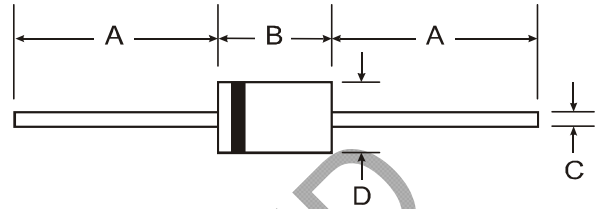


### Features

- Glass Passivated Die Construction
- 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-41, DO-15
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Finish — Tin. Plated Leads Solderable per MIL-STD-202, Method 208 **(e3)**
- Polarity: Cathode Band
- Marking: Type Number
- Ordering Information: See Page 3
- DO-41 Weight: 0.35 grams (approximate)
- DO-15 Weight: 0.40 grams (approximate)

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 Working Peak Reverse Voltage DC Blocking Voltage (Note 5)	$V_{RRM}$ $V_{RWM}$ $V_R$	50	100	200	400	600	800	1000	V
RMS Reverse Voltage	$V_{R(RMS)}$	35	70	140	280	420	560	700	V
Average Rectified Output Current @ $T_A = 55^{\circ}C$ (Note 1)	$I_O$	1.5							A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	$I_{FSM}$	50							A
Forward Voltage @ $I_F = 1.5A$	$V_{FM}$	1.3							V
Peak Reverse Current @ $T_A = 25^{\circ}C$ at Rated DC Blocking Voltage (Note 5) @ $T_A = 100^{\circ}C$	$I_{RM}$	5.0 200							$\mu A$
Reverse Recovery Time (Note 3)	$t_{rr}$	150				250	500		ns
Typical Total Capacitance (Note 2)	$C_T$	25							pF
Typical Thermal Resistance Junction to Ambient	$R_{\theta JA}$	65							$^{\circ}C/W$
Operating and Storage Temperature Range	$T_j, T_{STG}$	-65 to +150							$^{\circ}C$

- 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, t<sub>rr</sub> = 0.2 5A. See figure 5.
  4. RoHS revision 13.2.2003. Glass and high temperature solder exemptions applied, see *EU Directive Annex Notes 5 and 7*.
  5. Short duration pulse test used to minimize self-heating effect.

