

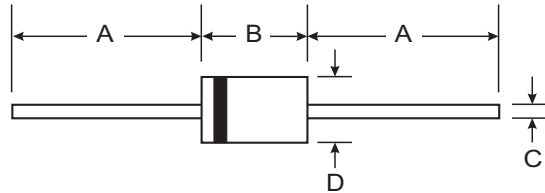


PR1501/S - PR1505/S

1.5A FAST RECOVERY RECTIFIER

Features

- Diffused Junction
- Fast Switching for High Efficiency
- High Current Capability and Low Forward Voltage Drop
- Surge Overload Rating to 50A Peak
- Low Reverse Leakage Current
- **Lead Free Finish, RoHS Compliant (Note 4)**



Mechanical Data

- Case: DO-41, DO-15
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Finish - Bright Tin. Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Ordering Information: See Last Page
- Marking: Type Number
- DO-41 Weight: 0.3 grams (approximate)
- DO-15 Weight: 0.4 grams (approximate)

Dim	DO-41 Plastic		DO-15	
	Min	Max	Min	Max
A	25.40	—	25.40	—
B	4.06	5.21	5.50	7.62
C	0.71	0.864	0.686	0.889
D	2.00	2.72	2.60	3.60

All Dimensions in mm

"S" Suffix Designates DO-41 Package
No Suffix Designates DO-15 Package

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 1501/S	PR 1502/S	PR 1503/S	PR 1504/S	PR 1505/S	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	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 = 50°C	I _O	1.5					A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave Superimposed on Rated Load (JEDEC Method)	I _{FSM}	50					A
Forward Voltage @ I _F = 1.5A	V _{FM}	1.2					V
Peak Reverse Current @ T _A = 25°C at Rated DC Blocking Voltage @ T _A = 100°C	I _{RM}	5.0 100					μA
Reverse Recovery Time (Note 3)	t _{rr}	150				250	ns
Typical Junction Capacitance (Note 2)	C _j	20				10	pF
Typical Thermal Resistance Junction to Ambient	R _{θJA}	35					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 = 1.0A, I_{rr} = 0.25A. See figure 5.
 4. RoHS revision 13.2.2003. Glass and High Temperature Solder Exemptions Applied, see *EU Directive Annex Notes 5 and 7*.

