

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: OCT-17-2014
End Item Title : BMTW2 SERIES MTBF
End Item Part Number : BMTW2-5600V3V (RoHS)
BMTW2-5600V3V (RoHS) MTBF : 142,528
Module Title: ZIPPY TECHNOLOGY CORP
Module Part Number : BMTW / MTBF
Power Unit Module : BMTW-5600V (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.

$$\begin{aligned} \text{MTBF} &= (1/\lambda) + (1/\lambda) - (1/(\lambda + \lambda)) \\ &= (3/2) \lambda \end{aligned}$$

λ = failure rate per million hours

$$\text{BMTW2-5600V3V (RoHS)(MTBF)} = (3/2) \lambda = (3/2) \times 95,019 = 142,528$$

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Date : OCT-17-2014 Time : 16:33:42
End Item Title : BMTW SERIES MTBF
End Item Part Number : BMTW-5600V (RoHS)
BMTW-5600V (RoHS) MTBF : 95,019
Module Title : ZIPPY TECHNOLOGY CORP
Module Part Number : BMTW / MTBF
Module Reference Designation : BMTW
Environmental Condition : GB
Ambient Temperature: 25°C

BMTW-5600V (RoHS)

ITEM #	Part Number	Ref Desig	Qual Level	Quant	Individual Failure Rate (F/10 ⁶ Hrs)	Total Failure Rate (F/10 ⁶ Hrs)
1	B102720010	BOM	NMIL	1	0.069564	0.069564
2	B102920003	BOM	NMIL	1	0.644190	0.644190
3	B102920004	BOM	NMIL	1	0.644190	0.644190
4	B102970002	BOM	NMIL	1	0.074349	0.074349
5	B104600004	BOM	NMIL	1	1.056375	1.056375
6	B200000001	BOM	SPECIAL	1	0.094935	0.094935
7	B200000080	BOM	SPECIAL	1	0.094935	0.094935
8	B200000092	BOM	SPECIAL	1	0.094935	0.094935
9	B200000242	BOM	SPECIAL	1	0.094935	0.094935
10	B200000252	BOM	SPECIAL	1	0.094935	0.094935
11	B200000257	BOM	SPECIAL	1	0.094935	0.094935
12	B200000316	BOM	SPECIAL	1	0.094935	0.094935
13	B200000351	BOM	SPECIAL	1	0.094935	0.094935
14	B200010009	BOM	NMIL	3	0.000798	0.002394
15	B200010022	BOM	NMIL	3	0.000798	0.002394
16	B200010052	BOM	NMIL	3	0.000798	0.002394
17	B200010066	BOM	NMIL	2	0.031398	0.062796
18	B200010080	BOM	NMIL	2	0.031398	0.062796
19	B200010081	BOM	NMIL	2	0.031398	0.062796
20	B200010109	BOM	NMIL	2	0.000798	0.001596
21	B200010112	BOM	NMIL	2	0.031398	0.062796
22	B200010132	BOM	NMIL	1	0.031398	0.031398
23	B200010153	BOM	NMIL	2	0.031398	0.062796
24	B200010161	BOM	NMIL	1	0.031398	0.031398

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25	B200010192	BOM	NMIL	4	0.000798	0.003192
26	B200020010	BOM	NMIL	2	0.006751	0.013502
27	B200020014	BOM	NMIL	1	0.006751	0.006751
28	B200020016	BOM	NMIL	3	0.005156	0.015468
29	B200020024	BOM	NMIL	13	0.005156	0.067028
30	B200030077	BOM	NMIL	1	0.003446	0.003446
31	B200040006	BOM	NMIL	1	0.016111	0.016111
32	B200040063	BOM	NMIL	1	0.016111	0.016111
33	B200040073	BOM	NMIL	2	0.005967	0.011934
34	B200050024	BOM	NMIL	1	0.005218	0.005218
35	B200050039	BOM	NMIL	1	0.005218	0.005218
36	B200050040	BOM	NMIL	4	0.005218	0.020872
37	B200090005	BOM	NMIL	1	0.001518	0.001518
38	B200110001	BOM	NMIL	6	0.004650	0.027900
39	B200110042	BOM	NMIL	14	0.004650	0.065100
40	B200110046	BOM	NMIL	4	0.004650	0.018600
41	B200110087	BOM	NMIL	1	0.004650	0.004650
42	B200110120	BOM	NMIL	1	0.004650	0.004650
43	B200110123	BOM	NMIL	10	0.004650	0.046500
44	B200110172	BOM	NMIL	4	0.004650	0.018600
45	B200110192	BOM	NMIL	4	0.004650	0.018600
46	B200110227	BOM	NMIL	5	0.004650	0.023250
47	B200110279	BOM	NMIL	5	0.004650	0.023250
48	B200110302	BOM	NMIL	2	0.005115	0.010230
49	B200110488	BOM	NMIL	1	0.004650	0.004650
50	B200110493	BOM	NMIL	1	0.005115	0.005115
51	B200110494	BOM	NMIL	3	0.004650	0.013950
52	B200110496	BOM	NMIL	2	0.004650	0.009300
53	B200110501	BOM	NMIL	1	0.004650	0.004650
54	B200110504	BOM	NMIL	1	0.005115	0.005115
55	B200110508	BOM	NMIL	1	0.004650	0.004650
56	B200110509	BOM	NMIL	1	0.004650	0.004650
57	B200110510	BOM	NMIL	1	0.004650	0.004650
58	B200110512	BOM	NMIL	11	0.004650	0.051150
59	B200110514	BOM	NMIL	1	0.004650	0.004650
60	B200110523	BOM	NMIL	1	0.004650	0.004650
61	B200110524	BOM	NMIL	2	0.004650	0.009300
62	B200110525	BOM	NMIL	3	0.004650	0.013950
63	B200110529	BOM	NMIL	1	0.004650	0.004650
64	B200110542	BOM	NMIL	1	0.004650	0.004650
65	B200110550	BOM	NMIL	1	0.004650	0.004650
66	B200110551	BOM	NMIL	2	0.004650	0.009300
67	B200110554	BOM	NMIL	7	0.004650	0.032550
68	B200110561	BOM	NMIL	1	0.004650	0.004650

