

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: JAN-22-2016
End Item Title : R1S2 SERIES MTBF
End Item Part Number : R1S2-5300K0V(RoHS)
R1S2-5300K0V(RoHS) MTBF : 268,087
Module Title: ZIPPY TECHNOLOGY CORP
Module Part Number : P1S / MTBF
Power Unit Module : P1S-2300K-R(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.

$$\text{Total Failure Rate}(F) = M \lambda / (3/2) + B \lambda = 4.551979 / (3/2) + 0.695472 = 3.730125$$

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

$$R1S2-5300K0V(RoHS)(MTBF) = F / 10^6 \text{ (Hrs)} = 1 / (3.730125 / 10^6) = 268,087$$

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

Date : JAN-22-2016 Time : 09:31:12
End Item Title : P1S SERIES MTBF
End Item Part Number : P1S-2300K-R(RoHS)
P1S-2300K-R(RoHS) MTBF : 219,685
Module Title : ZIPPY TECHNOLOGY CORP
Module Part Number : P1S / MTBF
Module Reference Designation : P1S
Environmental Condition : GB
Ambient Temperature: 25°C

P1S-2300K-R(RoHS)

ITEM #	Part Number	Ref Desig	Qual Level	Quant	Individual Failure Rate (F/10 ⁶ Hrs)	Total Failure Rate (F/10 ⁶ Hrs)
1	B103210004	BOM	SPECIAL	1	0.065162	0.065162
2	B105850002	BOM	SPECIAL	1	0.193190	0.193190
3	B200000268	BOM	NMIL	1	0.030234	0.030234
4	B200000281	BOM	NMIL	2	0.030234	0.060468
5	B200000308	BOM	NMIL	4	0.030903	0.123612
6	B200000442	BOM	NMIL	1	0.033691	0.033691
7	B200000553	BOM	NMIL	1	0.031799	0.031799
8	B200000554	BOM	NMIL	1	0.031799	0.031799
9	B200000555	BOM	NMIL	1	0.040244	0.040244
10	B200000597	BOM	NMIL	1	0.035133	0.035133
11	B200010022	BOM	NMIL	1	0.000438	0.000438
12	B200010052	BOM	NMIL	3	0.000326	0.000978
13	B200010056	BOM	NMIL	2	0.000312	0.000624
14	B200010087	BOM	NMIL	1	0.008827	0.008827
15	B200010225	BOM	NMIL	2	0.031875	0.063750
16	B200020024	BOM	NMIL	11	0.005156	0.056716
17	B200020034	BOM	NMIL	1	0.005156	0.005156
18	B200030055	BOM	NMIL	1	0.007617	0.007617
19	B200030061	BOM	NMIL	1	0.003446	0.003446
20	B200030080	BOM	NMIL	1	0.005259	0.005259
21	B200040101	BOM	NMIL	1	0.016111	0.016111
22	B200040115	BOM	NMIL	1	0.016111	0.016111
23	B200050035	BOM	NMIL	1	0.005218	0.005218
24	B200050045	BOM	NMIL	3	0.005218	0.015654

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25	B200060025	BOM	NMIL	1	0.008457	0.008457
26	B200090005	BOM	NMIL	1	0.001265	0.001265
27	B200110001	BOM	NMIL	1	0.004650	0.004650
28	B200110040	BOM	NMIL	1	0.004650	0.004650
29	B200110042	BOM	NMIL	2	0.004650	0.009300
30	B200110123	BOM	NMIL	2	0.004650	0.009300
31	B200110149	BOM	NMIL	1	0.004650	0.004650
32	B200110192	BOM	NMIL	2	0.004650	0.009300
33	B200110261	BOM	NMIL	1	0.004650	0.004650
34	B200110279	BOM	NMIL	1	0.004650	0.004650
35	B200110337	BOM	NMIL	2	0.005115	0.010230
36	B200110343	BOM	NMIL	1	0.004650	0.004650
37	B200110449	BOM	NMIL	2	0.005115	0.010230
38	B200110506	BOM	NMIL	1	0.004650	0.004650
39	B200110512	BOM	NMIL	2	0.004650	0.009300
40	B200110523	BOM	NMIL	1	0.004650	0.004650
41	B200110529	BOM	NMIL	2	0.004650	0.009300
42	B200110531	BOM	NMIL	2	0.004650	0.009300
43	B200110542	BOM	NMIL	1	0.004650	0.004650
44	B200110557	BOM	NMIL	2	0.007440	0.014880
45	B200110609	BOM	NMIL	1	0.004650	0.004650
46	B200110691	BOM	NMIL	1	0.004650	0.004650
47	B200110695	BOM	NMIL	4	0.007440	0.029760
48	B200110696	BOM	NMIL	3	0.007440	0.022320
49	B200110729	BOM	NMIL	2	0.004650	0.009300
50	B200110731	BOM	NMIL	1	0.004650	0.004650
51	B200110733	BOM	NMIL	5	0.004650	0.023250
52	B200110737	BOM	NMIL	1	0.004650	0.004650
53	B200110738	BOM	NMIL	2	0.004650	0.009300
54	B200110743	BOM	NMIL	2	0.004650	0.009300
55	B200110773	BOM	NMIL	1	0.005115	0.005115
56	B200110775	BOM	NMIL	6	0.004650	0.027900
57	B200110777	BOM	NMIL	1	0.004650	0.004650
58	B200110793	BOM	NMIL	1	0.004650	0.004650
59	B200110796	BOM	NMIL	1	0.004650	0.004650
60	B200110807	BOM	NMIL	1	0.004650	0.004650
61	B200110809	BOM	NMIL	1	0.004650	0.004650
62	B200110811	BOM	NMIL	1	0.004650	0.004650
63	B200110813	BOM	NMIL	1	0.004650	0.004650
64	B200110814	BOM	NMIL	2	0.004650	0.009300
65	B200110822	BOM	NMIL	1	0.005115	0.005115
66	B200110828	BOM	NMIL	1	0.004650	0.004650
67	B200110834	BOM	NMIL	1	0.004650	0.004650
68	B200110841	BOM	NMIL	2	0.004650	0.009300

