

PER-C36L

Reliability Prediction Report (MTBF)

Summary	Failure Rate: 2422.460036 ppm MTBF: 412,804 Hours
---------	--

Issue date	Approval	Test Engineer
2014/02/24	Tom Lin	Louie Lee

Reliability Prediction (MTBF)

I . Model Name: PER-C36L

II . Prediction Date: February. 24, 2014

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

IV . Predicted by: Louie Lee

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:

PER-C36L (9697C36L01-D):

- Failure Rate: 2422.460036 ppm

- MTBF: 412,804 Hours

**AAEON Reliability Prediction
Summary**

File Name: PER-C36L.rfp
Duty Cycle: 100
Calculation Model: Telcordia Issue 2
Method: Method I Case 3

Failure Rate: 2422.460036
MTBF (hrs): 412,804
Temperature: 30
Environment: GF, GU - Ground Fixed, Uncontrolled

Assembly Name	Part Number	Ref Des	Quantity	Failure Rate	MTBF
PER-C36L	9697C36L01-D		1	2422.460036	412,804

File Name: PER-C36L.rfp
Assembly: 9697C36L01-D
Ref Des:
Description:

Failure Rate: 2422.460036
MTBF (hrs): 412,804
Temperature: 30
Environment: GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
1050516004	Resistor	R321,R322,R323, R324,R325,R326, R327,R328		2.547039	8	43225424.698300
1050522614	Resistor	R71,R79		2.547039	2	154078778.388085
1050703334	Resistor	R211,R214,R215, R216		2.547039	4	82309758.689546
105A500139	Resistor	R345,R346		2.547039	2	154078778.388085
105A501529	Resistor	R83,R90		2.547039	2	154078778.388085
105A508233	Resistor	R64		2.547039	1	282340674.079668
105A514313	Resistor	R10,R117		2.547039	2	154078778.388085
105A520523	Resistor	R76		2.547039	1	282340674.079668
105A547509	Resistor	R33		2.547039	1	282340674.079668
105A549919	Resistor	R245,R246,R247, R248		2.547039	4	82309758.689546
105A549969	Resistor	R119,R120,R121, R122,R123,R124, R125,R126,R23,R24, R25,R26		2.547039	12	29507083.749401
105A556223	Resistor	R15		2.547039	1	282340674.079668
105A571523	Resistor	R16		2.547039	1	282340674.079668
105A700009	Resistor	R1,R127,R128,R2, R275,R277,R278, R281,R283,R284, R287,R289,R290, R292,R294,R296, R298,R3,R301,R302, R305,R306,R309, R310,R311,R314, R315,R318,R319, R329,R330,R331, R332,R333,R334, R335,R336,R337, R338,R339,R340,		2.547039	55	6793153.636065

File Name: PER-C36L.rfp
Assembly: 9697C36L01-D
Ref Des:
Description:

Failure Rate: 2422.460036
MTBF (hrs): 412,804
Temperature: 30
Environment: GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
105A700133	Resistor	R75,R86,R88		2.547039	3	107020754.986850
105A701039	Resistor	R101,R106,R107, R112,R114,R115,R12, R148,R149,R150, R151,R153,R154, R157,R158,R185, R186,R189,R190,R21, R217,R218,R219, R220,R221,R222, R223,R224,R225, R226,R227,R228, R229,R230,R231, R232,R233,R234, R235,R236,R241,		2.547039	75	5016500.228829
105A703309	Resistor	R102,R103,R104, R105,R108,R109, R110,R111,R187, R188,R191,R192, R195,R196,R199, R200,R203,R204, R207,R208,R209, R210,R212,R213,R40, R41		2.547039	26	14061076.827148

File Name: PER-C36L.rfp
Assembly: 9697C36L01-D
Ref Des:
Description:

Failure Rate: 2422.460036
MTBF (hrs): 412,804
Temperature: 30
Environment: GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
105A703329	Resistor	R129,R130,R131, R132,R133,R134, R139,R140,R159, R160,R162,R163, R165,R166,R168, R169,R171,R173, R174,R176,R177, R179,R180,R182, R237,R238,R239, R240,R269,R270, R271,R272		2.547039	32	11502702.879433
105A705123	Resistor	R50		2.547039	1	282340674.079668
105A705129	Resistor	R11,R116,R14,R18, R20,R27,R28,R30, R31,R32,R47,R51, R53,R54,R56,R58, R61,R66,R68,R72, R73,R77,R82,R87, R94,R98		2.547039	26	14061076.827148
105A710039	Resistor	R155,R156,R164,R17, R170,R175,R181, R183,R184		2.547039	9	38754445.632391
105A747009	Resistor	R273,R285,R297, R320		2.547039	4	82309758.689546
1121501691	Capacitor	C156,C157,C19,C192, C193,C194		1.128806	6	133979725.056342
1124427090	Capacitor	C88,C89,C90,C91, C92,C93,C94,C95		1.128806	8	101746760.035398

