

## 0.5A, 20V - 100V Schottky Barrier Rectifiers

### 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



### MECHANICAL DATA

**Case:** DO-204AL (DO-41)

Molding compound, UL flammability classification rating 94V-0

Part no. with suffix "H" means AEC-Q101 qualified

Packing code with suffix "G" means green compound (halogen-free)

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

Meet JESD 201 class 2 whisker test

**Weight:** 0.33g (approximately)

**DO-204AL (DO-41)**

| MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T <sub>A</sub> =25°C unless otherwise noted)                             |                    |              |           |           |              |           |           |           |      |
|--------------------------------------------------------------------------------------------------------------------------|--------------------|--------------|-----------|-----------|--------------|-----------|-----------|-----------|------|
| PARAMETER                                                                                                                | SYMBOL             | SR<br>002    | SR<br>003 | SR<br>004 | SR<br>005    | SR<br>006 | SR<br>009 | SR<br>010 | UNIT |
| Maximum repetitive peak reverse voltage                                                                                  | V <sub>RRM</sub>   | 20           | 30        | 40        | 50           | 60        | 90        | 100       | V    |
| Maximum RMS voltage                                                                                                      | V <sub>RMS</sub>   | 14           | 21        | 28        | 35           | 42        | 63        | 70        | V    |
| Maximum DC blocking voltage                                                                                              | V <sub>DC</sub>    | 20           | 30        | 40        | 50           | 60        | 90        | 100       | V    |
| Maximum average forward rectified current                                                                                | I <sub>F(AV)</sub> | 0.5          |           |           |              |           |           |           | A    |
| Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load                                      | I <sub>FSM</sub>   | 30           |           |           |              |           |           |           | A    |
| Maximum instantaneous forward voltage (Note 1)<br>@ 0.5 A                                                                | V <sub>F</sub>     | 0.55         |           |           | 0.70         |           | 0.85      |           | V    |
| Maximum reverse current @ rated V <sub>R</sub><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   |
|                                                                                                                          |                    | 10           |           |           | 5            |           | -         |           |      |
|                                                                                                                          |                    | -            |           |           | -            |           | 2         |           |      |
| Typical junction capacitance (Note 2)                                                                                    | C <sub>J</sub>     | 110          |           |           | 80           |           | 65        |           | pF   |
| Typical thermal resistance                                                                                               | R <sub>θJA</sub>   | 50           |           |           |              |           |           |           | °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=300μs, 1% duty cycle

Note 2: Measured at 1 MHz and Applied Reverse Voltage of 4.0V D.C.

| ORDERING INFORMATION |                 |              |                         |         |                                  |
|----------------------|-----------------|--------------|-------------------------|---------|----------------------------------|
| PART NO.             | PART NO. SUFFIX | PACKING CODE | PACKING CODE SUFFIX (*) | PACKAGE | PACKING                          |
| SR0xx<br>(Note 1)    | H               | A0           | G                       | DO-41   | 3,000 / Ammo box (52mm taping)   |
|                      |                 | R0           |                         | DO-41   | 5,000 / 13" Paper reel           |
|                      |                 | R1           |                         | DO-41   | 5,000 / 13" Paper reel (Reverse) |
|                      |                 | B0           |                         | DO-41   | 1,000 / Bulk packing             |

Note 1: "xx" defines voltage from 20V (SR002) to 100V (SR010)

\*: Optional available

| EXAMPLE       |          |                 |              |                     |                                      |
|---------------|----------|-----------------|--------------|---------------------|--------------------------------------|
| PREFERRED P/N | PART NO. | PART NO. SUFFIX | PACKING CODE | PACKING CODE SUFFIX | DESCRIPTION                          |
| SR006HA0G     | SR006    | H               | A0           | G                   | AEC-Q101 qualified<br>Green compound |

## RATINGS AND CHARACTERISTICS CURVES

(T<sub>A</sub>=25°C unless otherwise noted)

