



Innovative Solutions for Life

Designed Lifetime Certificate

Certificate #: R23-xxx-xx-DLC-01rev00

This is to certify that

System type: R23 family of products has a MTBF of 1.3 million hours, and is designed and expected to achieve a minimum working lifetime of greater than ten years.

This analysis includes the following model numbers:

R23-055-10, R23-055-10-R
R23-055-06, R23-055-06-R
R23-090-04, R23-090-04-R
R23-90-08, R23-090-08-R

This estimate is from an analysis and prediction based on MIL-HDBK-217F Notice 2, Parts Count Method and using PTC Windchill Quality Solutions (formerly Relex 2011) Software. Generic values were used only when manufacturers' component failure rate data were not available to modify the model. Component failure rates were calculated at an ambient air temperature of 30° C and a ground benign (GB) environment. Supporting summary data is attached.

Signature: _____

Title: Program Manager

Date: November 14, 2017

Printed Name: Ryan LaVoie

Form: AES112F16

R23-055-10-R Parts Count Summary				
Category	Quantity	Average Failure Rate by Category (FIT)	Total Failure Rate per Billion Hours (Qty* FIT)	Parts MTBF (Hours)
PCB	2	2.56	5.12	195,312,500
Inductor	2	19.44	38.88	25,720,165
Resistor	82	0.59	48.42	20,652,623
Diode	24	4.04	96.95	10,314,595
Transistor	11	25.79	283.67	3,525,223
Capacitor	90	0.71	63.66	15,708,451
Connector	3	3.13	9.38	106,609,808
IC	28	5.64	157.83	6,335,931
Regulator	1	3.90	3.90	256,410,256
Crystal	1	60.99	60.99	16,396,131
			768.80	Total (FIT)
			1,300,728	MTBF (Operational Hours)
			148	MTBF (Operational Years)

Similar analyses were performed for each model, resulting in the values shown below.

Part Number	Description	Failure Rate Per Billion Hours (FIT)	MTBF (Hours)
R23-055-10	ACCELNET MICRO MODULE, +55 VDC, 10APK,5ACT	654.30	1,528,351
R23-055-10-R	ACCELNET-R MICRO MODULE, +55 VDC, 10APK,5ACT	768.80	1,300,728
R23-055-06	MODEL R23-055-06 FOR 05-01156-000	372.36	2,685,573
R23-055-06-R	MODEL R23-055-06-R FOR 05-01342-000	486.86	2,053,979
R23-090-04	MODEL R23-090-04 FOR 05-01157-000	373.56	2,676,946
R23-090-04-R	MODEL R23-090-04-R FOR 05-01343-000	487.76	2,050,189
R23-90-08	ACCELNET MICRO MODULE, +90 VDC, 8APK,4ACT	654.30	1,528,351
R23-090-08-R	ACCELNET-R MICRO MODULE, +90 VDC,8APK,4ACT	768.80	1,300,728