

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: OCT-28-2014
End Item Title : G1W2 SERIES MTBF
End Item Part Number : G1W2-5AE0G2V (RoHS)
G1W2-5AE0G2V (RoHS) MTBF : 150,200
Module Title: ZIPPY TECHNOLOGY CORP
Module Part Number : G1W / MTBF
Power Unit Module : G1W-2AE0G2 (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.

$$\text{Total Failure Rate}(F) = M \lambda / (3/2) + B \lambda = 8.836741 / (3/2) + 0.766620 = 6.657781$$

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

$$\text{G1W2-5AE0G2V (RoHS)(MTBF)} = F / 10^6 \text{Hrs} = 6.657781 / 10^6 = 150,200$$

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Date : OCT-28-2014 Time : 14:58:38
End Item Title : G1W SERIES MTBF
End Item Part Number : G1W-2AE0G2 (RoHS)
G1W-2AE0G2 (RoHS) MTBF : 113,164
Module Title : ZIPPY TECHNOLOGY CORP
Module Part Number : G1W / MTBF
Module Reference Designation : G1W
Environmental Condition : GB
Ambient Temperature: 25°C

G1W-2AE0G2 (RoHS)

ITEM #	Part Number	Ref Desig	Qual Level	Quant	Individual Failure Rate (F/10 ⁶ Hrs)	Total Failure Rate (F/10 ⁶ Hrs)
1	B105210006	BOM	SPECIAL	1	0.197783	0.197783
2	B105590002	BOM	SPECIAL	1	0.204674	0.204674
3	B105590003	BOM	SPECIAL	1	0.072499	0.072499
4	B105590004	BOM	SPECIAL	1	0.206970	0.206970
5	B200000080	BOM	NMIL	1	0.029346	0.029346
6	B200000092	BOM	NMIL	1	0.029860	0.029860
7	B200000144	BOM	NMIL	1	0.033691	0.033691
8	B200000247	BOM	NMIL	1	0.030234	0.030234
9	B200000268	BOM	NMIL	1	0.030234	0.030234
10	B200000272	BOM	NMIL	1	0.030234	0.030234
11	B200000277	BOM	NMIL	1	0.031585	0.031585
12	B200000281	BOM	NMIL	1	0.030234	0.030234
13	B200000308	BOM	NMIL	3	0.030903	0.092709
14	B200000333	BOM	NMIL	3	0.033691	0.101073
15	B200000377	BOM	NMIL	1	0.031585	0.031585
16	B200000553	BOM	NMIL	1	0.031799	0.031799
17	B200010009	BOM	NMIL	1	0.000438	0.000438
18	B200010022	BOM	NMIL	3	0.000438	0.001314
19	B200010052	BOM	NMIL	1	0.000326	0.000326
20	B200010109	BOM	NMIL	6	0.000798	0.004788
21	B200010147	BOM	NMIL	6	0.031875	0.191250
22	B200010192	BOM	NMIL	4	0.008827	0.035308
23	B200010205	BOM	NMIL	3	0.031875	0.095625
24	B200010228	BOM	NMIL	4	0.031875	0.127500

