

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: DEC-03-2014
End Item Title : DM1KX SERIES MTBF
End Item Part Number : DM1K3-5I00V4V (RoHS)
DM1K3-5I00V4V (RoHS) MTBF : 299,140
Module Title: ZIPPY TECHNOLOGY CORP
Module Part Number : DM1K / MTBF
Power Unit Module : DM1K-2A00V (RoHS)
Environmental Condition: GB
Ambient Temperature: 25°C

RELIABILITY MODELING OF REDUNDANT UNITS

Three Redundant Units:

Three 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.

$$\text{Total Failure Rate}(F) = M \lambda / (8/3) + B \lambda = 7.502944 / (8/3) + 0.529302 = 3.342906$$

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

$$\text{DM1K3-5I00V4V (RoHS)(MTBF)} = F / 10^6 \text{Hrs} = 3.342906 / 10^6 = 299,140$$

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MIL-HDBK-217F, Notice 2

Date : FEB-21-2013 Time : 14:03:05
End Item Title : DM1K SERIES MTBF
End Item Part Number : DM1K-2A00V (RoHS)
DM1K-2A00V (RoHS) MTBF : 133,281
Module Title : ZIPPY TECHNOLOGY CORP
Module Part Number : DM1K / MTBF
Module Reference Designation : DM1K
Environmental Condition : GB
Ambient Temperature: 25°C

DM1K-2A00V (RoHS)

ITEM #	Part Number	Ref Desig	Qual Level	Quant	Individual Failure Rate (F/10 ⁶ Hrs)	Total Failure Rate (F/10 ⁶ Hrs)
1	B102330005	BOM	SPECIAL	1	0.125731	0.125731
2	B102920002	BOM	SPECIAL	1	0.074349	0.074349
3	B103160004	BOM	SPECIAL	1	0.008316	0.008316
4	B103430007	BOM	SPECIAL	1	0.071032	0.071032
5	B103590002	BOM	SPECIAL	1	0.130324	0.130324
6	B104990002	BOM	SPECIAL	1	0.204674	0.204674
7	B104990004	BOM	SPECIAL	1	0.034101	0.034101
8	B104990005	BOM	SPECIAL	1	1.222003	1.222003
9	B200000001	BOM	NMIL	1	0.094935	0.094935
10	B200000092	BOM	NMIL	1	0.094935	0.094935
11	B200000268	BOM	NMIL	1	0.094935	0.094935
12	B200000296	BOM	NMIL	1	0.094935	0.094935
13	B200000316	BOM	NMIL	1	0.094935	0.094935
14	B200000332	BOM	NMIL	2	0.094935	0.189870
15	B200000333	BOM	NMIL	1	0.094935	0.094935
16	B200000357	BOM	NMIL	1	0.094935	0.094935
17	B200000364	BOM	NMIL	1	0.094935	0.094935
18	B200010052	BOM	NMIL	3	0.000798	0.002394
19	B200010109	BOM	NMIL	7	0.000798	0.005586
20	B200010112	BOM	NMIL	6	0.031398	0.188388
21	B200010162	BOM	NMIL	1	0.031398	0.031398
22	B200010190	BOM	NMIL	1	0.031398	0.031398
23	B200010192	BOM	NMIL	1	0.000798	0.000798
24	B200010201	BOM	NMIL	7	0.031398	0.219786

