

Product Qualification Report

IKQ50N120CT2

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).

IKQ50N120CT2
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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