

RELIABILITY PREDICTION STANDARD REPORT

(Sorted by Part Number)

MIL-HDBK-217F, Notice 2

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

Date: FEB-05-2002

End Item Title : RHX SERIES MTBF

End Item Part Number : RHD-6460P

Module Title: ZIPPY TECHNOLOGY CORP

Module Part Number : RHX/MTBF

Power Unit Module : HP2-6500P-R

Environmental Condition: GB

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.

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

λ = failure rate per million hours

$$\text{RHD-6460P (MTBF)} = 3/2\lambda = 3/2 \times 98995 = 148492$$

ZIPPY TECHNOLOGY CORP
2F,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 : FEB-05-2002 Time : 10:12:35						
End Item Title :HP2 SERIES MTBF						
End Item Part Number :HP2-6500P-R						
Module Title : ZIPPY TECHNOLOGY CORP						
Module Part Number : HP2/MTBF						
Module Reference Designation : HP2						
Environmental Condition : GB						
<u>HP2-6500P-R</u>						
ITEM	Part	Ref	Qual	Quant	Individual	Total
#	Number	Desig	Level		Failure Rate	Failure Rate
					(F/10^6Hrs)	(F/10^6Hrs)
1	200-78127LR0	BOM	SPECIAL	1	0.094935	0.094935
2	200-HA174313	BOM	SPECIAL	4	0.094935	0.379740
3	200-L6385UU0	BOM	SPECIAL	1	0.094935	0.094935
4	200-LM393UU1	BOM	SPECIAL	1	0.094935	0.094935
5	200-LTV817B0	BOM	SPECIAL	3	0.094935	0.284805
6	200-ML4824C0	BOM	SPECIAL	1	0.094935	0.094935
7	200-NJM7812F	BOM	SPECIAL	1	0.094935	0.094935
8	200-TOP233Y0	BOM	SPECIAL	1	0.094935	0.094935
9	200-WT751010	BOM	SPECIAL	1	0.094935	0.094935
10	201-20N60S50	BOM	NMIL	2	0.116461	0.232922
11	201-2SB12601	BOM	NMIL	1	0.031398	0.031398
12	201-2SC50531	BOM	NMIL	1	0.031398	0.031398
13	201-CEP70600	BOM	NMIL	2	0.116461	0.232922
14	201-MMBT2221	BOM	NMIL	2	0.031398	0.062796
15	201-PN2907U1	BOM	NMIL	1	0.031398	0.031398
16	201-SPP20N60	BOM	NMIL	2	0.116461	0.232922
17	202-11N41482	BOM	NMIL	9	0.005152	0.046368
18	202-11N58220	BOM	NMIL	1	0.005152	0.005152
19	202-1GS1MUU1	BOM	NMIL	2	0.005152	0.010304
20	202-2TZMC160	BOM	NMIL	1	0.128888	0.128888
21	202-331DF200	BOM	NMIL	1	0.116461	0.116461

ZIPPY TECHNOLOGY CORP
2F, No.50, MIN CHYUAN RD
SHIN-TIEN, TAIPEI HSIEN, TAIWAN, R.O.C.

22	202-340CPQ10	BOM	NMIL	1	0.116461	0.116461
23	202-372CPQ00	BOM	NMIL	1	0.116461	0.116461
24	202-3MBR4040	BOM	NMIL	1	0.116461	0.116461
25	202-3SB36000	BOM	NMIL	1	0.116461	0.116461
26	202-3SS16UU1	BOM	NMIL	2	0.128888	0.257776
27	202-4BYM26C1	BOM	NMIL	2	0.128888	0.257776
28	202-4HFA15T0	BOM	NMIL	1	0.128888	0.128888
29	202-4UGF10K0	BOM	NMIL	2	0.005156	0.010312
30	202-4US1DUU1	BOM	NMIL	4	0.005156	0.020624
31	202-5D10XB60	BOM	NMIL	1	0.019591	0.019591
32	210-101004L1	BOM	NMIL	5	0.012866	0.064330
33	210-101012J1	BOM	NMIL	1	0.012866	0.012866
34	210-101014L1	BOM	NMIL	1	0.012866	0.012866
35	210-101022J1	BOM	NMIL	1	0.012866	0.012866
36	210-101024L1	BOM	NMIL	12	0.012866	0.154392
37	210-101034L1	BOM	NMIL	9	0.012866	0.115794
38	210-101234L1	BOM	NMIL	1	0.012866	0.012866
39	210-101334L1	BOM	NMIL	2	0.012866	0.025732
40	210-101514L1	BOM	NMIL	1	0.012866	0.012866
41	210-101534L1	BOM	NMIL	2	0.012866	0.025732
42	210-101814L1	BOM	NMIL	1	0.012866	0.012866
43	210-101834L1	BOM	NMIL	1	0.012866	0.012866
44	210-102024L1	BOM	NMIL	5	0.012866	0.064330
45	210-102034L1	BOM	NMIL	1	0.012866	0.012866
46	210-102124L1	BOM	NMIL	2	0.012866	0.025732
47	210-102204L1	BOM	NMIL	11	0.012866	0.141526
48	210-102214L1	BOM	NMIL	1	0.012866	0.012866
49	210-102424L1	BOM	NMIL	2	0.012866	0.025732
50	210-102724L1	BOM	NMIL	1	0.012866	0.012866
51	210-102734L1	BOM	NMIL	1	0.012866	0.012866
52	210-103304L1	BOM	NMIL	1	0.012866	0.012866
53	210-103314L1	BOM	NMIL	2	0.012866	0.025732
54	210-103324L1	BOM	NMIL	2	0.012866	0.025732
55	210-103R34L1	BOM	NMIL	1	0.012866	0.012866
56	210-104304L1	BOM	NMIL	2	0.012866	0.025732
57	210-104704L1	BOM	NMIL	2	0.012866	0.025732
58	210-104724L1	BOM	NMIL	2	0.012866	0.025732
59	210-104R74L1	BOM	NMIL	2	0.012866	0.025732
60	210-105124L1	BOM	NMIL	1	0.012866	0.012866
61	210-105134L1	BOM	NMIL	1	0.012866	0.012866

ZIPPY TECHNOLOGY CORP
2F,No.50,MIN CHYUAN RD
SHIN-TIEN,TAIPEI HSIEN,TAIWAN,R.O.C.

