

# PER-C39L

## Reliability Prediction Report (MTBF)

Summary	Failure Rate: 3275.738960 ppm MTBF: 305,275 Hours
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Issue date	QE Manager	Test Engineer
2016-05-11	KJ Wang	Louie Lee

# Reliability Prediction (MTBF)

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**I . Model Name:** PER-C39L

**II . Prediction Date:** May. 11th, 2016

**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-C39L (9697C39L02-D):

- Failure Rate: 3275.738960 ppm

- MTBF: 305,275 Hours

**AAEON Reliability Prediction  
Summary**

**File Name:** PER-C39L.rfp  
**Duty Cycle:** 100  
**Calculation Model:** Telcordia Issue 2  
**Method:** Method I Case 3

**Failure Rate:** 3275.738960  
**MTBF (hrs):** 305,275  
**Temperature:** 30  
**Environment:** GF, GU - Ground Fixed, Uncontrolled

Assembly Name	Part Number	Ref Des	Quantity	Failure Rate	MTBF
PER-C39L	9697C39L02-D		1	3275.738960	305,275

**File Name:** PER-C39L.rfp  
**Assembly:** 9697C39L02-D  
**Ref Des:**  
**Description:**

**Failure Rate:** 3275.738960  
**MTBF (hrs):** 305,275  
**Temperature:** 30  
**Environment:** GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
1050508224	Resistor	R372,R373,R374, R375,R376,R378, R380,R381,R383, R384,R386,R387, R392,R393,R394, R396,R397,R398, R399,R401,R402, R403,R404,R415		2.547039	24	15190138.820515
1050510034	Resistor	R345,R346,R8		2.547039	3	107020754.986850
1050516004	Resistor	R321,R322,R323, R324,R325,R326, R327,R328,R329, R350,R351,R406, R407,R408,R409, R410,R411,R412, R413,R420,R423, R424,R425,R426, R427,R428,R429, R430,R431,R432, R433,R434		2.547039	32	11502702.879433
1050551004	Resistor	R377,R389,R390, R391,R414,R416, R417,R419		2.547039	8	43225424.698300
105A500139	Resistor	R21,R22,R337		2.547039	3	107020754.986850
105A501039	Resistor	R332,R341,R342		2.547039	3	107020754.986850
105A501529	Resistor	R221,R67		2.547039	2	154078778.388085
105A501539	Resistor	R347		2.547039	1	282340674.079668

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105A503973	Resistor	R229,R231,R232, R233,R234,R235, R237,R75,R77,R78, R79,R80,R81,R82		2.547039	14	25477245.255648
105A523713	Resistor	R214,R60		2.547039	2	154078778.388085
105A530113	Resistor	R215,R61		2.547039	2	154078778.388085
105A700003	Resistor	R421,R422		2.547039	2	154078778.388085
105A700009	Resistor	R1,R10,R100,R101, R102,R103,R104, R105,R106,R107, R108,R109,R11,R110, R111,R112,R113, R114,R115,R116, R117,R118,R119,R12, R120,R121,R122, R123,R124,R125, R126,R127,R128, R129,R130,R131, R132,R133,R134, R135,R136,R137, R138,R139,R14,R140, R141,R142,R143, R		2.547039	104	3640565.083780
105A700239	Resistor	R343,R344		2.547039	2	154078778.388085

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105A701039	Resistor	R178,R180,R181, R182,R183,R184, R185,R186,R187, R190,R191,R192, R193,R194,R195, R196,R218,R220,R24, R26,R27,R28,R29,R3, R30,R31,R32,R33, R339,R36,R37,R38, R39,R40,R42,R43, R65,R66		2.547039	38	9736567.158302
105A703309	Resistor	R177,R23		2.547039	2	154078778.388085
105A703329	Resistor	R201,R202,R205, R206,R208,R209, R211,R212,R213, R223,R224,R225, R228,R356,R357, R358,R359,R360, R361,R362,R363, R364,R365,R366, R367,R368,R369, R370,R371,R379, R382,R385,R388, R395,R400,R405, R418,R47,R48,R51, R52,R54,R55,R57, R58,R59,R69,R70, R72,R74		2.547039	50	7454870.155519