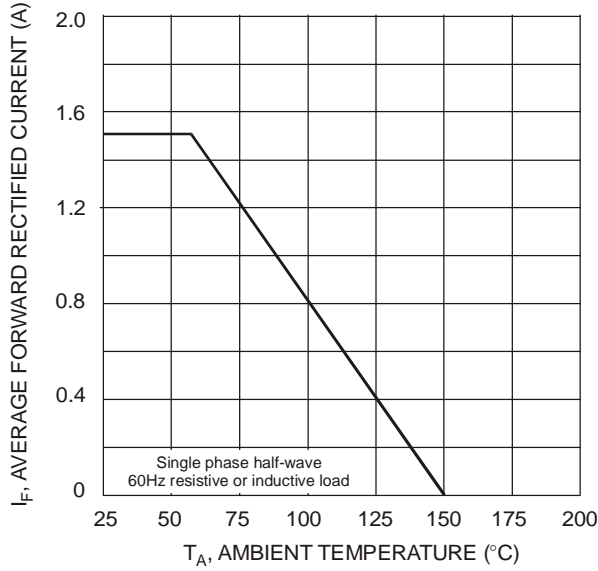


Fig. 1 Forward Derating Curve

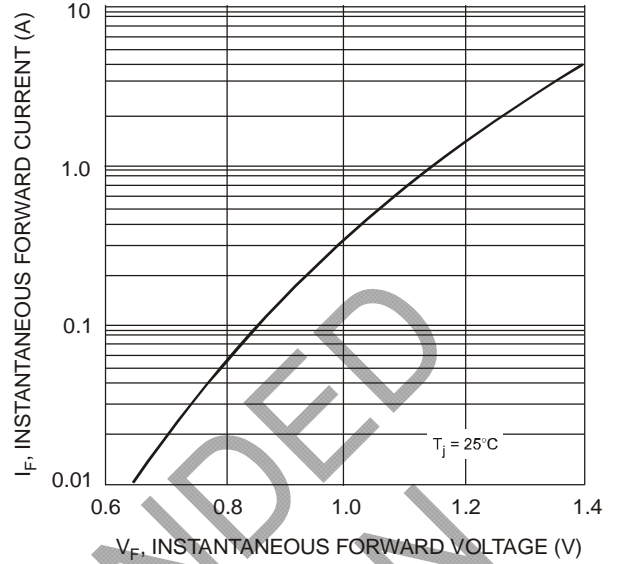


Fig. 2 Typical Forward Characteristics

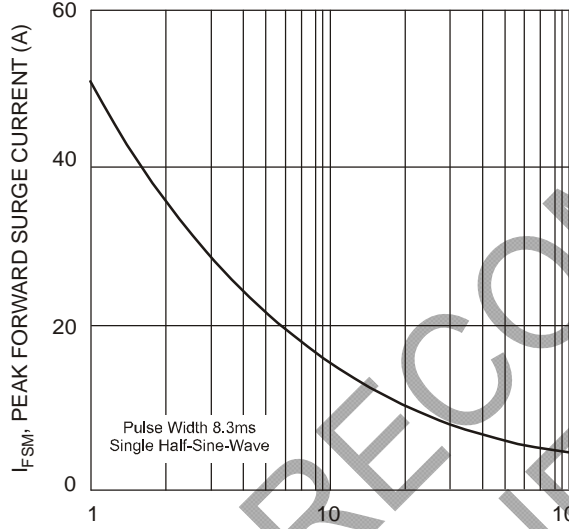


Fig. 3 Peak Forward Surge Current

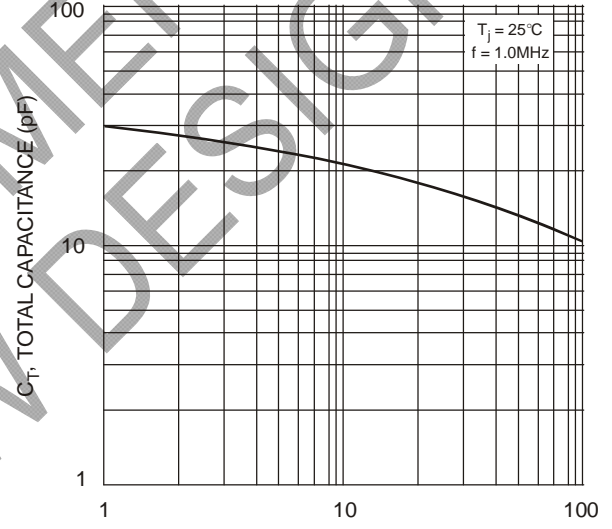
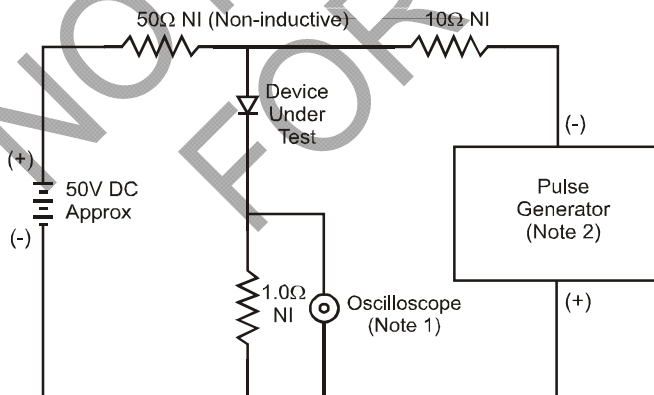


Fig. 4 Typical Total Capacitance



Notes:

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

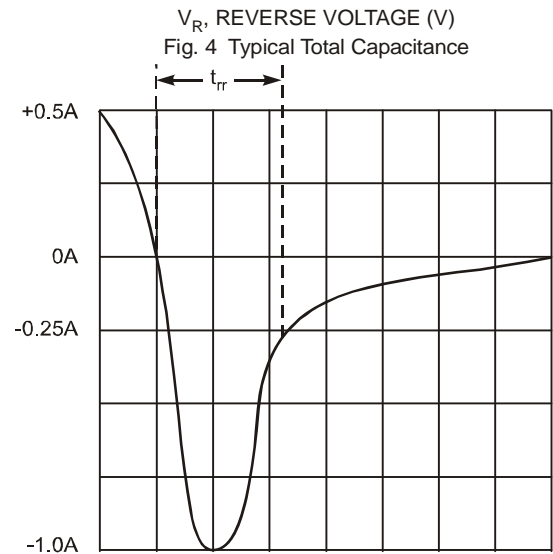


Fig. 5 Reverse Recovery Time Characteristic and Test Circuit

## Ordering Information (Note 6)

Device	Packaging	Shipping
PR1501G-B	DO-15	1K/Bulk
PR1501G-T	DO-15	4K/Tape & Reel, 13-inch
PR1502G-B	DO-15	1K/Bulk
PR1502G-T	DO-15	4K/Tape & Reel, 13-inch
PR1503G-B	DO-15	1K/Bulk
PR1503G-T	DO-15	4K/Tape & Reel, 13-inch
PR1504G-B	DO-15	1K/Bulk
PR1504G-T	DO-15	4K/Tape & Reel, 13-inch
PR1505G-B	DO-15	1K/Bulk
PR1505G-T	DO-15	4K/Tape & Reel, 13-inch
PR1506G-B	DO-15	1K/Bulk
PR1506G-T	DO-15	4K/Tape & Reel, 13-inch
PR1507G-B	DO-15	1K/Bulk
PR1507G-T	DO-15	4K/Tape & Reel, 13-inch
PR1501GS-A	DO-41	5K/Ammo Pack
PR1501GS-B	DO-41	1K/Bulk
PR1501GS-T	DO-41	5K/Tape & Reel, 13-inch
PR1502GS-A	DO-41	5K/Ammo Pack
PR1502GS-B	DO-41	1K/Bulk
PR1502GS-T	DO-41	5K/Tape & Reel, 13-inch
PR1503GS-A	DO-41	5K/Ammo Pack
PR1503GS-B	DO-41	1K/Bulk
PR1503GS-T	DO-41	5K/Tape & Reel, 13-inch
PR1504GS-A	DO-41	5K/Ammo Pack
PR1504GS-B	DO-41	1K/Bulk
PR1504GS-T	DO-41	5K/Tape & Reel, 13-inch
PR1505GS-A	DO-41	5K/Ammo Pack
PR1505GS-B	DO-41	1K/Bulk
PR1505GS-T	DO-41	5K/Tape & Reel, 13-inch
PR1506GS-A	DO-41	5K/Ammo Pack
PR1506GS-B	DO-41	1K/Bulk
PR1506GS-T	DO-41	5K/Tape & Reel, 13-inch
PR1507GS-A	DO-41	5K/Ammo Pack
PR1507GS-B	DO-41	1K/Bulk
PR1507GS-T	DO-41	5K/Tape & Reel, 13-inch

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

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