62	210-105624L1	BOM	NMIL	4	0.012866	0.051464
63	210-105644L1	BOM	NMIL	4	0.012866	0.051464
64	210-106244L1	BOM	NMIL	3	0.012866	0.038598
65	210-106824L1	BOM	NMIL	1	0.012866	0.012866
66	210-106834L1	BOM	NMIL	1	0.012866	0.012866
67	210-107514L1	BOM	NMIL	2	0.012866	0.025732
68	210-107534L1	BOM	NMIL	1	0.012866	0.012866
69	210-113334L1	BOM	NMIL	7	0.012866	0.090062
70	210-20103AJ0	BOM	NMIL	1	0.034747	0.034747
71	210-20221BJ0	BOM	NMIL	1	0.013000	0.013000
72	210-20270AJ0	BOM	NMIL	1	0.034747	0.034747
73	210-20470BJ0	BOM	NMIL	1	0.013000	0.013000
74	210-20R047CJA	BOM	NMIL	1	0.060262	0.060262
75	210-20R068CJ0	BOM	NMIL	1	0.060262	0.060262
76	210-20R15CJ0	BOM	NMIL	1	0.060262	0.060262
77	210-501020XE	BOM	NMIL	1	0.021303	0.021303
78	210-502030XB	BOM	NMIL	1	0.021303	0.021303
79	210-7SCK2R59	BOM	NMIL	1	0.030153	0.030153
80	210-9R0040D0	BOM	NMIL	6	0.005156	0.030936
81	211-11053000	BOM	N/A	1	0.000000	0.000000
82	211-14743000	BOM	N/A	1	0.000000	0.000000
83	211-31020501	BOM	N/A	7	0.001443	0.010101
84	211-31030503	BOM	N/A	4	0.001443	0.005772
85	211-31040503	BOM	N/A	8	0.001443	0.011544
86	211-32220502	BOM	N/A	1	0.001443	0.001443
87	211-32240501	BOM	N/A	1	0.001443	0.001443
88	211-34700500	BOM	N/A	3	0.001443	0.004329
89	211-34720501	BOM	N/A	1	0.001443	0.001443
90	211-34722000	BOM	N/A	2	0.001443	0.002886
91	211-34740251	BOM	N/A	4	0.001443	0.005772
92	211-5103A000	BOM	N/A	1	0.026770	0.026770
93	211-54722500	BOM	N/A	1	0.026770	0.026770
94	211-61050501	BOM	N/A	2	0.013759	0.027518
95	211-61070250	BOM	N/A	3	0.013759	0.041277
96	211-61080166	BOM	N/A	2	0.013759	0.027518
97	211-61086R30	BOM	N/A	1	0.013759	0.013759
98	211-62250500	BOM	N/A	2	0.013759	0.027518
99	211-62250503	BOM	N/A	1	0.013759	0.013759
100	211-62260251	BOM	N/A	2	0.026770	0.053540
101	211-62286R30	BOM	N/A	2	0.013759	0.027518

ZIPPY TECHNOLOGY CORP
2F, No. 50, MIN CHYUAN RD
SHIN-TIEN, TAIPEI HSIEN, TAIWAN, R.O.C.

102	211-63374000	BOM	N/A	1	0.008369	0.008369
103	211-63380102	BOM	N/A	2	0.013759	0.027518
104	211-64760252	BOM	N/A	1	0.026770	0.026770
105	211-64760500	BOM	N/A	2	0.013759	0.027518
106	211-64770101	BOM	N/A	1	0.026770	0.026770
107	211-64770254	BOM	N/A	2	0.026770	0.053540
108	212-2EMR1010	BOM	NMIL	1	0.088051	0.088051
109	212-3EMR0880	BOM	NMIL	1	0.088051	0.088051
110	212-3EMR0890	BOM	NMIL	1	0.088051	0.088051
111	212-3EMR1180	BOM	NMIL	1	0.088051	0.088051
112	212-3EMR1190	BOM	NMIL	1	0.088051	0.088051
113	212-3EMR1200	BOM	NMIL	1	0.088051	0.088051
114	212-3EMR1210	BOM	NMIL	1	0.088051	0.088051
115	212-4EMR0200	BOM	NMIL	3	0.088051	0.264153
116	213-00003	BOM	NMIL	2	0.015958	0.031916
117	213-00022	BOM	NMIL	1	0.015958	0.015958
118	214-EMT13100	BOM	NMIL	1	0.021613	0.021613
119	214-EMT13200	BOM	NMIL	1	0.021613	0.021613
120	225-32223(FAN)	BOM	KNOENFR	1	3.211000	3.211000
121	226-21821	BOM	N/A	1	0.010000	0.010000
122	228-57000	BOM	STANDAND	1	0.022077	0.022077
123	228-57001	BOM	STANDAND	1	0.022077	0.022077
124	228-57004	BOM	STANDAND	1	0.022077	0.022077
125	228-57005	BOM	STANDAND	1	0.022077	0.022077
			Total Failure Rate (F/10 ⁶ Hrs) :			10.101488
			Mean Time (in hours) Between Failures (MTBF) :			98,995