

# PFM-T096P

## Reliability Prediction Report (MTBF)

Summary	Failure Rate: 9452.756889 ppm MTBF: 105,789 Hours
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Issue date	Approval	Test Engineer
2014/02/20	Tom Lin	Jack Huang

# Reliability Prediction (MTBF)

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**I . Model Name:** PFM-T096P

**II . Prediction Date:** Feb. 20, 2014

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

**IV . Predicted by:** Jack Huang

**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:**

PFM-T096P(9697T096P2-D):

- Failure Rate: 1203.717036 ppm

- MTBF: 830.760 Hours

**AAEON Reliability Prediction  
Summary**

**File Name:** PFM-T096P.rfp  
**Duty Cycle:** 100  
**Calculation Model:** Telcordia Issue 2  
**Method:** Method I Case 3

**Failure Rate:** 1203.717036  
**MTBF (hrs):** 830,760  
**Temperature:** 30  
**Environment:** GF, GU - Ground Fixed, Uncontrolled

Assembly Name	Part Number	Ref Des	Quantity	Failure Rate	MTBF
(TF)SMD ASS'Y.PFM-T096P.Rev.A1.0	9697T096P2-D		1	1203.717036	830,760

**File Name:** PFM-T096P.rfp  
**Assembly:** 9697T096P2-D  
**Ref Des:**  
**Description:**

**Failure Rate:** 1203.717036  
**MTBF (hrs):** 830,760  
**Temperature:** 30  
**Environment:** GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
1050503334	Resistor	R42		0.849013	1	847022022.239005
1050518034	Resistor	R37		0.849013	1	847022022.239005
105A501039	Resistor	R23,R24,R25 ,R26, R27,R28,R40 ,R41, R43,R44,R45 ,R46		0.849013	12	88521251.248203
105A505629	Resistor	R48		0.849013	1	847022022.239005
105A700009	Resistor	R39,R47,R51		0.849013	3	321062264.960549
105A700139	Resistor	R10,R11,R14 ,R15, R16,R2,R29, R30,R31, R32,R33,R34 ,R36,R4, R5,R6,R7,R8, R9		0.849013	19	57057557.345310
105A722009	Resistor	R3		0.849013	1	847022022.239005
1121501050	Capacitor	C54,C55		0.376269	2	1125869193.228148
1121501690	Capacitor	C11,C16,C18 ,C20, C22,C24,C26 ,C28,C3, C36,C38,C40 ,C44, C46,C53,C60 ,C7,C73, C9		0.376269	19	132293090.650579
1129610260	Capacitor	C65,C66,C67 ,C68		0.376269	4	590620153.232529
11E9501090	Capacitor	C10,C12,C15 ,C19,C2, C21,C23,C29 ,C31, C33,C35,C37 ,C39, C43,C45,C47 ,C49, C51,C6,C61, C63,C70, C71,C8		0.376269	24	105361853.809630
11E9622050	Capacitor	C58,C62,C69 ,C72		0.376269	4	590620153.232529
1212308054	Inductor	FB1,FB2,FB3, FB4		1.648084	4	131738617.274324
1304101540	Optical Device	LED1		26.334452	1	19491518.247337

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**Description:**

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Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
1305L02E40	Semiconductor	D1,D10,D11, D12,D13, D14,D15,D16 ,D17, D18,D19,D2, D20,D21, D22,D23,D24 ,D25,D3, D4,D5,D6,D7 ,D8,D9		2.597804	25	14338339.975681
1314010410	Semiconductor	U19,U20		7.487787	2	51945285.198303
14S4519500	Integrated Circuit	U17		43.803003	1	11739202.588727
14S5424500	Integrated Circuit	U11,U13,U15 ,U9		43.803003	4	3879156.910661
14S5A00705	Integrated Circuit	U7,U8		43.803003	2	6834791.244197
14S5A24508	Integrated Circuit	U10,U12,U14 ,U16		43.803003	4	3879156.910661
14S5A32530	Integrated Circuit	U5,U6		43.803003	2	6834791.244197
14S9320002	Integrated Circuit	U1		43.803003	1	11739202.588727
1540510380	Resistor	RP15,RP18,R P20, RP21,RP22,R P27, RP28,RP31,R P33, RP34,RP35,R P36, RP40,RP43,R P45, RP47,RP49,R P50, RP51,RP52,R P53, RP54,RP59,R P60		3.323812	24	10547331.212717
1540700081	Resistor	RP1,RP10,RP 11,RP12, RP2,RP3,RP4 ,RP5, RP6,RP7,RP8 ,RP9		3.323812	12	19766139.303136

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

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**Temperature:** 30  
**Environment:** GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
1540710084	Resistor	RP13,RP14,R P16, RP17,RP19,R P23, RP24,RP25,R P26, RP29,RP30,R P32, RP37,RP38,R P39, RP41,RP42,R P44, RP46,RP48,R P55, RP56,RP57,R P58		3.323812	24	10547331.212717
1600030803	Switching Device	SW1 (ALLOFF)		7.847193	1	71663274.082833
1653002101	Connection	JP1,JP2,JP3		5.394945	3	43547642.548119
1653006100	Connection	CN1		5.394945	1	107056774.080635
1653025200	Connection	CN4,CN5		5.394945	2	61170457.142237
1653025210	Connection	CN3,CN6		5.394945	2	61170457.142237
165313042B	Connection	CN2		5.394945	1	107056774.080635
1653300102	Connection	P2(1-2),P3(1 -2)		5.394945	2	61170457.142237
1752015003	Miscellaneous	FS1,FS2,FS3, FS4		0.800000	4	237845646.077862