

PFM-535S

Reliability Prediction Report

(MTBF)

Report NO : 09E070035

07-28-2009

Issue Date

Wenyuan Yang

Manager

Jessica Chou

Test Engineer

Reliability Prediction (MTBF)

I . Model Name: TF-PFM-535S-A10

II . Prediction Date: Jul. 28, 2009

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

IV . Predicted by: Jessica Chou

V . Equipment: Relex Ver.7.3 Visual Reliability Software

VI. Simulation Environment:

- Temperature: 25.0 degrees C
- Standard: Telcordia (Bellcore) Standard

VII. Term and Definition:

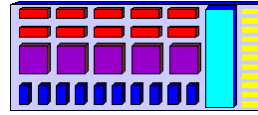
- Unit : An assembly of device.
- Duty Cycle : 100%
- Quantity : The quantity of the selected item.
- Failure Rate : Used to specify that the failure rate is to be calculated based the selected Calculation models. The multiplier is 1,000,000.
- MTBF : MTBF is always specified in hours.

VIII. Prediction Result:

- TF-PFM-535S-A10 :
Failure Rate: 7.746394 ppm
MTBF: 129,092 Hours

AAEON Reliability Prediction Report

Part Number 9697535S02-D
Reference Des
Date 07. 28, 2009
Environment GF, GU - Ground Fixed, Uncontrolled
Temp. (°C) 25.00



Description Top-level assembly
File Name TF-PFM-535S-A10.RPJ
Time 2:23 下午
Failure Rate 7.746394
MTBF 129,092

Assembly Name	Part Number	Model	Method	Environment	Duty Cycle	Qty	Failure Rate	MTBF
TF-PFM-535S-A10	9697535S02-D	Telcordia Issue 1	Method I Case 3	GF, GU - Ground Fixed, Uncontrolled	100.00	1.00	7.75	129092.32

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Failure Rate 7.746394
MTBF 129,092

Part Number	Category	Location	Calculation Model	Quality	Tem. Rise	Quantity	Failure Rate, Unit	Failure Rate, %	MTBF, Unit
14S6818400	Integrated Circuit	U1,U3	Telcordia Issue 1	Level I		2.00	0.666810	17.2160	1499676.87
1653925210	Connection	CFD1	Telcordia Issue 1	Level I		1.00	0.028449	.3672	35151210.83
1214309006	Inductor	CH1,CH2,CH3,CH4	Telcordia Issue 1	Level I		4.00	0.002268	.1171	440974090.03
12123C0006	Inductor	L15,L22	Telcordia Issue 1	Level I		2.00	0.002268	.0585	440974090.03
12123C0011	Inductor	L10,L11,L12,L13, L14,L16,L17,L18, L19,L20,L21,L23, L26,L29,L30,L4,L5, L8	Telcordia Issue 1	Level I		18.00	0.002268	.5269	440974090.03
1059554961	Resistor	R2	Telcordia Issue 1	Level I		1.00	0.002268	.0293	440974090.03
165300420H	Connection	CN4	Telcordia Issue 1	Level I		1.00	0.001138	.0147	878780270.71
165322020P	Connection	CN5	Telcordia Issue 1	Level I		1.00	0.022759	.2938	43939013.54
1654040002	Connection	CN6	Telcordia Issue 1	Level I		1.00	0.022759	.2938	43939013.54
1121501690	Capacitor	C1,C100,C101,C102, C105,C106,C108, C109,C111,C114, C115,C116,C117, C120,C121,C124, C125,C129,C134, C135,C136,C139, C140,C141,C142, C143,C146,C148, C150,C151,C152, C153,C156,C159, C163,C167,C168, C169,C170,C173,	Telcordia Issue 1	Level I		157.00	0.004535	9.1921	220487045.01
1124533280	Capacitor	C324,C8,C82	Telcordia Issue 1	Level I		3.00	0.005466	.2117	182961702.19
1129610051	Capacitor	C138,C42,C43,C80	Telcordia Issue 1	Level I		4.00	0.004535	.2342	220487045.01
1129701790	Capacitor	C11,C119,C12,C176, C178,C182,C194, C195,C198,C200, C202,C269,C310, C316,C321,C60,C90, C93	Telcordia Issue 1	Level I		18.00	0.004535	1.0539	220487045.01
1189622151	Capacitor	C13,C14.C326,C63	Telcordia Issue 1	Level I		4.00	0.042673	2.2035	23434140.55
11E9501090	Capacitor	C303	Telcordia Issue 1	Level I		1.00	0.004535	.0585	220487045.01
1129610080	Capacitor	C112,C128,C147, C164,C238,C239, C245,C246,C265, C286,C39,C40,C41, C79	Telcordia Issue 1	Level I		14.00	0.004535	.8197	220487045.01
11C2510190	Capacitor	C47	Telcordia Issue 1	Level I		1.00	0.004535	.0585	220487045.01

