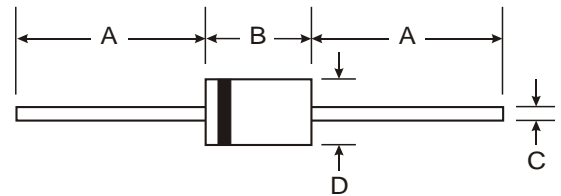


3.0A FAST RECOVERY RECTIFIER

PR3001 - PR3005 Vishaymas General Semiconductor

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

Polarity: Cathode Band

Marking: Type Number

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

@ $T_A = 25\text{ C}$ 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) @ $T_A = 90\text{ C}$	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 @ $I_F = 3.0\text{A}$	V_{FM}	1.2					V
Peak Reverse Current @ $T_A = 25\text{ C}$ at Rated DC Blocking Voltage (Note 5) @ $T_A = 100\text{ C}$	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					$^{\circ}\text{C/W}$
Operating and Storage Temperature Range	T_j, T_{STG}	-65 to +150					C

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

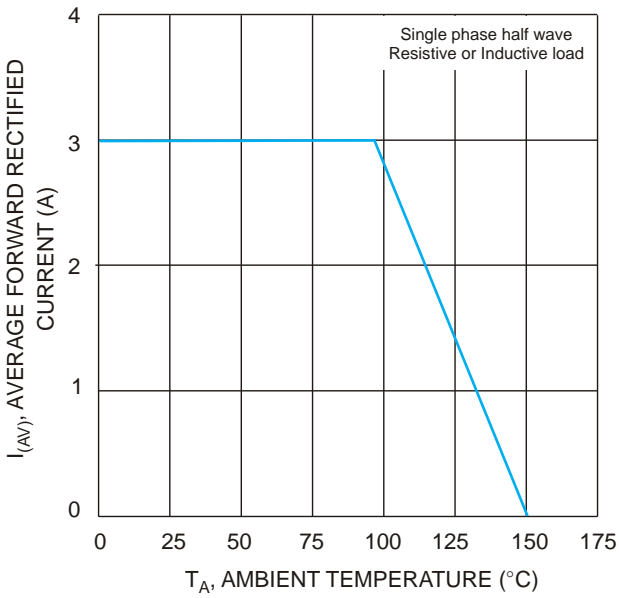


Fig. 1 Forward Derating Curve

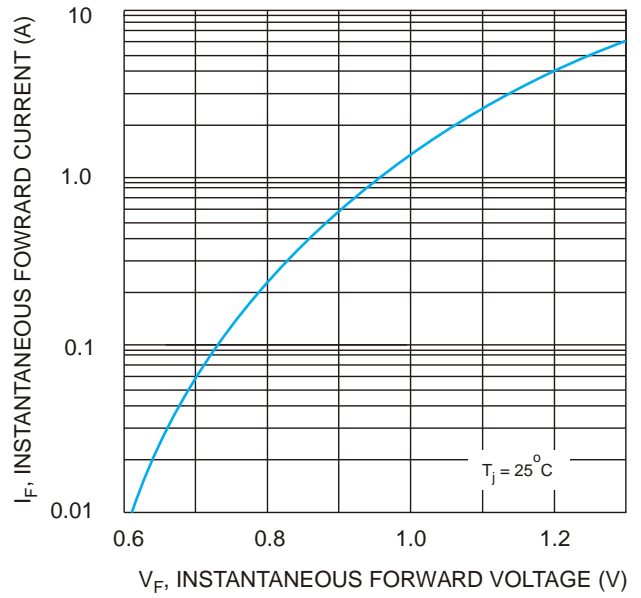


Fig. 2 Typical Forward Characteristics

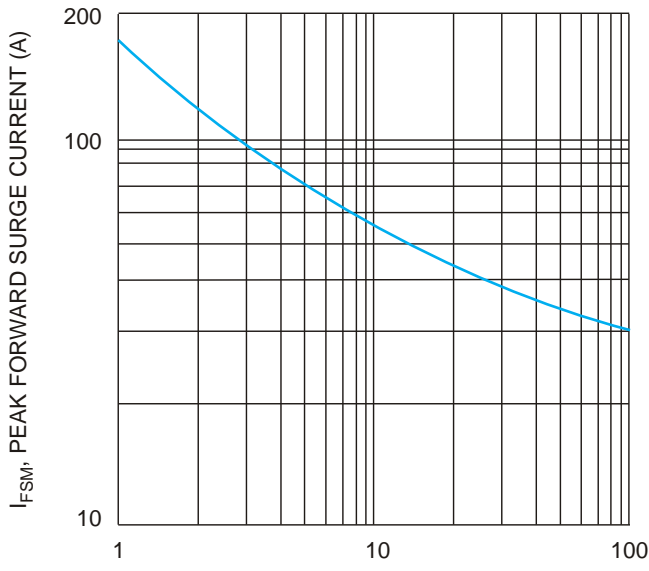


Fig. 3 Peak Forward Surge Current

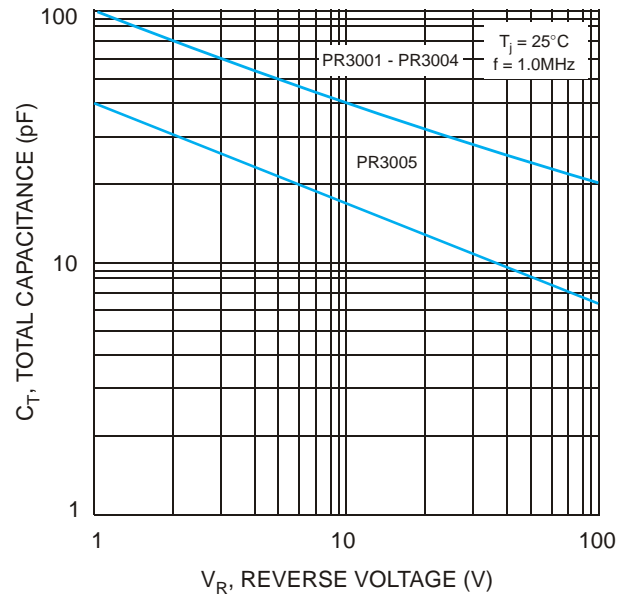
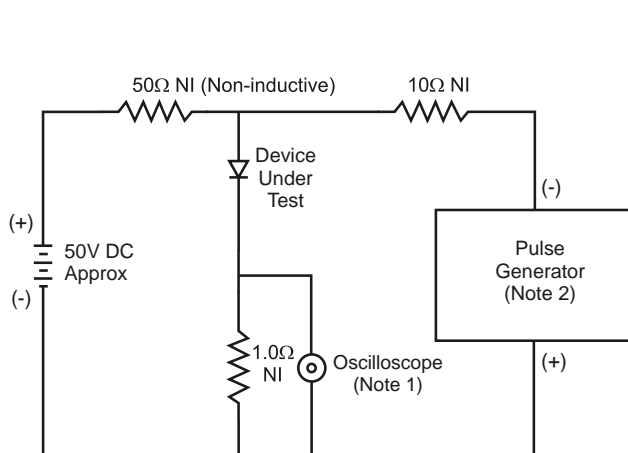
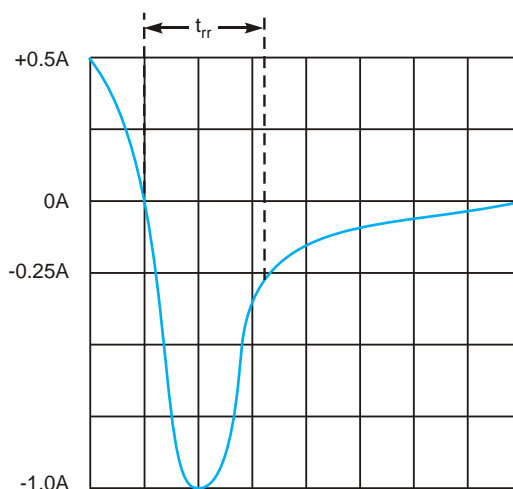


Fig. 4 Typical Total Capacitance



Notes:

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

