

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: APR-16-2015
End Item Title : S1Z2 SERIES MTBF
End Item Part Number : S1Z2-5800K2V(PMBus NP1.2)(RoHS)
S1Z2-5800K2V(PMBus NP1.2)(RoHS) MTBF : 227,936
Module Title: ZIPPY TECHNOLOGY CORP
Module Part Number : S1Z / MTBF
Power Unit Module : S1Z-2800K2(PMBus NP1.2)(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.

$$\text{Total Failure Rate}(F) = M \lambda / (3/2) + B \lambda = 5.786830 / (3/2) + 0.529302 = 4.387189$$

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

$$S1Z2-5800K2V(PMBus NP1.2)(RoHS)(MTBF) = F / 10^6 \text{Hrs} = 4.387189 / 10^6 = 227,936$$

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MIL-HDBK-217F, Notice 2

Date : APR-16-2015 Time : 10:32:26
End Item Title : S1Z SERIES MTBF
End Item Part Number : S1Z-2800K2(PMBus NP1.2)(RoHS)
S1Z-2800K2(PMBus NP1.2)(RoHS) MTBF : 172,806
Module Title : ZIPPY TECHNOLOGY CORP
Module Part Number : S1Z / MTBF
Module Reference Designation : S1Z
Environmental Condition : GB
Ambient Temperature: 25°C

S1Z-2800K2(PMBus NP1.2)(RoHS)

ITEM #	Part Number	Ref Desig	Qual Level	Quant	Individual Failure Rate (F/10 ⁶ Hrs)	Total Failure Rate (F/10 ⁶ Hrs)
1	B102330004	BOM	SPECIAL	1	0.069564	0.069564
2	B104140021	BOM	SPECIAL	1	0.021678	0.021678
3	B105190002	BOM	SPECIAL	1	0.265242	0.265242
4	B105680002	BOM	SPECIAL	1	0.125731	0.125731
5	B105680003	BOM	SPECIAL	1	0.800320	0.800320
6	B105680004	BOM	SPECIAL	1	0.302460	0.302460
7	B105680005	BOM	SPECIAL	1	0.049691	0.049691
8	B200000001	BOM	NMIL	1	0.029860	0.029860
9	B200000516	BOM	NMIL	1	0.032980	0.032980
10	B200010052	BOM	NMIL	2	0.000326	0.000652
11	B200010091	BOM	NMIL	1	0.031875	0.031875
12	B200010098	BOM	NMIL	1	0.000438	0.000438
13	B200010105	BOM	NMIL	4	0.031875	0.127500
14	B200010233	BOM	NMIL	2	0.000339	0.000678
15	B200010234	BOM	NMIL	4	0.000339	0.001356
16	B200020020	BOM	NMIL	2	0.005156	0.010312
17	B200020034	BOM	NMIL	1	0.005156	0.005156
18	B200040065	BOM	NMIL	1	0.005967	0.005967
19	B200040073	BOM	NMIL	4	0.005967	0.023868
20	B200040083	BOM	NMIL	1	0.016111	0.016111
21	B200040104	BOM	NMIL	1	0.016111	0.016111
22	B200040110	BOM	NMIL	1	0.016111	0.016111
23	B200050024	BOM	NMIL	1	0.005218	0.005218
24	B200050081	BOM	NMIL	4	0.005218	0.020872