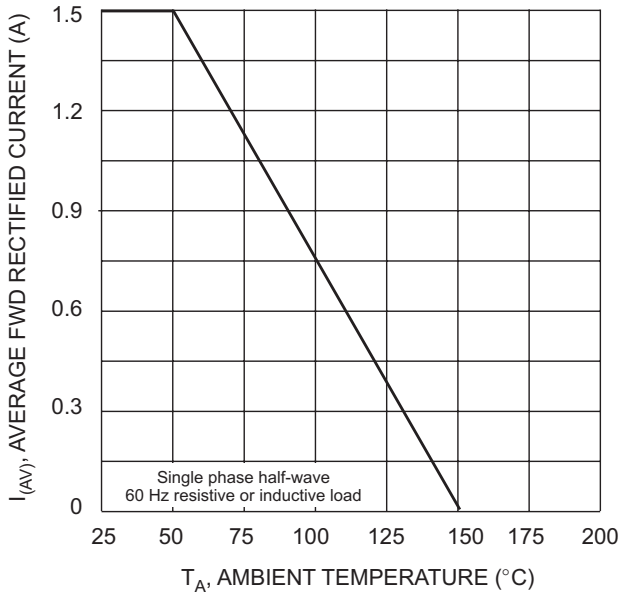


Fig. 1 Forward Derating Curve

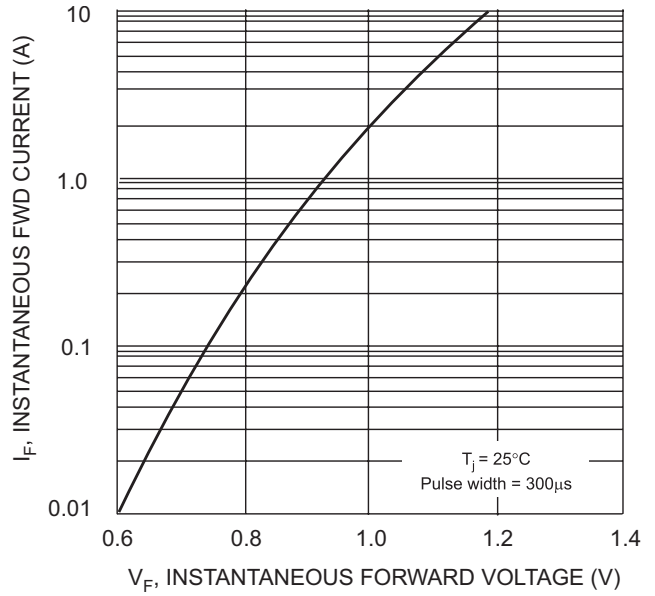


Fig. 2 Typical Forward Characteristics

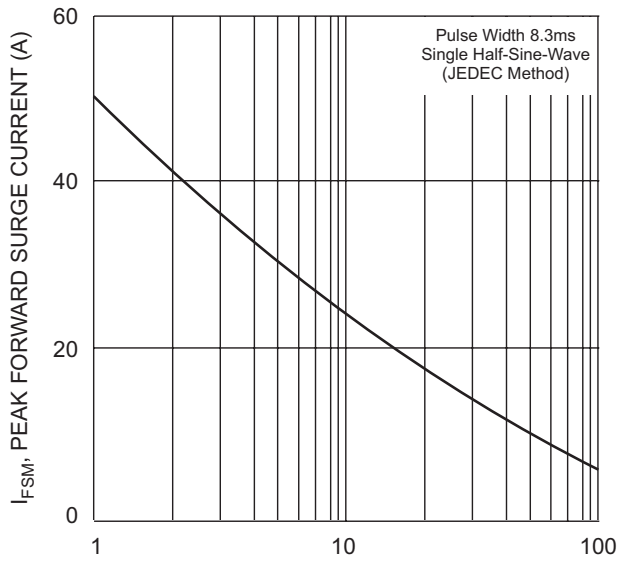


Fig. 3 Peak Forward Surge Current

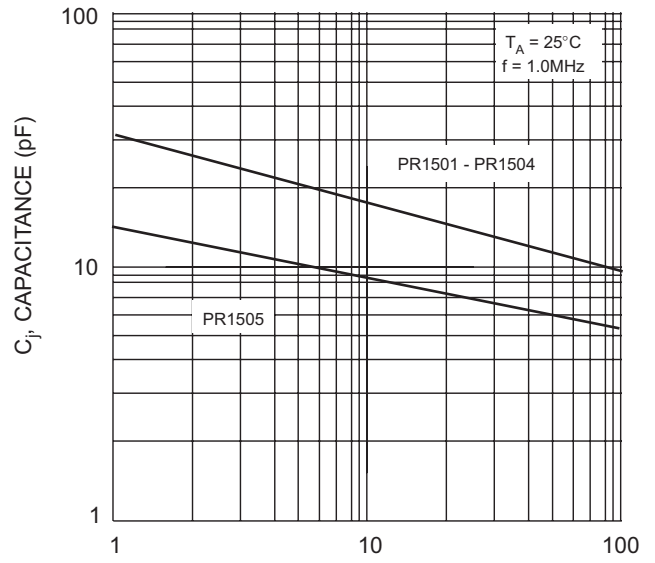
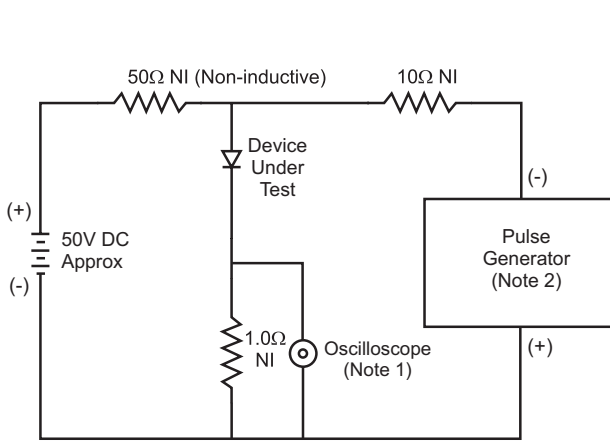
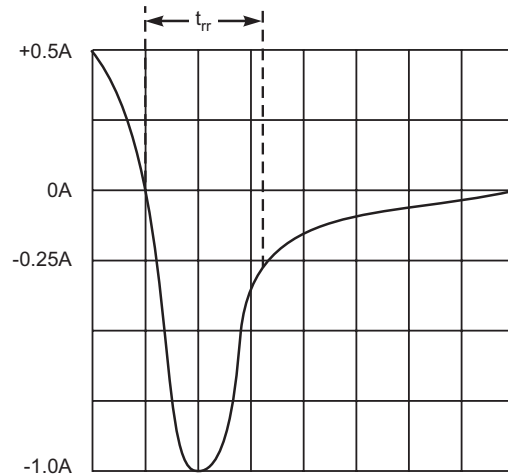


