IXYS
INTEGRATED CIRCUITS DIVISION

Reliability Report
(Q2017-013)

IX3120G Product Reliability Test
2.5A Output Current Gate Driver OptoCoupler

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Summary

The IX3120G product has successfully passed IXYS ICD's requirements for product reliability test.

Table 1: Device Information

Product Number	IX3120G
Package Type	8L SOP
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	IX3120G TE3070	84	0
			IX3120G TE3071	84	0
HAST	130°C, 85%, 18.8PSI, 96 hrs	JESD22-A110-C	IX3120G T60373	77	0
Thermal Shock	0 to 100°C, 10/10 dwells, 15 cycles	Mil-Std-883, M1011	IX3120G T60373	55	0
Temperature Cycle	-55 to 125°C, 10/10 dwells, 300 cycles	Mil-Std-883, M1010, "B"	IX3120G T60373	55	0
Hot Storage	125C, 1000 hrs	JESD22-A103-C	IX3120G T60373	45	0
MSL	IR Reflow, Level 1	J-STD-020D.1	IX3120G T60373	25	0

Table 3: ESD Results – 8-Pin SOP

Stress Test	Stress Conditions	Applicable Specs	Product/ Package	Highest Passed	Class
HBM	All Pins, 1.5kΩ, 100pF	JS-001-2012	IX3120G TE3070 TE3071	+/-3000V	2

Table 4: FIT Rate Summary

Qual Lot #	Stress Test	# of Devices	# of Fail	Hours Tested	Equivalent Dev. Hours	FIT Rate @ 60% CL
1	HTRB	168	0	1000	42,908,202	21.44*
1	HAST	77	0	96	10,583,759	86.93**

* 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.

** HAST FIT Rate was calculated based on the Acceleration Factor (AF) and equivalent device hours at 0.7eV of activation energy at 130°C test temperature and 40°C use temperature.

Approvals

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