



**THE DATASHEET OF  
PR1007G-T**



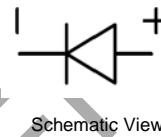
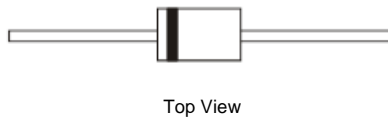
**1.0A FAST RECOVERY GLASS PASSIVATED RECTIFIER**

**Features**

- Glass Passivated Die Construction
- Fast Switching for High Efficiency
- Surge Overload Rating to 30A Peak
- Low Reverse Leakage Current
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**

**Mechanical Data**

- Case: DO-41 Plastic
- 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
- Polarity: Cathode Band
- Weight: 0.35 grams (Approximate)

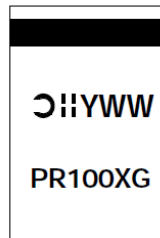


**Ordering Information** (Note 3)

Part Number	Case	Packaging
PR1001G-T	DO-41	5K/Tape & Reel, 13-inch
PR1002G-T	DO-41	5K/Tape & Reel, 13-inch
PR1003G-T	DO-41	5K/Tape & Reel, 13-inch
PR1004G-T	DO-41	5K/Tape & Reel, 13-inch
PR1005G-T	DO-41	5K/Tape & Reel, 13-inch
PR1006G-T	DO-41	5K/Tape & Reel, 13-inch
PR1007G-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 <http://www.diodes.com/products/packages.html>.

**Marking Information**



PR100XG = Product Type Marking Code  
X = 1, 2, 3, 4, 5, 6, 7  
 = Manufacturers' Code Marking  
YWW = Date Code Marking  
Y = Last Digit of Year (ex: 4 for 2014)  
WW = Week Code (01 to 53)

**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	PR1001 G	PR1002 G	PR1003 G	PR1004 G	PR1005 G	PR1006 G	PR1007 G	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage (Note 7)	V <sub>RRM</sub> V <sub>RWM</sub> V <sub>R</sub>	50	100	200	400	600	800	1000	V
RMS Reverse Voltage	V <sub>R(RMS)</sub>	35	70	140	280	420	560	700	V
Average Rectified Output Current (Note 4) @ T <sub>A</sub> = +55°C	I <sub>O</sub>	1.0							A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I <sub>FSM</sub>	30							A
Forward Voltage Drop @ I <sub>F</sub> = 1.0A	V <sub>FM</sub>	1.3							V
Peak Reverse Current @ T <sub>A</sub> = +25°C at Rated DC Blocking Voltage (Note 7) @ T <sub>A</sub> = +100°C	I <sub>RM</sub>	5.0 50							μA
Reverse Recovery Time (Note 6)	t <sub>RR</sub>	150				250	500		ns
Typical Total Capacitance (Note 5)	C <sub>T</sub>	15				8			pF

**Thermal Characteristics**

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance Junction to Ambient (Note 4)	R <sub>θJA</sub>	95	°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-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<sub>F</sub> = 0.5A, I<sub>R</sub> = 1.0A, I<sub>RR</sub> = 0.25A. See Figure 5.
  7. Short duration pulse test used to minimize self-heating effect.

