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: JUL-22-2014
End Item Title : MRH2 SERIES MTBF
End Item Part Number : MRH2-5930V0H (RoHS)
MRH2-5930V0H (RoHS) MTBF : 187,651
Module Title: ZIPPY TECHNOLOGY CORP
Module Part Number : MRH / MTBF
Power Unit Module : MRH-2930V (RoHS)
Environmental Condition: GB
Ambient Temperature: 25℃

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.

Total Failure Rate(F) ＝ M λ /(3/2)+B λ ＝ 7.199595/(3/2)+0.529302 = 5.329032

M λ = Main power failure rate ，B λ = Back plane failure rate

MRH2-5930V0H (RoHS)(MTBF) ＝ F/10^6Hrs ＝ 5.329032/10^6 ＝ 187,651

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

Date : JUL-22-2014 Time : 16:40:58
End Item Title : MRH SERIES MTBF
End Item Part Number : MRH-2930V (RoHS)
MRH-2930V (RoHS) MTBF : 138,897
Module Title : ZIPPY TECHNOLOGY CORP
Module Part Number : MRH / MTBF
Module Reference Designation : MRH
Environmental Condition : GB
Ambient Temperature: 25℃

MRH-2930V (RoHS)

ITEM #	Part Number	Ref Desig	Qual Level	Quant	Individual Failure Rate (F/10^6Hrs)	Total Failure Rate (F/10^6Hrs)
1	B102130002	BOM	NMIL	1	0.074349	0.074349
2	B102270003	BOM	NMIL	1	0.128027	0.128027
3	B102330003	BOM	NMIL	1	0.132621	0.132621
4	B102330005	BOM	NMIL	1	0.125731	0.125731
5	B103430007	BOM	NMIL	1	0.071032	0.071032
6	B104140005	BOM	NMIL	1	0.021678	0.021678
7	B104650003	BOM	NMIL	1	1.222003	1.222003
8	B104650009	BOM	NMIL	1	0.034497	0.034497
9	B200000001	BOM	SPECIAL	1	0.094935	0.094935
10	B200000296	BOM	SPECIAL	1	0.094935	0.094935
11	B200000332	BOM	SPECIAL	2	0.094935	0.189870
12	B200000333	BOM	SPECIAL	1	0.094935	0.094935
13	B200000364	BOM	SPECIAL	1	0.094935	0.094935
14	B200010052	BOM	NMIL	9	0.000798	0.007182
15	B200010091	BOM	NMIL	1	0.000648	0.000648
16	B200010098	BOM	NMIL	1	0.000798	0.000798
17	B200010105	BOM	NMIL	7	0.025495	0.178465
18	B200010109	BOM	NMIL	15	0.000798	0.011970
19	B200010147	BOM	NMIL	14	0.025495	0.356930
20	B200020017	BOM	NMIL	2	0.005156	0.010312
21	B200020020	BOM	NMIL	2	0.005156	0.010312
22	B200020021	BOM	NMIL	1	0.006751	0.006751
23	B200030038	BOM	NMIL	1	0.003446	0.003446
24	B200040063	BOM	NMIL	1	0.013082	0.013082

25	B200040065	BOM	NMIL	1	0.005967	0.005967
26	B200040072	BOM	NMIL	1	0.005967	0.005967
27	B200040073	BOM	NMIL	16	0.005967	0.095472
28	B200040104	BOM	NMIL	1	0.013082	0.013082
29	B200040110	BOM	NMIL	1	0.013082	0.013082
30	B200050024	BOM	NMIL	1	0.005218	0.005218
31	B200050032	BOM	NMIL	7	0.005218	0.036526
32	B200050070	BOM	NMIL	2	0.005218	0.010436
33	B200060009	BOM	NMIL	1	0.011861	0.011861
34	B200070008	BOM	NMIL	2	0.006782	0.013564
35	B200090006	BOM	NMIL	1	0.001518	0.001518
36	B200110016	BOM	NMIL	6	0.004650	0.027900
37	B200110040	BOM	NMIL	6	0.004650	0.027900
38	B200110042	BOM	NMIL	4	0.004650	0.018600
39	B200110046	BOM	NMIL	1	0.004650	0.004650
40	B200110058	BOM	NMIL	2	0.004650	0.009300
41	B200110095	BOM	NMIL	14	0.004650	0.065100
42	B200110120	BOM	NMIL	4	0.004650	0.018600
43	B200110123	BOM	NMIL	2	0.004650	0.009300
44	B200110172	BOM	NMIL	6	0.004650	0.027900
45	B200110192	BOM	NMIL	2	0.004650	0.009300
46	B200110202	BOM	NMIL	1	0.004650	0.004650
47	B200110223	BOM	NMIL	3	0.005115	0.015345
48	B200110227	BOM	NMIL	5	0.004650	0.023250
49	B200110279	BOM	NMIL	1	0.004650	0.004650
50	B200110282	BOM	NMIL	3	0.004650	0.013950
51	B200110303	BOM	NMIL	4	0.005115	0.020460
52	B200110311	BOM	NMIL	1	0.004650	0.004650
53	B200110441	BOM	NMIL	1	0.004650	0.004650
54	B200110490	BOM	NMIL	1	0.004650	0.004650
55	B200110493	BOM	NMIL	3	0.005115	0.015345
56	B200110494	BOM	NMIL	3	0.004650	0.013950
57	B200110502	BOM	NMIL	1	0.004650	0.004650
58	B200110503	BOM	NMIL	1	0.005115	0.005115
59	B200110506	BOM	NMIL	3	0.004650	0.013950
60	B200110514	BOM	NMIL	1	0.004650	0.004650
61	B200110523	BOM	NMIL	1	0.004650	0.004650
62	B200110525	BOM	NMIL	1	0.004650	0.004650
63	B200110551	BOM	NMIL	1	0.004650	0.004650
64	B200110607	BOM	NMIL	5	0.004650	0.023250
65	B200110608	BOM	NMIL	3	0.007440	0.022320
66	B200110668	BOM	NMIL	1	0.004650	0.004650
67	B200110894	BOM	NMIL	1	0.004650	0.004650
68	B200110895	BOM	NMIL	1	0.004650	0.004650

