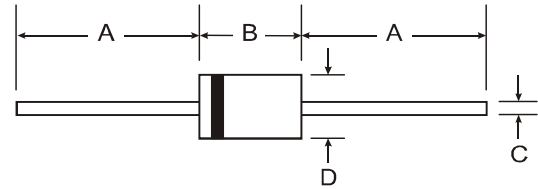


## Features

- Diffused Junction
- Fast Switching for High Efficiency
- High Current Capability and Low Forward Voltage Drop
- Surge Overload Rating to 30A Peak
- Low Reverse Leakage Current
- **Lead Free Finish, RoHS Compliant (Notes 1 & 2)**



## Mechanical Data

- Case: DO-41
- 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 208E3
- Polarity: Cathode Band
- Marking: Type Number
- Weight: 0.35 grams (Approximate)

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

## Ordering Information (Note 3)

Device	Packaging	Shipping
PR1001-T	DO-41	5K/Tape & Reel, 13-inch
PR1002-T	DO-41	5K/Tape & Reel, 13-inch
PR1003-T	DO-41	5K/Tape & Reel, 13-inch
PR1004-T	DO-41	5K/Tape & Reel, 13-inch
PR1005-T	DO-41	5K/Tape & Reel, 13-inch

- Notes:
1. EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant. All applicable RoHS exemptions applied.
  2. See <https://www.diodes.com/quality/lead-free/> 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 <https://www.diodes.com/design/support/packaging/diodes-packaging/>.

## 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	PR1002	PR1003	PR1004	PR1005	Unit
Peak Repetitive Reverse Voltage	V <sub>RRM</sub>	50	100	200	400	600	V
Working Peak Reverse Voltage	V <sub>RWM</sub>						
DC Blocking Voltage (Note 7)	V <sub>R</sub>						
RMS Reverse Voltage	V <sub>R(RMS)</sub>	35	70	140	280	420	V
Average Rectified Output Current (Note 4) @ 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 Drop @ I <sub>F</sub> = 1.0A	V <sub>FM</sub>	1.2					V
Peak Reverse Current @ T <sub>A</sub> = +25°C	I <sub>RM</sub>	5.0					μA
at Rated DC Blocking Voltage (Note 7) @ T <sub>A</sub> = +100°C		100					
Reverse Recovery Time (Note 6)	t <sub>RR</sub>	150				250	ns
Typical Total Capacitance (Note 5)	C <sub>T</sub>	15				8.0	pF
Typical Thermal Resistance Junction to Ambient	R <sub>θJA</sub>	75					°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +150					°C

- Notes:
4. Valid provided that leads are maintained at ambient temperature at a distance of 9.5mm from the case.
  5. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
  6. Measured with I<sub>F</sub> = 0.5A, I<sub>R</sub> = 1A, I<sub>RR</sub> = 0.25A. See figure 5.
  7. Short duration pulse test used to minimize self-heating effect.