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1121501690	Capacitor	C93,C95		1.128806	2	375289731.076049
1124427090	Capacitor	C147,C149,C39,C41		1.128806	4	196873384.410843
1129601080	Capacitor	C153,C159,C165,C171,C174,C180,C185,C192,C197,C45,C51,C57,C63,C66,C72,C77,C84,C89		1.128806	18	46478509.590073
1129710090	Capacitor	C148,C40		1.128806	2	375289731.076049
1129710390	Capacitor	C155,C156,C161,C162,C163,C164,C167,C168,C169,C176,C177,C178,C187,C188,C189,C190,C199,C200,C47,C48,C53,C54,C55,C56,C59,C60,C61,C68,C69,C70,C79,C80,C81,C82,C91,C92		1.128806	36	23624151.295955
1149522180	Capacitor	C240	8	5.499809	1	137735439.607959
1181627194	Capacitor	C568		4.744484	1	159663026.715137
1189656196	Capacitor	C4,C6		4.744484	2	86049450.747498
118A6101B2	Capacitor	C239	7.1	5.411218	1	139990411.402669
11C2510480	Capacitor	C226,C228,C569,C570,C571		1.128806	5	159367490.199266



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11C4501790	Capacitor	C154,C160,C166, C170,C175,C179, C186,C191,C198, C227,C232,C234, C237,C46,C52,C58, C62,C67,C71,C78, C83,C90		1.128806	22	38230892.707156
11C9510490	Capacitor	C10,C11,C115,C116, C117,C118,C119,C12, C120,C121,C122,C13, C14,C231,C235,C245, C246,C247,C249, C250,C251,C253, C255,C260,C261, C262,C264,C268, C269,C271,C275,C7, C8,C9		1.128806	34	24984844.161172
11E1510050	Capacitor	C94,C96		1.128806	2	375289731.076049
11E1547650	Capacitor	C223,C238,C241, C244,C248,C252, C254,C256,C257, C258,C259,C263, C265,C266,C267, C270,C272,C273, C274		1.128806	19	44097696.883526
11E2510020	Capacitor	C224,C225,C229, C230		1.128806	4	196873384.410843

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11E9610080	Capacitor	C152,C158,C172, C181,C184,C193, C196,C44,C50,C64, C73,C76,C85,C88		1.128806	14	59316298.011235
11EA647010	Capacitor	C151,C157,C173, C182,C183,C194, C195,C43,C49,C65, C74,C75,C86,C87		1.128806	14	59316298.011235
121110336L	Inductor	L33		4.944252	1	154760964.143460
121110336L	Inductor	L34	11.6	6.110350	1	125226408.283100
1212306030	Inductor	FB1,FB10,FB11,FB12, FB13,FB14,FB15, FB16,FB17,FB18, FB19,FB2,FB20,FB21, FB22,FB23,FB24,FB3, FB4,FB5,FB6,FB7,FB8,FB9		4.944252	24	7944471.616128
123132505D	Miscellaneous	Y1		19.200000	1	23844262.770939
123132505D	Miscellaneous	Y2		19.200000	1	23844262.770939
1301005442	Semiconductor	D1		7.793411	1	92807310.010983
1304200043	Optical Device	LED1,LED10,LED11, LED12,LED13,LED14, LED15,LED16,LED2, LED3,LED4,LED5, LED6,LED7,LED8,LED9		79.003355	16	641588.219771
1315733410	Semiconductor	Q21		22.463360	1	31642600.748419
1315733410	Semiconductor	Q22	11.7	30.723947	1	23135020.194748
1440038080	Integrated Circuit	U1		43.803003	1	11739202.588727
1440580EB0	Integrated Circuit	U11	15.1	121.204175	1	4242529.841533
1440580EB0	Integrated Circuit	U12	16.4	131.709712	1	3904133.737607
14S4622700	Integrated Circuit	U13	8.8	80.224329	1	6409680.650445
14S5A12509	Integrated Circuit	U2		26.018600	1	25551442.237972
14S6325600	Integrated Circuit	U14	12.8	19.044466	1	33827689.901758

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14S6325600	Integrated Circuit	U15		11.063278	1	58231413.220643
1654916030	Connection	CN2		16.184835	1	35685591.360212