

## Features and Benefits

- Glass Passivated Die Construction
- High Current Capability and Low Forward Voltage Drop
- Surge Overload Rating to 30A Peak
- **Lead Free Finish, RoHS Compliant (Note 1)**

## Mechanical Data

- Case: DO-41 Plastic
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Finish - Tin. Plated Leads Solderable per MIL-STD-202, Method 208 **(E3)**
- Polarity: Cathode Band
- Marking: Type Number
- Weight: 0.30 grams (approximate)

## Ordering Information (Note 2)

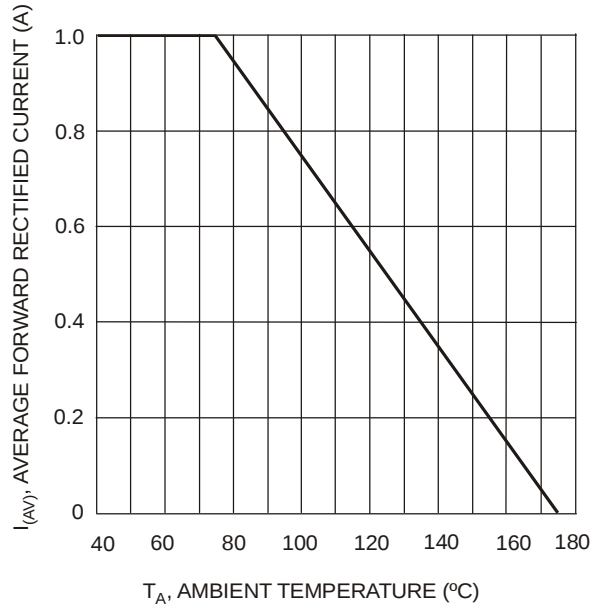
| Device    | Packaging     | Shipping                |
|-----------|---------------|-------------------------|
| 1N4001G-T | DO-41 Plastic | 5K/Tape & Reel, 13-inch |
| 1N4002G-T | DO-41 Plastic | 5K/Tape & Reel, 13-inch |
| 1N4003G-T | DO-41 Plastic | 5K/Tape & Reel, 13-inch |
| 1N4004G-T | DO-41 Plastic | 5K/Tape & Reel, 13-inch |
| 1N4005G-T | DO-41 Plastic | 5K/Tape & Reel, 13-inch |
| 1N4006G-T | DO-41 Plastic | 5K/Tape & Reel, 13-inch |
| 1N4007G-T | DO-41 Plastic | 5K/Tape & Reel, 13-inch |

## Maximum Ratings and Electrical Characteristics @T<sub>A</sub> = 25°C unless otherwise specified

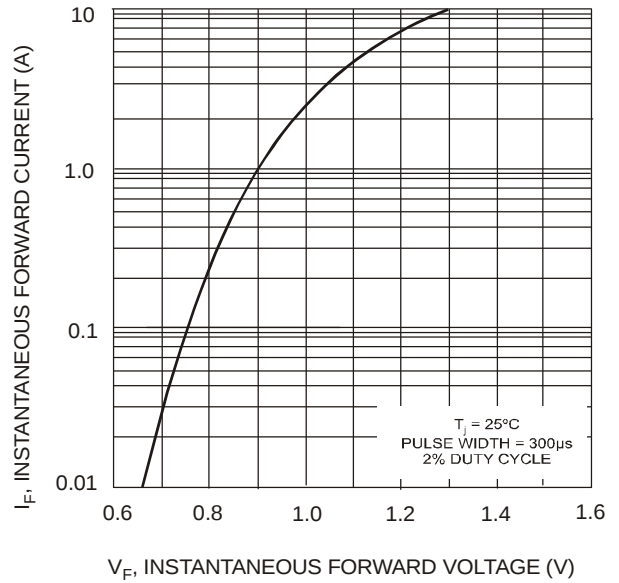
Single phase, half wave, 60Hz, resistive or inductive load.  
For capacitive load, derate current by 20%.