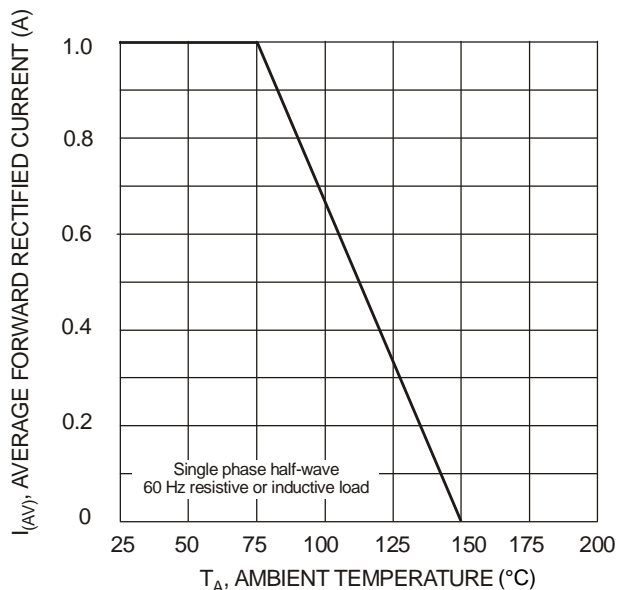


Fig. 1 Forward Derating Curve

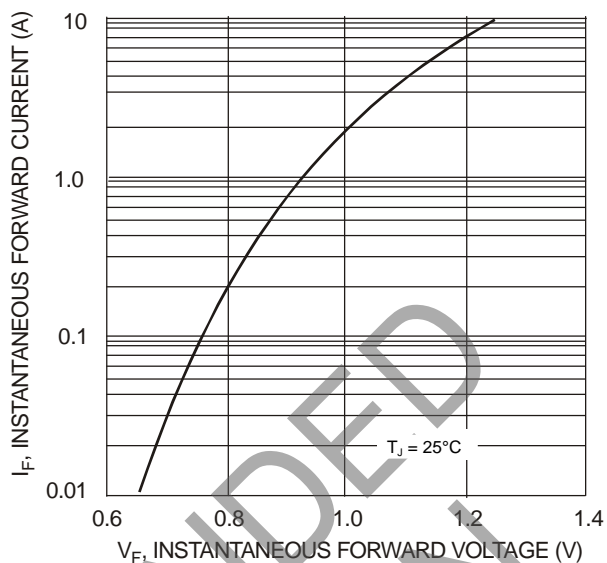


Fig. 2 Typical Forward Characteristics

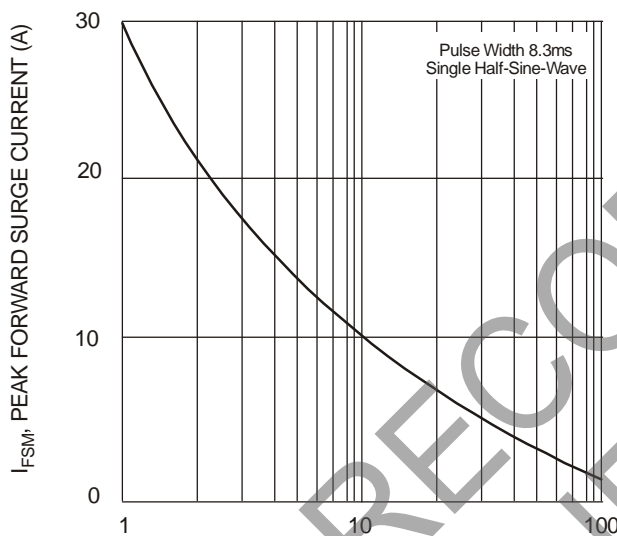


Fig. 3 Peak Forward Surge Current

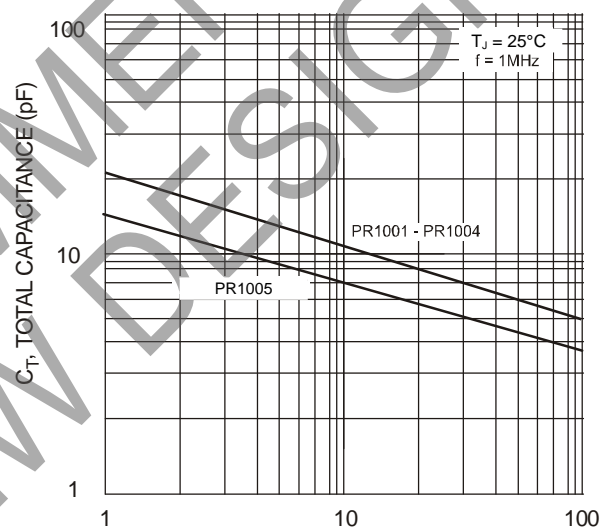
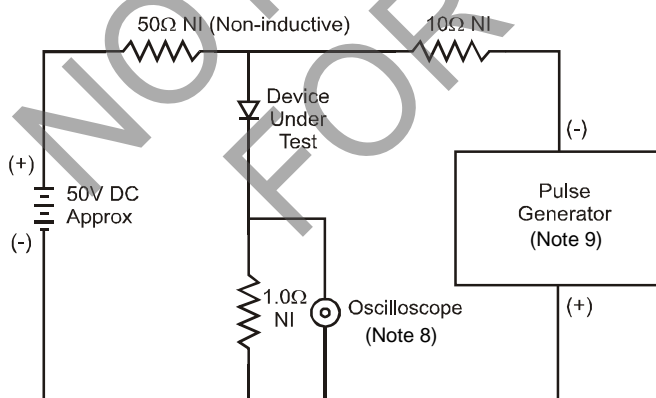


Fig. 4 Typical Total Capacitance



Notes:

8. Rise Time = 7.0ns max. Input Impedance = 1.0MW, 22pF.
9. Rise Time = 10ns max. Input Impedance = 50W.

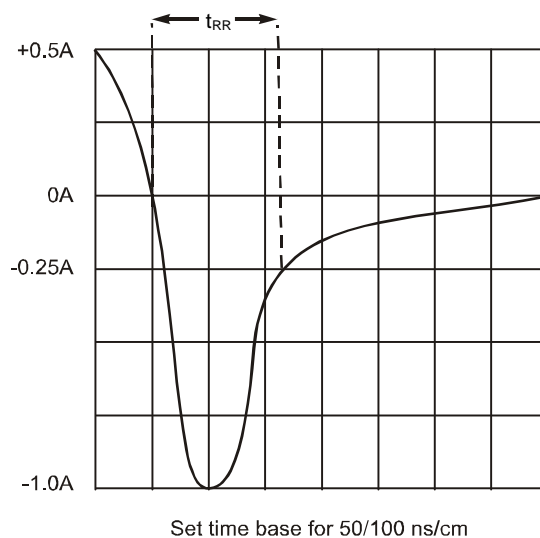


Fig. 5 Reverse Recovery Time Characteristic and Test Circuit

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