



**Reliability Report
(Q2016-014)**

**CPC1965G Product Qualification
AC Solid State Relay**

September 15, 2016

IXYS Integrated Circuits Division
78 Cherry Hill Drive, Beverly, MA 01915
www.ixysic.com

Summary

The CPC1965G product has successfully passed IXYS ICD's requirements for product qualification.

Table 1: Device Information

Product Number	CPC1965G
Package Type	4 Pin DIP
Assembly Site	Atec, Laguna, Philippines
Test Site	IXYS ICD BEV, Beverly, MA, USA

Table 2: Reliability Test Result

Stress Test	Stress Conditions	Applicable Specs	Product/Package	Sample Size (SS)	# of Failures
HTRB	125°C, 80% WVDC, 1000 hrs	Mil-Std-883 M1005 JESD22-A-108	CPC1965G T65967	105	0
			CPC1965G T55610M	104	0
			CPC1965G T41679	156	0
Thermal Shock	0 to 100°C, 10/10 dwells, 15 cycles	Mil-Std-883, M1011	CPC1965G T65967	55	0
			CPC1965G T55610M	55	0
			CPC1965G T41679	55	0
Temperature Cycle	-55 to 125°C, 10/10 dwells, 300 cycles	Mil-Std-883, M1010, "B"	CPC1965G T65967	55	0
			CPC1965G T55610M	55	0
			CPC1965G T41679	55	0

Stress Test	Stress Conditions	Applicable Specs	Product/Package	Sample Size (SS)	# of Failures
Hot Storage	125C, 1000 hrs	JESD22-A103-C	CPC1965G T65967	45	0
			CPC1965G T55610M	45	0
MSL	IR Reflow, Level 1	J-STD-020D.1	CPC1965G T65967	25	0
			CPC1965G T55610M	25	0
			CPC1965G T41679	25	0

Table 3: ESD Results – 4-Pin DIP

Stress Test	Stress Conditions	Applicable Specs	Product/Package	Highest Passed	Class
HBM	All Pins, 1.5kΩ, 100pF	JESD22- A114-E	CPC1965G T65967 T55610M T41679	+/-8000V	3B

Table 4: FIT Rate Summary

Qual Lot #	Stress Test	# of Devices	# of Fail	Hours Tested	Equivalent Dev. Hours	FIT Rate @ 60% CL
1	HTRB	365	0	1000	93,223,178	9.87*

* HTRB FIT Rate was calculated based on the Acceleration Factor (AF) and equivalent device hours at 0.7eV of activation energy at 125°C test temperature and 40°C use temperature.

Approvals

Prepared by: Martha W. Brandt* 9/15/16
Martha W. Brandt Date
Senior Quality Engineer

Approved by: George Belezos* 9/15/16
George Belezos Date
Quality Manager

Approved by: James Archibald* 9/15/16
James Archibald Date
VP Research and Development

*Signature on File