

RELIABILITY PREDICTION STANDARD REPORT

(Sorted by Part Number)

MIL-HDBK-217F, Notice 2

PRED-FIRST (c) Reliability Prediction Program, BJM Engineering Services

Date: MAR-09-2010

End Item Title : G1W2 SERIES MTBF

End Item Part Number : G1W2-5A10V3V (RoHS)

G1W2-5A10V3V (RoHS) MTBF : 146,396

Module Title: ZIPPY TECHNOLOGY CORP

Module Part Number : G1W/MTBF

Power Unit Module : G1W-3A10V (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.

$$\begin{aligned}\text{Total Failure Rate}(F) &= M \lambda / (3/2) + B \lambda \\ &= 9.096235 / (3/2) + 0.766620 = 6.830776\end{aligned}$$

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

$$\begin{aligned}\text{G1W2-5A10V3V (RoHS)(MTBF)} &= F / 10^6 \text{Hrs} = 6.830776 / 10^6 \\ &= 146,396\end{aligned}$$

ZIPPY TECHNOLOGY CORP
10F, No.50, MIN CHYUAN RD
SHIN-TIEN, TAIPEI HSIEN, TAIWAN, R.O.C.

	RELIABILITY PREDICTION STANDARD REPORT					
		(Sorted by Part Number)				
		MIL - HDBK - 217F, Notice 2				
Date : MAR-09-2010 Time : 11:06:55						
End Item Title : G1W SERIES MTBF						
End Item Part Number : G1W-3A10V (RoHS)						
Module Title : ZIPPY TECHNOLOGY CORP						
Module Part Number : G1W/MTBF						
Module Reference Designation : G1W						
Environmental Condition : GB						
Ambient Temperature: 25°C						
<u>G1W-3A10V (RoHS)</u>						
ITEM	Part	Ref	Qual	Quant	Individual	Total
#	Number	Desig	Level		Failure Rate	Failure Rate
					(F/10^6Hrs)	(F/10^6Hrs)
1	B102130002	BOM	NMIL	1	0.074349	0.074349
2	B102720002	BOM	NMIL	1	0.216158	0.216158
3	B103210004	BOM	NMIL	1	0.065162	0.065162
4	B103450002	BOM	NMIL	1	0.072499	0.072499
5	B103450003	BOM	NMIL	1	0.202377	0.202377
6	B200000001	BOM	SPECIAL	3	0.094935	0.284805
7	B200000058	BOM	SPECIAL	1	0.094935	0.094935
8	B200000080	BOM	SPECIAL	2	0.094935	0.189870
9	B200000144	BOM	SPECIAL	1	0.094935	0.094935
10	B200000252	BOM	SPECIAL	1	0.094935	0.094935
11	B200000268	BOM	SPECIAL	1	0.094935	0.094935
12	B200000309	BOM	SPECIAL	1	0.094935	0.094935
13	B200010009	BOM	NMIL	1	0.000798	0.000798
14	B200010022	BOM	NMIL	2	0.000798	0.001596
15	B200010052	BOM	NMIL	1	0.000798	0.000798
16	B200010057	BOM	NMIL	3	0.031398	0.094194
17	B200010067	BOM	NMIL	4	0.000798	0.003192
18	B200010080	BOM	NMIL	4	0.031398	0.125592
19	B200010081	BOM	NMIL	2	0.031398	0.062796
20	B200010083	BOM	NMIL	2	0.000798	0.001596
21	B200010109	BOM	NMIL	3	0.000798	0.002394

ZIPPY TECHNOLOGY CORP
10F,No.50,MIN CHYUAN RD
SHIN-TIEN,TAIPEI HSIEN,TAIWAN,R.O.C.

22	B200010143	BOM	NMIL	2	0.031398	0.062796
23	B200020004	BOM	NMIL	14	0.005156	0.072184
24	B200020021	BOM	NMIL	1	0.005156	0.005156
25	B200030019	BOM	NMIL	1	0.018136	0.018136
26	B200030034	BOM	NMIL	1	0.018136	0.018136
27	B200040012	BOM	NMIL	1	0.005967	0.005967
28	B200040059	BOM	NMIL	1	0.005967	0.005967
29	B200040063	BOM	NMIL	1	0.016111	0.016111
30	B200050039	BOM	NMIL	1	0.005218	0.005218
31	B200050040	BOM	NMIL	5	0.005218	0.026090
32	B200050045	BOM	NMIL	1	0.005218	0.005218
33	B200050063	BOM	NMIL	2	0.088813	0.177626
34	B200060009	BOM	NMIL	2	0.014607	0.029214
35	B200090005	BOM	NMIL	1	0.018095	0.018095
36	B200110035	BOM	NMIL	1	0.004650	0.004650
37	B200110040	BOM	NMIL	2	0.004650	0.009300
38	B200110042	BOM	NMIL	2	0.004650	0.009300
39	B200110046	BOM	NMIL	9	0.004650	0.041850
40	B200110095	BOM	NMIL	1	0.004650	0.004650
41	B200110120	BOM	NMIL	2	0.004650	0.009300
42	B200110123	BOM	NMIL	3	0.004650	0.013950
43	B200110127	BOM	NMIL	7	0.007440	0.052080
44	B200110172	BOM	NMIL	1	0.004650	0.004650
45	B200110192	BOM	NMIL	1	0.004650	0.004650
46	B200110217	BOM	NMIL	1	0.004650	0.004650
47	B200110227	BOM	NMIL	2	0.004650	0.009300
48	B200110235	BOM	NMIL	1	0.004650	0.004650
49	B200110261	BOM	NMIL	2	0.004650	0.009300
50	B200110270	BOM	NMIL	2	0.004650	0.009300
51	B200110276	BOM	NMIL	1	0.004650	0.004650
52	B200110279	BOM	NMIL	1	0.004650	0.004650
53	B200110282	BOM	NMIL	13	0.004650	0.060450
54	B200110343	BOM	NMIL	1	0.004650	0.004650
55	B200110348	BOM	NMIL	1	0.004650	0.004650
56	B200110430	BOM	NMIL	3	0.004650	0.013950
57	B200110488	BOM	NMIL	1	0.004650	0.004650
58	B200110489	BOM	NMIL	1	0.004650	0.004650
59	B200110490	BOM	NMIL	1	0.004650	0.004650
60	B200110492	BOM	NMIL	1	0.004650	0.004650
61	B200110494	BOM	NMIL	1	0.004650	0.004650

