# Product Qualification Report

# BCR320U

Linear LED Driver IC

## 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 **AEC Q101** 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 acc. **AEC Q101** and assessed as PASS

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

**BCR320U** **qualified in 2010**
**PG-SC74-6**
**MSL: 1, 260°C**

**Electrical Stress Test Results:**

| Test Description | Abbr. | Condition | Duration | Lots/ss | Fail/Qty | Result |
|---|---|---|---|---|---|---|
| Electrical Distribution | ED | -55°C, +25°C, +150°C | | 1 x 30 | 0 / 30 | PASS |
| High Humidity High Temperature Reverse Bias JESD22 A101 | H3TRB | Ta=85°C, RH=85% | 1000 h | 6 x 40 | 0 / 240 | PASS |
| High Temperature Reverse Bias JESD22 A108 | HTRB | Ta=150°C | 1000 h | 6 x 40 | 0 / 240 | PASS |
| ESD Human Body Model JESD22 A114 | HBM | Class 1B 500 to < 1000V | | 1 x 12 | 0 / 12 | PASS |
| ESD Machine Model JESD22 A115 | MM | Class C 400 to < 800V | | 1 x 12 | 0 / 12 | PASS |

**Environmental Stress Test Results:**

| Test Description | Abbr. | Condition | Duration | Lots/SS | Fail/Qty | Result |
|---|---|---|---|---|---|---|
| Preconditioning J-STD020 / JESD22 A113 | PC | Soak acc.MSL1, 3x reflow, 260°C | | 18 x 60 | 0 / 1080 | PASS |
| Temperature Cycling* JESD22 A104 | TC* | -55°C to +150°C | 1000 cyc | 12 x 60 | 0 / 720 | PASS |
| Autoclave* JESD22 A102 | AC* | Ta=121°C, RH=100% | 96 h | 6 x 60 | 0 / 360 | PASS |

**Mechanical Stress Test Results:**

| Test Description | Abbr. | Condition | Duration | Lots/SS | Fail/Qty | Result |
|---|---|---|---|---|---|---|
| Destructive Physical Analysis | DPA | Random samples from H3TRB & TC | | 3 x 4 | 0 / 12 | PASS |
| Physical Dimensions JESD B-100 | PD | | | 1 x 30 | 0 / 30 | PASS |
| Resistance to Solder Heat JESD B-106 | RTSH | Solder bath Ts=260°C, dip 3 x 10 sec | | 1 x 30 | 0 / 30 | PASS |
| Solderability J-STD-002 | SD | | | 1 x 10 | 0 / 10 | PASS |

**Notes:**

* For SMD devices reliability stress tests performed after pre-conditioning test (PC)

Further abbreviations: MSL - moisture sensitivity level, Qty – quantity, RH – relative humidity, SS – sample size, Ta – ambient temperature, Ts – solder temperature

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**Edition 2016-01-22**

**Published by**

**Infineon Technologies AG**

**81726 München, Germany**

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**Document reference**

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