THE DATASHEET OF

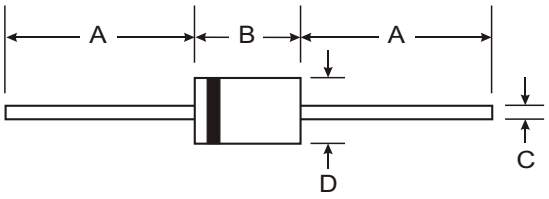
PR3004-T

PR3001 - PR3005

3.0A FAST RECOVERY RECTIFIER

Features

- Diffused Junction
- Fast Switching for High Efficiency
- Surge Overload Rating to 150 A Peak
- Low Reverse Leakage Current
- **Lead Free Finish, RoHS Compliant (Note 4)**



Mechanical Data

- Case: DO-201AD
- 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
- Weight: 1.12 grams (approximate)

DO-201AD		
Dim	**Min**	**Max**
A	25.40	
B	7.20	9.50
C	1.20	1.30
D	4.80	5.30
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 3001	PR 3002	PR 3003	PR 3004	PR 3005	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 = 90 C	I_O	3.0					A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave Superimposed on Rated Load	I_{FSM}	150					A
Forward Voltage @ I_F = 3.0A	V_{FM}	1.2					V
Peak Reverse Current @ T_A = 25 C at Rated DC Blocking Voltage (Note 5) @ 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	50					pF
Typical Thermal Resistance Junction to Ambient	R_{JA}	15					°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 4.0V 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.

