



ZIPPY TECHNOLOGY CORP.

**Mean Time Between Failures
PREDICTION REPORT**

MIL-HDBK-217F, Notice 2

Product : Redundant Switching Power Supply

Model/Type : DMTW2-5820V3V(RoHS)

Approval By		正式資料 用章	
Prepared By			

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-05-2018
End Item Title : DMTW2 SERIES MTBF
End Item Part Number : DMTW2-5820V3V(RoHS)
DMTW2-5820V3V(RoHS) MTBF : 174,612
Module Title: ZIPPY TECHNOLOGY CORP
Module Part Number : DMTW / MTBF
Power Unit Module : DMTW-5820V(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

$$\text{DMTW2-5820V3V(RoHS)(MTBF)} = (3/2) \lambda = (3/2) \times 116,408 = 174,612$$

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

Date : OCT-05-2018 Time : 11:27:22
End Item Title : DMTW SERIES MTBF
End Item Part Number : DMTW-5820V(RoHS)
DMTW-5820V(RoHS) MTBF : 116,408
Module Title : ZIPPY TECHNOLOGY CORP
Module Part Number : DMTW / MTBF
Module Reference Designation : DMTW
Environmental Condition : GB
Ambient Temperature: 25°C

DMTW-5820V(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	SPECIAL	1	0.285928	0.285928
2	B102920003	BOM	SPECIAL	1	0.509768	0.509768
3	B102920004	BOM	SPECIAL	1	0.509768	0.509768
4	B102970002	BOM	SPECIAL	1	0.067197	0.067197
5	B103930008	BOM	SPECIAL	1	0.049305	0.049305
6	B104280002	BOM	SPECIAL	1	0.823061	0.823061
7	B200000001	BOM	NMIL	1	0.013289	0.013289
8	B200000092	BOM	NMIL	1	0.011740	0.011740
9	B200000242	BOM	NMIL	2	0.015207	0.030414
10	B200000252	BOM	NMIL	1	0.005806	0.005806
11	B200000257	BOM	NMIL	1	0.006152	0.006152
12	B200000316	BOM	NMIL	1	0.005601	0.005601
13	B200000351	BOM	NMIL	1	0.005601	0.005601
14	B200000443	BOM	NMIL	1	0.014220	0.014220
15	B200010009	BOM	NMIL	3	0.000843	0.002529
16	B200010022	BOM	NMIL	3	0.000843	0.002529
17	B200010052	BOM	NMIL	3	0.000627	0.001881
18	B200010066	BOM	NMIL	2	0.075893	0.151786
19	B200010080	BOM	NMIL	3	0.065527	0.196581
20	B200010081	BOM	NMIL	2	0.065527	0.131054
21	B200010109	BOM	NMIL	2	0.000627	0.001254
22	B200010112	BOM	NMIL	2	0.065527	0.131054
23	B200010132	BOM	NMIL	1	0.073390	0.073390
24	B200010153	BOM	NMIL	2	0.065527	0.131054

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25	B200010161	BOM	NMIL	1	0.073390	0.073390
26	B200010192	BOM	NMIL	4	0.009694	0.038776
27	B200020010	BOM	NMIL	2	0.002102	0.004204
28	B200020016	BOM	NMIL	3	0.000647	0.001941
29	B200020024	BOM	NMIL	13	0.000424	0.005512
30	B200030077	BOM	NMIL	1	0.002308	0.002308
31	B200040006	BOM	NMIL	1	0.022719	0.022719
32	B200040063	BOM	NMIL	1	0.015829	0.015829
33	B200040073	BOM	NMIL	2	0.011646	0.023292
34	B200040117	BOM	NMIL	2	0.009260	0.018520
35	B200050024	BOM	NMIL	1	0.004016	0.004016
36	B200050039	BOM	NMIL	1	0.004607	0.004607
37	B200050040	BOM	NMIL	4	0.005992	0.023968
38	B200090005	BOM	NMIL	1	0.001476	0.001476
39	B200110001	BOM	NMIL	2	0.002896	0.005792
40	B200110042	BOM	NMIL	14	0.002210	0.030940
41	B200110046	BOM	NMIL	4	0.002896	0.011584
42	B200110087	BOM	NMIL	1	0.002896	0.002896
43	B200110120	BOM	NMIL	2	0.002896	0.005792
44	B200110123	BOM	NMIL	10	0.002210	0.022100
45	B200110172	BOM	NMIL	4	0.002896	0.011584
46	B200110192	BOM	NMIL	4	0.002210	0.008840
47	B200110227	BOM	NMIL	5	0.002896	0.014480
48	B200110279	BOM	NMIL	5	0.002210	0.011050
49	B200110302	BOM	NMIL	2	0.002032	0.004064
50	B200110493	BOM	NMIL	1	0.002319	0.002319
51	B200110494	BOM	NMIL	3	0.002210	0.006630
52	B200110496	BOM	NMIL	2	0.002210	0.004420
53	B200110501	BOM	NMIL	1	0.002210	0.002210
54	B200110504	BOM	NMIL	1	0.002319	0.002319
55	B200110505	BOM	NMIL	1	0.002210	0.002210
56	B200110508	BOM	NMIL	1	0.002210	0.002210
57	B200110509	BOM	NMIL	1	0.002210	0.002210
58	B200110510	BOM	NMIL	1	0.002210	0.002210
59	B200110512	BOM	NMIL	11	0.002210	0.024310
60	B200110514	BOM	NMIL	1	0.002210	0.002210
61	B200110523	BOM	NMIL	1	0.002210	0.002210
62	B200110524	BOM	NMIL	2	0.002210	0.004420
63	B200110525	BOM	NMIL	3	0.002210	0.006630
64	B200110529	BOM	NMIL	1	0.002210	0.002210
65	B200110542	BOM	NMIL	1	0.002210	0.002210
66	B200110550	BOM	NMIL	1	0.002210	0.002210
67	B200110551	BOM	NMIL	2	0.002210	0.004420
68	B200110554	BOM	NMIL	7	0.002210	0.015470

