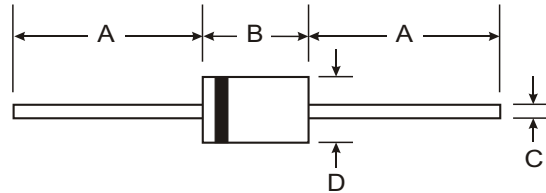


Features

- Diffused Junction
- Fast Switching for High Efficiency
- Surge Overload Rating to 50A Peak
- Low Reverse Leakage Current
- Lead Free Finish, RoHS Compliant (Note 4)**



Mechanical Data

- Case: DO-15
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Finish – Tin. Solderable per MIL-STD-202, Method 208 **e3**
- Polarity: Cathode Band
- Marking: Type Number
- Ordering Information: See Page 3
- Weight: 0.4 grams (approximate)

| DO-15 | | |
|----------------------|-------|-------|
| Dim | Min | Max |
| A | 25.40 | |
| B | 5.50 | 7.62 |
| C | 0.686 | 0.889 |
| D | 2.60 | 3.6 |
| All Dimensions in mm | | |

Maximum Ratings and Electrical Characteristics @ T_A = 25 C unless otherwise specified

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

| Characteristic | Symbol | PR 2001 | PR 2002 | PR 2003 | PR 2004 | PR 2005 | Unit |
|--|--|-------------|---------|---------|---------|---------|------|
| Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage (Note 5) | V _{RRM} V _{RWM} V _R | 50 | 100 | 200 | 400 | 600 | V |
| RMS Reverse Voltage | V _{R(RMS)} | 35 | 70 | 140 | 280 | 420 | V |
| Average Rectified Output Current (Note 1) @ T _A = 50 C | I _O | 2.0 | | | | | A |
| Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave Superimposed on Rated Load | I _{FSM} | 50 | | | | | A |
| Forward Voltage @ I _F = 2.0A | V _{FM} | 1.2 | | | | | V |
| Peak Reverse Current at Rated DC Blocking Voltage (Note 5) @ T _A = 25 C @ T _A = 100 C | I _{RM} | 5.0 100 | | | | | A |
| Reverse Recovery Time (Note 3) | t _{rr} | 150 | | | | 250 | ns |
| Typical Total Capacitance (Note 2) | C _T | 35 | | | | 15 | pF |
| Typical Thermal Resistance Junction to Ambient | R _{JA} | 50 | | | | | °C/W |
| Operating and Storage Temperature Range | T _j , T _{STG} | -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 4.0 V DC.
 3. Measured with I_F = 0.5A, I_R = 1.0A, I_{rr} = 0.25A. See figure 5.
 4. RoHS revision 13.2.2003. High temperature solder exemption applied, see *EU Directive Annex Note 7*.
 5. Short duration pulse test used to minimize self-heating effect.