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25	B200020016	BOM	NMIL	1	0.005156	0.005156
26	B200020017	BOM	NMIL	2	0.005156	0.010312
27	B200030019	BOM	NMIL	3	0.007617	0.022851
28	B200030030	BOM	NMIL	1	0.007617	0.007617
29	B200030037	BOM	NMIL	2	0.007617	0.015234
30	B200040059	BOM	NMIL	1	0.005967	0.005967
31	B200040065	BOM	NMIL	1	0.005967	0.005967
32	B200040073	BOM	NMIL	12	0.005967	0.071604
33	B200040083	BOM	NMIL	1	0.016111	0.016111
34	B200040084	BOM	NMIL	1	0.007909	0.007909
35	B200050024	BOM	NMIL	1	0.005218	0.005218
36	B200050032	BOM	NMIL	5	0.005218	0.026090
37	B200050070	BOM	NMIL	2	0.005218	0.010436
38	B200090005	BOM	NMIL	1	0.001518	0.001518
39	B200110006	BOM	NMIL	2	0.004650	0.009300
40	B200110040	BOM	NMIL	2	0.004650	0.009300
41	B200110042	BOM	NMIL	6	0.004650	0.027900
42	B200110046	BOM	NMIL	1	0.004650	0.004650
43	B200110095	BOM	NMIL	10	0.004650	0.046500
44	B200110123	BOM	NMIL	1	0.004650	0.004650
45	B200110172	BOM	NMIL	7	0.004650	0.032550
46	B200110177	BOM	NMIL	3	0.004650	0.013950
47	B200110192	BOM	NMIL	2	0.004650	0.009300
48	B200110202	BOM	NMIL	1	0.004650	0.004650
49	B200110227	BOM	NMIL	3	0.004650	0.013950
50	B200110235	BOM	NMIL	2	0.004650	0.009300
51	B200110276	BOM	NMIL	4	0.004650	0.018600
52	B200110282	BOM	NMIL	3	0.004650	0.013950
53	B200110311	BOM	NMIL	1	0.004650	0.004650
54	B200110313	BOM	NMIL	1	0.004650	0.004650
55	B200110490	BOM	NMIL	1	0.004650	0.004650
56	B200110492	BOM	NMIL	1	0.004650	0.004650
57	B200110493	BOM	NMIL	3	0.005115	0.015345
58	B200110494	BOM	NMIL	1	0.004650	0.004650
59	B200110502	BOM	NMIL	1	0.004650	0.004650
60	B200110503	BOM	NMIL	1	0.005115	0.005115
61	B200110506	BOM	NMIL	3	0.004650	0.013950
62	B200110510	BOM	NMIL	1	0.004650	0.004650
63	B200110523	BOM	NMIL	1	0.004650	0.004650
64	B200110524	BOM	NMIL	1	0.004650	0.004650
65	B200110525	BOM	NMIL	1	0.004650	0.004650
66	B200110541	BOM	NMIL	1	0.004650	0.004650
67	B200110550	BOM	NMIL	2	0.004650	0.009300
68	B200110551	BOM	NMIL	1	0.004650	0.004650

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69	B200110564	BOM	NMIL	2	0.004650	0.009300
70	B200110571	BOM	NMIL	2	0.004650	0.009300
71	B200110581	BOM	NMIL	3	0.004650	0.013950
72	B200110627	BOM	NMIL	2	0.005115	0.010230
73	B200110638	BOM	NMIL	1	0.005115	0.005115
74	B200110640	BOM	NMIL	1	0.004650	0.004650
75	B200120172	BOM	NMIL	1	0.006105	0.006105
76	B200120173	BOM	NMIL	1	0.006105	0.006105
77	B200120191	BOM	NMIL	1	0.006105	0.006105
78	B200160017	BOM	NMIL	1	0.065000	0.065000
79	B200160034	BOM	NMIL	1	0.065000	0.065000
80	B200170019	BOM	NMIL	2	0.004875	0.009750
81	B200170029	BOM	NMIL	3	0.004875	0.014625
82	B200190081	BOM	NMIL	2	0.016840	0.033680
83	B200200006	BOM	NMIL	1	0.007144	0.007144
84	B200200021	BOM	NMIL	2	0.015274	0.030548
85	B200200053	BOM	NMIL	2	0.014056	0.028112
86	B200200060	BOM	NMIL	4	0.012930	0.051720
87	B200200069	BOM	NMIL	1	0.006575	0.006575
88	B200200096	BOM	NMIL	2	0.008147	0.016294
89	B200200153	BOM	NMIL	4	0.009203	0.036812
90	B200200156	BOM	NMIL	6	0.011856	0.071136
91	B200200158	BOM	NMIL	1	0.007791	0.007791
92	B200210013	BOM	NMIL	3	0.020739	0.062217
93	B200220010	BOM	NMIL	3	0.002761	0.008283
94	B200220038	BOM	NMIL	2	0.002898	0.005796
95	B200230210	BOM	NMIL	1	0.050508	0.050508
96	B200230226	BOM	NMIL	3	0.022233	0.066699
97	B200230277	BOM	NMIL	1	0.041493	0.041493
98	B200230337	BOM	NMIL	1	0.022047	0.022047
99	B200230377	BOM	NMIL	2	0.028585	0.057170
100	B200230381	BOM	NMIL	2	0.047121	0.094242
101	B200230387	BOM	NMIL	3	0.052193	0.156579
102	B200230424	BOM	NMIL	3	0.052193	0.156579
103	B200250009	BOM	NMIL	1	0.023160	0.023160
104	B200260296	BOM	NMIL	1	0.027440	0.027440
105	B200260297	BOM	NMIL	1	0.027440	0.027440
106	B200260298	BOM	NMIL	2	0.027440	0.054880
107	B200260346	BOM	NMIL	1	0.027440	0.027440
108	B200290011	BOM	NMIL	2	0.013740	0.027480
109	B200300295	BOM	NMIL	1	0.026144	0.026144
110	B200300311	BOM	NMIL	1	0.003845	0.003845
111	B210090181	BOM	SPECIAL	1	2.182912	2.182912
112	B210160043	BOM	NMIL	2	0.010000	0.020000

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113	B210191864	BOM	NMIL	1	0.015865	0.015865
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Total Failure Rate (F/10 ⁶ Hrs) :	7.502944
Mean Time (in hours) Between Failures (MTBF) :	133,281