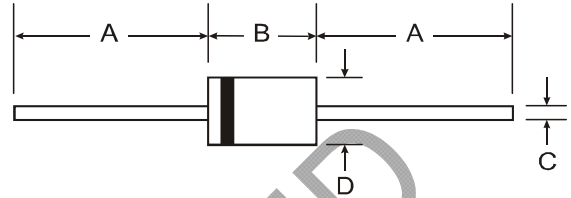


Features

- 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		

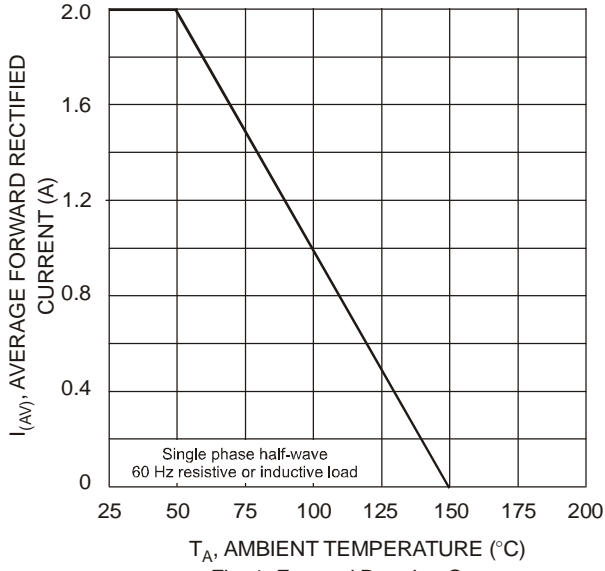
Maximum Ratings and Electrical Characteristics

@T_A = 25°C unless otherwise specified

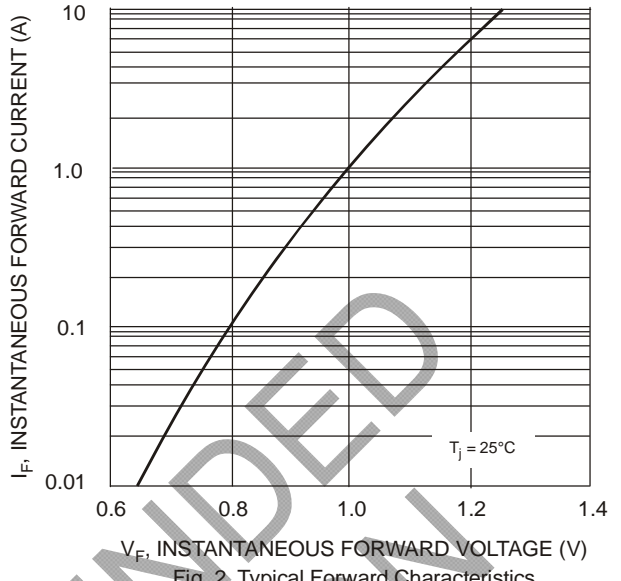
Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

Characteristic	Symbol	PR 2001	PR 2002	PR 2003	PR 2004	PR 2005	Unit	
Peak Repetitive Reverse Voltage	V _{RRM}							
Working Peak Reverse Voltage	V _{RWM}	50	100	200	400	600	V	
DC Blocking Voltage (Note 5)	V _R							
RMS Reverse Voltage	V _{R(RMS)}	35	70	140	280	420	V	
Average Rectified Output Current (Note 1)	I _O	2.0						A
		@ T _A = 50°C						
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)	I _{RM}	5.0						μA
		@ T _A = 100°C						
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 _{θJA}	50						°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-65 to +150						°C

