Product Qualification Report

IGI60L5050B1M

CoolGaN™

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 **JEDEC** 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 **JEDEC** for **Standard Applications** and assessed as PASS

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

IGI60L5050B1M **qualified 2024**
PG-TFLGA-27-3
MSL: 3; 260°C

Electrical Stress Test Results:

Test Description	Abbr.	Condition	Duration	Lots/SS	Fail/Qty	Result
High Temperature Reverse Bias JESD22-A108	HTRB	T_a = 150 °C V_{DS} = 600 V	1000 h	3 x 77	0 / 231	PASS
Positive High Temperature Gate Stress JESD22-A108	P_HTGF	T_a = 150 °C $I_G \geq$ 5 mA	1000 h	3 x 40	0 / 231	PASS
Negative High Temperature Gate Stress JESD22-A108	N_HTGS	Ta = 150 °C V_{Gs} = -10 V	1000 h	3 x 40	0 / 231	PASS
Intermitted Operational Life Test MIL-STD 750 / Meth.1037	IOL*	ΔT =100 K	15000 cyc	3 x 77	0 / 231	PASS
High Temperature Operating Life JESD22-A108	HTOL	85 °C / Tj = 145 °C V_{CCi} = 5 V, $V_{CCA/B}$ = 20 V Isolation Voltage = 20 V f = 100 kHz	1000 h	3 x 77	0 / 231	PASS
Electrostatic Discharge Human Body Model ANSI/ESDA/JEDEC-JS-001	ESD-HBM	Class 1C (1000 V to < 2000 V)			0 / 3	PASS
Electrostatic Discharge Charged Device Model ANSI/ESDA/JEDEC -JS-002	ESD-CDM	Class C3 (≥1000 V)			0 / 3	PASS
Parametric Verification JESD86	PV	T_a = -55 °C / 25 °C / 150 °C		3 x 30	0 / 90	PASS
Latch Up EIA/JESD78	LU			1 x 6	0 / 6	PASS

Environmental Stress Test Results:

Test Description	Abbr.	Condition	Duration	Lots/SS	Fail/Qty	Result
Pre-conditioning J-STD020 / JESD22 A113	PC	MSL and 3 x reflow		3	0	PASS
Highly Accelerated Stress Test JESD22 A-110	HAST*	T_a =110 °C, r.h. = 85% $V_{DS} \geq$ 100 V	264 h	3 x 77	0 / 231	PASS
Temperature Cycling JESD22 A104	TC*	-55 °C to +150 °C	1000 cyc	3 x 77	0 / 231	PASS

Notes:
* For SMD devices, a preconditioning (PC) according to JESD22-A113 was performed prior to selected reliability stress tests.

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Email: **erratum@infineon.com**

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