

## 1A, 50V - 1000V Glass Passivated Rectifiers

### FEATURES

- Glass passivated chip junction
- High current capability, Low VF
- High reliability
- High surge current capability
- Low power loss, high efficiency
- 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-204AL (DO-41)**

### 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:** 0.33 g (approximately)

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C unless otherwise noted)

| PARAMETER                                                                             | SYMBOL             | 1N<br>4001G  | 1N<br>4002G | 1N<br>4003G | 1N<br>4004G | 1N<br>4005G | 1N<br>4006G | 1N<br>4007G | 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    |
| 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>100     |             |             |             |             |             |             | μA   |
| Typical junction capacitance (Note 2)                                                 | C <sub>J</sub>     | 10           |             |             |             |             |             |             | pF   |
| Typical thermal resistance                                                            | R <sub>θJA</sub>   | 80           |             |             |             |             |             |             | °C/W |
| Operating junction temperature range                                                  | T <sub>J</sub>     | - 55 to +150 |             |             |             |             |             |             | °C   |
| Storage temperature range                                                             | T <sub>STG</sub>   | - 55 to +150 |             |             |             |             |             |             | °C   |

Note1: Pulse Test with PW=300μs, 1% Duty Cycle

Note2: 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                          |
| 1N400xG<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: "x" defines voltage from 50V (1N4001G) to 1000V (1N4007G)

| EXAMPLE            |          |                 |              |                     |                                      |
|--------------------|----------|-----------------|--------------|---------------------|--------------------------------------|
| PREFERRED PART NO. | PART NO. | PART NO. SUFFIX | PACKING CODE | PACKING CODE SUFFIX | DESCRIPTION                          |
| 1N4007GHA0G        | 1N4007G  | H               | A0           | G                   | AEC-Q101 qualified<br>Green compound |