| Characteristic                                                                                   | Symbol                            | 1N4001<br>G | 1N4002<br>G | 1N4003<br>G | 1N4004<br>G | 1N4005<br>G | 1N4006<br>G | 1N4007<br>G | Unit |
|--------------------------------------------------------------------------------------------------|-----------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|------|
| Peak Repetitive Reverse Voltage                                                                  | V <sub>RRM</sub>                  | 50          | 100         | 200         | 400         | 600         | 800         | 1000        | V    |
| Working Peak Reverse Voltage                                                                     | V <sub>RWM</sub>                  |             |             |             |             |             |             |             |      |
| DC Blocking Voltage                                                                              | V <sub>R</sub>                    |             |             |             |             |             |             |             |      |
| RMS Reverse Voltage                                                                              | V <sub>R(RMS)</sub>               | 35          | 70          | 140         | 280         | 420         | 560         | 700         | V    |
| Average Rectified Output Current (Note 3) @ T <sub>A</sub> = 75°C                                | I <sub>O</sub>                    | 1.0         |             |             |             |             |             |             | A    |
| Non-Repetitive Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load | I <sub>FSM</sub>                  | 30          |             |             |             |             |             |             | A    |
| Forward Voltage @ I <sub>F</sub> = 1.0A                                                          | V <sub>FM</sub>                   | 1.0         |             |             |             |             |             |             | V    |
| Peak Reverse Current @T <sub>A</sub> = 25°C                                                      | I <sub>RM</sub>                   | 5.0         |             |             |             |             |             |             | µA   |
| at Rated DC Blocking Voltage @ T <sub>A</sub> = 125°C                                            |                                   | 50          |             |             |             |             |             |             |      |
| Typical Reverse Recovery Time (Note 4)                                                           | t <sub>rr</sub>                   | 2.0         |             |             |             |             |             |             | µs   |
| Typical Total Capacitance (Note 5)                                                               | C <sub>T</sub>                    | 8.0         |             |             |             |             |             |             | pF   |
| Typical Thermal Resistance Junction to Ambient                                                   | R <sub>θJA</sub>                  | 100         |             |             |             |             |             |             | °C/W |
| Operating and Storage Temperature Range                                                          | T <sub>J</sub> , T <sub>STG</sub> | -65 to +175 |             |             |             |             |             |             | °C   |

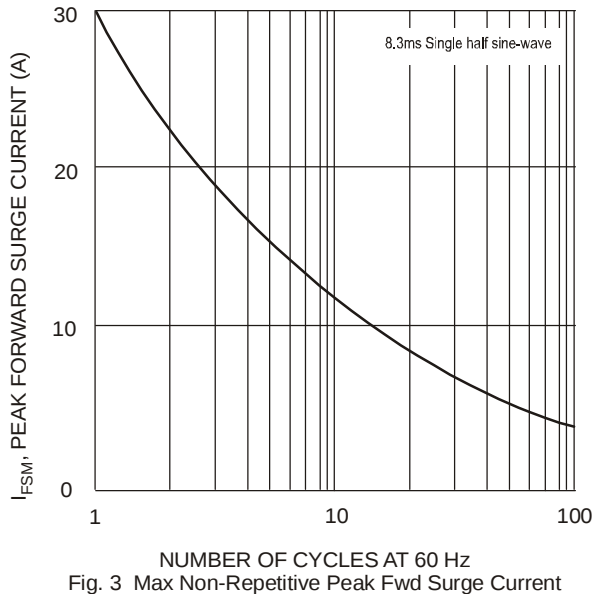
- Notes:
1. EU Directive 2002/95/EC (RoHS). All applicable RoHS exemptions applied, see EU Directive 2002/95/EC Annex Notes.
  2. For packaging details, visit our website at <http://www.diodes.com>.
  3. Leads maintained at ambient temperature at a distance of 9.5mm from the case.
  4. Measured with I<sub>F</sub> = 0.5A, I<sub>R</sub> = -1A, t<sub>rr</sub> = 0.25A.
  5. Measured at 1.0 MHz and applied reverse voltage of 4.0V DC.



