

## Schottky Barrier Rectifier

### FEATURES

- Low forward voltage drop
- Low power loss, high efficiency
- Guardring for overvoltage protection
- High surge current capability
- For use as Bypass diode in Solar application.
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21 definition


**R-6**

### MECHANICAL DATA

**Case:** R-6

Molding compound, UL flammability classification rating 94V-0

Base P/N with suffix "G" on packing code - halogen-free

Base P/N with prefix "H" on packing code - AEC-Q101 qualified

**Terminal:** Matte tin plated leads, solderable per JESD22-B102

Meet JESD 201 class 1A whisker test,

with prefix "H" on packing code meet JESD 201 class 2 whisker test

**Weight:** 1.7 g (approximately)

| MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T <sub>A</sub> =25°C unless otherwise noted)              |                    |                      |        |        |                  |
|-----------------------------------------------------------------------------------------------------------|--------------------|----------------------|--------|--------|------------------|
| PARAMETER                                                                                                 | SYMBOL             | SR1502               | SR1503 | SR1504 | UNIT             |
| Maximum repetitive peak reverse voltage                                                                   | V <sub>RRM</sub>   | 20                   | 30     | 40     | V                |
| Maximum RMS voltage                                                                                       | V <sub>RMS</sub>   | 14                   | 21     | 28     | V                |
| Maximum DC blocking voltage                                                                               | V <sub>DC</sub>    | 20                   | 30     | 40     | V                |
| Maximum average forward rectified current                                                                 | I <sub>F(AV)</sub> | 15                   |        |        | A                |
| Repetitive peak forward current f > 15Hz                                                                  | I <sub>FRM</sub>   | 60                   |        |        | A                |
| Peak forward surge current, 50/60 Hz single half sine-wave superimposed on rated load (JEDEC Method )     | I <sub>FSM</sub>   | 300 / 340            |        |        | A                |
| Rating for fusing t < 10ms                                                                                | I <sup>2</sup> t   | 390                  |        |        | A <sup>2</sup> s |
| Maximum instantaneous forward voltage @5 A<br>(Note 1) @15 A                                              | V <sub>F</sub>     | 0.45<br>0.55         |        |        | V                |
| Maximum DC reverse current @T <sub>J</sub> =25 °C<br>at rated DC blocking voltage @T <sub>J</sub> =100 °C | I <sub>R</sub>     | 500<br>20            |        |        | μA<br>mA         |
| Typical thermal resistance                                                                                | R <sub>θJL</sub>   | 2.5                  |        |        | °C/W             |
|                                                                                                           | R <sub>θJA</sub>   | 25                   |        |        |                  |
| Junction temperature range<br>- in DC forward mode                                                        | T <sub>J</sub>     | - 50 to +150<br>≤200 |        |        | °C               |
| Storage temperature range                                                                                 | T <sub>STG</sub>   | - 55 to +175         |        |        | °C               |

Note 1: Pulse test with PW=300μs, 1% duty cycle

| ORDERING INFORMATION |                    |              |                     |         |                        |
|----------------------|--------------------|--------------|---------------------|---------|------------------------|
| PART NO.             | AEC-Q101 QUALIFIED | PACKING CODE | GREEN COMPOUND CODE | PACKAGE | PACKING                |
| SR15xx<br>(Note 1)   | Prefix "H"         | A0           | Suffix "G"          | R-6     | 700 / Ammo box         |
|                      |                    | R0           |                     | R-6     | 1,000 / 13" Paper reel |
|                      |                    | B0           |                     | R-6     | 400 / Bulk packing     |

Note 1: "xx" defines voltage from 20V (SR1502) to 40V (SR1504)

| EXAMPLE       |          |                    |              |                     |                    |
|---------------|----------|--------------------|--------------|---------------------|--------------------|
| PREFERRED P/N | PART NO. | AEC-Q101 QUALIFIED | PACKING CODE | GREEN COMPOUND CODE | DESCRIPTION        |
| SR1504 A0     | SR1504   |                    | A0           |                     |                    |
| SR1504 A0G    | SR1504   |                    | A0           | G                   | Green compound     |
| SR1504HA0     | SR1504   | H                  | A0           |                     | AEC-Q101 qualified |

## RATINGS AND CHARACTERISTICS CURVES

(TA=25°C unless otherwise noted)

