Product Qualification Report

ICE5QR1680BG

CoolSET™

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 **Industrial Applications** and assessed as PASS

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

ICE5QR1680BG **qualified in 2020**
PG-DSO-12
MSL: 3; 260°C

Electrical Stress Test Results:

Test Description	Abbr.	Condition	Duratio	Lots/SS	Fail/Qty	Result
High Temperature Storage Life JESD22-A103	HTSL	Ta ≥ 150°C	1000 h	4 x 77	0 / 308	PASS
High Temperature Operating Life JESD22-A108	HTOL	Ta = 125°C V = max voltage	1000 h	4 x 77	0 / 308	PASS
Latch-up JESD78	LU	Class 2				PASS
ESD (HBM) JESD22-A114	HBM	Class 2 (2000V to <4000V)				PASS
ESD (CDM) JESD22-C101	CDM	Class C3 (> 1000V)				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 x 308	0 / 924	PASS
Temperature Humidity Biased JESD22 A101	THB*	Ta = 85°C rh = 85% V = Max voltage	1000 h	4 x 77	0 / 308	PASS
Temperature Cycling JESD22 A104	TC*	-65°C to +150°C	500 cycles	4 x 77	0 / 308	PASS
Autoclave JESD22 A102	AC*	Ta = 121°C rh = 100%	96 h	4 x 77	0 / 308	PASS

Mechanical Stress Test Results:

Test Description	Abbr.	Condition	Duration	Lots	Fail/Qty	Result
Destructive Physical Analysis	DPA	samples from AC & TC		4	0 / 5	PASS

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

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Document reference

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