NOT RECOMMENDED FOR NEW DESIGN

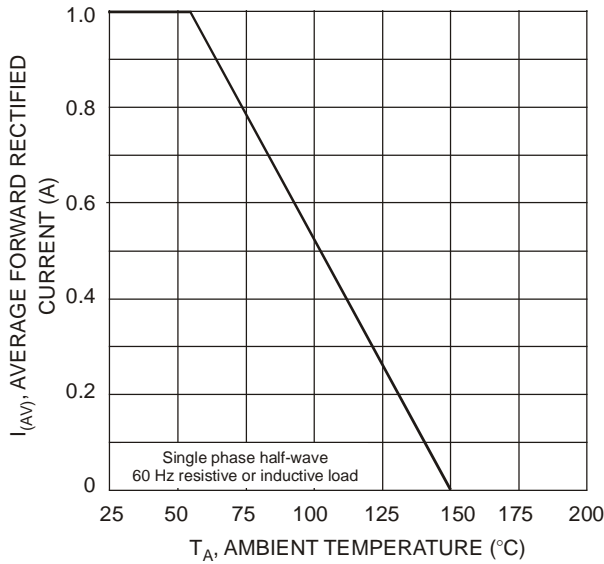


Fig. 1 Forward Derating Curve

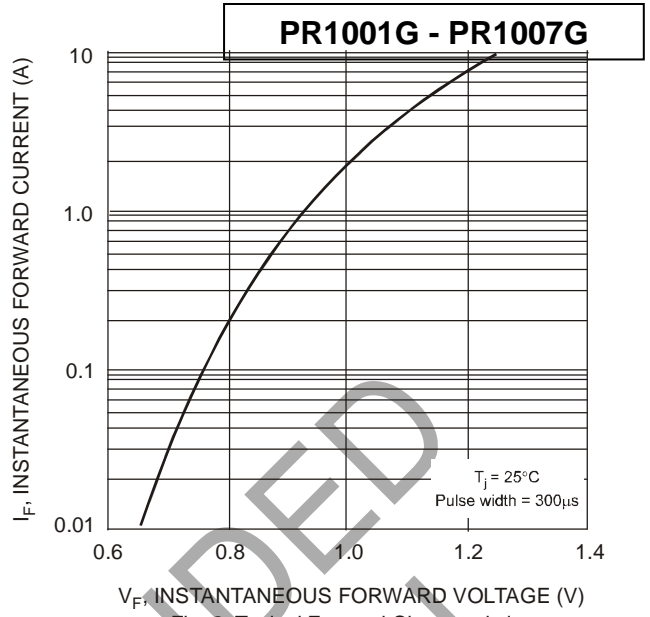


Fig. 2 Typical Forward Characteristics

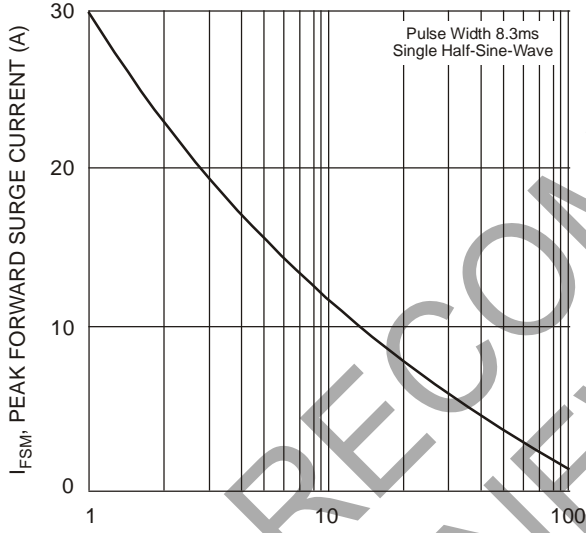


Fig. 3 Peak Forward Surge Current

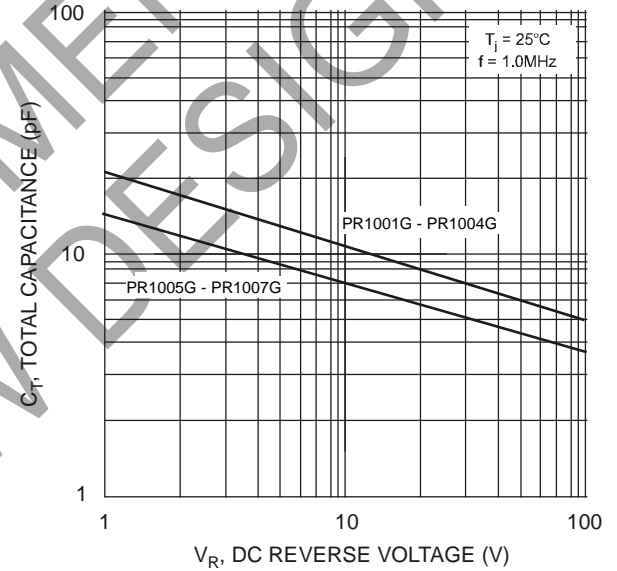
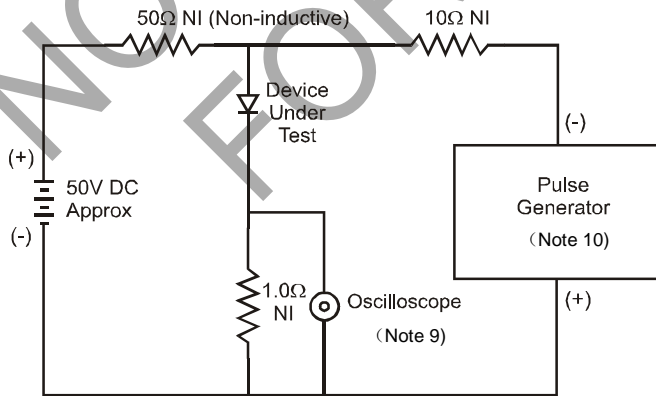
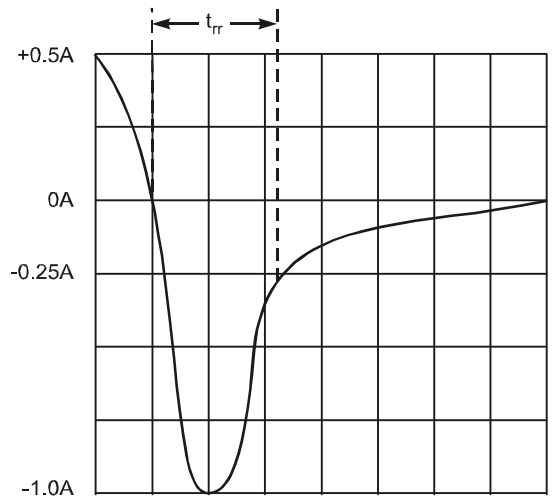


Fig. 4 Typical Total Capacitance



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



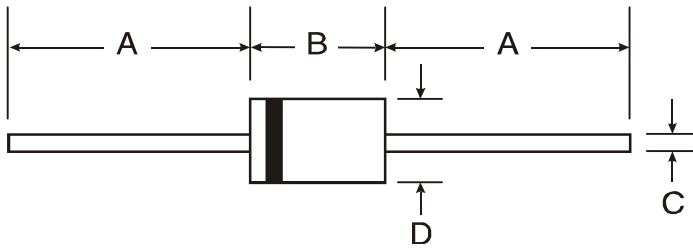
Set time base for 50/100 ns/cm

Fig. 5 Reverse Recovery Time Characteristic and Test Circuit

**Package Outline Dimensions**

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

DO-41 (Plastic)



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

NOT RECOMMENDED FOR NEW DESIGN

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