FIG.1 RATED FORWARD CURRENT VS AMBIENT TEMP. CURVE

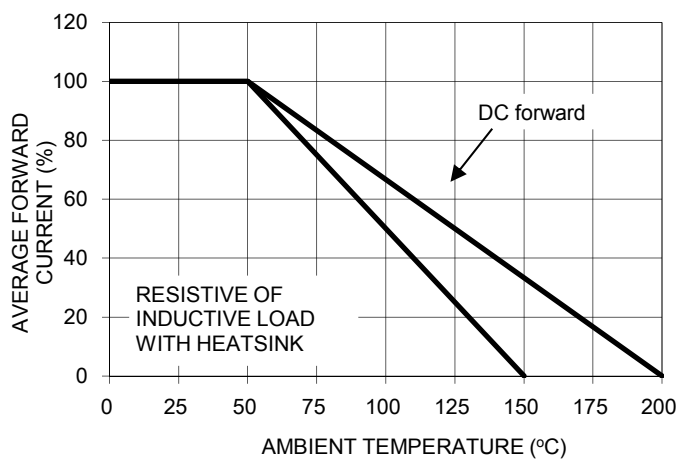


FIG. 2 MAXIMUM FORWARD SURGE CURRENT

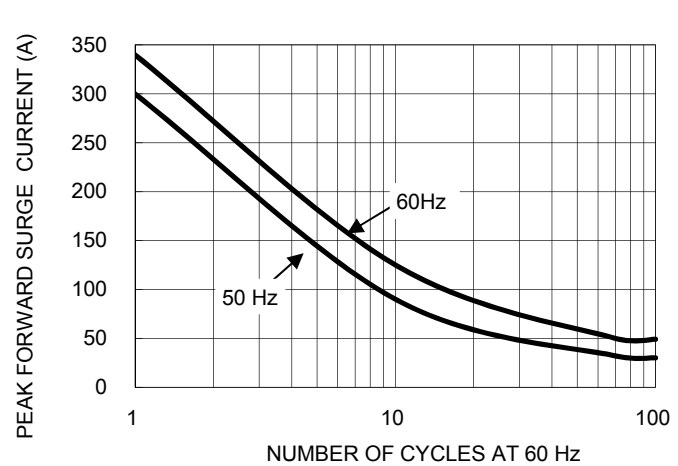


FIG. 3 TYPICAL FORWARD CHARACTERISTICS

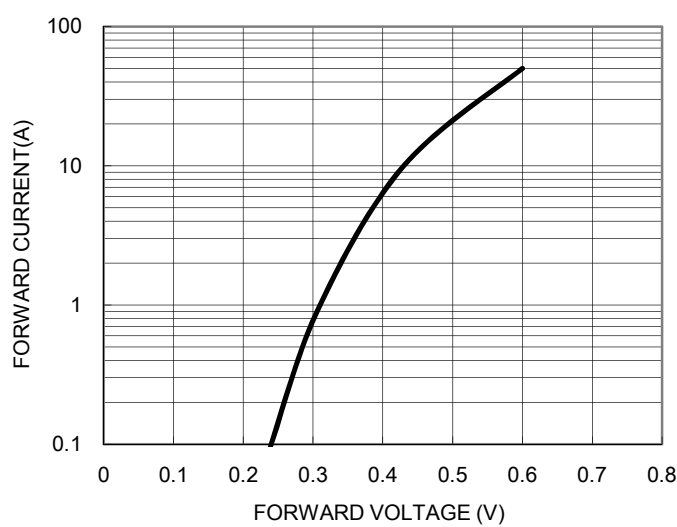


FIG. 4 TYPICAL REVERSE CHARACTERISTICS

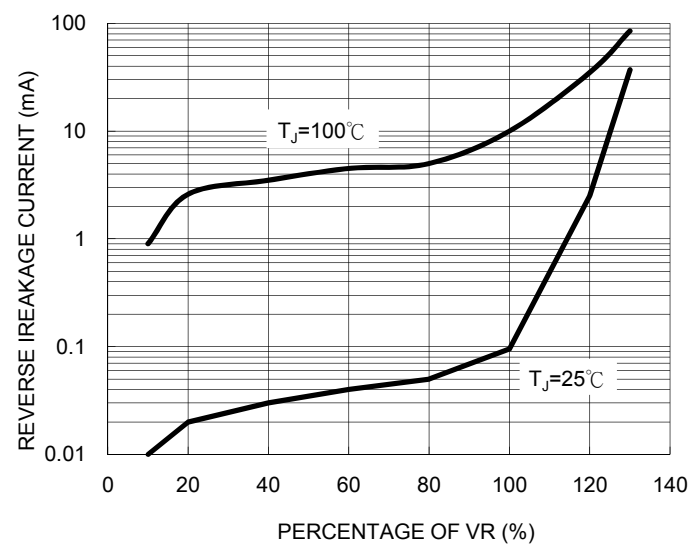


FIG. 5 TYPICAL JUNCTION CAPACITANCE

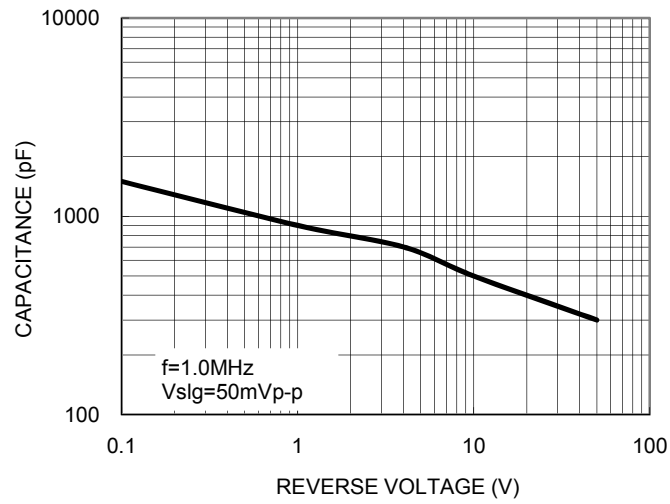
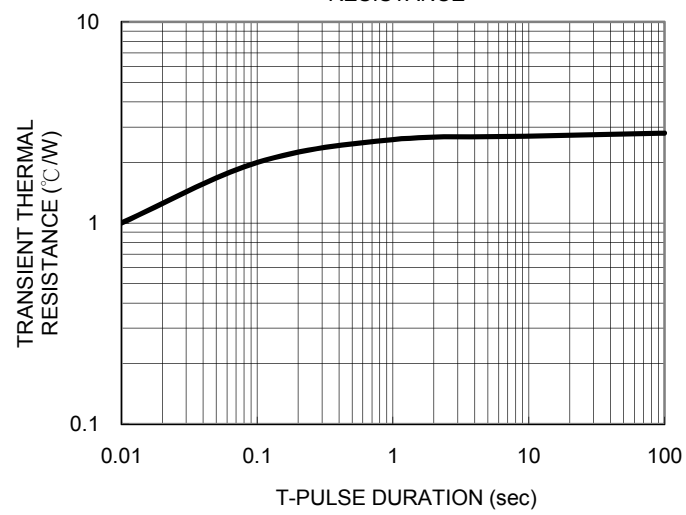
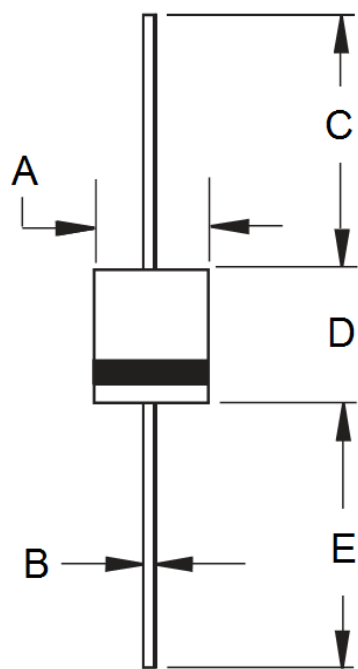


FIG. 6 TYPICAL TRANSIENT THERMAL RESISTANCE



PACKAGE OUTLINE DIMENSIONS



| DIM. | Unit (mm) |      | Unit (inch) |       |
|------|-----------|------|-------------|-------|
|      | Min       | Max  | Min         | Max   |
| A    | 6.80      | 7.20 | 0.268       | 0.283 |
| B    | 1.20      | 1.30 | 0.047       | 0.051 |
| C    | 25.40     | -    | 1.000       | -     |
| D    | 8.60      | 9.10 | 0.339       | 0.358 |
| E    | 25.40     | -    | 1.000       | -     |

MARKING DIAGRAM



P/N = Specific Device Code  
 G = Green Compound  
 YWW = Date Code  
 F = Factory Code

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