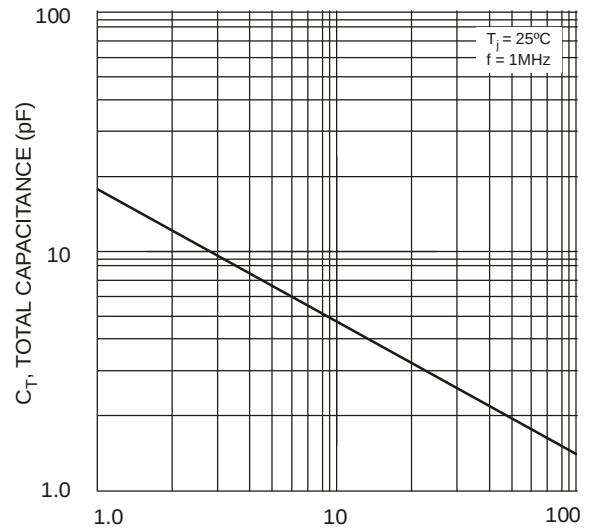
$T_A$ , AMBIENT TEMPERATURE ( $^{\circ}$ C)  
Fig. 1 Forward Current Derating Curve



$V_F$ , INSTANTANEOUS FORWARD VOLTAGE (V)  
Fig. 2 Typical Forward Characteristics



NUMBER OF CYCLES AT 60 Hz  
Fig. 3 Max Non-Repetitive Peak Fwd Surge Current



$V_R$ , REVERSE VOLTAGE (V)  
Fig. 4 Typical Total Capacitance

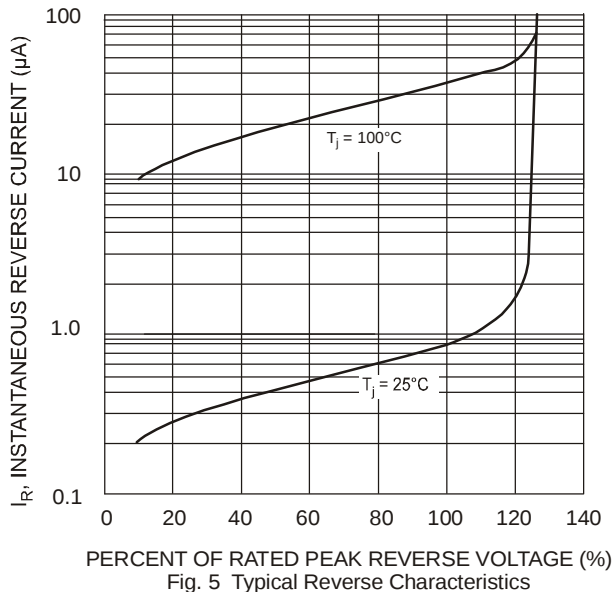
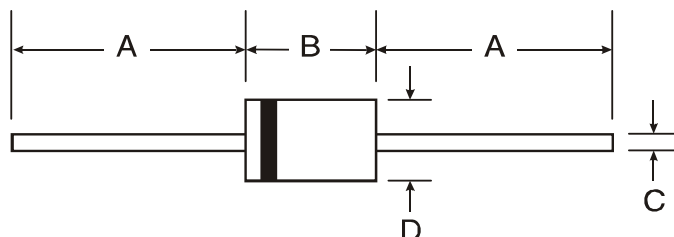


Fig. 5 Typical Reverse Characteristics

## Package Outline Dimensions



| DO-41 Plastic        |       |       |
|----------------------|-------|-------|
| Dim                  | Min   | Max   |
| A                    | 25.40 | —     |
| B                    | 4.06  | 5.21  |
| C                    | 0.71  | 0.864 |
| D                    | 2.00  | 2.72  |
| All Dimensions in mm |       |       |

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**Наши контакты:**

**Телефон:** +7 812 627 14 35

**Электронная почта:** [sales@st-electron.ru](mailto:sales@st-electron.ru)

**Адрес:** 198099, Санкт-Петербург,  
Промышленная ул, дом № 19, литера Н,  
помещение 100-Н Офис 331