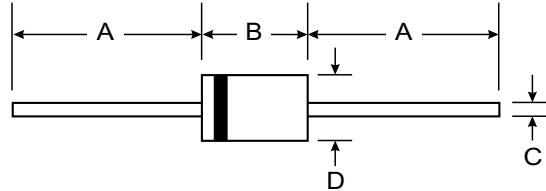


### Features

- Glass Passivated Die Construction
- Diffused Junction
- Fast Switching for High Efficiency
- High Current Capability and Low Forward Voltage Drop
- Surge Overload Rating to 50A Peak
- Low Reverse Leakage Current
- Plastic Material: UL Flammability Classification Rating 94V-0



### Mechanical Data

- Case: Molded Plastic
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Marking: Type Number
- DO-41 Weight: 0.35 grams (approx.)
- DO-15 Weight: 0.40 grams (approx.)

| Dim | DO-41 |       | DO-15 |       |
|-----|-------|-------|-------|-------|
|     | Min   | Max   | Min   | Max   |
| A   | 25.40 | —     | 25.40 | —     |
| B   | 4.06  | 5.21  | 5.50  | 7.62  |
| C   | 0.71  | 0.864 | 0.686 | 0.889 |
| D   | 2.00  | 2.72  | 2.60  | 3.60  |

**All Dimensions in mm**

"GS" Suffix Designates DO-41 Package  
"G" Suffix Designates DO-15 Package

### 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                            | PR1501 G/GS | PR1502 G/GS | PR1503 G/GS | PR1504 G/GS | PR1505 G/GS | PR1506 G/GS | PR1507 G/GS | 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 1)  | I <sub>O</sub>                    | 1.5         |             |             |             |             |             |             | A    |
| Non-Repetitive Peak Forward Surge Current<br>8.3ms Single half sine-wave Superimposed on Rated Load (JEDEC Method) | I <sub>FSM</sub>                  | 50          |             |             |             |             |             |             | A    |
| Forward Voltage @ I <sub>F</sub> = 1.5A  | V <sub>FM</sub>                   | 1.3         |             |             |             |             |             |             | V    |
| Peak Reverse Current @ T <sub>A</sub> = 25°C<br>at Rated DC Blocking Voltage @ T <sub>A</sub> = 100°C              | I <sub>RM</sub>                   | 5.0<br>200  |             |             |             |             |             |             | μA   |
| Reverse Recovery Time (Note 3)   | t <sub>rr</sub>                   | 150         |             |             |             | 250         | 500         |             | ns   |
| Typical Junction Capacitance (Note 2)  | C <sub>j</sub>                    | 25          |             |             |             |             |             |             | pF   |
| Typical Thermal Resistance Junction to Ambient   | R <sub>θJA</sub>                  | 65          |             |             |             |             |             |             | K/W  |
| Operating and Storage Temperature Range  | T <sub>j</sub> , T <sub>STG</sub> | -65 to +150 |             |             |             |             |             |             | °C   |

- Notes:
1. Valid provided that leads are maintained at ambient temperature at a distance of 9.5mm from the case.
  2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
  3. Measured with I<sub>F</sub> = 0.5A, I<sub>R</sub> = 1.0A, I<sub>rr</sub> = 0.2 5A. See figure 5.

