

# PER-C41L

## Reliability Prediction Report (MTBF)

Summary	Failure Rate: 2061.442766 MTBF: 485.097 Hours
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Issue date	QE Manager	Test Engineer
2017-03-10	KJ Wang	Max Chang

# Reliability Prediction (MTBF)

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**I . Model Name:** PER-C41L

**II . Prediction Date:** March, 9, 2017

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

**IV . Predicted by:** Max Chang

**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-C41L (9697C41L-D):

- Failure Rate: 2061.442766

- MTBF: 485.097 Hours

**Reliability Prediction  
Summary**

**File Name:** PER-C41L.rfp  
**System:** 9697C41L-D  
**Ref Des:**  
**Description:**

**Failure Rate:** 2061.442766  
**MTBF (hrs):** 485,097  
**Temperature:** 30  
**Environment:** GF, GU - Ground Fixed, Uncontrolled

Assembly Name	Part Number	Ref Des	Quantity	Failure Rate	MTBF
PER-C41L	9697C41L-D		1	2061.442766	485,097

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**Assembly:** 9697C41L-D  
**Ref Des:**  
**Description:**

**Failure Rate:** 2061.442766  
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**Temperature:** 30  
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Part Number	Category	Ref Des	Unit Failure Rate	Quantity	Total Failure Rate
1050510034	Resistor	R451,R452,R5	2.547039	3	9.343982
1050516004	Resistor	R166,R167,R170, R171,R175,R176, R179,R180,R209,R21, R210,R212,R214, R219,R22,R220,R222, R224	2.547039	18	49.919834
105A500139	Resistor	R112,R443	2.547039	2	6.490186
105A501039	Resistor	R105,R107,R108, R109,R110,R111, R113,R131,R132, R133,R134,R135, R136,R440,R445, R449	2.547039	16	44.592810
105A501529	Resistor	R85	2.547039	1	3.541821
105A501539	Resistor	R453	2.547039	1	3.541821
105A503973	Resistor	R100,R93, R95,R96, R97,R98,R99	2.547039	7	20.411813
105A523713	Resistor	R78	2.547039	1	3.541821
105A530113	Resistor	R79	2.547039	1	3.541821

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105A700009	Resistor	R10,R101, R102,R103, R104,R106, R11,R12  R13,R137, R138,R155, R156,R157, R158, R159,R160, R161, R162,R182, R183, R185,R186, R187, R188,R189, R190, R193,R194, R197, R198,R199, R2,R200  R201,R202, R226, R227,R228, R229, R230,R231, R232, R233,R3,R35, R36,R437, R43	2.547039	58	155.039752
105A70000A	Resistor	R184,R457	2.547039	2	6.490186
105A700139	Resistor	R28,R29,R30	2.547039	3	9.343982
105A700239	Resistor	R448,R450	2.547039	2	6.490186

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105A701039	Resistor	R31,R34,R37,R38,R39,R40,R41,R43,R44,R446,R45,R46,R47,R49,R50,R51,R52,R53,R54,R56,R57,R58,R59,R6,R60,R61	2.547039	26	71.118309
105A703309	Resistor	R33	2.547039	1	3.541821
105A703329	Resistor	R63,R65,R67,R68,R69,R71,R74,R76,R77,R87,R89,R92	2.547039	12	33.890167
1111610199	Capacitor	C100,C4,C6	1.128806	3	3.883281
1112610102	Capacitor	C8	1.128806	1	1.418485
1121610060	Capacitor	C234,C235,C240,C241	1.128806	4	5.079407
1124427090	Capacitor	C41,C43	1.128806	2	2.664608
1129522790	Capacitor	C103,C104,C97,C98	1.128806	4	5.079407
1129601080	Capacitor	C47,C53,C59,C65,C68,C74,C79,C86,C91	1.128806	9	11.005528
1129610260	Capacitor	C21,C26,C31,C37	1.128806	4	5.079407
1129710090	Capacitor	C42	1.128806	1	1.418485
1129710390	Capacitor	C49,C50,C55,C56,C57,C58,C61,C62,C63,C70,C71,C72,C81,C82,C83,C84,C93,C94	1.128806	18	21.515320
1149522180	Capacitor	C250	1.128806	1	1.418485
1189610151	Capacitor	C249	1.128806	1	1.418485
11C2510480	Capacitor	C236,C239,C3,C5,C7	1.128806	5	6.274805

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11C4501790	Capacitor	C237,C238,C244,C247,C48,C54,C60,C64,C69,C73,C80,C85,C92	1.128806	13	15.691573
11C9510490	Capacitor	C10,C101,C102,C105,C106,C107,C108,C109,C11,C110,C111,C112,C113,C114,C115,C116,C117,C118,C119,C12,C120,C13,C14,C15,C16,C17,C18,C19,C20,C23,C24,C242,C243,C25,C27,C29,C30,C32,C33,C35,C36,C38,C39,C9,C95,C96,C99	1.128806	47	54.987801
11E1501040	Capacitor	C22,C28,C34,C40	1.128806	4	5.079407
11E1547650	Capacitor	C233,C248,C251	1.128806	3	3.883281
11E9610080	Capacitor	C46,C52,C66,C75,C78,C87,C90	1.128806	7	8.647986
11EA647010	Capacitor	C45,C51,C67,C76,C77,C88,C89	1.128806	7	8.647986
121110336X	Inductor	L33,L34	4.944252	2	12.019077
1212306030	Inductor	FB1,FB2,FB3,FB4,FB5,FB6,FB7	4.944252	7	38.504501



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123132505D	Miscellaneous	Y1	19.200000	1	41.938810
1301005442	Semiconductor	D1	7.793411	1	10.775013
1304001121	Optical Device	LED1	79.003355	1	153.913100
1315070020	Semiconductor	Q1,Q10,Q 11,Q12,Q 15, Q16,Q17, Q18,Q19, Q20,Q4,Q 5,Q6,Q7,Q 8, Q9	22.463360	16	394.664315
1315230511	Semiconductor	Q13,Q14, Q2,Q3	22.463360	4	107.867794
1315733410	Semiconductor	Q41,Q42	22.463360	2	57.753076
1315970211	Integrated Circuit	U5	43.803003	1	85.184662
1440038080	Integrated Circuit	U2	43.803003	1	85.184662
1440580EB0	Integrated Circuit	U3	43.803003	1	85.184662
14S3003700	Integrated Circuit	TF1,TF2,T F3,TF4	43.803003	4	257.787974
14S4622700	Integrated Circuit	U8	43.803003	1	85.184662
14S5A12509	Integrated Circuit	U1	43.803003	1	85.184662
14S6325600	Integrated Circuit	U4	43.803003	1	85.184662
1540775082	Integrated Circuit	RP1,RP2,R P3,RP4	43.803003	4	257.787974
165251220B	Connection	CN3,CN4, CN5,CN6	16.184835	4	88.145664