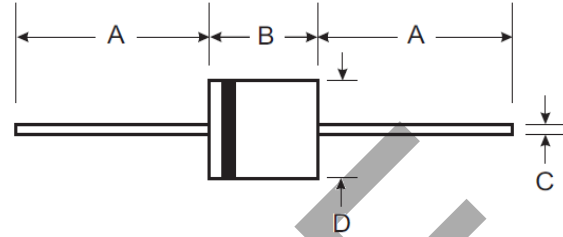


Features

- Diffused Junction
- Fast Switching for High Efficiency
- High Current Capability and Low Forward Voltage Drop
- Surge Overload Rating to 300A Peak
- Low Reverse Leakage Current
- Lead Free Finish, RoHS Compliant (Note 4)
- For automotive applications requiring specific change control (i.e. parts qualified to AEC-Q100/101/200, PPAP capable, and manufactured in IATF 16949 certified facilities), please [contact us](https://www.diodes.com/quality/product-definitions/) or your local Diodes representative. <https://www.diodes.com/quality/product-definitions/>



Mechanical Data

- Case: R-6
- 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
- Weight: 2.1 grams (approximate)

R-6		
Dim	Min	Max
A	25.40	—
B	8.60	9.10
C	1.20	1.30
D	8.60	9.10
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 6001	PR 6002	PR 6003	PR 6004	PR 6005	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 = 60°C	I _o	6.0					A	
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave Superimposed on Rated Load (JEDEC Method)	I _{FSM}	300					A	
Forward Voltage @ I _F = 6.0A	V _{FM}	1.2					V	
Peak Reverse Current at Rated DC Blocking Voltage @ T _A = 25°C @ T _A = 125°C	I _{RM}	10 150					μA	
Reverse Recovery Time (Note 3)	t _{rr}	150					250	ns
Typical Junction Capacitance (Note 2)	C _j	140					70	pF
Typical Thermal Resistance Junction to Ambient	R _{θJA}	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 4.0 V DC.
3. Measured with I_F = 0.5A, I_R = 1.0A, I_{rr} = 0.25 A. See figure 5.
4. RoHS revision 13.2.2003. Glass and High Temperature Solder Exemptions Applied, see EU Directive Annex Notes 5 and 7.

