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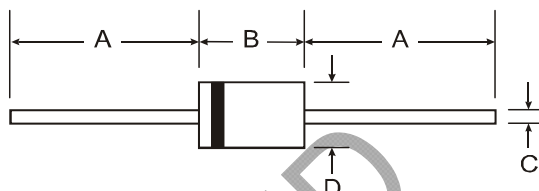
[sales@integrated-circuit.com](mailto:sales@integrated-circuit.com)

# PR2001 - PR2005

## 2.0A FAST RECOVERY RECTIFIER

### 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<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	PR 2001	PR 2002	PR 2003	PR 2004	PR 2005	Unit
Peak Repetitive Reverse Voltage	V <sub>RRM</sub>						
Working Peak Reverse Voltage	V <sub>RWM</sub>	50	100	200	400	600	V
DC Blocking Voltage (Note 5)	V <sub>R</sub>						
RMS Reverse Voltage	V <sub>R(RMS)</sub>	35	70	140	280	420	V
Average Rectified Output Current (Note 1)	I <sub>O</sub>	2.0					A
@ T <sub>A</sub> = 50°C							
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I <sub>FSM</sub>	50					A
Forward Voltage @ I <sub>F</sub> = 2.0A	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 5) @ T <sub>A</sub> = 100°C		100					
Reverse Recovery Time (Note 3)	t <sub>rr</sub>	150				250	ns
Typical Total Capacitance (Note 2)	C <sub>T</sub>	35				15	pF
Typical Thermal Resistance Junction to Ambient	R <sub>θJA</sub>	50					°C/W
Operating and Storage Temperature Range	T <sub>i</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 4.0 V DC.
  3. Measured with I<sub>F</sub> = 0.5A, I<sub>R</sub> = 1.0A, I<sub>rr</sub> = 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.