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Part Number	Category	Location	Calculation Model	Quality	Tem. Rise	Quantity	Failure Rate, Unit	Failure Rate,%	MTBF, Unit
1129747090	Capacitor	C104,C107,C110, C113,C118,C122, C126,C127,C130, C133,C137,C144, C145,C149,C154, C157,C158,C160, C161,C165,C166, C171,C172,C183, C184,C187,C189, C191,C193,C205, C207,C208,C210, C213,C215,C218, C224,C227,C305,	Telcordia Issue 1	Level I		53.00	0.005466	3.7395	182961702.19
1129710090	Capacitor	C251,C260,C273, C274,C279,C280, C284,C285	Telcordia Issue 1	Level I		8.00	0.004535	.4684	220487045.01
1122539980	Capacitor	C162	Telcordia Issue 1	Level I		1.00	0.004535	.0585	220487045.01
11E9647680	Capacitor	C190	Telcordia Issue 1	Level I		1.00	0.004535	.0585	220487045.01
1129722091	Capacitor	C216,C219,C221, C225,C228,C233	Telcordia Issue 1	Level I		6.00	0.004535	.3513	220487045.01
1124412080	Capacitor	C226,C232	Telcordia Issue 1	Level I		2.00	0.005466	.1411	182961702.19
1300001440	Semiconductor	D1,D2,D3	Telcordia Issue 1	Level I		3.00	0.023881	.9249	41874327.58
1301053040	Semiconductor	D4	Telcordia Issue 1	Level I		1.00	0.023881	.3083	41874327.58
1301005440	Semiconductor	D14	Telcordia Issue 1	Level I		1.00	0.023881	.3083	41874327.58
1752001601	Miscellaneous	FS1,FS2,FS3	Telcordia Issue 1	Level I		3.00	0.003000	.1162	333333333.33
1315970211	Semiconductor	F1,F2	Telcordia Issue 1	Level I		2.00	0.159207	4.1105	6281149.14
1129610260	Capacitor	HC1,HC2	Telcordia Issue 1	Level I		2.00	0.004535	.1171	220487045.01
1653222208	Connection	IDE1	Telcordia Issue 1	Level I		1.00	0.025035	.3232	39944557.76
1653003209	Connection	JP4	Telcordia Issue 1	Level I		1.00	0.001138	.0147	878780270.71
165320520C	Connection	LAN1,LAN2,USB1, USB2	Telcordia Issue 1	Level I		4.00	0.005690	.2938	175756054.14
1304101340	Semiconductor	LED1	Telcordia Issue 1	Level I		1.00	0.004877	.0630	205063180.81
1304001340	Semiconductor	LED2	Telcordia Issue 1	Level I		1.00	0.004877	.0630	205063180.81
121110100T	Inductor	L1,L6	Telcordia Issue 1	Level I		2.00	0.086173	2.2249	11604581.32
121110226D	Inductor	L2	Telcordia Issue 1	Level I		1.00	0.086173	1.1124	11604581.32
1315700216	Semiconductor	Q1,Q3	Telcordia Issue 1	Level I		2.00	0.079603	2.0552	12562298.27
1311390612	Semiconductor	Q2	Telcordia Issue 1	Level I		1.00	0.023881	.3083	41874327.58
1310390413	Semiconductor	Q11,Q4,Q8	Telcordia Issue 1	Level I		3.00	0.023881	.9249	41874327.58
1315230511	Semiconductor	Q10,Q9	Telcordia Issue 1	Level I		2.00	0.079603	2.0552	12562298.27