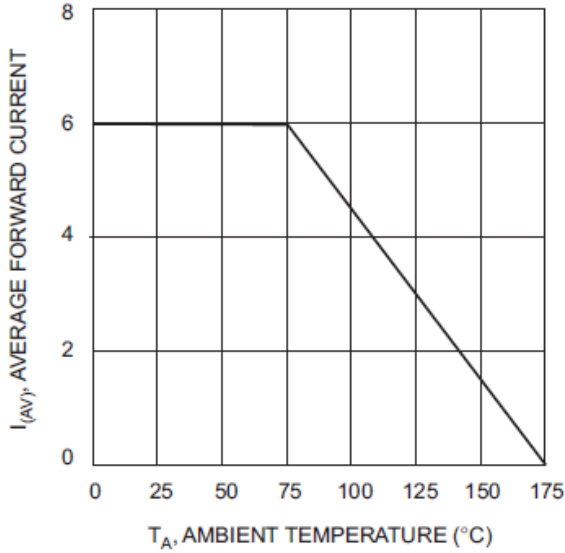


Fig. 1, Typical Forward Current Derating Curve

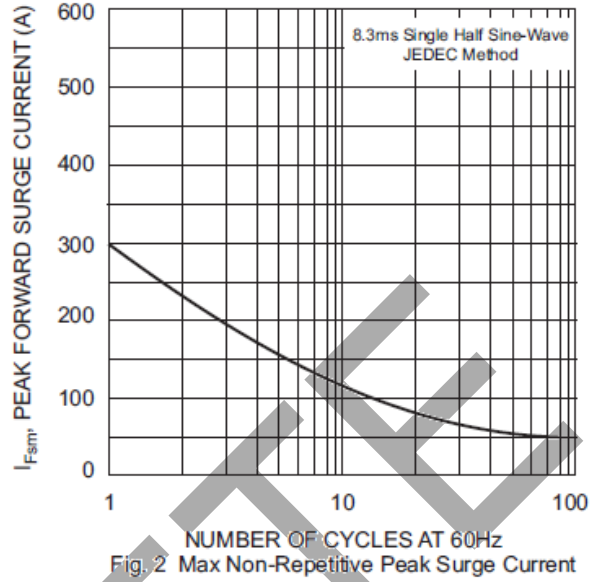


Fig. 2 Max Non-Repetitive Peak Surge Current

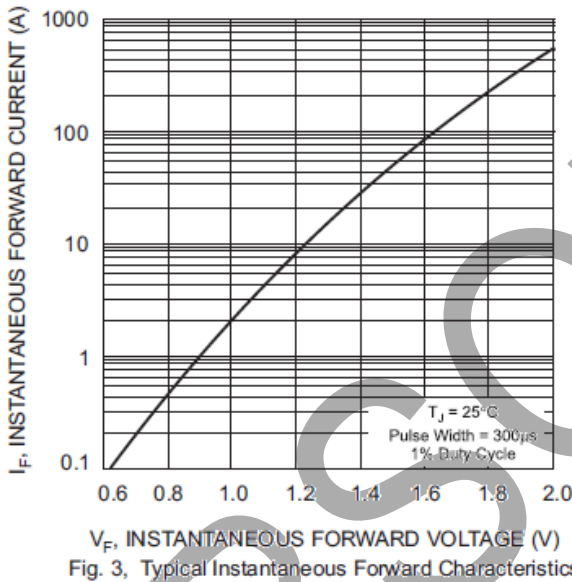


Fig. 3, Typical Instantaneous Forward Characteristics

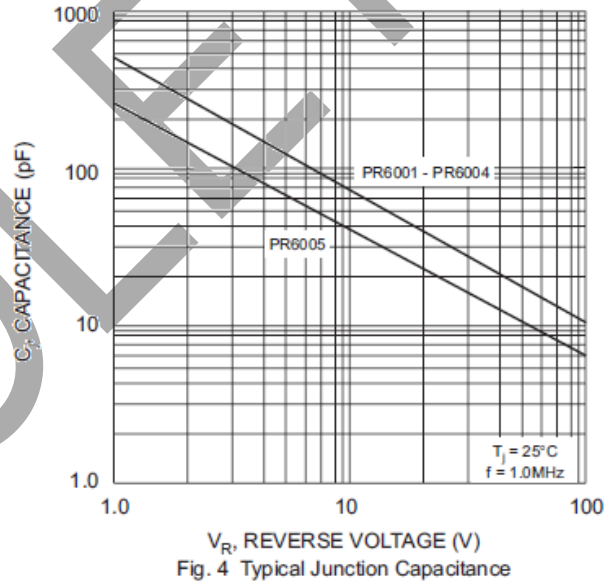
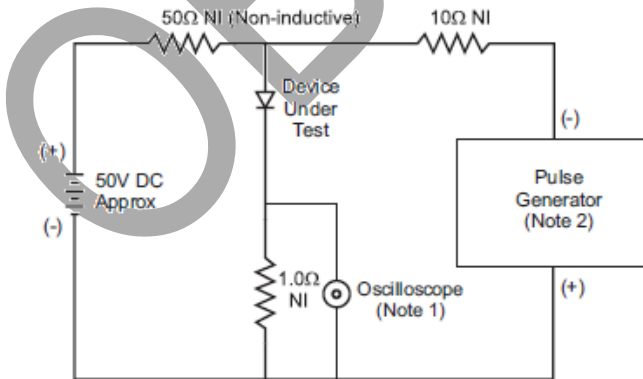


Fig. 4 Typical Junction Capacitance



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

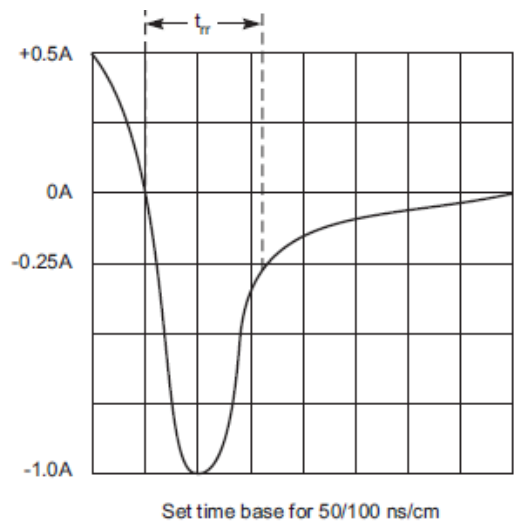


Fig. 5 Reverse Recovery Time Characteristic and Test Circuit

Ordering Information (Note 5)

Device	Packaging	Shipping
PR6001-T	R-6	500/Tape & Reel, 13-inch
PR6002-T	R-6	500/Tape & Reel, 13-inch
PR6003-T	R-6	500/Tape & Reel, 13-inch
PR6004-T	R-6	500/Tape & Reel, 13-inch
PR6005-T	R-6	500/Tape & Reel, 13-inch

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

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