

# PR1501/S - PR1505/S

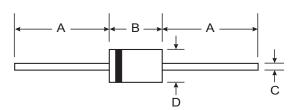
# 1.5A FAST RECOVERY RECTIFIER

### **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		
Α	25.40	_	25.40	_		
В	4.06	5.21	5.50	7.62		
С	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<sub>A</sub> = 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		$\begin{matrix} V_{RRM} \\ V_{RWM} \\ V_{R} \end{matrix}$	50	100	200	400	600	V
RMS Reverse Voltage		V <sub>R(RMS)</sub>	35	70	140	280	420	V
Average Rectified Output Current (Note 1) @ T <sub>A</sub> = 50°C		lo	1.5				А	
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave Superimposed on Rated Load (JEDEC Method)		I <sub>FSM</sub>	50				А	
Forward Voltage @ I <sub>F</sub> = 1.5A		$V_{FM}$	1.2					V
$ \begin{array}{llllllllllllllllllllllllllllllllllll$		I <sub>RM</sub>	5.0 100				μА	
Reverse Recovery Time (Note 3)		t <sub>rr</sub>	150 250			250	ns	
Typical Junction Capacitance (Note 2)		Cj	20 10			10	pF	
Typical Thermal Resistance Junction to Ambient		$R_{\theta JA}$	35				K/W	
Operating and Storage Temperature Range		T <sub>j</sub> , T <sub>STG</sub>	-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.



# NOT RECOMMENDED FOR NEW DESIGN

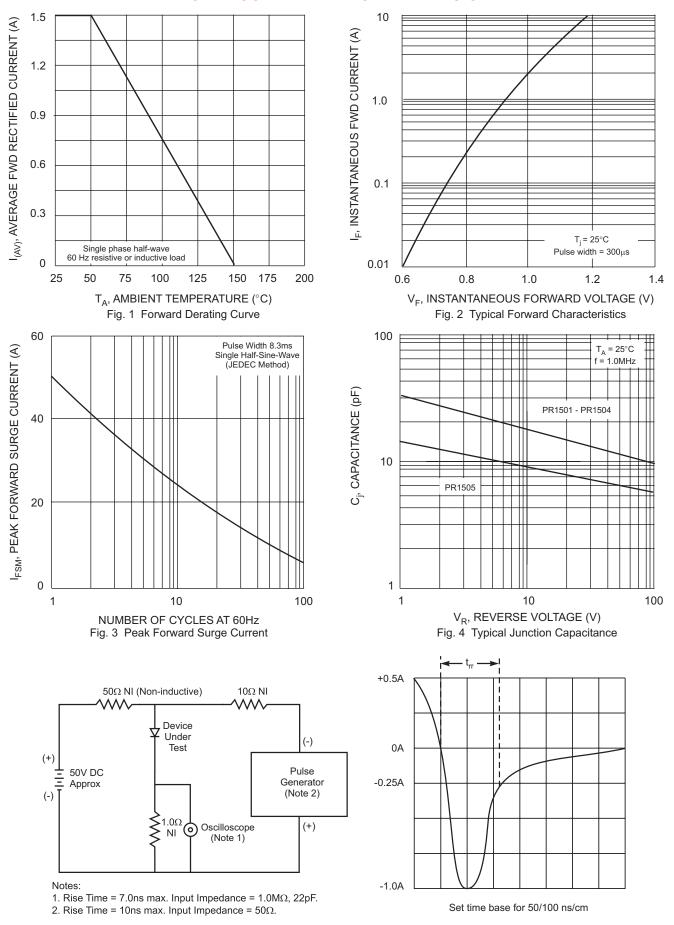


Fig. 5 Reverse Recovery Time Characteristic and Test Circuit



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# 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	PR1505-T DO-15 4K/Tape & Reel, 13-ir			

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

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