	1	0.026342	0.026342
85	B200280017	BOM	NMIL	2	0.015958	0.031916
86	B200300425	BOM	NMIL	1	0.003691	0.003691
87	B210090208	BOM	SPECIAL	1	2.068077	2.068077
88	B210160043	BOM	NMIL	1	0.010000	0.010000
89	B210192194	BOM	NMIL	1	0.014656	0.014656

Total Failure Rate (F/10 ⁶ Hrs) :	5.540691
Mean Time (in hours) Between Failures (MTBF) :	180,483