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MTBF 129,092

Part Number	Category	Location	Calculation Model	Quality	Tem. Rise	Quantity	Failure Rate, Unit	Failure Rate,%	MTBF, Unit
1540747285	Resistor	RN1,RN10,RN11,RN12, RN14,RN2,RN3,RN4, RN49,RN5,RN52,RN6, RN7,RN8,RN9	Telcordia Issue 1	Level I		15.00	0.006246	1.2095	160102772.00
1540710084	Resistor	RN13	Telcordia Issue 1	Level I		1.00	0.006246	.0806	160102772.00
1540733082	Resistor	RN15,RN17,RN19, RN20,RN21,RN22, RN25,RN26,RN27, RN30,RN33,RN35, RN39,RN40,RN43, RN44,RN47,RN48	Telcordia Issue 1	Level I		18.00	0.006246	1.4514	160102772.00
1540733085	Resistor	RN16,RN18,RN23, RN24,RN28,RN29, RN32,RN37,RN42, RN45,RN46	Telcordia Issue 1	Level I		11.00	0.006246	.8869	160102772.00
1540751080	Resistor	RN31	Telcordia Issue 1	Level I		1.00	0.006246	.0806	160102772.00
1540710382	Resistor	RN34,RN36,RN38, RN41,RN50	Telcordia Issue 1	Level I		5.00	0.006246	.4032	160102772.00
1540700080	Resistor	RN51	Telcordia Issue 1	Level I		1.00	0.012492	.1613	80051386.00
105A733009	Resistor	R1,R142,R3,R32,R33, R34,R35,R90	Telcordia Issue 1	Level I		8.00	0.002268	.2342	440974090.03
105A700139	Resistor	R113,R118,R122, R128,R132,R133, R150,R187,R198,R24, R25,R36,R37,R38, R39,R40,R41,R43,R5, R6,R66,R67,R76,R79, R82,R86,R88	Telcordia Issue 1	Level I		27.00	0.002268	.7904	440974090.03
105A704729	Resistor	R102,R103,R104, R105,R106,R123, R151,R160,R204,R4, R50,R55,R57,R58, R61,R63,R68,R7	Telcordia Issue 1	Level I		18.00	0.002268	.5269	440974090.03
105A502223	Resistor	R176,R210,R65,R8	Telcordia Issue 1	Level I		4.00	0.002268	.1171	440974090.03
105A710039	Resistor	R145,R148,R192, R195,R196,R208,R75, R9	Telcordia Issue 1	Level I		8.00	0.002268	.2342	440974090.03
105A708229	Resistor	R117,R12,R13,R135, R17	Telcordia Issue 1	Level I		5.00	0.002268	.1464	440974090.03
105A501033	Resistor	R15,R211,R64	Telcordia Issue 1	Level I		3.00	0.002268	.0878	440974090.03
105A504323	Resistor	R16	Telcordia Issue 1	Level I		1.00	0.002268	.0293	440974090.03
105A501039	Resistor	R18,R205,R81,R84, R85	Telcordia Issue 1	Level I		5.00	0.002268	.1464	440974090.03
105A703309	Resistor	R119,R130,R14,R155, R156,R194,R27,R28, R29,R30,R42,R51, R69,R73,R74,R77, R80,R83,R89,R91	Telcordia Issue 1	Level I		20.00	0.002268	.5855	440974090.03