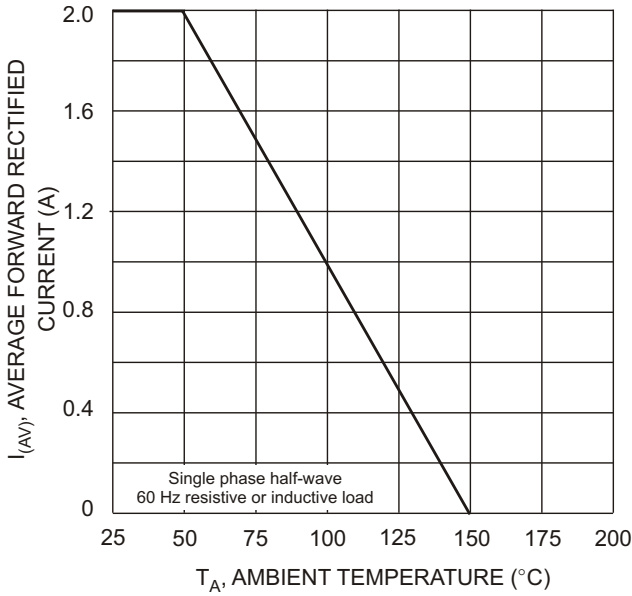


Fig. 1 Forward Derating Curve

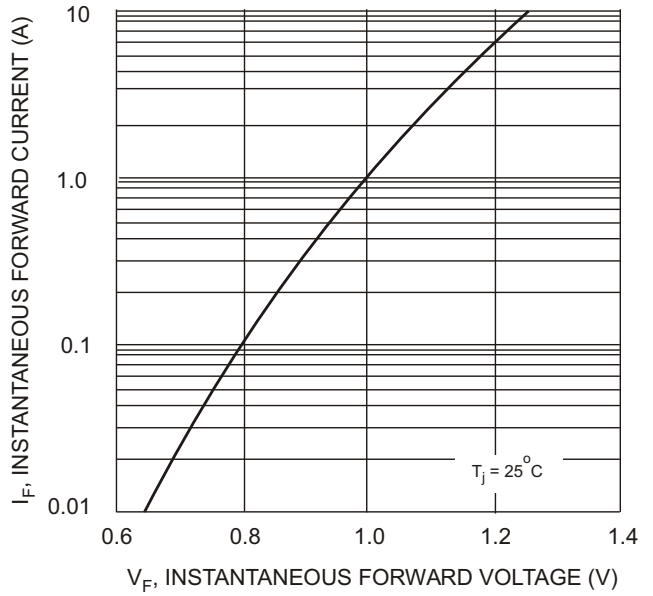


Fig. 2 Typical Forward Characteristics

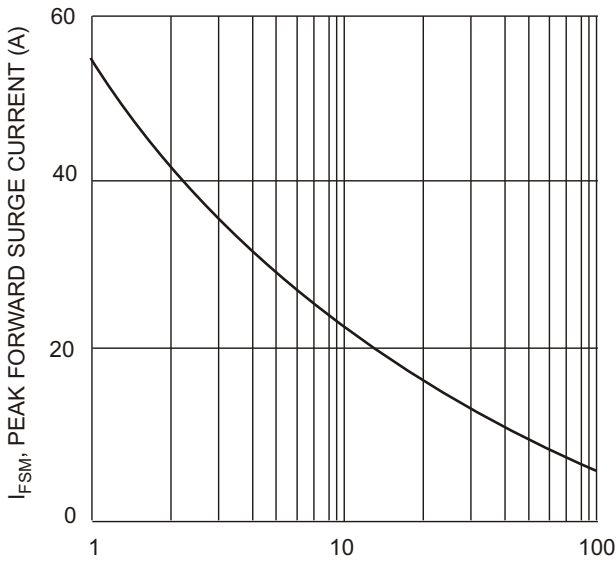


Fig. 3 Peak Forward Surge Current

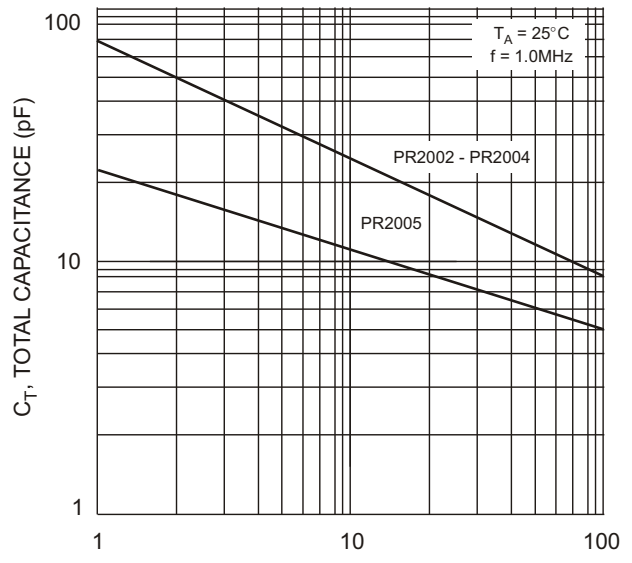
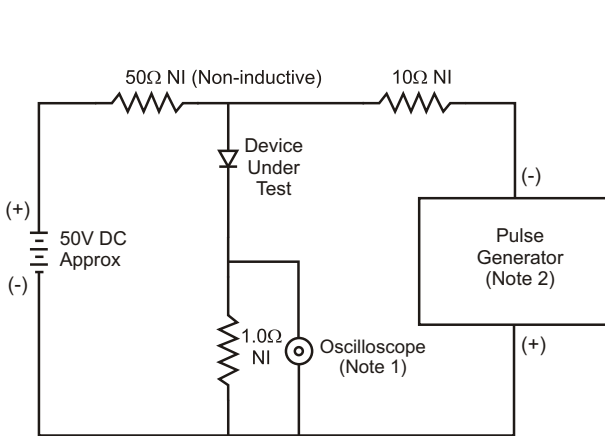
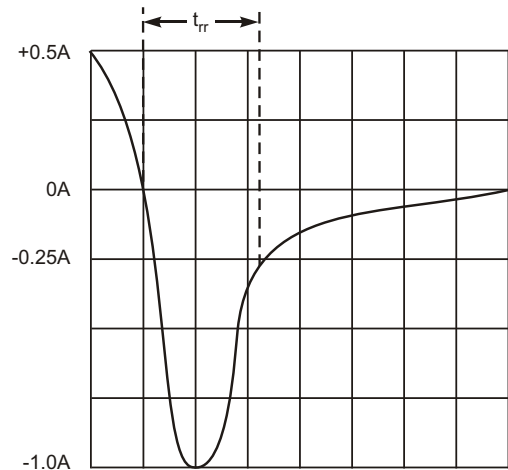


Fig. 4 Typical Total Capacitance



- 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

Ordering Information (Note 6)

| Device | Packaging | Shipping |
|----------|-----------|-------------------------|
| PR2001-T | DO-15 | 4K/Tape & Reel, 13-inch |
| PR2002-T | DO-15 | 4K/Tape & Reel, 13-inch |
| PR2003-T | DO-15 | 4K/Tape & Reel, 13-inch |
| PR2004-T | DO-15 | 4K/Tape & Reel, 13-inch |
| PR2005-T | DO-15 | 4K/Tape & Reel, 13-inch |

Notes: 6. For packaging details, visit our website at <http://www.diodes.com/datasheets/ap02008.pdf>.

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