

## Schottky Barrier Rectifier

### FEATURES

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



DO-201AD



### MECHANICAL DATA

**Case:** DO-201AD

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:** 1.1 g (approximately)

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS ( $T_A=25^{\circ}\text{C}$ unless otherwise noted)

| PARAMETER                                                                                                      | SYMBOL             | SR 802       | SR 803 | SR 804 | SR 805       | SR 806 | SR 809 | SR 810 | SR 815 | SR 820 | UNIT |
|----------------------------------------------------------------------------------------------------------------|--------------------|--------------|--------|--------|--------------|--------|--------|--------|--------|--------|------|
| Maximum repetitive peak reverse voltage                                                                        | V <sub>RRM</sub>   | 20           | 30     | 40     | 50           | 60     | 90     | 100    | 150    | 200    | V    |
| Maximum RMS voltage                                                                                            | V <sub>RMS</sub>   | 14           | 21     | 28     | 35           | 42     | 63     | 70     | 105    | 140    | V    |
| Maximum DC blocking voltage                                                                                    | V <sub>DC</sub>    | 20           | 30     | 40     | 50           | 60     | 90     | 100    | 150    | 200    | V    |
| Maximum average forward rectified current                                                                      | I <sub>F(AV)</sub> | 8            |        |        |              |        |        |        |        |        | A    |
| Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load                            | I <sub>FSM</sub>   | 150          |        |        |              |        |        |        |        |        | A    |
| Maximum instantaneous forward voltage (Note 1) @ 8 A                                                           | V <sub>F</sub>     | 0.55         |        |        | 0.70         |        | 0.92   |        | 1.02   |        | V    |
| Maximum reverse current @ rated VR<br>T <sub>J</sub> =25 °C<br>T <sub>J</sub> =100°C<br>T <sub>J</sub> =125 °C | I <sub>R</sub>     | 0.5          |        |        |              |        | 0.1    |        |        |        | mA   |
|                                                                                                                |                    | 15           |        |        | 10           |        | -      |        |        |        |      |
|                                                                                                                |                    | -            |        |        | -            |        | 5      |        |        |        |      |
| Voltage rate of change (Rated V <sub>R</sub> )                                                                 | dV/dt              | 10000        |        |        |              |        |        |        |        |        | V/μs |
| Typical thermal resistance                                                                                     | R <sub>θJA</sub>   | 40           |        |        |              |        |        |        |        |        | °C/W |
| Operating junction temperature range                                                                           | T <sub>J</sub>     | - 55 to +125 |        |        | - 55 to +150 |        |        |        |        |        | °C   |
| Storage temperature range                                                                                      | T <sub>STG</sub>   | - 55 to +150 |        |        |              |        |        |        |        |        | °C   |

Note 1: Pulse test with  $PW=300\mu\text{s}$ , 1% duty cycle

| ORDERING INFORMATION |                    |              |                     |          |                        |
|----------------------|--------------------|--------------|---------------------|----------|------------------------|
| PART NO.             | AEC-Q101 QUALIFIED | PACKING CODE | GREEN COMPOUND CODE | PACKAGE  | PACKING                |
| SR8xx<br>(Note 1)    | Prefix "H"         | A0           | Suffix "G"          | DO-201AD | 500 / Ammo box         |
|                      |                    | R0           |                     | DO-201AD | 1,250 / 13" Paper reel |
|                      |                    | B0           |                     | DO-201AD | 500 / Bulk packing     |
|                      |                    | X0           |                     | DO-201AD | Forming                |

Note 1: "xx" defines voltage from 20V (SR802) to 200V (SR820)

| EXAMPLE       |          |                    |              |                     |                    |
|---------------|----------|--------------------|--------------|---------------------|--------------------|
| PREFERRED P/N | PART NO. | AEC-Q101 QUALIFIED | PACKING CODE | GREEN COMPOUND CODE | DESCRIPTION        |
| SR806 A0      | SR806    |                    | A0           |                     |                    |
| SR806 A0G     | SR806    |                    | A0           | G                   | Green compound     |
| SR806HA0      | SR806    | H                  | A0           |                     | AEC-Q101 qualified |

## RATINGS AND CHARACTERISTICS CURVES

(TA=25°C unless otherwise noted)

