

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: APR-13-2012
End Item Title : R1U2 SERIES MTBF
End Item Part Number : R1U2-5220V4H (RoHS)
R1U2-5220V4H (RoHS) MTBF : 237,929
Module Title: ZIPPY TECHNOLOGY CORP
Module Part Number : R1U / MTBF
Power Unit Module : R1U-2220V (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.

$$\text{Total Failure Rate}(F) = M \lambda / (3/2) + B \lambda = 5.263262 / (3/2) + 0.694086 = 4.202927$$

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

$$R1U2-5220V4H (RoHS)(MTBF) = F / 10^6 \text{Hrs} = 4.202927 / 10^6 = 237,929$$

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Date : APR-13-2012 Time : 10:20:06
End Item Title : R1U SERIES MTBF
End Item Part Number : R1U-2220V (RoHS)
R1U-2220V (RoHS) MTBF : 189,996
Module Title : ZIPPY TECHNOLOGY CORP
Module Part Number : R1U / MTBF
Module Reference Designation : R1U
Environmental Condition : GB
Ambient Temperature: 25°C

R1U-2220V (RoHS)

ITEM #	Part Number	Ref Desig	Qual Level	Quant	Individual Failure Rate (F/10 ⁶ Hrs)	Total Failure Rate (F/10 ⁶ Hrs)
1	B102800004	BOM	NMIL	1	0.195486	0.195486
2	B103290002	BOM	NMIL	1	0.516703	0.516703
3	B103290003	BOM	NMIL	1	0.076646	0.076646
4	B200000001	BOM	SPECIAL	1	0.094935	0.094935
5	B200000296	BOM	SPECIAL	1	0.094935	0.094935
6	B200000364	BOM	SPECIAL	1	0.094935	0.094935
7	B200000378	BOM	SPECIAL	1	0.094935	0.094935
8	B200010052	BOM	NMIL	1	0.000798	0.000798
9	B200010083	BOM	NMIL	1	0.000773	0.000773
10	B200010109	BOM	NMIL	2	0.000798	0.001596
11	B200010128	BOM	NMIL	1	0.030400	0.030400
12	B200010134	BOM	NMIL	1	0.000773	0.000773
13	B200010137	BOM	NMIL	2	0.030400	0.060800
14	B200020004	BOM	NMIL	3	0.005156	0.015467
15	B200020016	BOM	NMIL	1	0.005156	0.005156
16	B200020021	BOM	NMIL	1	0.006751	0.006751
17	B200040005	BOM	NMIL	1	0.015599	0.015599
18	B200040029	BOM	NMIL	1	0.005967	0.005967
19	B200040063	BOM	NMIL	1	0.015599	0.015599
20	B200040073	BOM	NMIL	1	0.005967	0.005967
21	B200050024	BOM	NMIL	1	0.005218	0.005218
22	B200050032	BOM	NMIL	3	0.005218	0.015654
23	B200050063	BOM	NMIL	1	0.085991	0.085991
24	B200050072	BOM	NMIL	1	0.005218	0.005218

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25	B200060015	BOM	NMIL	1	0.014143	0.014143
26	B200090005	BOM	NMIL	1	0.018095	0.018095
27	B200110001	BOM	NMIL	3	0.004650	0.013950
28	B200110042	BOM	NMIL	4	0.004650	0.018600
29	B200110087	BOM	NMIL	2	0.004650	0.009300
30	B200110123	BOM	NMIL	3	0.004650	0.013950
31	B200110172	BOM	NMIL	1	0.004650	0.004650
32	B200110202	BOM	NMIL	1	0.004650	0.004650
33	B200110210	BOM	NMIL	2	0.005115	0.010230
34	B200110223	BOM	NMIL	4	0.005115	0.020460
35	B200110276	BOM	NMIL	4	0.004650	0.018600
36	B200110309	BOM	NMIL	1	0.004650	0.004650
37	B200110311	BOM	NMIL	1	0.004650	0.004650
38	B200110393	BOM	NMIL	3	0.005115	0.015345
39	B200110487	BOM	NMIL	1	0.004650	0.004650
40	B200110488	BOM	NMIL	2	0.004650	0.009300
41	B200110491	BOM	NMIL	1	0.004650	0.004650
42	B200110493	BOM	NMIL	3	0.005115	0.015345
43	B200110503	BOM	NMIL	1	0.005115	0.005115
44	B200110507	BOM	NMIL	2	0.004650	0.009300
45	B200110508	BOM	NMIL	1	0.004650	0.004650
46	B200110524	BOM	NMIL	1	0.004650	0.004650
47	B200110598	BOM	NMIL	1	0.004650	0.004650
48	B200110612	BOM	NMIL	1	0.004650	0.004650
49	B200110613	BOM	NMIL	1	0.004650	0.004650
50	B200110691	BOM	NMIL	2	0.004650	0.009300
51	B200120025	BOM	NMIL	1	0.006870	0.006870
52	B200120160	BOM	NMIL	1	0.006105	0.006105
53	B200120161	BOM	NMIL	3	0.007735	0.023205
54	B200160006	BOM	NMIL	1	0.065000	0.065000
55	B200160035	BOM	NMIL	1	0.105000	0.105000
56	B200170024	BOM	NMIL	1	0.013070	0.013070
57	B200170028	BOM	NMIL	1	0.004875	0.004875
58	B200170032	BOM	NMIL	1	0.008810	0.008810
59	B200180075	BOM	N/A	1	0.008923	0.008923
60	B200190035	BOM	N/A	1	0.015889	0.015889
61	B200190061	BOM	N/A	1	0.016347	0.016347
62	B200200017	BOM	N/A	6	0.011856	0.071136
63	B200200032	BOM	N/A	1	0.007791	0.007791
64	B200200060	BOM	N/A	1	0.012930	0.012930
65	B200200062	BOM	N/A	1	0.007791	0.007791
66	B200200064	BOM	N/A	3	0.008470	0.025410
67	B200200092	BOM	N/A	2	0.019676	0.039352
68	B200200103	BOM	N/A	1	0.005315	0.005315

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69	B200220028	BOM	N/A	2	0.002647	0.005294
70	B200220031	BOM	N/A	2	0.002541	0.005082
71	B200220053	BOM	N/A	1	0.002537	0.002537
72	B200230336	BOM	N/A	4	0.024602	0.098408
73	B200230337	BOM	N/A	1	0.021347	0.021347
74	B200230350	BOM	N/A	1	0.139917	0.139917
75	B200230356	BOM	N/A	4	0.042689	0.170756
76	B200230381	BOM	N/A	2	0.045624	0.091248
77	B200250009	BOM	NMIL	1	0.022424	0.022424
78	B200260174	BOM	NMIL	1	0.042563	0.042563
79	B200260288	BOM	NMIL	1	0.042563	0.042563
80	B200270014	BOM	NMIL	1	0.026568	0.026568
81	B200280012	BOM	NMIL	1	0.015958	0.015958
82	B200300255	BOM	NMIL	1	0.003722	0.003722
83	B200300300	BOM	NMIL	1	0.025314	0.025314
84	B210090162	BOM	KNOWNFR	1	2.376670	2.376670
85	B210160053	BOM	N/A	1	0.010000	0.010000
86	B210191065	N/A	STANDARD	1	0.020588	0.020588

Total Failure Rate (F/10 ⁶ Hrs) :	5.263262
Mean Time (in hours) Between Failures (MTBF) :	189,996