# 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

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

Pb-Free

RoHS COMPLIANT

## 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)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS ($T_A$=25°C unless otherwise noted)

| PARAMETER | | SYMBOL | SR 002 | SR 003 | SR 004 | SR 005 | SR 006 | SR 009 | SR 010 | UNIT |
|---|---|---|---|---|---|---|---|---|---|---|
| Maximum repetitive peak reverse voltage | | $V_{RRM}$ | 20 | 30 | 40 | 50 | 60 | 90 | 100 | V |
| Maximum RMS voltage | | $V_{RMS}$ | 14 | 21 | 28 | 35 | 42 | 63 | 70 | V |
| Maximum DC blocking voltage | | $V_{DC}$ | 20 | 30 | 40 | 50 | 60 | 90 | 100 | V |
| Maximum average forward rectified current | | $I_{F(AV)}$ | 0.5 | | | | | | | A |
| Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load | | $I_{FSM}$ | 30 | | | | | | | A |
| Maximum instantaneous forward voltage (Note 1) @ 0.5 A | | $V_F$ | 0.55 | | | 0.70 | | 0.85 | | V |
| Maximum reverse current @ rated $V_R$ | $T_J$=25°C | $I_R$ | 0.5 | | | | | 0.1 | | mA |
| | $T_J$=100°C | | 10 | | | 5 | | - | | |
| | $T_J$=125°C | | - | | | - | | 2 | | |
| Typical junction capacitance (Note 2) | | $C_J$ | 110 | | | 80 | | 65 | | pF |
| Typical thermal resistance | | $R_{\theta JA}$ | 50 | | | | | | | °C/W |
| Operating junction temperature range | | $T_J$ | - 55 to +125 | | | - 55 to +150 | | | | °C |
| Storage temperature range | | $T_{STG}$ | - 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 (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 Green compound |

## RATINGS AND CHARACTERISTICS CURVES

($T_A$=25°C unless otherwise noted)

