

## Silicon Rectifiers

### FEATURES

- High efficiency, Low VF
- High current capability
- High reliability
- Low power loss
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21 definition

### MECHANICAL DATA

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

Molding compound, UL flammability classification rating 94V-0

Base P/N with suffix "G" on packing code - green compound (halogen-free)

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

Meet JESD 201 class 1A 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             | 1N<br>4001   | 1N<br>4002 | 1N<br>4003 | 1N<br>4004 | 1N<br>4005 | 1N<br>4006 | 1N<br>4007 | UNIT             |
| Maximum repetitive peak reverse voltage                                                      | V <sub>RRM</sub>   | 50           | 100        | 200        | 400        | 600        | 800        | 1000       | V                |
| Maximum RMS voltage                                                                          | V <sub>RMS</sub>   | 35           | 70         | 140        | 280        | 420        | 560        | 700        | V                |
| Maximum DC blocking voltage                                                                  | V <sub>DC</sub>    | 50           | 100        | 200        | 400        | 600        | 800        | 1000       | V                |
| Maximum average forward rectified current                                                    | I <sub>F(AV)</sub> | 1            |            |            |            |            |            |            | A                |
| Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load          | I <sub>FSM</sub>   | 30           |            |            |            |            |            |            | A                |
| Rating for fusing (t<8.3ms)                                                                  | I <sup>2</sup> t   | 3.7          |            |            |            |            |            |            | A <sup>2</sup> s |
| Maximum instantaneous forward voltage (Note 1)<br>@ 1 A                                      | V <sub>F</sub>     | 1.0          |            |            |            |            |            |            | V                |
| Maximum reverse current @ Rated VR<br>T <sub>J</sub> =25 °C<br>T <sub>J</sub> =125°C         | I <sub>R</sub>     | 5<br>50      |            |            |            |            |            |            | μA               |
| Typical junction capacitance (Note 2)                                                        | C <sub>j</sub>     | 10           |            |            |            |            |            |            | pF               |
| Typical Thermal Resistance                                                                   | R <sub>θjC</sub>   | 6            |            |            |            |            |            |            | °C/W             |
|                                                                                              | R <sub>θjL</sub>   | 15           |            |            |            |            |            |            |                  |
|                                                                                              | R <sub>θjA</sub>   | 65           |            |            |            |            |            |            |                  |
| Operating junction temperature range                                                         | T <sub>J</sub>     | - 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.             | PACKING CODE | GREEN COMPOUND CODE | PACKAGE | PACKING                          |
| 1N400x<br>(Note 1)   | A0           | Suffix "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 50V (1N4001) to 1000V (1N4007)

| EXAMPLE       |          |              |                     |                |
|---------------|----------|--------------|---------------------|----------------|
| PREFERRED P/N | PART NO. | PACKING CODE | GREEN COMPOUND CODE | DESCRIPTION    |
| 1N4007 A0     | 1N4007   | A0           |                     |                |
| 1N4007 A0G    | 1N4007   | A0           | G                   | Green compound |

## RATINGS AND CHARACTERISTICS CURVES

(TA=25°C unless otherwise noted)

