

## Features

- Glass Passivated Die Construction
- Fast Switching for High Efficiency
- Surge Overload Rating to 30A Peak
- Low Reverse Leakage Current
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**

## 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
- Weight: 0.35 grams (Approximate)



Top View



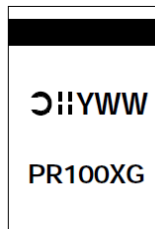
Schematic View

## Ordering Information (Note 3)

| Part Number | Case  | Packaging               |
|-------------|-------|-------------------------|
| PR1001G-T   | DO-41 | 5K/Tape & Reel, 13-inch |
| PR1002G-T   | DO-41 | 5K/Tape & Reel, 13-inch |
| PR1003G-T   | DO-41 | 5K/Tape & Reel, 13-inch |
| PR1004G-T   | DO-41 | 5K/Tape & Reel, 13-inch |
| PR1005G-T   | DO-41 | 5K/Tape & Reel, 13-inch |
| PR1006G-T   | DO-41 | 5K/Tape & Reel, 13-inch |
| PR1007G-T   | DO-41 | 5K/Tape & Reel, 13-inch |

- Notes:
1. EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant. All applicable RoHS exemptions applied.
  2. See [http://www.diodes.com/quality/lead\\_free.html](http://www.diodes.com/quality/lead_free.html) for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
  3. For packaging details, go to our website at <http://www.diodes.com/products/packages.html>.

## Marking Information



PR100XG = Product Type Marking Code  
X = 1, 2, 3, 4, 5, 6, 7  
C11 = Manufacturers' Code Marking  
YWW = Date Code Marking  
Y = Last Digit of Year (ex: 4 for 2014)  
WW = Week Code (01 to 53)

**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   | PR1001<br>G | PR1002<br>G | PR1003<br>G | PR1004<br>G | PR1005<br>G | PR1006<br>G | PR1007<br>G | Unit |
|--|--|-------------|-------------|-------------|-------------|-------------|-------------|-------------|------|
| Peak Repetitive Reverse Voltage<br>Working Peak Reverse Voltage<br>DC Blocking Voltage (Note 7)                  | V <sub>RRM</sub><br>V <sub>RWM</sub><br>V <sub>R</sub> | 50          | 100         | 200         | 400         | 600         | 800         | 1000        | V    |
| RMS Reverse Voltage  | V <sub>R(RMS)</sub>                                    | 35          | 70          | 140         | 280         | 420         | 560         | 700         | V    |
| Average Rectified Output Current (Note 4) @ T <sub>A</sub> = +55°C   | I <sub>O</sub>   | 1.0         |             |             |             |             |             |             | A    |
| Non-Repetitive Peak Forward Surge Current 8.3ms<br>Single Half Sine-Wave Superimposed on Rated Load              | I <sub>FSM</sub>                                       | 30          |             |             |             |             |             |             | A    |
| Forward Voltage Drop @ I <sub>F</sub> = 1.0A   | V <sub>FM</sub>  | 1.3         |             |             |             |             |             |             | V    |
| Peak Reverse Current @ T <sub>A</sub> = +25°C<br>at Rated DC Blocking Voltage (Note 7) @ T <sub>A</sub> = +100°C | I <sub>RM</sub>  | 5.0<br>50   |             |             |             |             |             |             | μA   |
| Reverse Recovery Time (Note 6)   | t <sub>RR</sub>  | 150         |             |             |             | 250         | 500         |             | ns   |
| Typical Total Capacitance (Note 5)   | C <sub>T</sub>   | 15          |             |             |             | 8           |             |             | pF   |

**Thermal Characteristics**

| Characteristic  | Symbol                            | Value       | Unit |
|---|-----------------------------------|-------------|------|
| Typical Thermal Resistance Junction to Ambient (Note 4) | R <sub>θJA</sub>                  | 95          | °C/W |
| Operating and Storage Temperature Range                 | T <sub>J</sub> , T <sub>STG</sub> | -65 to +150 | °C   |

- Notes:
- Valid provided that leads are maintained at ambient temperature at a distance of 9.5mm from the case.
  - Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
  - Measured with I<sub>F</sub> = 0.5A, I<sub>R</sub> = 1.0A, I<sub>RR</sub> = 0.25A. See Figure 5.
  - Short duration pulse test used to minimize self-heating effect.

