

Product Qualification Report

IKW40N120CS6

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

Qualified according to **JEDEC Standard** and assessed as **PASS**.

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

IKW40N120CS6
PG-TO247-3
MSL: Not applicable for non SMD packages

Electrical Stress Test Results:

Test Description	Abbr.	Condition	Duration	Lots/Qty	Fail/Qty	Result
High Temperature Reverse Bias JESD22-A108	HTRB*	$T_j = T_{jmax}$ $V_{CE} = 80 \% V_{CEmax}$	1000 h	$\geq 3 \times 77$	0 / 3 x 77	PASS
High Temperature Gate Bias JESD22-A108	HTGB*	$T_a = T_{jmax}$ $V_{GE} = +/-V_{GEmax}$	1000 h	$\geq 3 \times 77$	0 / 3 x 77	PASS
High Humidity High Temp. Reverse Bias JESD22-A101	H3TRB*	$T_a = 85 \text{ }^\circ\text{C}$ $rh = 85 \%$ $V_{CE} = 80 \text{ V}$	1000 h	$\geq 3 \times 77$	0 / 3 x 77	PASS
Intermitted Operational Life Test MIL-STD 750 / Meth.1037	IOL*	Delta T = 100 K	15000 cyc	$\geq 3 \times 77$	0 / 3 x 77	PASS

Environmental Stress Test Results:

Test Description	Abbr.	Condition	Duration	Lots/Qty	Fail/Qty	Result
Pre-conditioning J-STD-020	PC	MSL1 and 3 x reflow	-	$\geq 3 \times 77$	0 / 3 x 77	PASS
Temperature Cycling JESD22-A104	TC*	$T_a = -55 \text{ }^\circ\text{C}$ to $T_a = 150 \text{ }^\circ\text{C}$	1000 cyc	$\geq 3 \times 77$	0 / 3 x 77	PASS
Unbiased High Accelerated Stress Test JESD22-A102	UHAST*	$T_a = 130 \text{ }^\circ\text{C}$ $rh = 85 \%$	96 h	$\geq 3 \times 77$	0 / 3 x 77	PASS

Notes:

* For SMD devices reliability stress tests performed after preconditioning test (PC) according to J-STD-020

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Document reference

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Please note that this product is not qualified according to the AEC Q100 or AEC Q101 documents of the Automotive Electronics Council.

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