FIG.1 FORWARD CURRENT DERATING CURVE

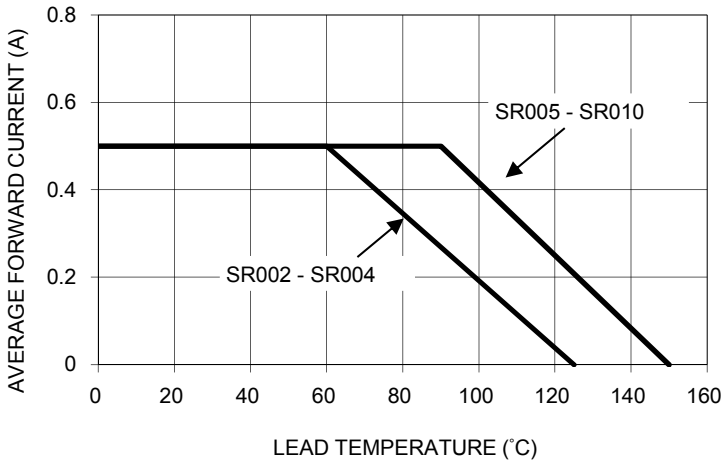



FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

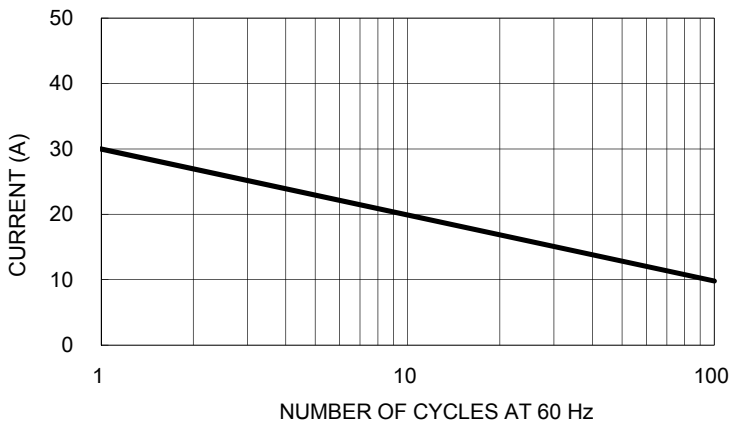



FIG. 3 TYPICAL FORWARD CHARACTERISTICS

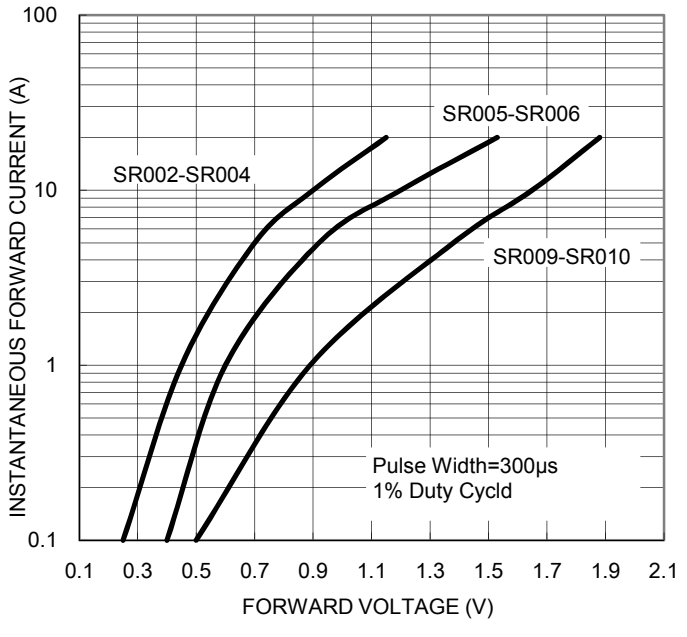



FIG. 4 TYPICAL REVERSE CHARACTERISTICS

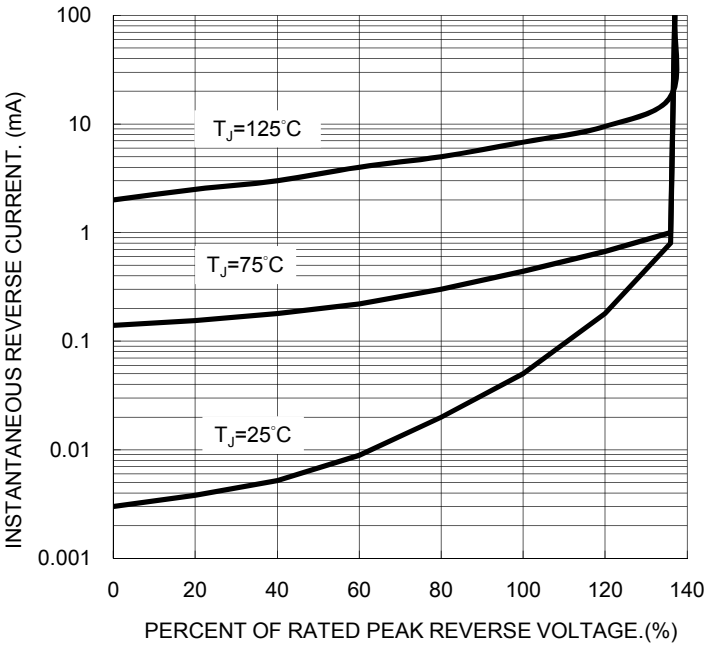


FIG. 5 TYPICAL JUNCTION CAPACITANCE

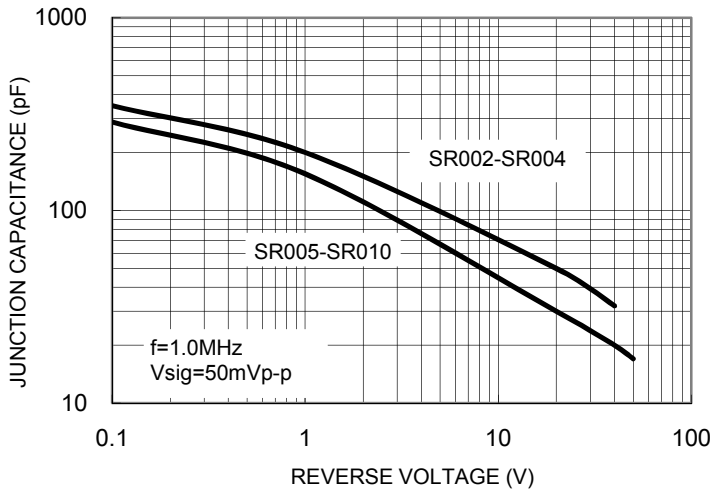
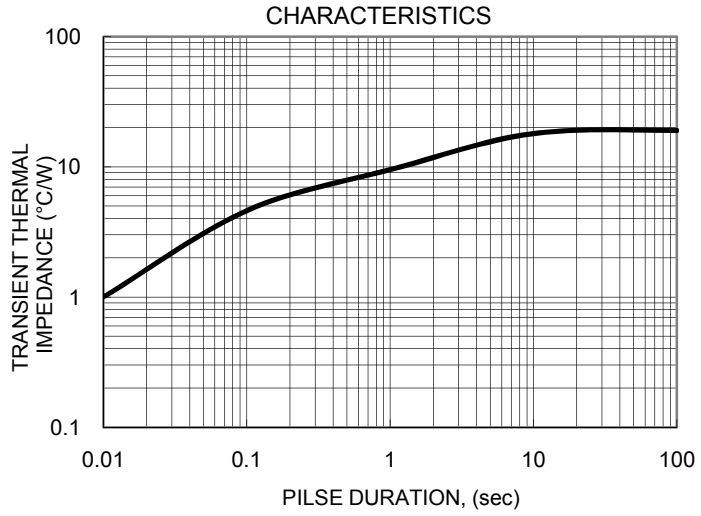
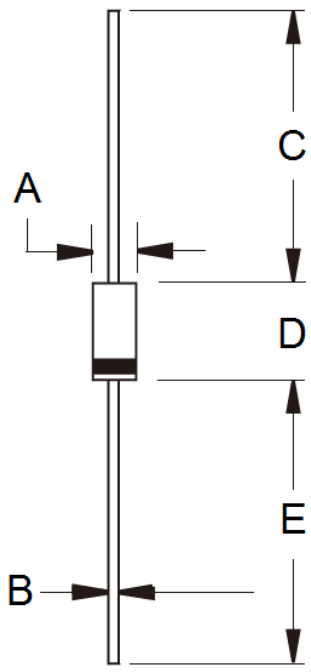



FIG. 6 TYPICAL TRANSIENT THERMAL CHARACTERISTICS




## 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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