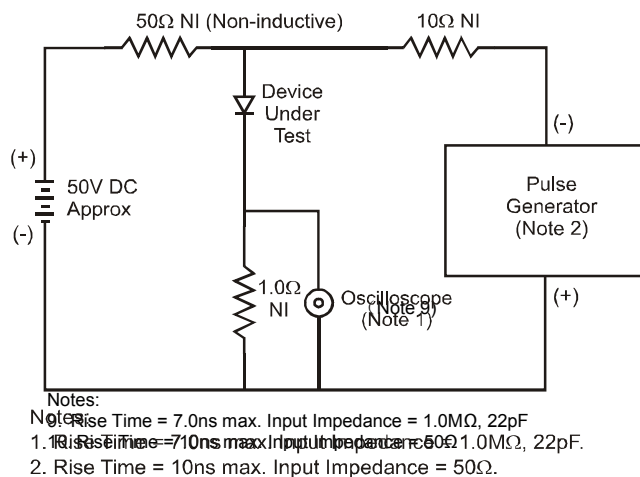
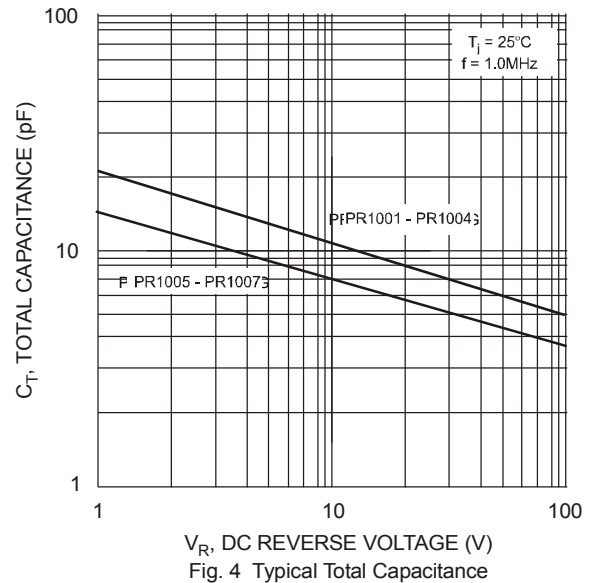
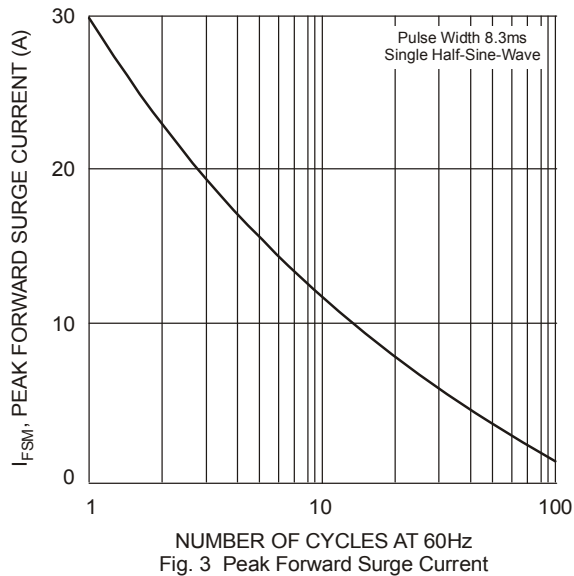
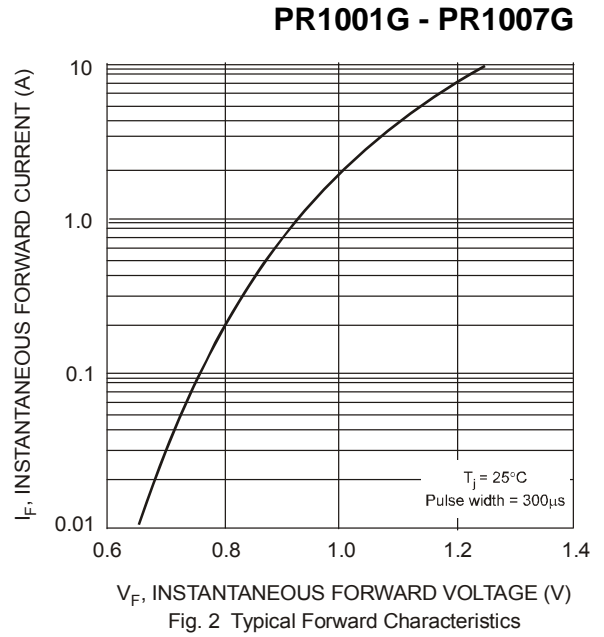
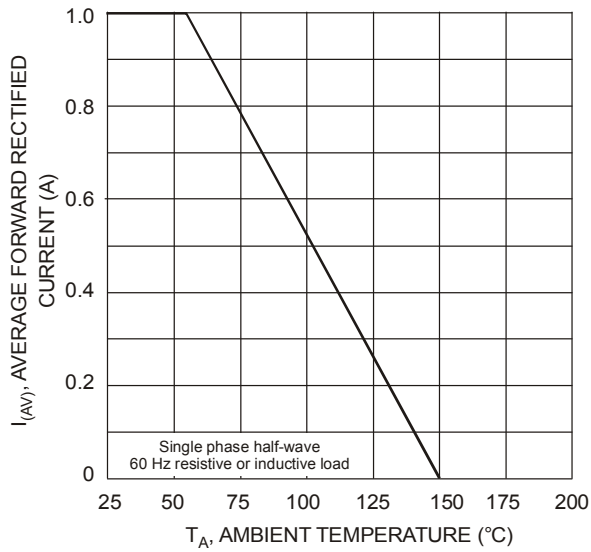
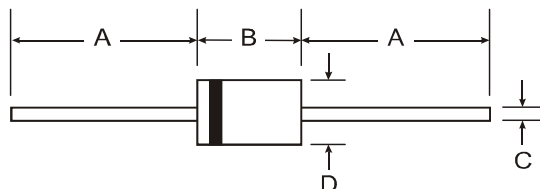


Fig. 5 Reverse Recovery Time Characteristic and Test Circuit

## Package Outline Dimensions

Please see AP02002 at <http://www.diodes.com/datasheets/ap02002.pdf> for the latest version.



| 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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