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69	B200110613	BOM	NMIL	2	0.004650	0.009300
70	B200110887	BOM	NMIL	3	0.004650	0.013950
71	B200120017	BOM	NMIL	1	0.009576	0.009576
72	B200120032	BOM	NMIL	1	0.006870	0.006870
73	B200120094	BOM	NMIL	1	0.006870	0.006870
74	B200120174	BOM	NMIL	1	0.004820	0.004820
75	B200140013	BOM	NMIL	1	0.035297	0.035297
76	B200160017	BOM	NMIL	1	0.065000	0.065000
77	B200160034	BOM	NMIL	1	0.065000	0.065000
78	B200170020	BOM	NMIL	9	0.004875	0.043875
79	B200170029	BOM	NMIL	3	0.004875	0.014625
80	B200190031	BOM	N/A	2	0.017894	0.035788
81	B200200021	BOM	N/A	8	0.015274	0.122192
82	B200200053	BOM	N/A	1	0.014056	0.014056
83	B200200057	BOM	N/A	2	0.018108	0.036216
84	B200200061	BOM	N/A	6	0.008470	0.050820
85	B200200071	BOM	N/A	1	0.006048	0.006048
86	B200200078	BOM	N/A	1	0.010037	0.010037
87	B200200083	BOM	N/A	1	0.007144	0.007144
88	B200200084	BOM	N/A	2	0.005546	0.011092
89	B200200101	BOM	N/A	1	0.016657	0.016657
90	B200200153	BOM	N/A	3	0.009203	0.027609
91	B200200156	BOM	N/A	7	0.011856	0.082992
92	B200200158	BOM	N/A	2	0.007791	0.015582
93	B200200166	BOM	N/A	1	0.012930	0.012930
94	B200220021	BOM	N/A	1	0.002337	0.002337
95	B200220036	BOM	N/A	6	0.013891	0.083346
96	B200230198	BOM	N/A	6	0.058210	0.349260
97	B200230210	BOM	N/A	2	0.050508	0.101016
98	B200230277	BOM	N/A	1	0.041493	0.041493
99	B200230336	BOM	N/A	1	0.025409	0.025409
100	B200230338	BOM	N/A	5	0.029130	0.145650
101	B200230377	BOM	N/A	2	0.028585	0.057170
102	B200230379	BOM	N/A	8	0.036547	0.292376
103	B200240005	BOM	N/A	1	0.067034	0.067034
104	B200250009	BOM	NMIL	1	0.023160	0.023160
105	B200250028	BOM	NMIL	2	0.023160	0.046320
106	B200260046	BOM	NMIL	1	0.027440	0.027440
107	B200260250	BOM	NMIL	1	0.027440	0.027440
108	B200260251	BOM	NMIL	1	0.027440	0.027440
109	B200260318	BOM	NMIL	1	0.027440	0.027440
110	B200300236	BOM	NMIL	1	0.003845	0.003845
111	B200300269	BOM	NMIL	1	0.003845	0.003845
112	B200300275	BOM	NMIL	1	0.026144	0.026144

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113	B210140008	BOM	KNOWNFR	2	2.051759	4.103518
114	B210160052	BOM	N/A	2	0.010000	0.020000
115	B210191680	N/A	STANDARD	1	0.015865	0.015865

Total Failure Rate (F/10 ⁶ Hrs) :	10.524175
Mean Time (in hours) Between Failures (MTBF) :	95,019