ZIPPY TECHNOLOGY CORP
10F,No.50,MIN CHYUAN RD
SHIN-TIEN,TAIPEI HSIEN,TAIWAN,R.O.C.

62	B200110503	BOM	NMIL	1	0.005115	0.005115
63	B200110505	BOM	NMIL	1	0.004650	0.004650
64	B200110508	BOM	NMIL	2	0.004650	0.009300
65	B200110510	BOM	NMIL	1	0.004650	0.004650
66	B200110523	BOM	NMIL	2	0.004650	0.009300
67	B200110525	BOM	NMIL	1	0.004650	0.004650
68	B200110529	BOM	NMIL	3	0.004650	0.013950
69	B200110531	BOM	NMIL	2	0.004650	0.009300
70	B200110541	BOM	NMIL	1	0.004650	0.004650
71	B200110544	BOM	NMIL	1	0.004650	0.004650
72	B200110550	BOM	NMIL	1	0.004650	0.004650
73	B200110554	BOM	NMIL	12	0.004650	0.055800
74	B200110561	BOM	NMIL	1	0.004650	0.004650
75	B200110564	BOM	NMIL	1	0.004650	0.004650
76	B200110588	BOM	NMIL	1	0.004650	0.004650
77	B200110613	BOM	NMIL	2	0.004650	0.009300
78	B200110626	BOM	NMIL	1	0.004650	0.004650
79	B200110627	BOM	NMIL	1	0.005115	0.005115
80	B200110635	BOM	NMIL	1	0.004650	0.004650
81	B200120015	BOM	NMIL	1	0.008509	0.008509
82	B200120154	BOM	NMIL	1	0.008509	0.008509
83	B200120160	BOM	NMIL	1	0.008705	0.008705
84	B200160011	BOM	NMIL	1	0.065000	0.065000
85	B200160017	BOM	NMIL	1	0.065000	0.065000
86	B200170015	BOM	NMIL	4	0.005156	0.020624
87	B200170032	BOM	NMIL	3	0.005156	0.015468
88	B200180075	BOM	N/A	4	0.008923	0.035692
89	B200190022	BOM	N/A	1	0.015889	0.015889
90	B200190033	BOM	N/A	1	0.013308	0.013308
91	B200200006	BOM	N/A	3	0.007144	0.021432
92	B200200012	BOM	N/A	3	0.009203	0.027609
93	B200200017	BOM	N/A	5	0.011856	0.059280
94	B200200021	BOM	N/A	3	0.015274	0.045822
95	B200200022	BOM	N/A	2	0.015274	0.030548
96	B200200060	BOM	N/A	1	0.012930	0.012930
97	B200200061	BOM	N/A	4	0.008470	0.033880
98	B200200062	BOM	N/A	1	0.007791	0.007791
99	B200200064	BOM	N/A	1	0.008470	0.008470
100	B200200069	BOM	N/A	1	0.006575	0.006575
101	B200200071	BOM	N/A	1	0.006048	0.006048

ZIPPY TECHNOLOGY CORP
10F, No.50, MIN CHYUAN RD
SHIN-TIEN, TAIPEI HSIEN, TAIWAN, R.O.C.

102	B200220018	BOM	N/A	3	0.002416	0.007248
103	B200220020	BOM	N/A	1	0.002337	0.002337
104	B200220048	BOM	N/A	1	0.002647	0.002647
105	B200230057	BOM	N/A	1	0.031594	0.031594
106	B200230198	BOM	N/A	6	0.058210	0.349260
107	B200230210	BOM	N/A	2	0.050508	0.101016
108	B200230277	BOM	N/A	3	0.041493	0.124479
109	B200230288	BOM	N/A	2	0.019246	0.038492
110	B200230313	BOM	N/A	2	0.167220	0.334440
111	B200230338	BOM	N/A	3	0.029130	0.087390
112	B200250009	BOM	NMIL	1	0.082858	0.082858
113	B200260245	BOM	NMIL	1	0.088051	0.088051
114	B200260291	BOM	NMIL	1	0.088051	0.088051
115	B200260292	BOM	NMIL	1	0.088051	0.088051
116	B200260293	BOM	NMIL	1	0.088051	0.088051
117	B200280012	BOM	NMIL	3	0.015958	0.047874
118	B200300219	BOM	NMIL	1	0.003845	0.003845
119	B200300236	BOM	NMIL	1	0.003845	0.003845
120	B200300273	BOM	NMIL	1	0.026144	0.026144
121	B200300274	BOM	NMIL	1	0.003845	0.003845
122	B200310003	BOM	NMIL	1	0.030600	0.030600
123	B210140008	BOM	KNOWNFR	2	2.051758	4.103516
124	B210160025	BOM	N/A	1	0.010000	0.010000
125	B210191106	N/A	STANDARD	1	0.020588	0.020588
			Total Failure Rate (F/10 ⁶ Hrs) :			9.096235
			Mean Time (in hours) Between Failures (MTBF) :			109,936