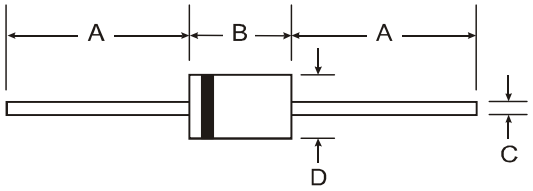
NOT RECOMMENDED FOR NEW DESIGN
USE RS1A - RS1J Series

PR1001 - PR1005

1.0A FAST RECOVERY RECTIFIER

Features

- Diffused Junction
- Fast Switching for High Efficiency
- High Current Capability and Low Forward Voltage Drop
- Surge Overload Rating to 30A Peak
- Low Reverse Leakage Current
- **Lead Free Finish, RoHS Compliant (Notes 1 & 2)**



Dim	DO-41 Plastic	
	Min	Max
A	25.40	—
B	4.06	5.21
C	0.71	0.864
D	2.00	2.72
All Dimensions in mm		

Mechanical Data

- Case: DO-41
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Finish - Tin. Plated Leads Solderable per MIL-STD-202, Method 208 e3
- Polarity: Cathode Band
- Marking: Type Number
- Weight: 0.35 grams (Approximate)

Ordering Information (Note 3)

Device	Packaging	Shipping
PR1001-T	DO-41	5K/Tape & Reel, 13-inch
PR1002-T	DO-41	5K/Tape & Reel, 13-inch
PR1003-T	DO-41	5K/Tape & Reel, 13-inch
PR1004-T	DO-41	5K/Tape & Reel, 13-inch
PR1005-T	DO-41	5K/Tape & Reel, 13-inch

Notes:
1. EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant. All applicable RoHS exemptions applied.
2. See https://www.diodes.com/quality/lead-free/ for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
3. For packaging details, go to our website at https://www.diodes.com/design/support/packaging/diodes-packaging/.

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	PR1001	PR1002	PR1003	PR1004	PR1005	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage (Note 7)	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 4) @ T_A = +75°C	I_O	1.0					A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I_{FSM}	30					A
Forward Voltage Drop @ I_F = 1.0A	V_{FM}	1.2					V
Peak Reverse Current @ T_A = +25°C at Rated DC Blocking Voltage (Note 7) @ T_A = +100°C	I_{RM}	5.0 100					μA
Reverse Recovery Time (Note 6)	t_{RR}	150				250	ns
Typical Total Capacitance (Note 5)	C_T	15				8.0	pF
Typical Thermal Resistance Junction to Ambient	$R_{\theta JA}$	75					°C/W
Operating and Storage Temperature Range	T_J, T_{STG}	-65 to +150					°C

Notes:
4. Valid provided that leads are maintained at ambient temperature at a distance of 9.5mm from the case.
5. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
6. Measured with I_F = 0.5A, I_R = 1A, I_{RR} = 0.25A. See figure 5.
7. Short duration pulse test used to minimize self-heating effect.