69	B200120015	BOM	NMIL	1	0.007557	0.007557
70	B200120160	BOM	NMIL	1	0.005425	0.005425
71	B200160022	BOM	NMIL	1	0.065000	0.065000
72	B200170021	BOM	NMIL	3	0.004875	0.014625
73	B200170035	BOM	NMIL	5	0.004005	0.020025
74	B200180075	BOM	N/A	1	0.008923	0.008923
75	B200180080	BOM	N/A	1	0.009769	0.009769
76	B200180081	BOM	N/A	1	0.010256	0.010256
77	B200190024	BOM	N/A	1	0.015889	0.015889
78	B200190035	BOM	N/A	1	0.015889	0.015889
79	B200200053	BOM	N/A	4	0.014056	0.056224
80	B200200069	BOM	N/A	1	0.006575	0.006575
81	B200200090	BOM	N/A	1	0.021459	0.021459
82	B200200096	BOM	N/A	4	0.008147	0.032588
83	B200200153	BOM	N/A	1	0.009203	0.009203
84	B200200156	BOM	N/A	11	0.011856	0.130416
85	B200200157	BOM	N/A	8	0.011856	0.094848
86	B200200158	BOM	N/A	3	0.007791	0.023373
87	B200200166	BOM	N/A	1	0.012930	0.012930
88	B200220021	BOM	N/A	1	0.002337	0.002337
89	B200220037	BOM	N/A	3	0.013313	0.039939
90	B200220054	BOM	N/A	3	0.018252	0.054756
91	B200230297	BOM	N/A	1	0.126225	0.126225
92	B200230336	BOM	N/A	2	0.020632	0.041264
93	B200230337	BOM	N/A	1	0.017902	0.017902
94	B200230338	BOM	N/A	1	0.023654	0.023654
95	B200230356	BOM	N/A	5	0.035801	0.179005
96	B200230381	BOM	N/A	2	0.038262	0.076524
97	B200230434	BOM	N/A	2	0.122151	0.244302
98	B200260278	BOM	NMIL	1	0.022281	0.022281
99	B200260295	BOM	NMIL	1	0.022281	0.022281
100	B200260328	BOM	NMIL	1	0.022281	0.022281
101	B200260356	BOM	NMIL	1	0.022281	0.022281
102	B200260357	BOM	NMIL	1	0.022281	0.022281
103	B200260358	BOM	NMIL	2	0.022281	0.044562
104	B200280012	BOM	NMIL	2	0.015958	0.031916
105	B200290011	BOM	NMIL	2	0.013740	0.027480
106	B200290015	BOM	NMIL	5	0.013740	0.068700
107	B200300219	BOM	NMIL	1	0.003122	0.003122
108	B200300248	BOM	NMIL	1	0.003122	0.003122
109	B200300377	BOM	NMIL	1	0.021229	0.021229
110	B210100058	BOM	KNOWNFR	1	1.843793	1.843793
111	B210160025	BOM	N/A	1	0.010000	0.010000
112	B210191935	N/A	STANDARD	1	0.014656	0.014656

113	B210191936	N/A	STANDARD	1	0.014656	0.014656

Total Failure Rate (F/10^6Hrs) : 7.199595
Mean Time (in hours) Between Failures (MTBF) : 138,897