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25	B200050082	BOM	NMIL	2	0.005218	0.010436
26	B200060022	BOM	NMIL	1	0.014607	0.014607
27	B200070007	BOM	NMIL	2	0.006229	0.012458
28	B200090005	BOM	NMIL	1	0.001265	0.001265
29	B200110001	BOM	NMIL	1	0.004650	0.004650
30	B200110030	BOM	NMIL	4	0.005115	0.020460
31	B200110042	BOM	NMIL	7	0.004650	0.032550
32	B200110058	BOM	NMIL	1	0.004650	0.004650
33	B200110120	BOM	NMIL	4	0.004650	0.018600
34	B200110172	BOM	NMIL	2	0.004650	0.009300
35	B200110192	BOM	NMIL	1	0.004650	0.004650
36	B200110202	BOM	NMIL	1	0.004650	0.004650
37	B200110223	BOM	NMIL	4	0.005115	0.020460
38	B200110227	BOM	NMIL	7	0.004650	0.032550
39	B200110235	BOM	NMIL	2	0.004650	0.009300
40	B200110279	BOM	NMIL	2	0.004650	0.009300
41	B200110313	BOM	NMIL	1	0.004650	0.004650
42	B200110325	BOM	NMIL	2	0.004650	0.009300
43	B200110402	BOM	NMIL	2	0.004650	0.009300
44	B200110494	BOM	NMIL	2	0.004650	0.009300
45	B200110502	BOM	NMIL	1	0.004650	0.004650
46	B200110506	BOM	NMIL	1	0.004650	0.004650
47	B200110523	BOM	NMIL	1	0.004650	0.004650
48	B200110524	BOM	NMIL	1	0.004650	0.004650
49	B200110525	BOM	NMIL	1	0.004650	0.004650
50	B200110611	BOM	NMIL	1	0.004650	0.004650
51	B200110636	BOM	NMIL	1	0.005115	0.005115
52	B200110695	BOM	NMIL	3	0.007440	0.022320
53	B200110930	BOM	NMIL	3	0.004650	0.013950
54	B200111035	BOM	NMIL	1	0.004650	0.004650
55	B200160022	BOM	NMIL	1	0.065000	0.065000
56	B200170021	BOM	NMIL	3	0.004875	0.014625
57	B200170035	BOM	NMIL	3	0.004005	0.012015
58	B200180075	BOM	NMIL	1	0.009327	0.009327
59	B200180086	BOM	NMIL	1	0.007411	0.007411
60	B200180092	BOM	NMIL	2	0.008923	0.017846
61	B200190084	BOM	NMIL	1	0.015889	0.015889
62	B200190085	BOM	NMIL	1	0.015889	0.015889
63	B200200064	BOM	NMIL	1	0.008470	0.008470
64	B200200069	BOM	NMIL	1	0.006575	0.006575
65	B200200075	BOM	NMIL	1	0.018108	0.018108
66	B200200083	BOM	NMIL	1	0.007144	0.007144
67	B200200156	BOM	NMIL	4	0.011856	0.047424
68	B200200158	BOM	NMIL	1	0.007791	0.007791

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69	B200220010	BOM	NMIL	1	0.002761	0.002761
70	B200220021	BOM	NMIL	1	0.002337	0.002337
71	B200220036	BOM	NMIL	5	0.013891	0.069455
72	B200220073	BOM	NMIL	2	0.001664	0.003328
73	B200220074	BOM	NMIL	1	0.001033	0.001033
74	B200230277	BOM	NMIL	1	0.041493	0.041493
75	B200230381	BOM	NMIL	2	0.047121	0.094242
76	B200230417	BOM	NMIL	2	0.032978	0.065956
77	B200230443	BOM	NMIL	1	0.022047	0.022047
78	B200230469	BOM	NMIL	7	0.054332	0.380324
79	B200230470	BOM	NMIL	1	0.190685	0.190685
80	B200240008	BOM	NMIL	1	0.018846	0.018846
81	B200260380	BOM	NMIL	1	0.027440	0.027440
82	B200260381	BOM	NMIL	1	0.027440	0.027440
83	B200260382	BOM	NMIL	1	0.027440	0.027440
84	B200280012	BOM	NMIL	1	0.015958	0.015958
85	B200300407	BOM	NMIL	1	0.003845	0.003845
86	B210140055	BOM	SPECIAL	1	2.197912	2.197912
87	B210160025	BOM	NMIL	1	0.010000	0.010000
88	B210191722	BOM	NMIL	1	0.019996	0.019996
89	B210192267	BOM	NMIL	1	0.014656	0.014656

Total Failure Rate (F/10 ⁶ Hrs) :	5.786830
Mean Time (in hours) Between Failures (MTBF) :	172,806