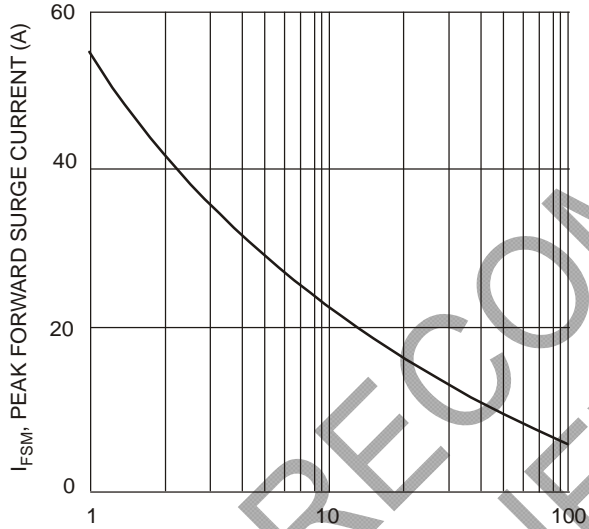
- Notes:
1. Valid provided that leads are maintained at ambient temperature at a distance of 9.5mm from the case.
 2. Measured at 1.0MHz and applied reverse voltage of 4.0 V DC.
 3. Measured with I_F = 0.5A, I_R = 1.0A, I_{rr} = 0.25A. See figure 5.
 4. RoHS revision 13.2.2003. High temperature solder exemption applied, see EU Directive Annex Note 7.
 5. Short duration pulse test used to minimize self-heating effect.



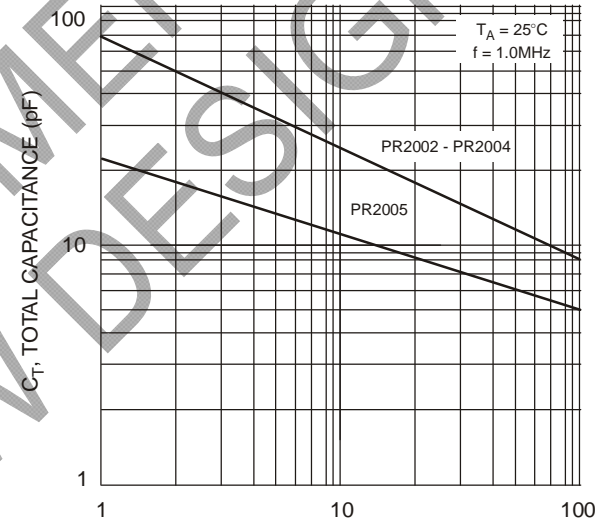
T_A , AMBIENT TEMPERATURE (°C)
Fig. 1 Forward Derating Curve



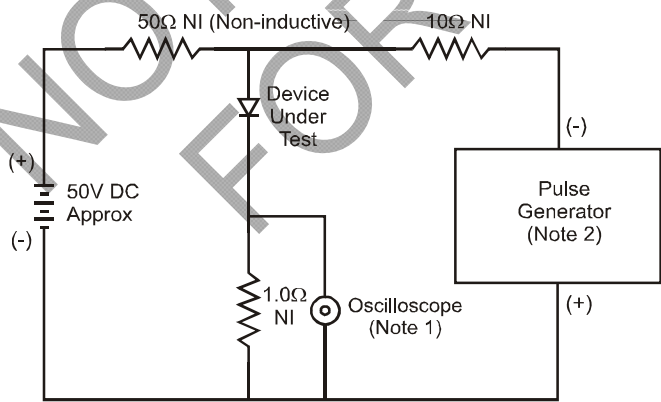
V_F , INSTANTANEOUS FORWARD VOLTAGE (V)
Fig. 2 Typical Forward Characteristics



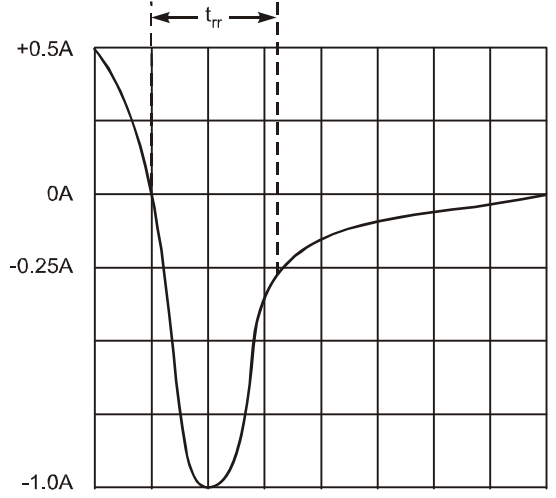
NUMBER OF CYCLES AT 60Hz
Fig. 3 Peak Forward Surge Current



V_R , REVERSE VOLTAGE (V)
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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