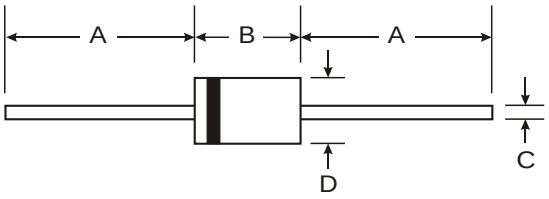
PR1001G/L - PR1007G/L

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 (Note 4)**



Mechanical Data

- Case: DO-41 Plastic, A-405
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Finish - Tin. Plated Leads Solderable per MIL-STD-202, Method 208 (e3)
- Polarity: Cathode Band
- Marking: Type Number
- Ordering Information: See Last Page
- DO-41 Weight: 0.35 grams (approximate)
- A-405 Weight: 0.20 grams (approximate)

Dim	DO-41 Plastic		A-405	
	Min	Max	Min	Max
A	25.40	¾	25.40	¾
B	4.06	5.21	4.10	5.20
C	0.71	0.864	0.53	0.64
D	2.00	2.72	2.00	2.70
All Dimensions in mm				

"GL" Suffix Designates A-405 Package
"G" Suffix Designates DO-41 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	PR1001 G/GL	PR1002 G/GL	PR1003 G/GL	PR1004 G/GL	PR1005 G/GL	PR1006 G/GL	PR1007 G/GL	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage (Note 5)	V_{RRM} V_{RWM} V_R	50	100	200	400	600	800	1000	V
RMS Reverse Voltage	$V_{R(RMS)}$	35	70	140	280	420	560	700	V
Average Rectified Output Current (Note 1) @ T_A = 55°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}	1.3							V
Peak Reverse Current @ T_A = 25°C at Rated DC Blocking Voltage (Note 5) @ T_A = 100°C	I_{RM}	5.0 50							μA
Reverse Recovery Time (Note 3)	t_{rr}	150				250	500		ns
Typical Total Capacitance (Note 2)	C_T	15				8			pF
Typical Thermal Resistance Junction to Ambient	$R_{\theta JA}$	95							°C/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.*
5. Short duration pulse test used to minimize self-heating effect.