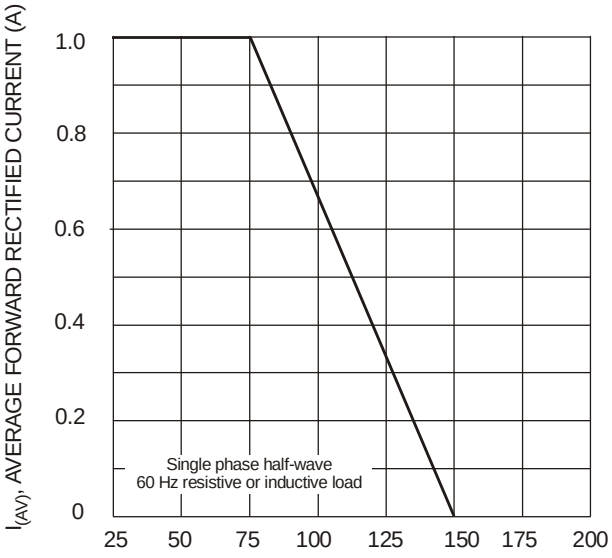


Fig. 1 Forward Derating Curve

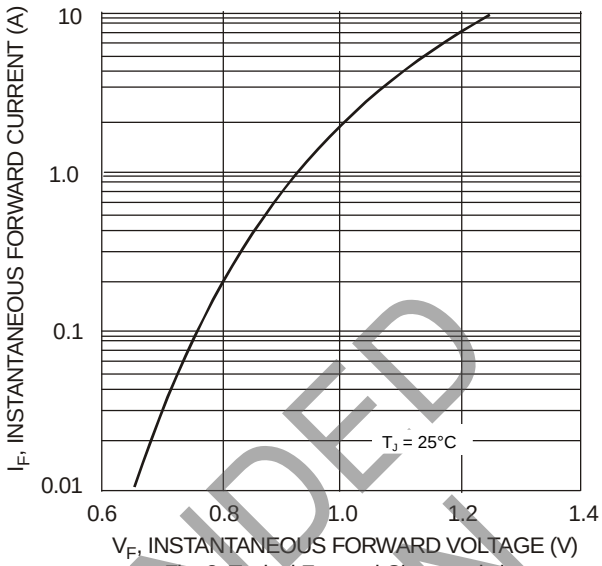


Fig. 2 Typical Forward Characteristics

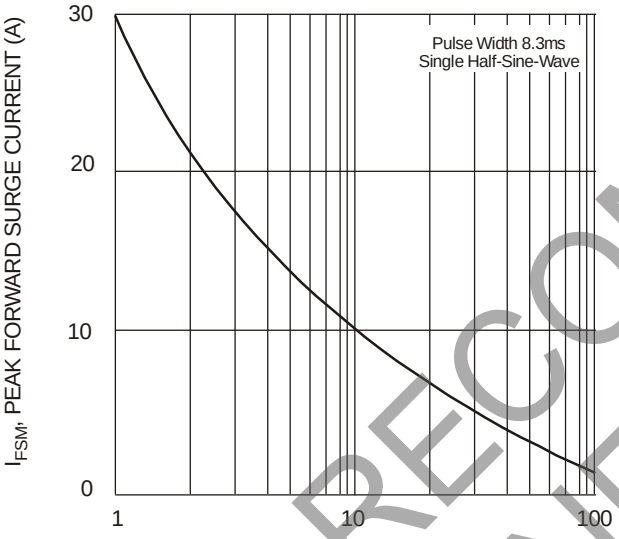


Fig. 3 Peak Forward Surge Current

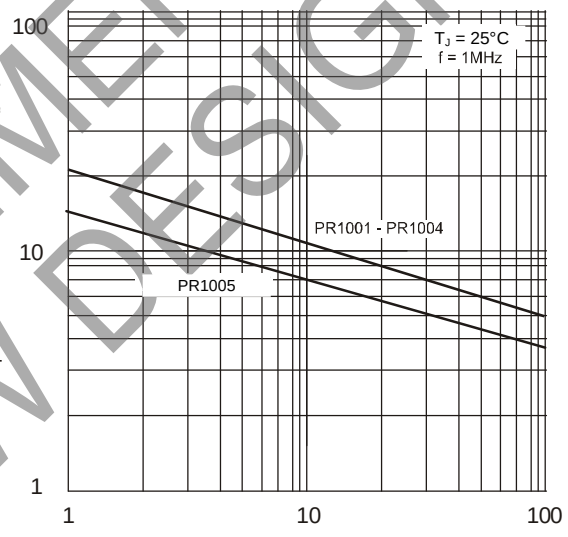
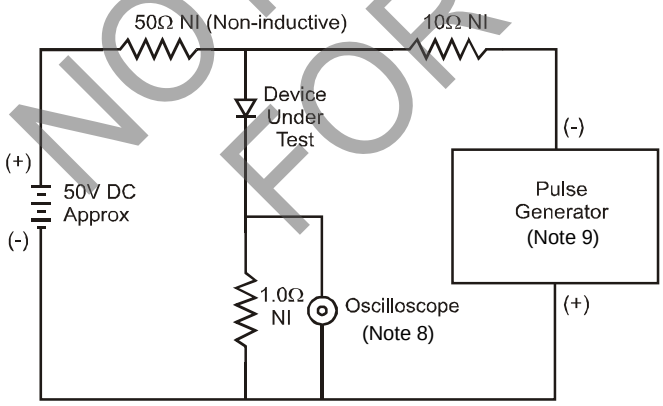


Fig. 4 Typical Total Capacitance



Notes:
8. Rise Time = 7.0ns max. Input Impedance = 1.0MW, 22pF.
9. Rise Time = 10ns max. Input Impedance = 50W.

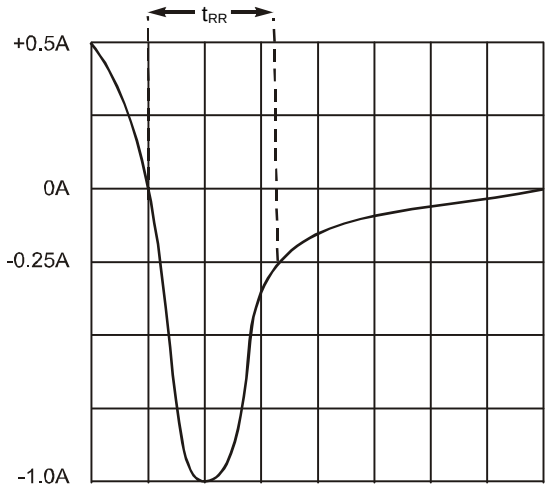


Fig. 5 Reverse Recovery Time Characteristic and Test Circuit

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