**NOT RECOMMENDED  
FOR NEW DESIGN**

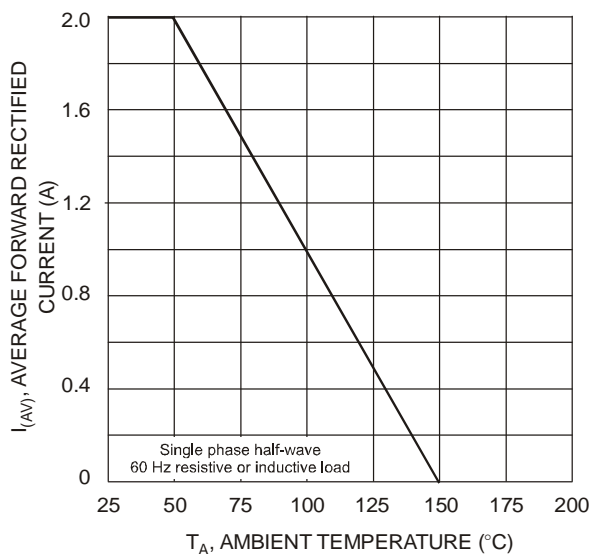


Fig. 1 Forward Derating Curve

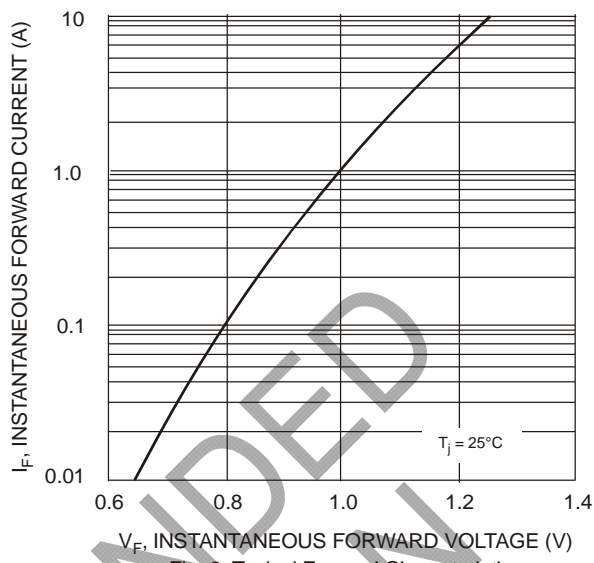


Fig. 2 Typical Forward Characteristics

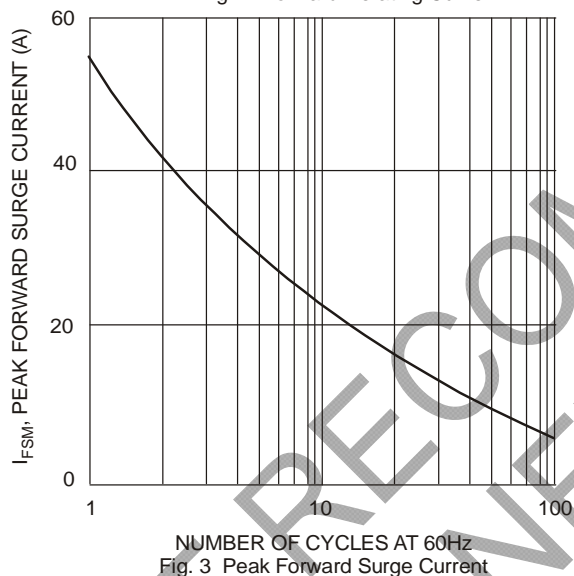


Fig. 3 Peak Forward Surge Current

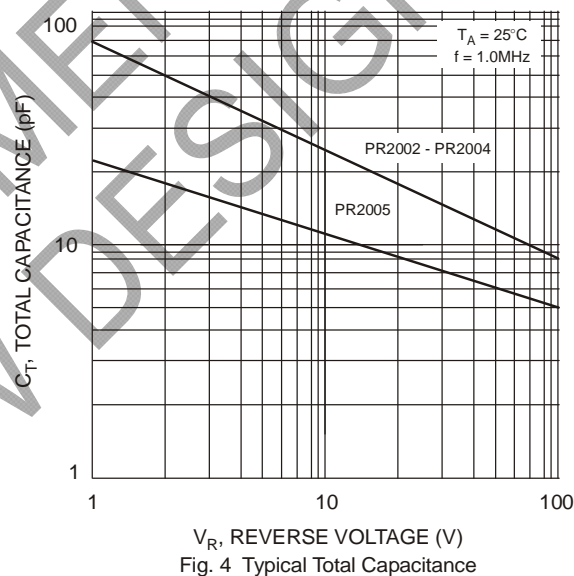
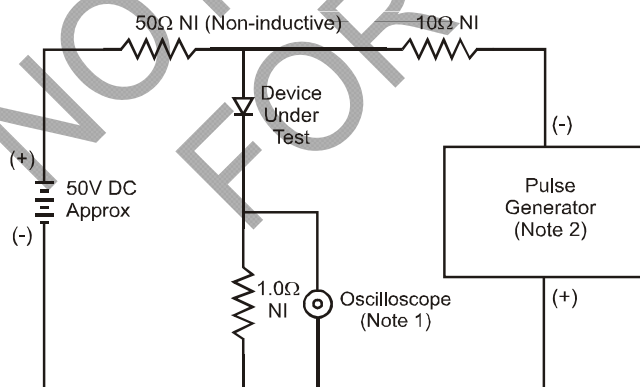


Fig. 4 Typical Total Capacitance



Notes:

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

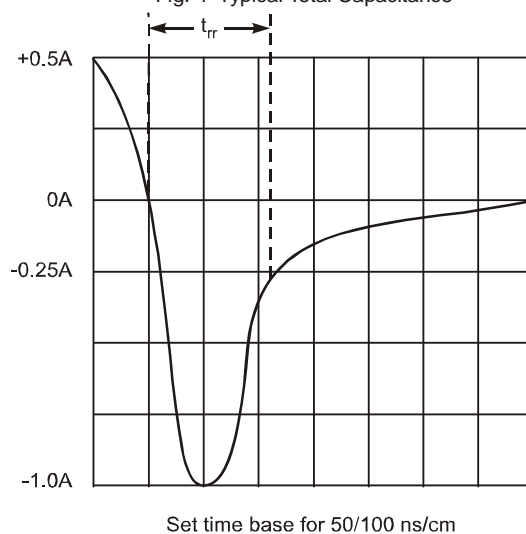


Fig. 5 Reverse Recovery Time Characteristic and Test Circuit



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## 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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