FIG.1 MAXIMUM FORWARD CURRENT DERATING CURVE

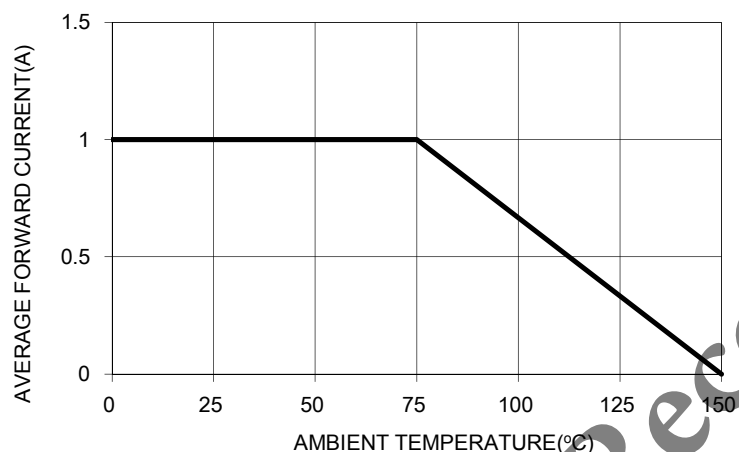


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

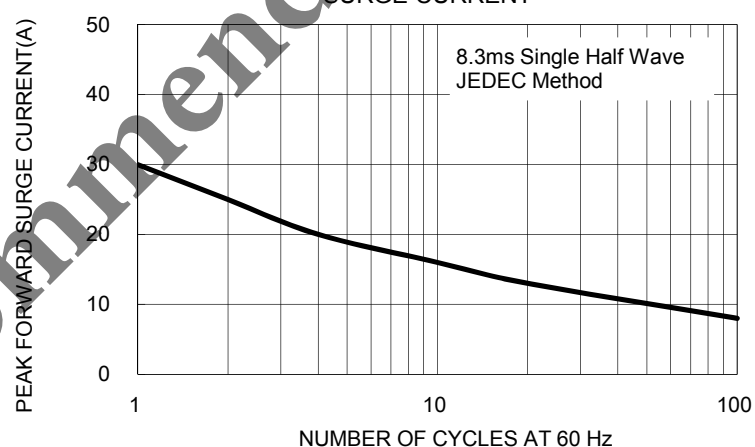


FIG. 3 TYPICAL FORWARD CHARACTERISTICS

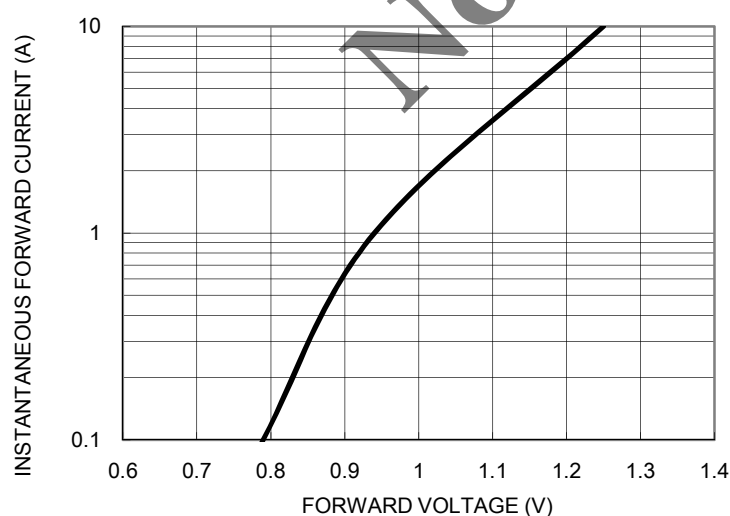


FIG. 4 TYPICAL REVERSE CHARACTERISTICS

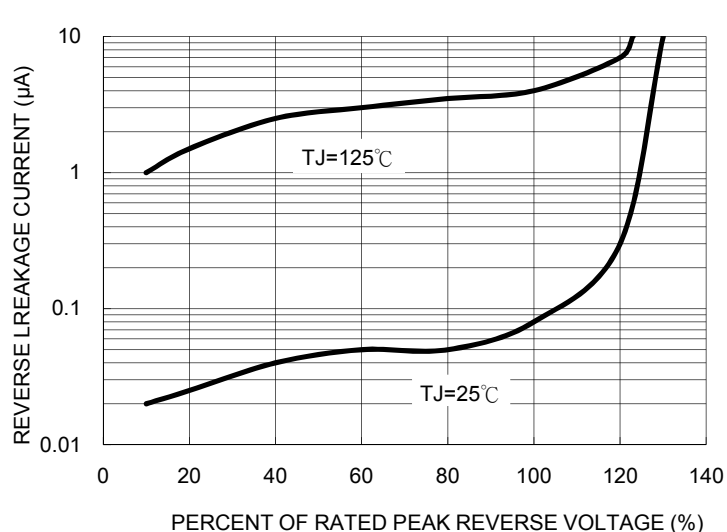
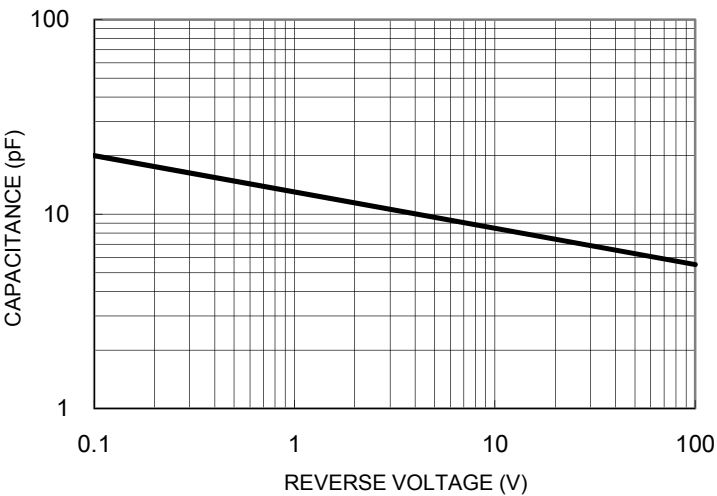
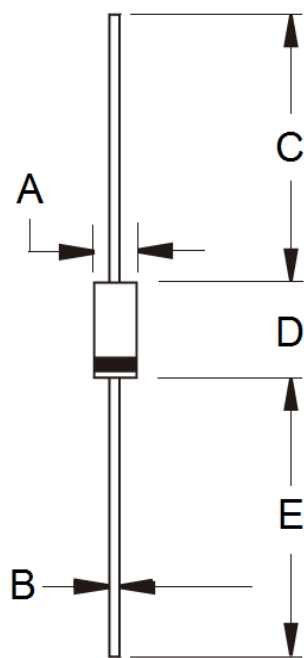


FIG. 5 TYPICAL JUNCTION CAPACITANCE



PACKAGE OUTLINE DIMENSIONS



| 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

**Not Recommended**

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