

PER-T099

Reliability Prediction Report (MTBF)

Report NO : 08E070009

3-24-2008

Issue Date

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Manager

Jessica Chou

Test Engineer

Reliability Prediction (MTBF)

I . **Model Name:** TF-PER-T099-A10

II . **Prediction Date:** Mar. 24,2008

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 degree 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 multiplier is 1,000,000.
- MTBF : MTBF is always specified in hours.

VIII. Prediction Result:

- PER-T099
 - Failure Rate: 2.459260 ppm
 - MTBF: 406,626 Hours

AAEON Reliability Prediction Report

Part Number 9697T09904
Reference Des
Date 03. 24, 2008
Environment GF, GU - Ground Fixed, Uncontrolled
Temp. (°C) 25.00



Description Top-level assembly
File Name PER-T099.RPJ
Time 5:56 下午
Failure Rate 2.459260
MTBF 406,626

Assembly Name	Part Number	Model	Method	Environment	Duty Cycle	Qty	Failure Rate	MTBF
PER-T099	9697T09904	Belcore	Method I Case 3	GF, GU - Ground Fixed,	100.00	1.00	2.459260	406,626

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Part Number	Category	Location	Calculation Model	Quality	Tem. Rise	Failure Rate, Unit	Quantity	Failure Rate, %	Failure Rate	MTBF, Unit
1653003100	Connection	JP1	Bellcore Issue 6	Level I		0.001707	1.00	.0694	0.001707	585853513.81
1653003201	Connection	JP2,JP3	Bellcore Issue 6	Level I		0.003414	2.00	.2776	0.006828	292926756.90
1655004011	Connection	CN4	Bellcore Issue 6	Level I		0.022759	1.00	.9254	0.022759	43939013.54
1111610194	Capacitor	C100,C63,C68,C99	Bellcore Issue 6	Level I		0.042673	4.00	6.9408	0.170691	23434140.55
1654218202	Connection	CN7	Bellcore Issue 6	Level I		0.020483	1.00	.8329	0.020483	48821126.15
1181627191	Capacitor	C74	Bellcore Issue 6	Level I		0.004535	1.00	.1844	0.004535	220487045.01
105A700003	Resistor	FB1-FB5,R68,R69,R72,R75,R78	Bellcore Issue 6	Level I		0.002268	10.00	.9221	0.022677	440974090.03
1050700002	Resistor	R58,R59	Bellcore Issue 6	Level I		0.002268	2.00	.1844	0.004535	440974090.03
1059700001	Resistor	L6,L7,R54	Bellcore Issue 6	Level I		0.002268	3.00	.2766	0.006803	440974090.03
1121501680	Capacitor	C64-C67,C69,C70	Bellcore Issue 6	Level I		0.004535	6.00	1.1065	0.027212	220487045.01
1121747660	Capacitor	C42	Bellcore Issue 6	Level I		0.004535	1.00	.1844	0.004535	220487045.01
1124422080	Capacitor	C32,C33,C50	Bellcore Issue 6	Level I		0.004535	3.00	.5533	0.013606	220487045.01
1540710080	Resistor	RN1-RN4	Bellcore Issue 6	Level I		0.006246	4.00	1.0159	0.024984	160102772.00
1301005440	Semiconductor	D2	Bellcore Issue 6	Level I		0.023881	1.00	.9711	0.023881	41874327.58
1174510180	Capacitor	CP1-CP4	Bellcore Issue 6	Level I		0.005466	4.00	.8890	0.021862	182961702.19
14S4021310	Integrated Circuit	U7,U8	Bellcore Issue 6	Level I		0.059366	2.00	4.8280	0.118732	16844654.92
105A549923	Resistor	R57	Bellcore Issue 6	Level I		0.002268	1.00	.0922	0.002268	440974090.03
1315700211	Semiconductor	Q6,Q7	Bellcore Issue 6	Level I		0.079603	2.00	6.4738	0.159207	12562298.27
14S5A00600	Integrated Circuit	U4	Bellcore Issue 6	Level I		0.037889	1.00	1.5407	0.037889	26392869.26
1121615080	Capacitor	C41	Bellcore Issue 6	Level I		0.004535	1.00	.1844	0.004535	220487045.01
105A702423	Resistor	R47	Bellcore Issue 6	Level I		0.002268	1.00	.0922	0.002268	440974090.03
105A704729	Resistor	R42,R43,R48,R49,R60-R63,R66	Bellcore Issue 6	Level I		0.002268	9.00	.8299	0.020409	440974090.03
105A700009	Resistor	R112,R115,R30-R38,R40,R41,R45-R46,R52,R53,R81-R84,R86-R91	Bellcore Issue 6	Level I		0.002268	27.00	2.4897	0.061228	440974090.03
105A701039	Resistor	R39	Bellcore Issue 6	Level I		0.002268	1.00	.0922	0.002268	440974090.03
1129701690	Capacitor	C19-C21,C23,C24,C26-C28,C30,C31,C35,C36,C39,C45,C47,C49,C51-C53-C62	Bellcore Issue 6	Level I		0.004535	27.00	4.9794	0.122456	220487045.01
1301053040	Semiconductor	D3,D6	Bellcore Issue 6	Level I		0.023881	2.00	1.9421	0.047762	41874327.58
1129610050	Capacitor	C18,C22,C25,C29,C34,C37,C38	Bellcore Issue 6	Level I		0.004535	7.00	1.2910	0.031748	220487045.01
1121701080	Capacitor	C40,C76,C77	Bellcore Issue 6	Level I		0.004535	3.00	.5533	0.013606	220487045.01
105A705139	Resistor	R73,R74	Bellcore Issue 6	Level I		0.002268	2.00	.1844	0.004535	440974090.03

