PR3001 - PR3007

FAST RECOVERY RECTIFIER DIODES

VOLTAGE RANGE: 50 - 1000V
CURRENT: 3.0 A

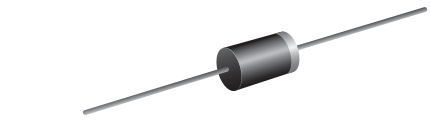
Features

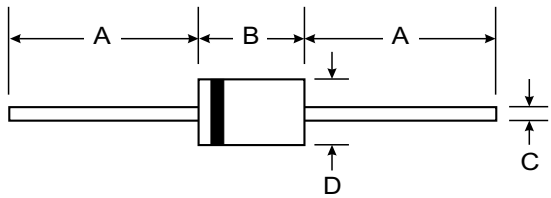
- Glass Passivated Die Construction
- Diffused Junction
- Fast Switching for High Efficiency
- High Current Capability and Low Forward Voltage Drop
- Low Reverse Leakage Current
- Plastic Material: UL Flammability Classification Rating 94V-0

Mechanical Data

- Case:DO-201AD, Molded Plastic
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Marking: Type Number
- Weight: 1.12 grams (approx.)

RoHS COMPLIANT





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	PR 3006	PR 3007	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	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 (Note 1) @ T_A = 55°C	I_O	3.0							A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave Superimposed on Rated Load (JEDEC Method)	I_{FSM}	125							A
Forward Voltage @ I_F = 3.0A	V_{FM}	1.3							V
Peak Reverse Current @ T_A = 25°C at Rated DC Blocking Voltage @ T_A = 125°C	I_{RM}	5.0 100							μA
Reverse Recovery Time (Note 3)	t_{rr}	150			250		500		ns
Typical Junction Capacitance (Note 2)	C_j	50							pF
Typical Thermal Resistance Junction to Ambient	$R_{\theta JA}$	32							K/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 = 1A, I_{rr} = 0.25A. See figure 5.

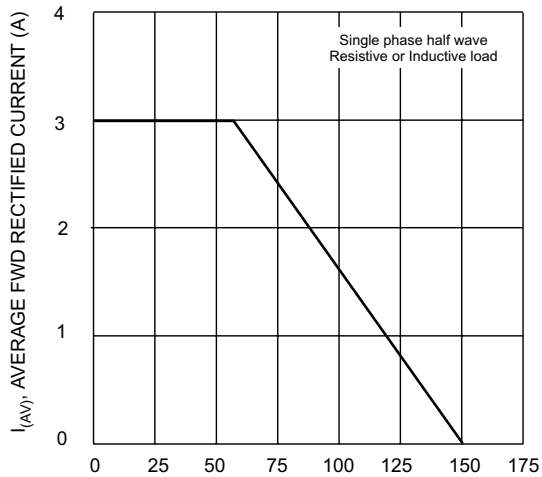


Fig. 1 Forward Derating Curve

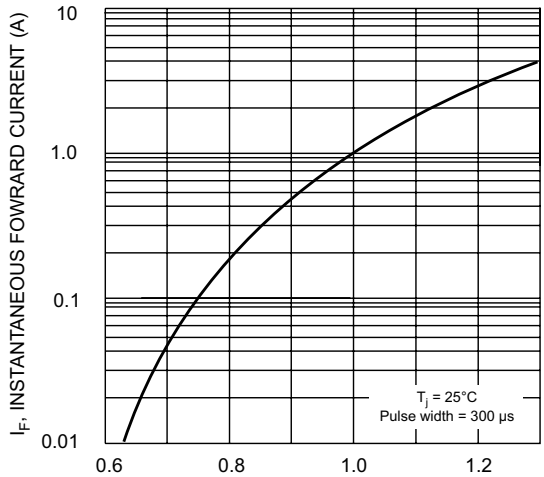


Fig. 2 Typical Forward Characteristics

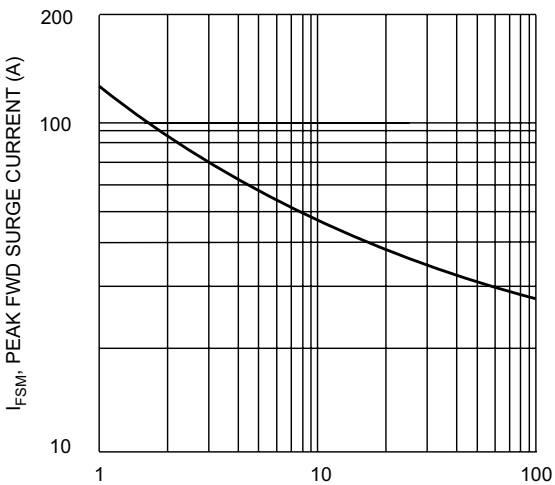


Fig. 3 Peak Forward Surge Current

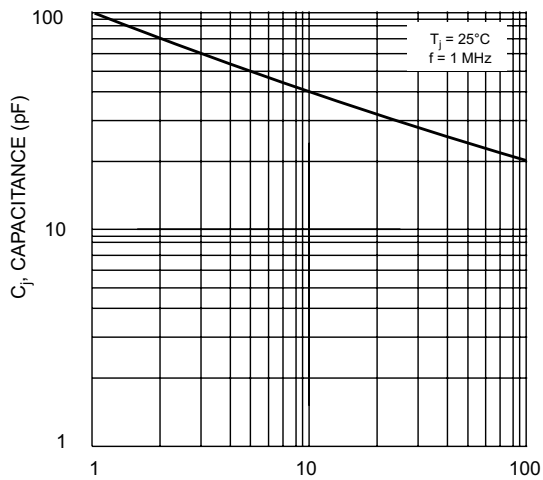
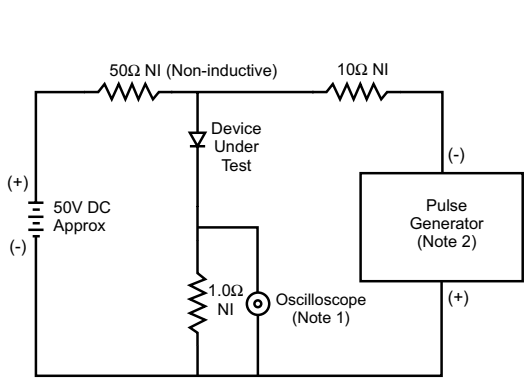


Fig. 4 Typical Junction Capacitance



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

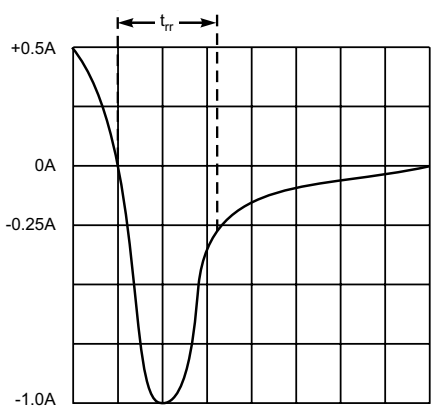


Fig. 5 Reverse Recovery Time Characteristic and Test Circuit