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25	B200020017	BOM	NMIL	1	0.005156	0.005156
26	B200020018	BOM	NMIL	2	0.005156	0.010312
27	B200020024	BOM	NMIL	6	0.005156	0.030936
28	B200020034	BOM	NMIL	1	0.005156	0.005156
29	B200030019	BOM	NMIL	2	0.007617	0.015234
30	B200030069	BOM	NMIL	2	0.007617	0.015234
31	B200030080	BOM	NMIL	1	0.005259	0.005259
32	B200030082	BOM	NMIL	4	0.007617	0.030468
33	B200040015	BOM	NMIL	1	0.005967	0.005967
34	B200040073	BOM	NMIL	17	0.005967	0.101439
35	B200040104	BOM	NMIL	1	0.016111	0.016111
36	B200040110	BOM	NMIL	1	0.016111	0.016111
37	B200040120	BOM	NMIL	1	0.005967	0.005967
38	B200050036	BOM	NMIL	5	0.005218	0.026090
39	B200050040	BOM	NMIL	1	0.005218	0.005218
40	B200050045	BOM	NMIL	1	0.005218	0.005218
41	B200050085	BOM	NMIL	2	0.005218	0.010436
42	B200050086	BOM	NMIL	2	0.005218	0.010436
43	B200060024	BOM	NMIL	2	0.014607	0.029214
44	B200090005	BOM	NMIL	1	0.001518	0.001518
45	B200110001	BOM	NMIL	2	0.004650	0.009300
46	B200110035	BOM	NMIL	1	0.004650	0.004650
47	B200110040	BOM	NMIL	1	0.004650	0.004650
48	B200110042	BOM	NMIL	1	0.004650	0.004650
49	B200110046	BOM	NMIL	1	0.004650	0.004650
50	B200110120	BOM	NMIL	1	0.004650	0.004650
51	B200110123	BOM	NMIL	1	0.004650	0.004650
52	B200110127	BOM	NMIL	4	0.007440	0.029760
53	B200110151	BOM	NMIL	1	0.004650	0.004650
54	B200110162	BOM	NMIL	1	0.004650	0.004650
55	B200110172	BOM	NMIL	1	0.004650	0.004650
56	B200110261	BOM	NMIL	1	0.004650	0.004650
57	B200110270	BOM	NMIL	2	0.004650	0.009300
58	B200110276	BOM	NMIL	1	0.004650	0.004650
59	B200110282	BOM	NMIL	5	0.004650	0.023250
60	B200110487	BOM	NMIL	2	0.004650	0.009300
61	B200110506	BOM	NMIL	1	0.004650	0.004650
62	B200110512	BOM	NMIL	2	0.004650	0.009300
63	B200110528	BOM	NMIL	1	0.004650	0.004650
64	B200110531	BOM	NMIL	1	0.004650	0.004650
65	B200110542	BOM	NMIL	1	0.004650	0.004650
66	B200110551	BOM	NMIL	1	0.004650	0.004650
67	B200110557	BOM	NMIL	2	0.007440	0.014880
68	B200110564	BOM	NMIL	1	0.004650	0.004650

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69	B200110626	BOM	NMIL	1	0.004650	0.004650
70	B200110635	BOM	NMIL	1	0.004650	0.004650
71	B200110691	BOM	NMIL	1	0.004650	0.004650
72	B200110696	BOM	NMIL	3	0.007440	0.022320
73	B200110729	BOM	NMIL	2	0.004650	0.009300
74	B200110731	BOM	NMIL	3	0.004650	0.013950
75	B200110733	BOM	NMIL	15	0.004650	0.069750
76	B200110738	BOM	NMIL	6	0.004650	0.027900
77	B200110740	BOM	NMIL	1	0.004650	0.004650
78	B200110744	BOM	NMIL	1	0.004650	0.004650
79	B200110746	BOM	NMIL	4	0.004650	0.018600
80	B200110776	BOM	NMIL	1	0.004650	0.004650
81	B200110807	BOM	NMIL	1	0.004650	0.004650
82	B200110811	BOM	NMIL	1	0.004650	0.004650
83	B200110819	BOM	NMIL	1	0.004650	0.004650
84	B200110834	BOM	NMIL	1	0.004650	0.004650
85	B200110842	BOM	NMIL	1	0.004650	0.004650
86	B200110844	BOM	NMIL	1	0.004650	0.004650
87	B200110847	BOM	NMIL	1	0.004650	0.004650
88	B200110854	BOM	NMIL	8	0.004650	0.037200
89	B200110869	BOM	NMIL	1	0.004650	0.004650
90	B200110872	BOM	NMIL	1	0.004650	0.004650
91	B200111013	BOM	NMIL	1	0.004650	0.004650
92	B200111022	BOM	NMIL	1	0.004650	0.004650
93	B200111024	BOM	NMIL	1	0.004650	0.004650
94	B200111025	BOM	NMIL	2	0.007440	0.014880
95	B200111026	BOM	NMIL	4	0.004650	0.018600
96	B200120146	BOM	NMIL	1	0.008705	0.008705
97	B200120198	BOM	NMIL	1	0.007735	0.007735
98	B200160017	BOM	NMIL	1	0.065000	0.065000
99	B200160022	BOM	NMIL	1	0.065000	0.065000
100	B200170019	BOM	NMIL	2	0.004875	0.009750
101	B200170031	BOM	NMIL	5	0.004875	0.024375
102	B200170049	BOM	NMIL	3	0.004875	0.014625
103	B200180075	BOM	NMIL	1	0.009327	0.009327
104	B200180079	BOM	NMIL	1	0.008923	0.008923
105	B200190073	BOM	NMIL	1	0.017894	0.017894
106	B200200057	BOM	NMIL	1	0.018108	0.018108
107	B200200071	BOM	NMIL	1	0.006048	0.006048
108	B200200074	BOM	NMIL	6	0.015274	0.091644
109	B200200083	BOM	NMIL	1	0.007144	0.007144
110	B200200107	BOM	NMIL	1	0.016657	0.016657
111	B200200113	BOM	NMIL	1	0.009203	0.009203
112	B200200114	BOM	NMIL	4	0.011856	0.047424