FIG.1 FORWARD CURRENT DERATING CURVE

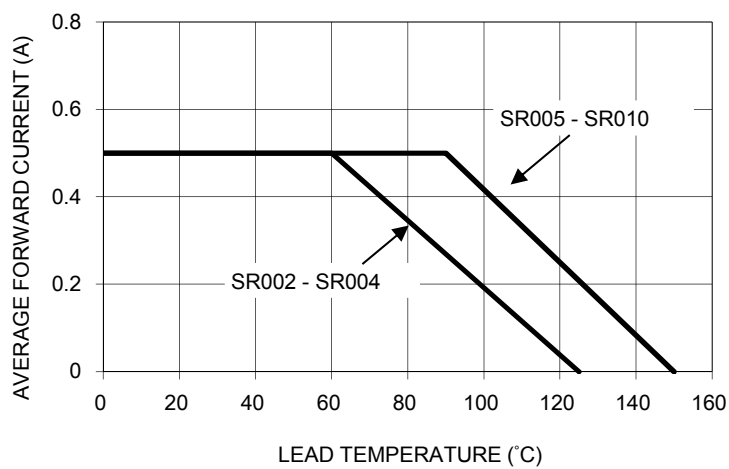


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

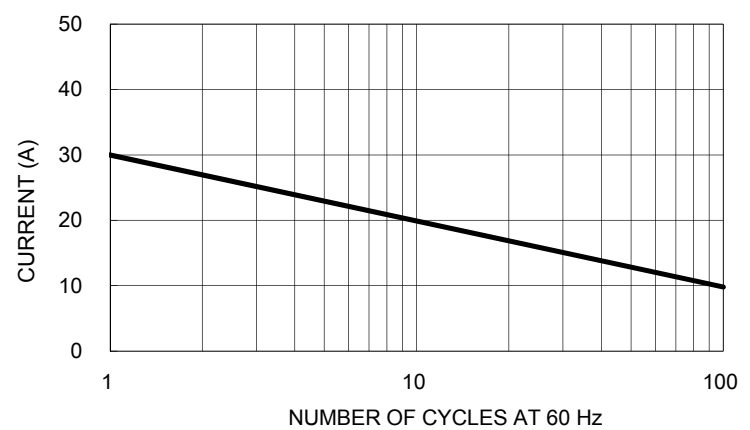


FIG. 3 TYPICAL FORWARD CHARACTERISTICS

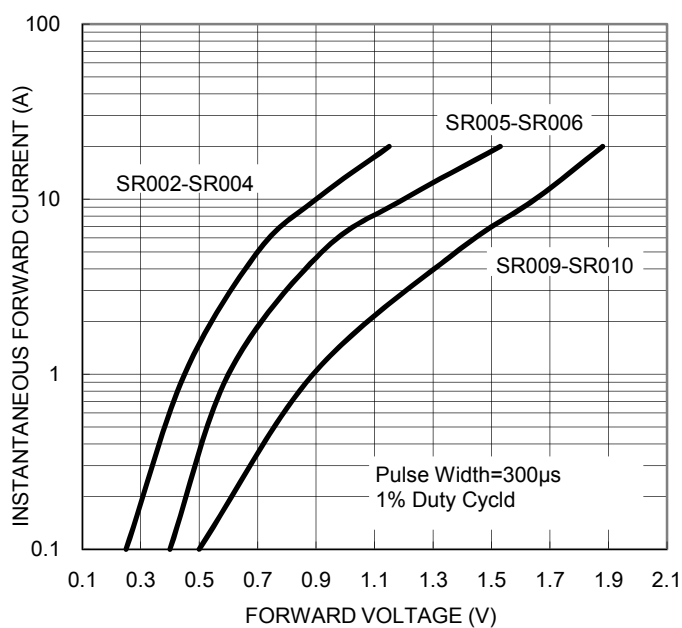


FIG. 4 TYPICAL REVERSE CHARACTERISTICS

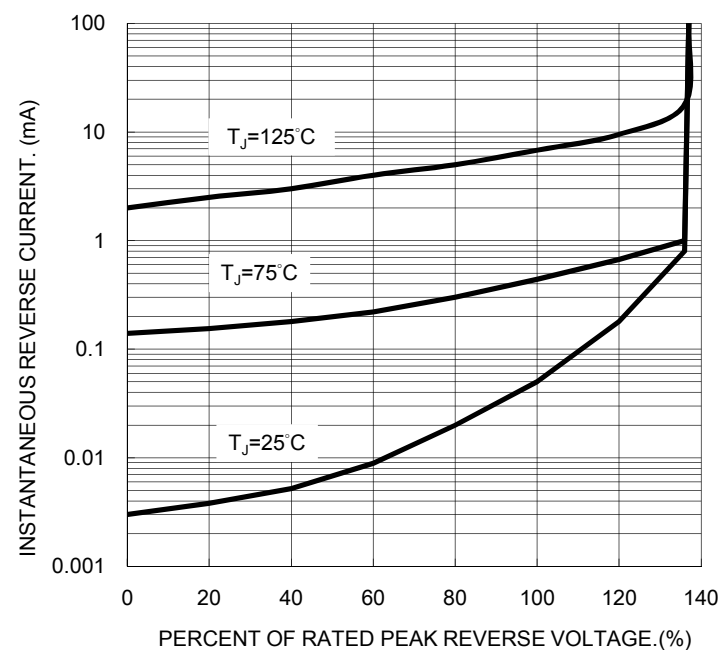


FIG. 5 TYPICAL JUNCTION CAPACITANCE

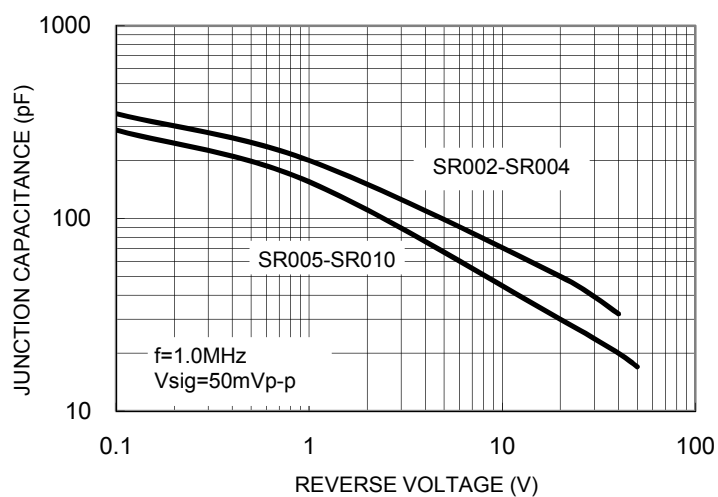
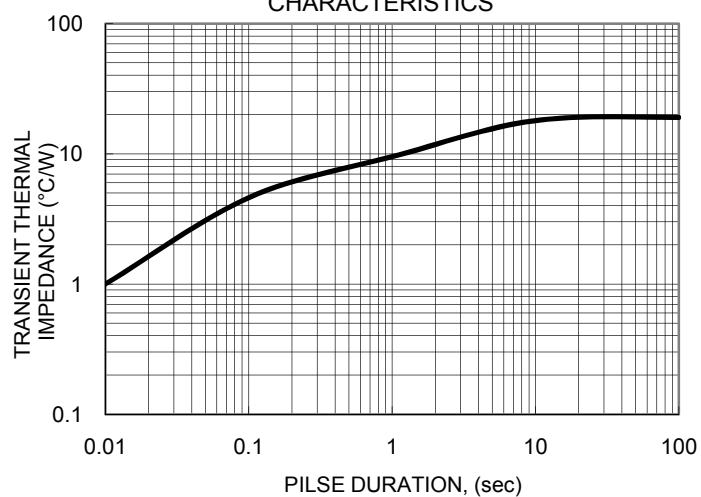
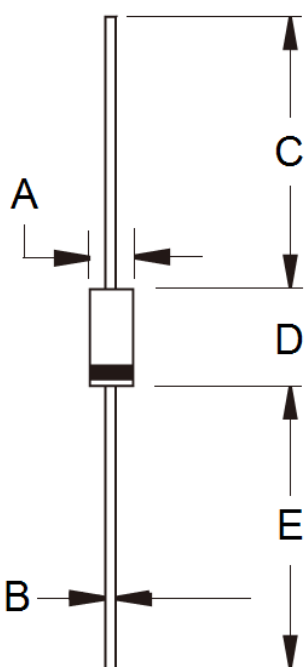


FIG. 6 TYPICAL TRANSIENT THERMAL CHARACTERISTICS



## PACKAGE OUTLINE DIMENSIONS

### DO-204AL (DO-41)



| DIM. | Unit (mm) |      | Unit (inch) |       |
|------|-----------|------|-------------|-------|
|      | Min       | Max  | Min         | Max   |
| A    | 2.00      | 2.70 | 0.079       | 0.106 |
| B    | 0.71      | 0.86 | 0.028       | 0.034 |
| C    | 25.40     | -    | 1.000       | -     |
| D    | 4.20      | 5.20 | 0.165       | 0.205 |
| 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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