FIG. 1- MAXIMUM FORWARD CURRENT DERATING CURVE

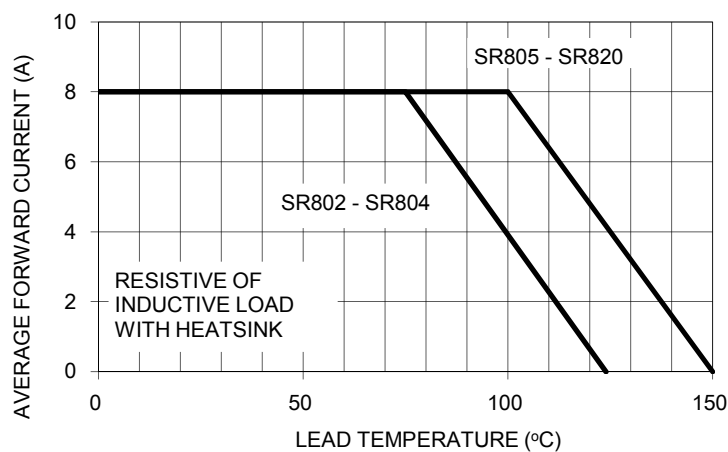


FIG. 2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

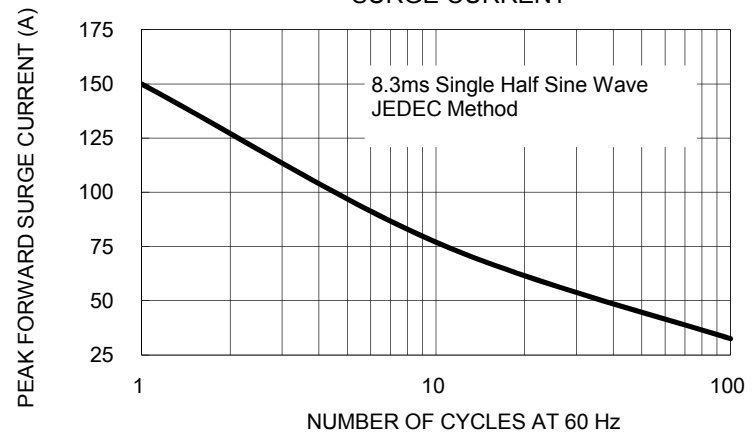


FIG. 3- TYPICAL FORWARD CHARACTERISTICS

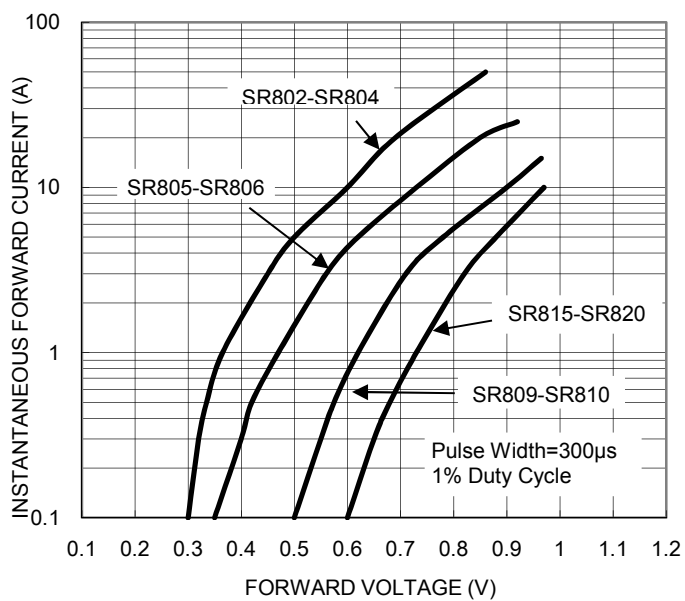


FIG. 4- TYPICAL REVERSE CHARACTERISTICS

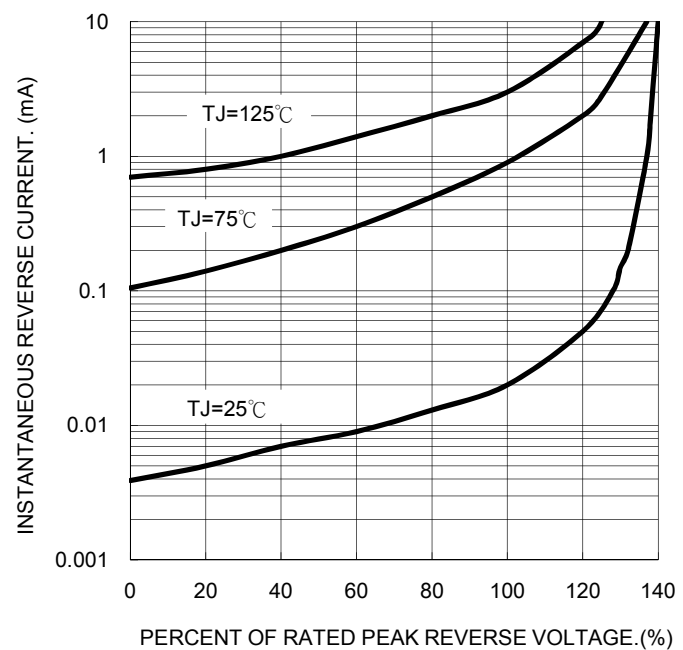


FIG. 5- TYPICAL JUNCTION CAPACITANCE

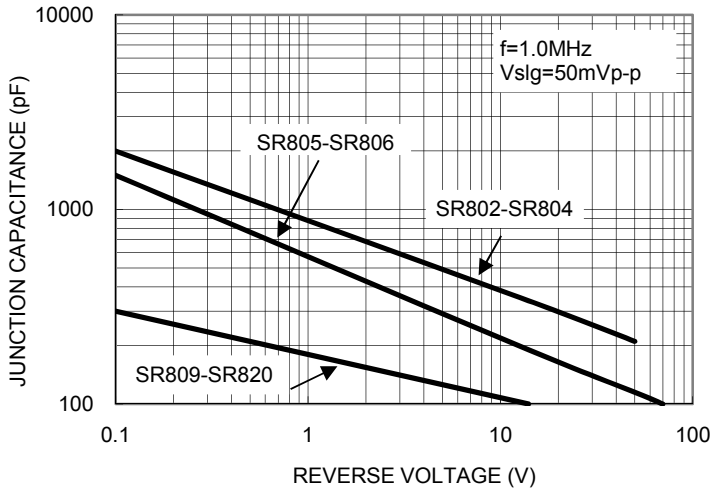
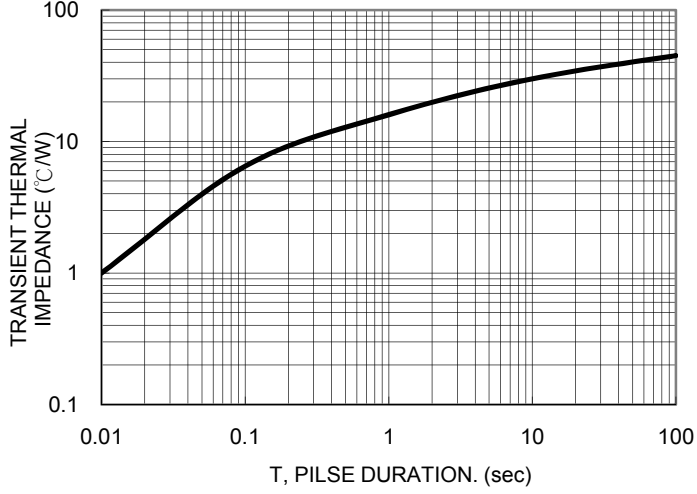
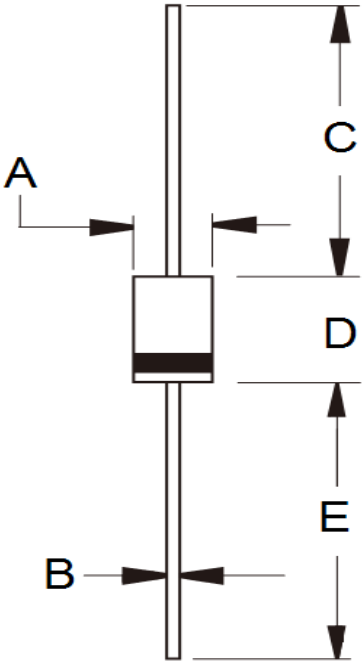


FIG. 6- TYPICAL TRANSIENT THERMAL CHARACTERISTICS



PACKAGE OUTLINE DIMENSIONS



| DIM. | Unit (mm) |      | Unit (inch) |       |
|------|-----------|------|-------------|-------|
|      | Min       | Max  | Min         | Max   |
| A    | 5.00      | 5.60 | 0.197       | 0.220 |
| B    | 1.20      | 1.30 | 0.048       | 0.052 |
| C    | 25.40     | -    | 1.000       | -     |
| D    | 8.50      | 9.50 | 0.335       | 0.375 |
| 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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