## RATINGS AND CHARACTERISTICS CURVES

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

FIG.1 MAXMUM FORWARD CURRENT DERATING CURVE

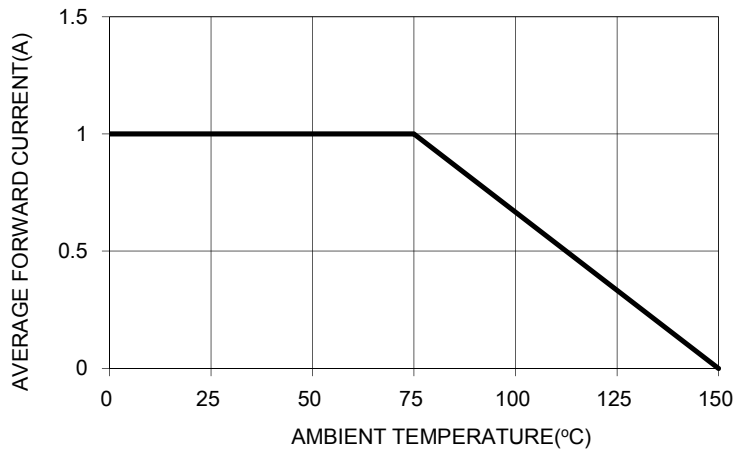


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

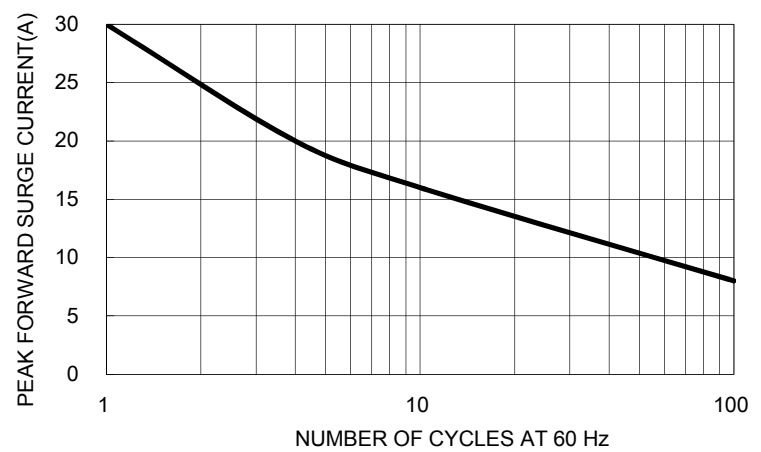


FIG. 3 TYPICAL FORWARD CHARACTERISTICS

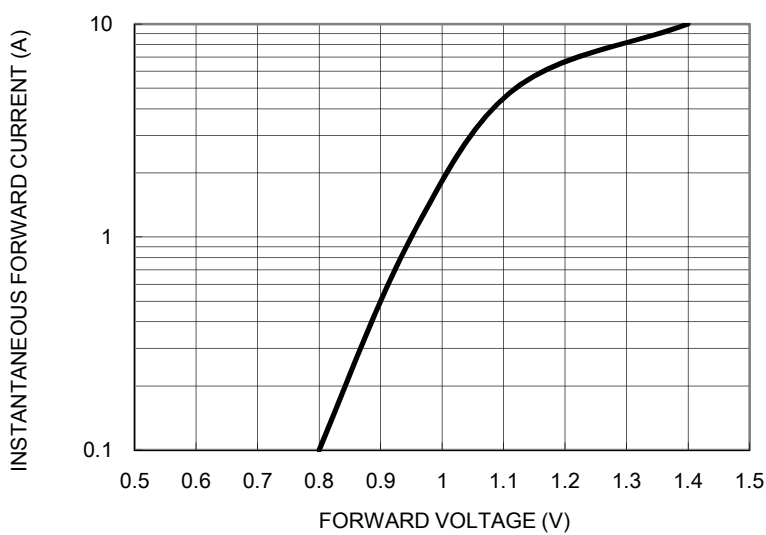


FIG. 4 TYPICAL REVERSE CHARACTERISTICS

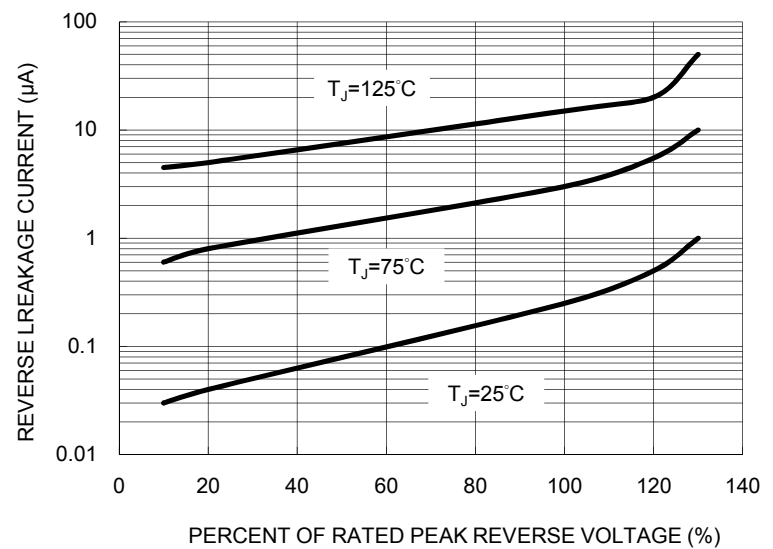
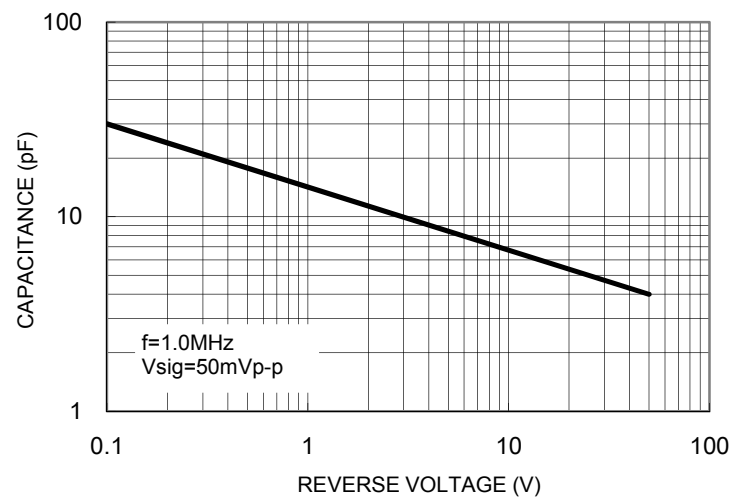
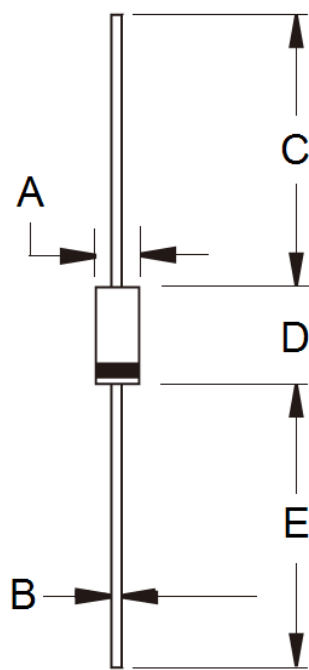


FIG. 5 TYPICAL JUNCTION CAPACITANCE



PACKAGE OUTLINE DIMENSIONS  
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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