



**Reliability Report
(Q2014-002)**

**LIA135/LIA136 Product Qualification
Optically Isolated Amplifier**

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Summary

The LIA135 and LIA136 products have successfully passed IXYS ICD's requirements for product qualification.

Table 1: Device Information

Product Number	LIA135, LIA136
Package Type	8L 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	LIA135/ TE3524	105	0
			LIA135/ TE3500	112	0
			LIA136/ TE3513	105	0
HAST	130°C, 85%, 18.8PSI, 96 hrs	JESD22- A110-C	LIA135/ TE3458	77	0
			LIA136/ TE3483	80	0
Thermal Shock	0 to 100°C, 10/10 dwells, 15 cycles	Mil-Std-883, M1011	LIA135/ TE3458	55	0
Temperature Cycle	-55 to 125°C, 10/10 dwells, 300 cycles	Mil-Std-883, M1010, "B"	LIA135/ TE3458	55	0
Hot Storage	125C, 1000 hrs	JESD22-A103-C	LIA135/ TE3458	50	0
			LIA135/ TE3500	50	0
			LIA135/ TE3524	50	0
			LIA135/ TE3525	50	0
			LIA136/ TE3513	50	0
MSL	IR Reflow, Level 1	J-STD-020D.1	LIA135/ TE3458	50	0

Table 3: ESD Results – 8-Pin DIP

Stress Test	Stress Conditions	Applicable Specs	Product/Package	Highest Passed	Class
HBM	All Pins, 1.5kΩ, 100pF	JESD22- A114-E	LIA135/ TE3458	+/-2000V	2
			LIA136/ TE3483	+/-2000V	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	322	0	1000	82,240,721	11.19*
1	HAST	157	0	96	17,839,281	51.57**

* 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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