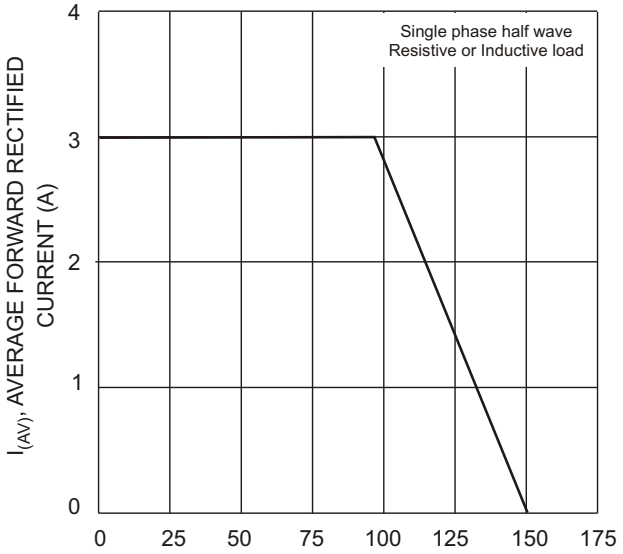


Fig. 1 Forward Derating Curve

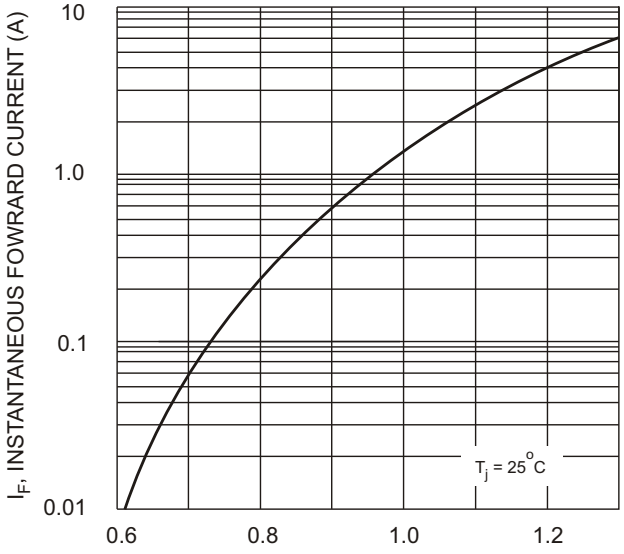


Fig. 2 Typical Forward Characteristics

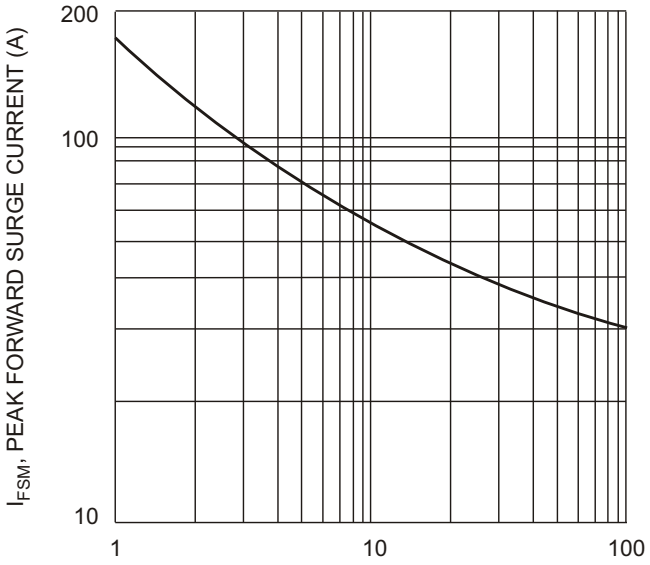


Fig. 3 Peak Forward Surge Current

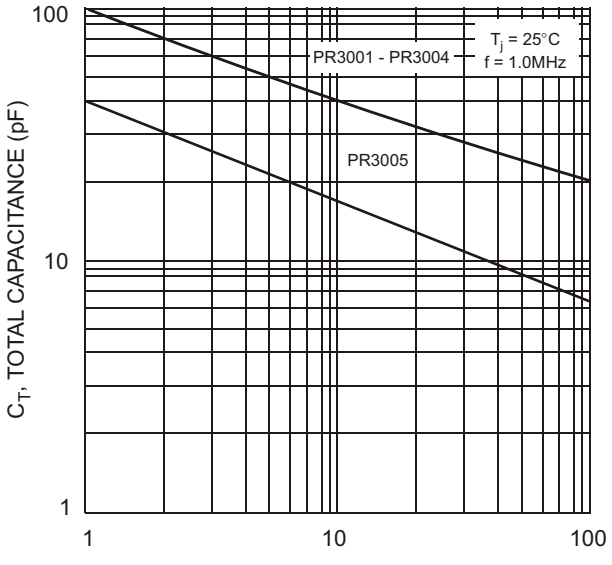
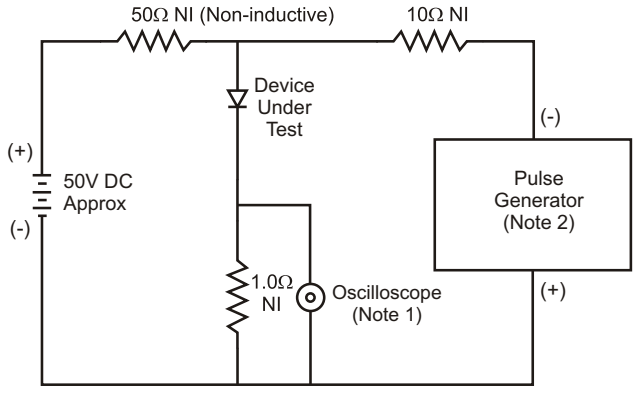


Fig. 4 Typical Total Capacitance



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

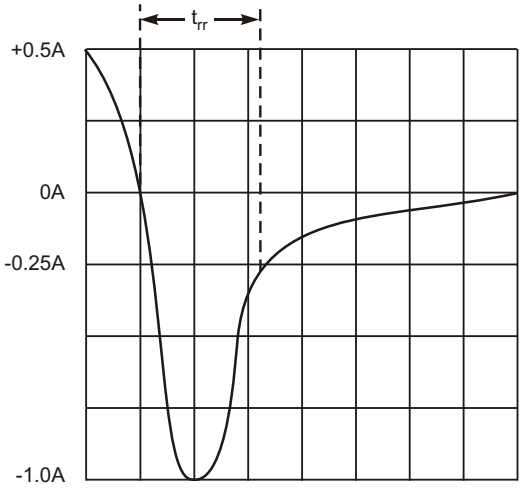


Fig. 5 Reverse Recovery Time Characteristic and Test Circuit

Ordering Information (Note 6)

Device	Packaging	Shipping
PR3001-B	DO-201AD	500/Bulk
PR3001-T	DO-201AD	1.2K/Tape & Reel, 13-inch
PR3002-B	DO-201AD	500/Bulk
PR3002-T	DO-201AD	1.2K/Tape & Reel, 13-inch
PR3003-B	DO-201AD	500/Bulk
PR3003-T	DO-201AD	1.2K/Tape & Reel, 13-inch
PR3004-B	DO-201AD	500/Bulk
PR3004-T	DO-201AD	1.2K/Tape & Reel, 13-inch
PR3005-B	DO-201AD	500/Bulk
PR3005-T	DO-201AD	1.2K/Tape & Reel, 13-inch

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

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