

RELIABILITY PREDICTION STANDARD REPORT

(Sorted by Part Number)

MIL-HDBK-217F, Notice 2

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

Date: OCT-06-2011

End Item Title : RHX SERIES MTBF

End Item Part Number : RHD-6400P (RoHS)

RHD-6400P (RoHS) MTBF: 272,805

Module Title: ZIPPY TECHNOLOGY CORP

Module Part Number : HP2/MTBF

Power Unit Module : HP2-6460P-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.

$$\begin{aligned} \text{MTBF} &= (1/\lambda) + (1/\lambda) - (1/(\lambda + \lambda)) \\ &= 3/2 \lambda \end{aligned}$$

λ = failure rate per million hours

$$\text{RHD-6400P (RoHS)(MTBF)} = 3/2 \lambda = 3/2 \times 181,870 = 272,805$$

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 : OCT-06-2011 Time : 09:23:55						
End Item Title : HP2 SERIES MTBF						
End Item Part Number : HP2-6460P-R (RoHS)						
Module Title : ZIPPY TECHNOLOGY CORP						
Module Part Number : HP2 / MTBF						
Module Reference Designation : HP2						
Environmental Condition : GB						
Ambient Temperature: 25°C						
<u>HP2-6460P-R (RoHS)</u>						
ITEM	Part	Ref	Qual	Quant	Individual	Total
#	Number	Desig	Level		Failure Rate (F/10 ⁶ Hrs)	Failure Rate (F/10 ⁶ Hrs)
1	B100370007	BOM	NMIL	1	0.261414	0.261414
2	B101820003	BOM	NMIL	1	0.225728	0.225728
3	B200000001	BOM	SPECIAL	3	0.094935	0.284805
4	B200000080	BOM	SPECIAL	2	0.094935	0.189870
5	B200000082	BOM	SPECIAL	1	0.094935	0.094935
6	B200000177	BOM	SPECIAL	1	0.094935	0.094935
7	B200010002	BOM	NMIL	2	0.041400	0.082800
8	B200010004	BOM	NMIL	2	0.037800	0.075600
9	B200010022	BOM	NMIL	1	0.000162	0.000162
10	B200010076	BOM	NMIL	2	0.041400	0.082800
11	B200020004	BOM	NMIL	5	0.005156	0.025780
12	B200020015	BOM	NMIL	1	0.006751	0.006751
13	B200020019	BOM	NMIL	2	0.006751	0.013502
14	B200030018	BOM	NMIL	1	0.007617	0.007617
15	B200040003	BOM	NMIL	1	0.002929	0.002929
16	B200040006	BOM	NMIL	1	0.007909	0.007909
17	B200040007	BOM	NMIL	1	0.016111	0.016111
18	B200040019	BOM	NMIL	1	0.016111	0.016111
19	B200040028	BOM	NMIL	1	0.005967	0.005967
20	B200040030	BOM	NMIL	1	0.016111	0.016111
21	B200040034	BOM	NMIL	2	0.005967	0.011934
22	B200040054	BOM	NMIL	1	0.002929	0.002929
23	B200050032	BOM	NMIL	1	0.005218	0.005218
24	B200050037	BOM	NMIL	4	0.005218	0.020872
25	B200050044	BOM	NMIL	2	0.005218	0.010436