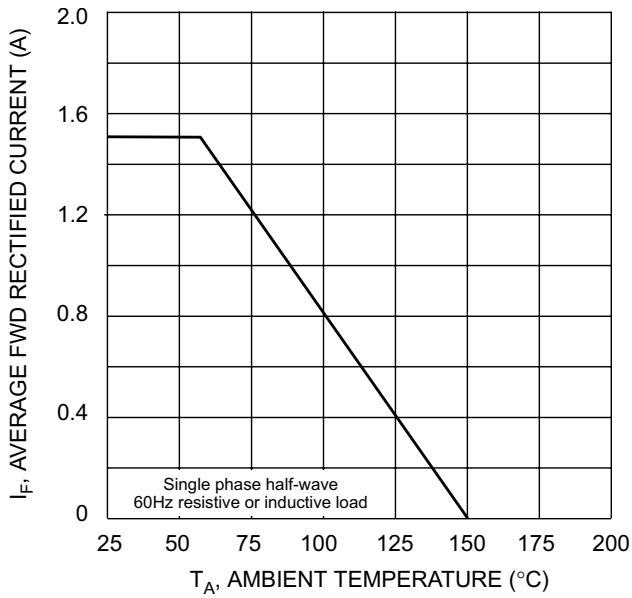


Fig. 1 Forward Derating Curve

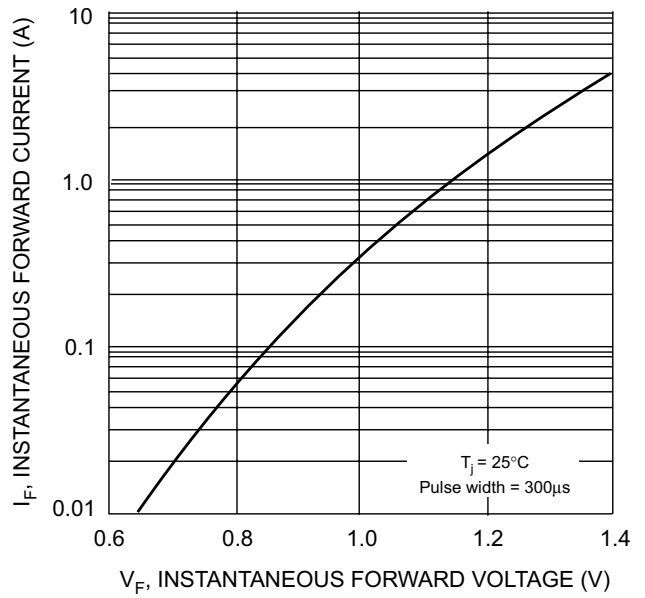


Fig. 2 Typical Forward Characteristics

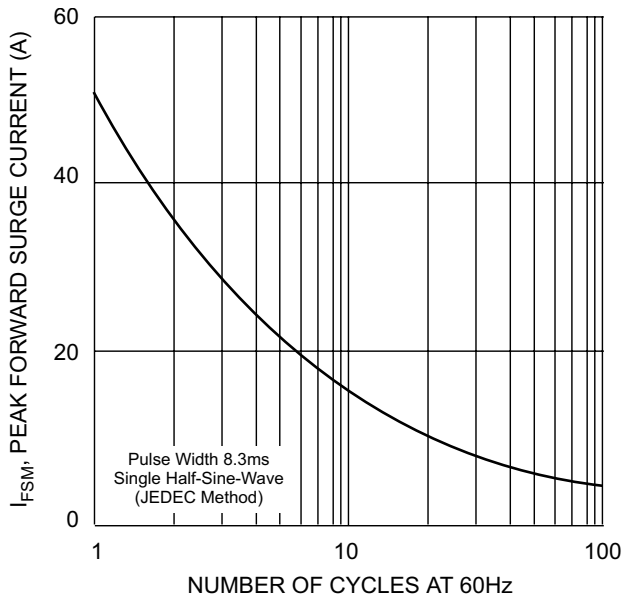


Fig. 3 Peak Forward Surge Current

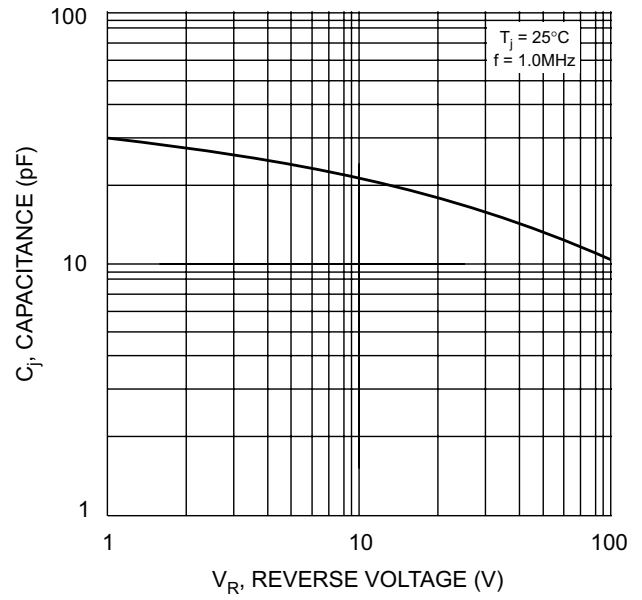
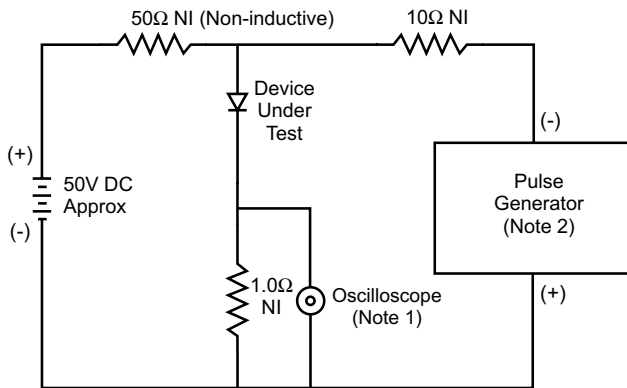
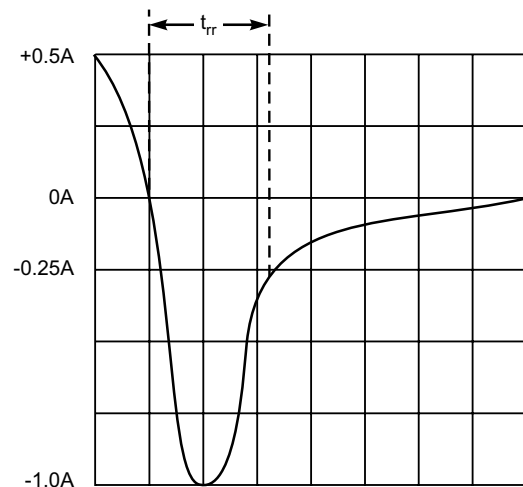


Fig. 4 Typical Junction Capacitance



- Notes:
1. Rise Time = 7.0ns max. Input Impedance = 1.0MΩ, 22pF.
  2. Rise Time = 10ns max. Input Impedance = 50Ω.



Set time base for 50/100 ns/cm

Fig. 5 Reverse Recovery Time Characteristic and Test Circuit