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105A595313	Resistor	R46	Telcordia Issue 1	Level I		1.00	0.002268	.0293	440974090.03
105A700009	Resistor	R100,R112,R115, R116,R121,R124, R126,R127,R136, R144,R147,R158, R164,R172,R186, R203,R206,R216,R70, R97	Telcordia Issue 1	Level I		20.00	0.002268	.5855	440974090.03
105A510009	Resistor	R71,R94	Telcordia Issue 1	Level I		2.00	0.002268	.0585	440974090.03
105A520003	Resistor	R78	Telcordia Issue 1	Level I		1.00	0.002268	.0293	440974090.03
105A702209	Resistor	R108,R109,R111, R125,R134,R140, R146,R153,R161,R87, R92,R93	Telcordia Issue 1	Level I		12.00	0.002268	.3513	440974090.03
105A701009	Resistor	R166,R167	Telcordia Issue 1	Level I		2.00	0.002268	.0585	440974090.03
105A561913	Resistor	R101	Telcordia Issue 1	Level I		1.00	0.002268	.0293	440974090.03
105A551003	Resistor	R107,R110	Telcordia Issue 1	Level I		2.00	0.002268	.0585	440974090.03
105A549963	Resistor	R138,R141,R149, R157	Telcordia Issue 1	Level I		4.00	0.002268	.1171	440974090.03
105A507509	Resistor	R139,R152,R154, R165,R174,R177, R191	Telcordia Issue 1	Level I		7.00	0.002268	.2049	440974090.03
105A575003	Resistor	R170	Telcordia Issue 1	Level I		1.00	0.002268	.0293	440974090.03
105A554963	Resistor	R173,R180,R189, R201	Telcordia Issue 1	Level I		4.00	0.002268	.1171	440974090.03
105A561903	Resistor	R185	Telcordia Issue 1	Level I		1.00	0.002268	.0293	440974090.03
105A564903	Resistor	R199	Telcordia Issue 1	Level I		1.00	0.002268	.0293	440974090.03
14S3110200	Inductor	TF1,TF2	Telcordia Issue 1	Level I		2.00	0.136062	3.5129	7349568.17
14S4910001	Integrated Circuit	U2	Telcordia Issue 1	Level I		1.00	0.026183	.3380	38193355.79
14S9230500	Integrated Circuit	U4,U5,U9	Telcordia Issue 1	Level I		3.00	0.059366	2.2991	16844654.92
14S4071203	Integrated Circuit	U6	Telcordia Issue 1	Level I		1.00	0.026183	.3380	38193355.79
14S4255101	Integrated Circuit	U7	Telcordia Issue 1	Level I		1.00	0.026183	.3380	38193355.79
14S3128421	Integrated Circuit	U8	Telcordia Issue 1	Level I		1.00	0.059366	.7664	16844654.92
14S4021301	Integrated Circuit	U10,U11,U12,U14	Telcordia Issue 1	Level I		4.00	0.059366	3.0655	16844654.92
14S5A00704	Integrated Circuit	U15	Telcordia Issue 1	Level I		1.00	0.026183	.3380	38193355.79
14S5812502	Integrated Circuit	U16	Telcordia Issue 1	Level I		1.00	0.026183	.3380	38193355.79
14S6203202	Integrated Circuit	U17	Telcordia Issue 1	Level I		1.00	0.022943	.2962	43586356.53
14S4048502	Integrated Circuit	U18,U19	Telcordia Issue 1	Level I		2.00	0.059366	1.5327	16844654.92
14S5A12505	Integrated Circuit	U21	Telcordia Issue 1	Level I		1.00	0.059366	.7664	16844654.92
14S5A00401	Integrated Circuit	U22,U27	Telcordia Issue 1	Level I		2.00	0.026183	.6760	38193355.79
14S4911216	Integrated Circuit	U23	Telcordia Issue 1	Level I		1.00	0.059366	.7664	16844654.92
14S2200900	Integrated Circuit	U24	Telcordia Issue 1	Level I		1.00	0.059366	.7664	16844654.92
14S6334610	Integrated Circuit	U25	Telcordia Issue 1	Level I		1.00	0.022943	.2962	43586356.53