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69	B200110561	BOM	NMIL	1	0.002210	0.002210
70	B200110613	BOM	NMIL	2	0.002210	0.004420
71	B200110674	BOM	NMIL	3	0.002210	0.006630
72	B200120017	BOM	NMIL	1	0.006272	0.006272
73	B200120032	BOM	NMIL	1	0.006353	0.006353
74	B200120094	BOM	NMIL	1	0.007441	0.007441
75	B200120174	BOM	NMIL	1	0.004541	0.004541
76	B200140013	BOM	NMIL	1	0.005353	0.005353
77	B200160017	BOM	NMIL	1	0.004760	0.004760
78	B200160034	BOM	NMIL	1	0.029693	0.029693
79	B200170020	BOM	NMIL	9	0.003721	0.033489
80	B200170029	BOM	NMIL	3	0.003721	0.011163
81	B200190031	BOM	NMIL	2	0.013460	0.026920
82	B200200021	BOM	NMIL	8	0.007820	0.062560
83	B200200053	BOM	NMIL	1	0.007306	0.007306
84	B200200057	BOM	NMIL	2	0.008988	0.017976
85	B200200061	BOM	NMIL	6	0.004827	0.028962
86	B200200071	BOM	NMIL	1	0.003664	0.003664
87	B200200078	BOM	NMIL	1	0.005546	0.005546
88	B200200083	BOM	NMIL	1	0.004199	0.004199
89	B200200084	BOM	NMIL	2	0.003413	0.006826
90	B200200101	BOM	NMIL	1	0.009037	0.009037
91	B200200153	BOM	NMIL	3	0.005166	0.015498
92	B200200156	BOM	NMIL	7	0.006356	0.044492
93	B200200158	BOM	NMIL	2	0.004508	0.009016
94	B200200166	BOM	NMIL	1	0.006824	0.006824
95	B200220021	BOM	NMIL	1	0.003440	0.003440
96	B200220036	BOM	NMIL	6	0.001294	0.007764
97	B200230198	BOM	NMIL	6	0.010543	0.063258
98	B200230210	BOM	NMIL	2	0.008794	0.017588
99	B200230277	BOM	NMIL	1	0.002234	0.002234
100	B200230336	BOM	NMIL	1	0.001803	0.001803
101	B200230338	BOM	NMIL	5	0.002061	0.010305
102	B200230377	BOM	NMIL	2	0.011465	0.022930
103	B200230379	BOM	NMIL	8	0.014034	0.112272
104	B200240005	BOM	NMIL	1	0.009934	0.009934
105	B200250009	BOM	NMIL	1	0.000205	0.000205
106	B200250028	BOM	NMIL	2	0.000221	0.000442
107	B200260046	BOM	NMIL	1	0.000251	0.000251
108	B200260250	BOM	NMIL	1	0.000237	0.000237
109	B200260302	BOM	NMIL	1	0.000251	0.000251
110	B200260318	BOM	NMIL	1	0.000215	0.000215
111	B200300236	BOM	NMIL	1	0.053018	0.053018
112	B200300269	BOM	NMIL	1	0.008471	0.008471

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113	B200300275	BOM	NMIL	1	0.092597	0.092597
114	B200350020	BOM	NMIL	1	0.001740	0.001740
115	B200350027	BOM	NMIL	1	0.003029	0.003029
116	B200370003	BOM	NMIL	1	0.000962	0.000962
117	B200370005	BOM	NMIL	2	0.001091	0.002182
118	B210140008	BOM	SPECIAL	2	2.051759	4.103518
119	B210160083	BOM	NMIL	2	0.010000	0.020000
120	B210192773	BOM	NMIL	1	0.056988	0.056988

Total Failure Rate (F/10 ⁶ Hrs) :	8.590465
Mean Time (in hours) Between Failures (MTBF) :	116,408