

# BP-208SH-P3E4

## Reliability Prediction Report (MTBF)

Summary	Failure Rate: 1490.571173 ppm MTBF: 670,884 Hours
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Issue date	Approval	Test Engineer
2013/07/23	Tom Lin	Leo Liu

# Reliability Prediction (MTBF)

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**I . Model Name:** BP-208SH-P3E4

**II . Prediction Date:** July. 23, 2013

**III . Prediction Site:** AAEON Q.E. Dept.

**IV . Predicted by:** Leo Liu

**V . Equipment:** Windchill Quality Solutions 10.1

## VI. Simulation Environment:

- Temperature: 30 degrees C
- Standard: Telcordia (Bellcore) Standard

## VII. Term and Definition:

- Unit : An assembly of device.
- Duty Cycle : Used to specify the percentage of time that the element is in an on state, and it is equal to the percentage of total time the item is in the active environment.
- Quantity : The quantity of the selected item.
- Failure Rate : Used to specify that the failure rate is to be calculated based the selected Calculation models. The Failure rate multiplier is 1000000000.
- MTBF : MTBF is always specified in hours.

**VIII. Prediction Result:**

BP-208SH-P3E4 (9697208S01-D):

- Failure Rate: 1490.571173 ppm

- MTBF: 670,884 Hours

**AAEON Reliability Prediction  
Summary**

**File Name:** BP-208SH-P3E4.rfp  
**Duty Cycle:** 100  
**Calculation Model:** Telcordia Issue 2  
**Method:** Method I Case 3

**Failure Rate:** 1490.571173  
**MTBF (hrs):** 670,884  
**Temperature:** 30  
**Environment:** GF, GU - Ground Fixed, Uncontrolled

Assembly Name	Part Number	Ref Des	Quantity	Failure Rate	MTBF
BP-208SH-P3E4	9697208S01-D		1	1490.571173	670,884

**File Name:** BP-208SH-P3E4.rfp  
**Assembly:** 9697208S01-D  
**Ref Des:**  
**Description:**

**Failure Rate:** 1490.571173  
**MTBF (hrs):** 670,884  
**Temperature:** 30  
**Environment:** GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
1050502224	Resistor	R10,R47,R48 ,R49, R50,R51,R52 ,R6		2.547039	8	43225424.698300
1050503324	Resistor	R58,R59		2.547039	2	154078778.388085
1050504724	Resistor	R14,R15,R16 ,R17, R18,R19,R20 ,R21, R22,R23,R24 ,R25, R62,R65		2.547039	14	25477245.255648
1050508224	Resistor	R26,R67		2.547039	2	154078778.388085
1050510034	Resistor	R1		2.547039	1	282340674.079668
1050547004	Resistor	R28,R30,R33		2.547039	3	107020754.986850
1050547034	Resistor	R4,R46,R54		2.547039	3	107020754.986850
105A500133	Resistor	R27,R31		2.547039	2	154078778.388085
105A500139	Resistor	R3,R5		2.547039	2	154078778.388085
105A501539	Resistor	R61,R64		2.547039	2	154078778.388085
105A506829	Resistor	R60,R63		2.547039	2	154078778.388085
105A510009	Resistor	R32,R34,R35 ,R68		2.547039	4	82309758.689546
105A700003	Resistor	R2,R36,R37, R38		2.547039	4	82309758.689546
105A756039	Resistor	R45,R53		2.547039	2	154078778.388085
111161019B	Capacitor	C2,C39,C47		4.744484	3	59399119.141203
1112610102	Capacitor	C3		4.744484	1	159663026.715137
1122501780	Capacitor	C105,C106,C 107, C109,C110,C 113, C114,C115,C 116,C93		1.128806	10	82101057.548118
1181627194	Capacitor	C111,C123,C 19		4.744484	3	59399119.141203
1181633111	Capacitor	C55		4.744484	1	159663026.715137
1189656196	Capacitor	C100,C117,C 119, C122,C130,C 31,C32, C33,C35,C37 ,C56, C57,C58,C74 ,C75, C76,C77,C82 ,C97, C99		4.744484	20	9854839.311243
11A4422081	Capacitor	C41,C42,C43		1.128806	3	257514172.353070
11C1547890	Capacitor	C128,C129		1.128806	2	375289731.076049

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**Ref Des:**  
**Description:**

**Failure Rate:** 1490.571173  
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Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
11C9510490	Capacitor	C10,C101,C102,C103,C104,C11,C12,C13,C14,C15,C16,C17,C18,C24,C25,C26,C27,C34,C36,C38,C40,C44,C46,C48,C49,C50,C52,C53,C54,C59,C6,C60,C61,C62,C63,C64,C65,C66,C67,C68,C69,C7,C70,C71,C72,C73,C79,C8,C80,C83,C84,C85,C86,C87,C88		1.128806	63	13632557.733278
11E1522680	Capacitor	C1		1.128806	1	704977644.692287
11E9501090	Capacitor	C126,C127		1.128806	2	375289731.076049
1212308054	Inductor	FB1,FB2		4.944252	2	83201062.149749
1214309002	Inductor	CH1,CH2,CH3,CH4		4.944252	4	43912872.424775
12G15705007X	Connection	SATA1,SATA2		16.184835	2	20390152.380746
1300414848	Semiconductor	D1,D2,D3,D4		7.793411	4	26989084.126235
1304101340	Optical Device	LED1,LED2,LED4,LED5,LED6		79.003355	5	1780063.531318
1310390413	Semiconductor	Q1		22.463360	1	31642600.748419
14S4081102	Integrated Circuit	U2		43.803003	1	11739202.588727
14S5912300	Integrated Circuit	U1		26.018600	1	25551442.237972
1653002100	Connection	CN2,CN5,CN6		16.184835	3	14515880.849373
165300310G	Connection	CN7		16.184835	1	35685591.360212
165300520X	Connection	USB1,USB2		16.184835	2	20390152.380746
1653300102	Connection	CN7(2-3)		16.184835	1	35685591.360212
1654209820	Connection	CPCIB,CPCID		16.184835	2	20390152.380746
1654218207	Connection	PCIE2,PCIE3,PCIE4		16.184835	3	14515880.849373
1654260212	Connection	PCI1,PCI2,PCI3		16.184835	3	14515880.849373

**Reliability Prediction  
Summary**

**File Name:** BP-208SH-P3E4.rfp  
**Assembly:** 9697208S01-D  
**Ref Des:**  
**Description:**

**Failure Rate:** 1490.571173  
**MTBF (hrs):** 670,884  
**Temperature:** 30  
**Environment:** GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
1654282208	Connection	PCIE1		16.184835	1	35685591.360212
1654282209	Connection	CPCIA,CPCIC		16.184835	2	20390152.380746
1655004125	Connection	CN3,CN4		16.184835	2	20390152.380746
1655008120	Connection	CN1		16.184835	1	35685591.360212
1655408023	Connection	ATX2		16.184835	1	35685591.360212
1655424022	Connection	ATX1		16.184835	1	35685591.360212
1752011001	Miscellaneous	FS1,FS2		2.400000	2	143944727.196625