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113	B200200115	BOM	NMIL	1	0.007791	0.007791
114	B200200116	BOM	NMIL	3	0.007144	0.021432
115	B200200118	BOM	NMIL	3	0.015274	0.045822
116	B200200120	BOM	NMIL	2	0.010911	0.021822
117	B200200141	BOM	NMIL	1	0.015274	0.015274
118	B200200158	BOM	NMIL	1	0.007791	0.007791
119	B200200170	BOM	NMIL	2	0.014056	0.028112
120	B200220042	BOM	NMIL	3	0.012681	0.038043
121	B200220063	BOM	NMIL	1	0.012681	0.012681
122	B200230026	BOM	NMIL	1	0.050508	0.050508
123	B200230057	BOM	NMIL	1	0.031594	0.031594
124	B200230281	BOM	NMIL	4	0.033370	0.133480
125	B200230338	BOM	NMIL	1	0.029130	0.029130
126	B200230347	BOM	NMIL	1	0.019246	0.019246
127	B200230381	BOM	NMIL	1	0.047121	0.047121
128	B200230417	BOM	NMIL	1	0.032978	0.032978
129	B200230433	BOM	NMIL	6	0.048735	0.292410
130	B200230465	BOM	NMIL	2	0.173370	0.346740
131	B200250009	BOM	NMIL	1	0.023160	0.023160
132	B200260228	BOM	NMIL	1	0.027440	0.027440
133	B200260231	BOM	NMIL	1	0.027440	0.027440
134	B200260370	BOM	NMIL	2	0.027440	0.054880
135	B200260371	BOM	NMIL	2	0.027440	0.054880
136	B200260372	BOM	NMIL	1	0.027440	0.027440
137	B200280012	BOM	NMIL	1	0.015958	0.015958
138	B200290005	BOM	NMIL	1	0.013740	0.013740
139	B200300382	BOM	NMIL	2	0.003845	0.007690
140	B200300406	BOM	NMIL	1	0.003845	0.003845
141	B200300409	BOM	NMIL	1	0.003845	0.003845
142	B200300428	BOM	NMIL	1	0.026144	0.026144
143	B200310010	BOM	NMIL	1	0.027383	0.027383
144	B210140052	BOM	SPECIAL	2	2.197912	4.395824
145	B210160025	BOM	NMIL	1	0.010000	0.010000
146	B210192200	BOM	NMIL	1	0.014656	0.014656

Total Failure Rate (F/10⁶Hrs) : 8.836741
Mean Time (in hours) Between Failures (MTBF) : 113,164