

# Product Qualification Report

## FF225R12ME4P

EconoDUAL™ 3

### 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 **IEC standards** 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 **IEC Standard** and assessed as PASS

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

## FF225R12ME4P EconoDUAL™ 3

Part of family qualification for:

FFxxxR12ME4(P); FFxxxR12ME4(P)\_B11

(xx = 225,300,450)

| Test Description  | Abbr. | Condition  | Devices      | Result                          |
|---|-------|--|--------------|---------------------------------|
| High Temperature Reverse Bias<br>IEC 60747-9 *)               | HTRB  | 1.000 h<br>$V_{CE} = 0,9 \times V_{CES} \text{ (DC)}$<br>$V_{CE} = 1.080 \text{ V}$<br>$T_{vj} = T_{vj \text{ op max}}$  | ≥ 72 dies    | PASS                            |
| High Temperature Gate Stress<br>IEC 60747-9 *)                | HTGS  | 1.000 h<br>$V_{GE} = \pm 20 \text{ V (DC)}$<br>$T_a = T_{vj \text{ op max}}$   | ≥ 72 dies    | PASS                            |
| High Humidity High Temperature Reverse Bias<br>IEC 60749-5 *) | H3TRB | 1.000 h<br>$T_a = 85 \text{ °C}; \text{RH} = 85\%$<br>$V_{CE} = 80 \text{ V (DC)}$   | ≥ 72 dies    | PASS                            |
| Power Cycling [sec.]<br>IEC 60749-34                          | PC    | 100.000 Cycles<br>$\Delta T_{vj} = 80 \text{ K}$<br>$T_{vj \text{ max}} = T_{vj \text{ op max}}$   | ≥ 6 modules  | PASS                            |
| Thermal Cycling (passive test)<br>Internal Guideline          | TC    | 8.500 Cycles<br>$\Delta T_c = 80 \text{ K}$  | ≥ 12 modules | PASS                            |
| Thermal Shock Test (two chamber)<br>IEC 60749-25              | TST   | 50 Cycles<br>$T_a = -40 \text{ °C to } + 125 \text{ °C}$   | ≥ 12 modules | PASS                            |
| Vibration (Sine Sweep)<br>IEC 60068-2-6 *)                    | VIB   | 5 h each direction (x, y, z)<br>$f = 5 \dots 200 \text{ Hz}$<br>$f1 = 5 \dots 13 \text{ Hz: } A = 7,5 \text{ mm (const.)}$<br>$f2 = 13 \dots 200 \text{ Hz: } a = 50 \text{ m/s}^2$<br>$v = 1 \text{ Octave/min.}$ | ≥ 12 modules | PASS                            |
| ESD-Level (HBM)<br>JESD22-A114                                | HBM   | $R = 1.5 \text{ k}\Omega; C = 100 \text{ pF}$  | ≥ 3 modules  | Class 2<br>2.000 V to < 4.000 V |

### Notes:

\*) Standards are taken as a reference; slight variations from the standards according to Infineon regulations may occur.

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**Do you have a question about this document?**

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**Document reference**

**n.a.**

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