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26	B200060007	BOM	NMIL	1	0.014607	0.014607
27	B200090006	BOM	NMIL	1	0.001518	0.001518
28	B200110001	BOM	NMIL	1	0.004650	0.004650
29	B200110034	BOM	NMIL	1	0.004650	0.004650
30	B200110035	BOM	NMIL	2	0.004650	0.009300
31	B200110040	BOM	NMIL	2	0.004650	0.009300
32	B200110046	BOM	NMIL	4	0.004650	0.018600
33	B200110073	BOM	NMIL	7	0.005115	0.035805
34	B200110078	BOM	NMIL	1	0.004650	0.004650
35	B200110087	BOM	NMIL	1	0.004650	0.004650
36	B200110091	BOM	NMIL	1	0.004650	0.004650
37	B200110111	BOM	NMIL	1	0.004650	0.004650
38	B200110119	BOM	NMIL	1	0.004650	0.004650
39	B200110120	BOM	NMIL	5	0.004650	0.023250
40	B200110130	BOM	NMIL	1	0.004650	0.004650
41	B200110138	BOM	NMIL	1	0.004650	0.004650
42	B200110162	BOM	NMIL	1	0.004650	0.004650
43	B200110172	BOM	NMIL	7	0.004650	0.032550
44	B200110190	BOM	NMIL	3	0.004650	0.013950
45	B200110198	BOM	NMIL	1	0.004650	0.004650
46	B200110202	BOM	NMIL	4	0.004650	0.018600
47	B200110227	BOM	NMIL	2	0.004650	0.009300
48	B200110238	BOM	NMIL	2	0.005115	0.010230
49	B200110282	BOM	NMIL	2	0.004650	0.009300
50	B200110293	BOM	NMIL	2	0.005115	0.010230
51	B200110301	BOM	NMIL	2	0.004650	0.009300
52	B200110327	BOM	NMIL	4	0.004650	0.018600
53	B200110340	BOM	NMIL	2	0.004650	0.009300
54	B200110382	BOM	NMIL	2	0.005115	0.010230
55	B200110402	BOM	NMIL	2	0.004650	0.009300
56	B200110406	BOM	NMIL	2	0.004650	0.009300
57	B200110413	BOM	NMIL	1	0.005115	0.005115
58	B200110422	BOM	NMIL	1	0.004650	0.004650
59	B200110630	BOM	NMIL	1	0.004650	0.004650
60	B200120014	BOM	NMIL	1	0.008705	0.008705
61	B200120031	BOM	NMIL	1	0.006870	0.006870
62	B200120042	BOM	NMIL	1	0.008705	0.008705
63	B200120066	BOM	NMIL	1	0.007735	0.007735
64	B200120088	BOM	NMIL	1	0.006870	0.006870
65	B200120118	BOM	NMIL	1	0.006105	0.006105
66	B200120119	BOM	NMIL	1	0.005425	0.005425
67	B200140011	BOM	NMIL	1	0.035297	0.035297
68	B200140015	BOM	NMIL	1	0.067385	0.067385
69	B200160012	BOM	NMIL	1	0.065000	0.065000

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70	B200170002	BOM	NMIL	6	0.002280	0.013680
71	B200180005	BOM	N/A	1	0.009769	0.009769
72	B200180015	BOM	N/A	1	0.008923	0.008923
73	B200200007	BOM	N/A	1	0.007144	0.007144
74	B200200013	BOM	N/A	2	0.009203	0.018406
75	B200200018	BOM	N/A	1	0.011856	0.011856
76	B200200020	BOM	N/A	2	0.011856	0.023712
77	B200200037	BOM	N/A	1	0.012930	0.012930
78	B200200047	BOM	N/A	2	0.008470	0.016940
79	B200200054	BOM	N/A	1	0.014056	0.014056
80	B200210004	BOM	N/A	2	0.006740	0.013480
81	B200220010	BOM	N/A	1	0.002761	0.002761
82	B200220028	BOM	N/A	1	0.002647	0.002647
83	B200230036	BOM	N/A	1	0.050508	0.050508
84	B200230100	BOM	N/A	2	0.058210	0.116420
85	B200230119	BOM	N/A	2	0.062617	0.125234
86	B200230149	BOM	N/A	2	0.054821	0.109642
87	B200230192	BOM	N/A	1	0.232432	0.232432
88	B200230198	BOM	N/A	2	0.058210	0.116420
89	B200230210	BOM	N/A	1	0.050508	0.050508
90	B200230235	BOM	N/A	1	0.014567	0.014567
91	B200230275	BOM	N/A	2	0.029130	0.058260
92	B200230277	BOM	N/A	3	0.041493	0.124479
93	B200250009	BOM	NMIL	1	0.023160	0.023160
94	B200250012	BOM	NMIL	3	0.023160	0.069480
95	B200260054	BOM	NMIL	1	0.027440	0.027440
96	B200260083	BOM	NMIL	1	0.027440	0.027440
97	B200260084	BOM	NMIL	1	0.027440	0.027440
98	B200260085	BOM	NMIL	1	0.027440	0.027440
99	B200260086	BOM	NMIL	1	0.027440	0.027440
100	B200260098	BOM	NMIL	1	0.027440	0.027440
101	B200280012	BOM	NMIL	3	0.015958	0.047874
102	B200290009	BOM	NMIL	2	0.013740	0.027480
103	B200300106	BOM	NMIL	1	0.003845	0.003845
104	B200300107	BOM	NMIL	1	0.026144	0.026144
105	B210110021	BOM	KNOWNFR	1	1.797429	1.797429
106	B210160021	BOM	N/A	1	0.010000	0.010000
107	B210190187	N/A	STANDAND	1	0.022077	0.022077
108	B210190758	N/A	STANDARD	1	0.022077	0.022077
			Total Failure Rate (F/10^6Hrs) :			5.498438
			Mean Time (in hours) Between Failures (MTBF) :			181,870