Fig. 4 Typical Junction Capacitance



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



Set time base for 50/100 ns/cm

Fig. 5 Reverse Recovery Time Characteristic and Test Circuit

Ordering Information (Note 5)

Device	Packaging	Shipping
PR1501S-A	DO-41	5K/Ammo Pack
PR1501S-B	DO-41	1K/Bulk
PR1501S-T	DO-41	5K/Tape & Reel, 13-inch
PR1502S-A	DO-41	5K/Ammo Pack
PR1502S-B	DO-41	1K/Bulk
PR1502S-T	DO-41	5K/Tape & Reel, 13-inch
PR1503S-A	DO-41	5K/Ammo Pack
PR1503S-B	DO-41	1K/Bulk
PR1503S-T	DO-41	5K/Tape & Reel, 13-inch
PR1504S-A	DO-41	5K/Ammo Pack
PR1504S-B	DO-41	1K/Bulk
PR1504S-T	DO-41	5K/Tape & Reel, 13-inch
PR1505S-A	DO-41	5K/Ammo Pack
PR1505S-B	DO-41	1K/Bulk
PR1505S-T	DO-41	5K/Tape & Reel, 13-inch
PR1501-B	DO-15	1K/Bulk
PR1501-T	DO-15	4K/Tape & Reel, 13-inch
PR1502-B	DO-15	1K/Bulk
PR1502-T	DO-15	4K/Tape & Reel, 13-inch
PR1503-B	DO-15	1K/Bulk
PR1503-T	DO-15	4K/Tape & Reel, 13-inch
PR1504-B	DO-15	1K/Bulk
PR1504-T	DO-15	4K/Tape & Reel, 13-inch
PR1505-B	DO-15	1K/Bulk
PR1505-T	DO-15	4K/Tape & Reel, 13-inch

Notes: 5. For packaging details, visit our website at <http://www.diodes.com/datasheets/ap02008.pdf>

IMPORTANT NOTICE

Diodes Incorporated and its subsidiaries reserve the right to make modifications, enhancements, improvements, corrections or other changes without further notice to any product herein. Diodes Incorporated does not assume any liability arising out of the application or use of any product described herein; neither does it convey any license under its patent rights, nor the rights of others. The user of products in such applications shall assume all risks of such use and will agree to hold Diodes Incorporated and all the companies whose products are represented on our website, harmless against all damages.

LIFE SUPPORT

Diodes Incorporated products are not authorized for use as critical components in life support devices or systems without the expressed written approval of the President of Diodes Incorporated.