File Name: PER-C36L.rfp
Assembly: 9697C36L01-D
Ref Des:
Description:

Failure Rate: 2422.460036
MTBF (hrs): 412,804
Temperature: 30
Environment: GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
1129710390	Capacitor	C148,C150,C151, C152,C154,C155, C158,C159,C161, C162,C163,C165, C166,C167,C169, C170,C171,C172, C173,C174,C175, C176,C177,C178, C179		1.128806	25	33748887.792763
118961018A	Capacitor	C24,C25		4.744484	2	86049450.747498
1189656196	Capacitor	C235,C236		4.744484	2	86049450.747498
11A4447080	Capacitor	C21		1.128806	1	704977644.692287
11B2701690	Capacitor	C100,C101,C102, C103,C104,C105, C106,C107,C121, C122,C125,C126, C127,C134,C135, C138,C140,C141, C142,C143,C149, C153,C164,C168, C180,C181,C182, C183,C184,C185, C186,C187,C203, C204,C205,C206, C207,C208,C209,		1.128806	81	10641455.782446
11B2710060	Capacitor	C227,C228,C229, C230,C231,C232, C233,C234		1.128806	8	101746760.035398
11C1510390	Capacitor	C10,C30,C31,C9		1.128806	4	196873384.410843

File Name: PER-C36L.rfp
Assembly: 9697C36L01-D
Ref Des:
Description:

Failure Rate: 2422.460036
MTBF (hrs): 412,804
Temperature: 30
Environment: GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
11C1539840	Capacitor	C60,C61,C62,C63		1.128806	4	196873384.410843
11C9510490	Capacitor	C11,C12,C13,C14,C26,C27,C28,C29,C32,C33,C34,C35,C5,C50,C51,C52,C53,C55,C56,C58,C59,C6,C7,C8		1.128806	24	35120617.936543
11E1510050	Capacitor	C109,C110,C111,C113,C115,C116,C118,C119,C120,C123,C124,C128,C129,C130,C131,C132,C133,C136,C137,C139,C196,C198,C200,C202,C216,C217,C220,C222,C44,C45,C46,C47		1.128806	32	26512863.286539
11E9501080	Capacitor	C144,C145,C146,C147,C15,C188,C189,C190,C191,C20		1.128806	10	82101057.548118
11E9510050	Capacitor	C160,C17		1.128806	2	375289731.076049
11E9522680	Capacitor	C22		1.128806	1	704977644.692287
11E9622050	Capacitor	C16,C18		1.128806	2	375289731.076049
11EA647010	Capacitor	C108,C112,C114,C117		1.128806	4	196873384.410843
121110226K	Inductor	L1		4.944252	1	154760964.143460
1212306030	Inductor	FB1,FB15,FB2,FB3,FB4,FB5,FB6		4.944252	7	25970990.056682
1212308054	Inductor	FB10,FB11,FB12,FB13,FB14,FB7,FB8,FB9		4.944252	8	22874049.098230

File Name: PER-C36L.rfp
Assembly: 9697C36L01-D
Ref Des:
Description:

Failure Rate: 2422.460036
MTBF (hrs): 412,804
Temperature: 30
Environment: GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
123132505D	Miscellaneous	Y1,Y2,Y3,Y4		19.200000	4	4388233.395340
1304100250	Optical Device	LED1,LED2		79.003355	2	3783722.582110
1440210IS0	Integrated Circuit	U11,U14		43.803003	2	6834791.244197
14S3801400	Integrated Circuit	U3	10.2	88.054980	1	5839673.426330
1440210IS0	Integrated Circuit	U12	12.5	102.429404	1	5020163.231636
1440210IS0	Integrated Circuit	U13	12.8	104.452748	1	4922918.142868
14S3880000	Integrated Circuit	U5		43.803003	1	11739202.588727
14S3910800	Integrated Circuit	U6	13.9	112.184128	1	4583646.010847
14S5A12509	Integrated Circuit	U1		26.018600	1	25551442.237972
14S6216060	Integrated Circuit	U10,U7,U8,U9		11.063278	4	17763990.409389
14S9860800	Integrated Circuit	U4	19	155.218600	1	3312826.750213
1654910303	Connection	CN2,CN3,CN4,CN5		16.184835	4	11344857.509064