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69	B200110864	BOM	NMIL	1	0.004650	0.004650
70	B200110872	BOM	NMIL	1	0.004650	0.004650
71	B200110877	BOM	NMIL	1	0.004650	0.004650
72	B200110910	BOM	NMIL	1	0.004650	0.004650
73	B200110984	BOM	NMIL	4	0.004650	0.018600
74	B200110987	BOM	NMIL	2	0.004650	0.009300
75	B200110988	BOM	NMIL	1	0.004650	0.004650
76	B200110989	BOM	NMIL	1	0.004650	0.004650
77	B200110990	BOM	NMIL	1	0.005115	0.005115
78	B200111066	BOM	NMIL	1	0.004650	0.004650
79	B200111067	BOM	NMIL	1	0.004650	0.004650
80	B200111068	BOM	NMIL	1	0.004650	0.004650
81	B200140013	BOM	NMIL	1	0.035297	0.035297
82	B200160011	BOM	NMIL	1	0.065000	0.065000
83	B200160017	BOM	NMIL	1	0.065000	0.065000
84	B200180070	BOM	NMIL	1	0.008146	0.008146
85	B200190064	BOM	NMIL	1	0.016840	0.016840
86	B200190088	BOM	NMIL	1	0.015889	0.015889
87	B200190089	BOM	NMIL	1	0.013308	0.013308
88	B200200066	BOM	NMIL	1	0.010911	0.010911
89	B200200074	BOM	NMIL	1	0.015274	0.015274
90	B200200075	BOM	NMIL	2	0.018108	0.036216
91	B200200087	BOM	NMIL	1	0.014056	0.014056
92	B200200113	BOM	NMIL	3	0.009203	0.027609
93	B200200114	BOM	NMIL	4	0.011856	0.047424
94	B200200115	BOM	NMIL	3	0.007791	0.023373
95	B200200116	BOM	NMIL	1	0.007144	0.007144
96	B200200118	BOM	NMIL	1	0.015274	0.015274
97	B200200123	BOM	NMIL	1	0.005546	0.005546
98	B200200125	BOM	NMIL	1	0.006575	0.006575
99	B200200138	BOM	NMIL	1	0.008147	0.008147
100	B200200140	BOM	NMIL	1	0.009335	0.009335
101	B200200144	BOM	NMIL	1	0.011364	0.011364
102	B200200153	BOM	NMIL	1	0.009203	0.009203
103	B200200156	BOM	NMIL	2	0.011856	0.023712
104	B200200157	BOM	NMIL	2	0.011856	0.023712
105	B200200174	BOM	NMIL	1	0.011856	0.011856
106	B200200175	BOM	NMIL	1	0.007878	0.007878
107	B200200178	BOM	NMIL	1	0.016657	0.016657
108	B200220018	BOM	NMIL	2	0.012681	0.025362
109	B200220068	BOM	NMIL	1	0.009188	0.009188
110	B200230036	BOM	NMIL	1	0.030756	0.030756
111	B200230288	BOM	NMIL	1	0.003326	0.003326
112	B200230336	BOM	NMIL	1	0.004391	0.004391

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113	B200230337	BOM	NMIL	1	0.003810	0.003810
114	B200230338	BOM	NMIL	3	0.004872	0.014616
115	B200230350	BOM	NMIL	3	0.044155	0.132465
116	B200230381	BOM	NMIL	1	0.020200	0.020200
117	B200230436	BOM	NMIL	1	0.006259	0.006259
118	B200230462	BOM	NMIL	3	0.024069	0.072207
119	B200250009	BOM	NMIL	1	0.023160	0.023160
120	B200250017	BOM	NMIL	1	0.023160	0.023160
121	B200260129	BOM	NMIL	1	0.027440	0.027440
122	B200280012	BOM	NMIL	1	0.015958	0.015958
123	B200290005	BOM	NMIL	1	0.013740	0.013740
124	B200300422	BOM	NMIL	1	0.003845	0.003845
125	B200300432	BOM	NMIL	1	0.003845	0.003845
126	B200300448	BOM	NMIL	1	0.026144	0.026144
127	B200310012	BOM	NMIL	1	0.027383	0.027383
128	B200370003	BOM	NMIL	1	0.000665	0.000665
129	B200370050	BOM	NMIL	1	0.000665	0.000665
130	B210060136	BOM	NMIL	1	0.034577	0.034577
131	B210090122	BOM	SPECIAL	1	2.134055	2.134055
132	B210160006	BOM	NMIL	1	0.010000	0.010000
133	B210191285	BOM	NMIL	1	0.010139	0.010139
134	B210192386	BOM	NMIL	1	0.014656	0.014656
135	B210192387	BOM	NMIL	1	0.019996	0.019996

Total Failure Rate (F/10 ⁶ Hrs) :	4.551979
Mean Time (in hours) Between Failures (MTBF) :	219,685