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MTBF 129,092

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14S5A03200	Integrated Circuit	U26	Telcordia Issue 1	Level I		1.00	0.059366	.7664	16844654.92
165320820D	Connection	VGA1	Telcordia Issue 1	Level I		1.00	0.009104	.1175	109847533.84
123131435E	Miscellaneous	Y1	Telcordia Issue 1	Level I		1.00	0.150000	1.9364	6666666.67
1231332722	Miscellaneous	Y2	Telcordia Issue 1	Level I		1.00	0.150000	1.9364	6666666.67
1050547004	Resistor	R10,R44,R45	Telcordia Issue 1	Level I		3.00	0.002268	.0878	440974090.03
12123C0010	Inductor	L24,L25,L27,L28, L31,L32,L33,L34, L35,L36,L7,L9	Telcordia Issue 1	Level I		12.00	0.002268	.3513	440974090.03
14S4081102	Integrated Circuit	U28	Telcordia Issue 1	Level I		1.00	0.026183	.3380	38193355.79
105A526123	Resistor	R209	Telcordia Issue 1	Level I		1.00	0.002268	.0293	440974090.03
1189610152	Capacitor	C10,C103,C123,C319, C44,C57	Telcordia Issue 1	Level I		6.00	0.004535	.3513	220487045.01
1305100541	Semiconductor	D10,D11,D12,D13,D6, D7,D8,D9	Telcordia Issue 1	Level I		8.00	0.023881	2.4663	41874327.58
1653213207	Connection	LPT1	Telcordia Issue 1	Level I		1.00	0.014793	.1910	67598482.36
14S82032C2	Integrated Circuit	U13	Telcordia Issue 1	Level I		1.00	0.026183	.3380	38193355.79
1655902030	Connection	BT1	Telcordia Issue 1	Level I		1.00	0.001138	.0147	878780270.71
175011901C	Miscellaneous	BT1	Telcordia Issue 1	Level I		1.00	0.900000	11.6183	11111111.11
1655908130	Connection	CN2	Telcordia Issue 1	Level I		1.00	0.028449	.3672	35151210.83
1655910131	Connection	CN3	Telcordia Issue 1	Level I		1.00	0.001138	.0147	878780270.71
1653130429	Connection	CN7	Telcordia Issue 1	Level I		1.00	0.001138	.0147	878780270.71
1655306024	Connection	CN8	Telcordia Issue 1	Level I		1.00	0.003414	.0441	292926756.90
1653003101	Connection	JP1,JP3,JP5,JP6	Telcordia Issue 1	Level I		4.00	0.001707	.0881	585853513.81
1653002101	Connection	JP2	Telcordia Issue 1	Level I		1.00	0.001138	.0147	878780270.71
1653300108	Connection	JP1(1-2)	Telcordia Issue 1	Level I		1.00	0.001138	.0147	878780270.71
1653300107	Connection	JP3(2-3),JP6(2-3)	Telcordia Issue 1	Level I		2.00	0.001138	.0294	878780270.71
1653300102	Connection	JP4(1-2),JP5(1-2)	Telcordia Issue 1	Level I		2.00	0.001138	.0294	878780270.71
165313222A	Connection	PC104-1	Telcordia Issue 1	Level I		1.00	0.022759	.2938	43939013.54
165312022B	Connection	PC104-2	Telcordia Issue 1	Level I		1.00	0.022759	.2938	43939013.54
1655004124	Connection	CN9	Telcordia Issue 1	Level I		1.00	0.002276	.0294	439390135.35