Product Qualification Report

IRS9103A

Real3™ Laser diode driver for automotive

Description

This product qualification report describes the characteristics of the product with respect to quality and reliability.

The qualification sample selection was done on production lots which were manufactured and tested on standard production processes and meet the defined requirements.

The qualification test results of those products as outlined in this document are based on **AEC** for target applications and may reference existing qualification results of similar products. Such referencing is justified by the structural similarity of the products.

Qualification Assessment

Fully qualified according to **AEC – Q100 Rev** for **Automotive Applications** and assessed as PASS

For further information about comparable products, please contact the nearest Infineon Technologies office (www.infineon.com).

IRS9103A
PG-VFWLB-9-21
MSL: 1; 260 °

qualified in 2024

Electrical Stress Test Results:

Test Description	Abbr.	Condition	Duration	Lots/SS	Fail/Qty	Result
Electrical Parameter Assessment AEC Q100-009	ED	-40 °C, 25 °C, 125 °C		3 x 10	0 / 30	PASS
High Temperature Operating Life JESD22-A108	HTOL	T_a = 105 °C $V_{dd} \geq V_{dd_max}$	1000 h	3 x 77	0 / 231	PASS
Electrostatic Discharge Human Body Model AEC-Q100-002	ESD-HBM	Class 2 2000 V to < 4000 V		1 x 3	0 / 3	PASS
Electrostatic Discharge Charged Device Model JS-002	ESD-CDM	Class C2a 500 V to < 750V		Refer to AEC Q100-011 2.7		
Latch Up AEC Q100-004	LU	T_a = 150 °C $I_{trigger}$ = 100 mA		1 x 3	0 / 3	PASS
Electromagnetic compatibility SAE J1752/3 – Radiated Emissions	EMC			1 x 1	0 / 1	PASS

Environmental Stress Test Results:

Test Description	Abbr.	Condition	Duration	Lots/SS	Fail/Qty	Result
High Temperature Storage Life JESD22-A103	HTSL	T_a = 125 °C	1000 h	1 x 45	0 / 45	PASS
Pre-conditioning JESD22-A113	PC	Soak acc. MSL 1, 3x reflow, 260 °C		3 x	0 /	PASS
Temperature Cycling JESD22-A104	TC*	-55 °C to 125 °C	1000 cycles	3 x 77	0 / 231	PASS
Temperature Humidity Bias JESD22-A101	THB*	T_a = 85 °C rh = 85 % $V_{dd} \geq V_{dd_max}$	1000 h	3 x 77	0 / 231	PASS
Unbiased Highly Accelerated Stress Test JESD22-A118	UHAST*	T_a = 110 °C rh = 85 %	264 h	3 x 77	0 / 231	PASS

Mechanical Stress Test Results:

Test Description	Abbr.	Condition	Duration	Lots/SS	Fail/Qty	Result
Solderability IEC60068-2-58	SD	4h steam aging, 4h dry bake, 16h dry bake, T = 245+-5°C		1 x 15	0 / 15	PASS
Solder Ball Shear AEC Q100-10	SBS	5 balls from a min. of 10 devices		3 x 10	0 / 10	PASS
Physical Dimensions JESD22-B103	PD	Cpk ≥ 1,67		3 x 10	0 / 10	PASS

Notes:
* For SMD devices reliability stress tests performed after preconditioning test (PC) according to JESD22-A113

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Document reference

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