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Part Number	Category	Location	Calculation Model	Quality	Tem. Rise	Failure Rate, Unit	Quantity	Failure Rate, %	Failure Rate	MTBF, Unit
105A700109	Resistor	R109,R110	Bellcore Issue 6	Level I		0.002268	2.00	.1844	0.004535	440974090.03
1129610051	Capacitor	C101,C78,C81,C84,C87,C90	Bellcore Issue 6	Level I		0.004535	6.00	1.1065	0.027212	220487045.01
1315230111	Semiconductor	Q5	Bellcore Issue 6	Level I		0.159207	1.00	6.4738	0.159207	6281149.14
1121501690	Capacitor	C75,C79,C80,C82,C83,C85,C86,C-88,C89,C91-C95,C97,C98	Bellcore Issue 6	Level I		0.004535	16.00	2.9508	0.072567	220487045.01
123131435B	Miscellaneous	Y1	Bellcore Issue 6	Level I		0.150000	1.00	6.0994	0.150000	6666666.67
118961018A	Capacitor	C46,C48,C96	Bellcore Issue 6	Level I		0.004535	3.00	.5533	0.013606	220487045.01
14S4121601	Integrated Circuit	U6	Bellcore Issue 6	Level I		0.039296	1.00	1.5979	0.039296	25448028.36
14S2712000	Integrated Circuit	Q9	Bellcore Issue 6	Level I		0.059366	1.00	2.4140	0.059366	16844654.92
165320520C	Connection	CN5,CN6	Bellcore Issue 6	Level I		0.005690	2.00	.4627	0.011379	175756054.14
1315441014	Semiconductor	Q10,Q8	Bellcore Issue 6	Level I		0.079603	2.00	6.4738	0.159207	12562298.27
16540E0001	Connection	CN1	Bellcore Issue 6	Level I		0.079656	1.00	3.2390	0.079656	12554003.87
121110476G	Inductor	L5	Bellcore Issue 6	Level I		0.086173	1.00	3.5040	0.086173	11604581.32
1211102268	Inductor	L10	Bellcore Issue 6	Level I		0.086173	1.00	3.5040	0.086173	11604581.32
12333048A0	Miscellaneous	Y2	Bellcore Issue 6	Level I		0.360000	1.00	14.6386	0.360000	2777777.78
1050501234	Resistor	R111	Bellcore Issue 6	Level I		0.002268	1.00	.0922	0.002268	440974090.03
1050502424	Resistor	R114	Bellcore Issue 6	Level I		0.002268	1.00	.0922	0.002268	440974090.03
1050507524	Resistor	R113	Bellcore Issue 6	Level I		0.002268	1.00	.0922	0.002268	440974090.03
14S4730802	Integrated Circuit	U3	Bellcore Issue 6	Level I		0.059366	1.00	2.4140	0.059366	16844654.92
1654030003	Connection	CN3	Bellcore Issue 6	Level I		0.017069	1.00	.6941	0.017069	58585351.38
105A543233	Resistor	R55	Bellcore Issue 6	Level I		0.002268	1.00	.0922	0.002268	440974090.03
14S2450300	Integrated Circuit	U5	Bellcore Issue 6	Level I		0.059366	1.00	2.4140	0.059366	16844654.92