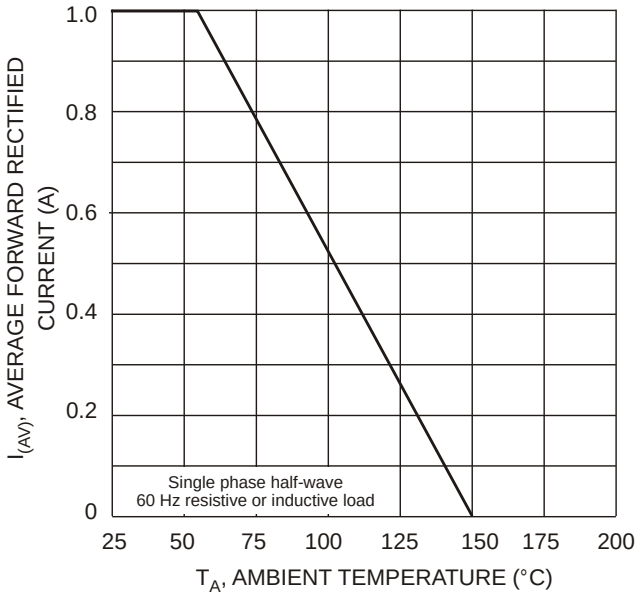


Fig. 1 Forward Derating Curve

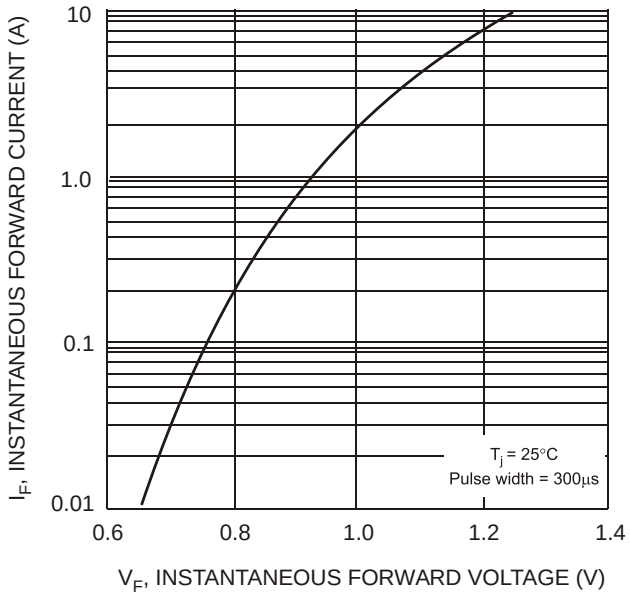


Fig. 2 Typical Forward Characteristics

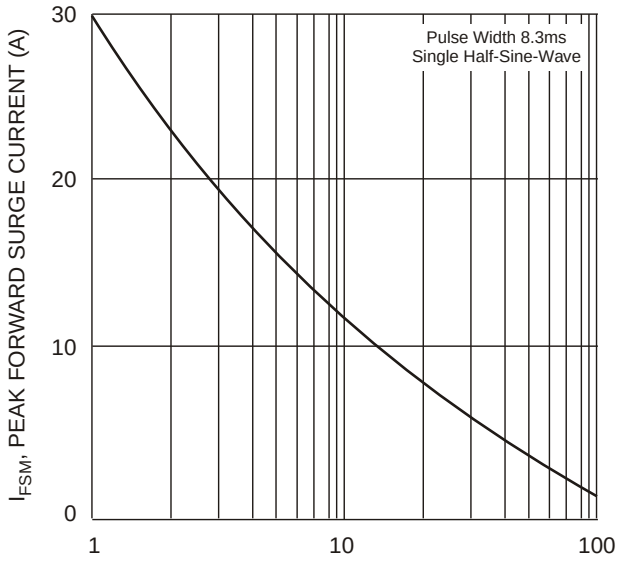


Fig. 3 Peak Forward Surge Current

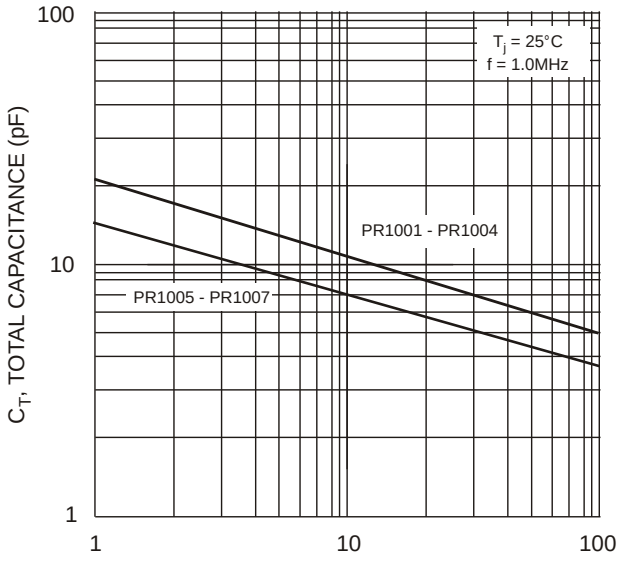
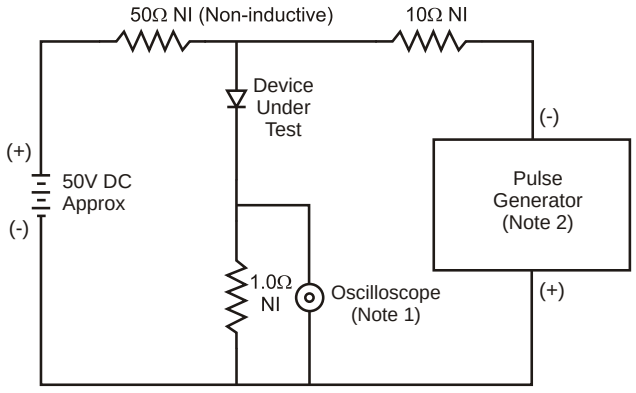


Fig. 4 Typical Total Capacitance



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

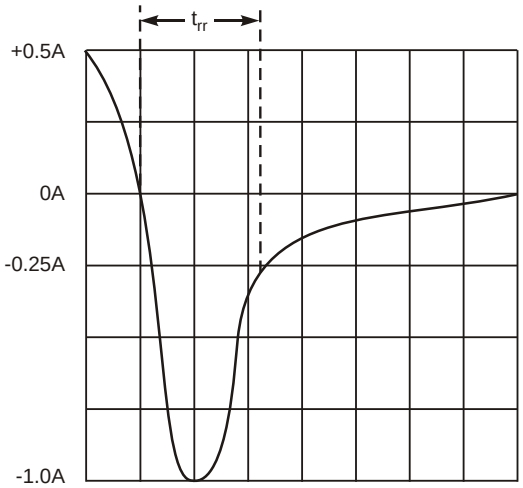


Fig. 5 Reverse Recovery Time Characteristic and Test Circuit

Ordering Information (Note 6)

Device	Packaging	Shipping
PR1001G-A	DO-41	5K/Ammo Pack
PR1001G-B	DO-41	1K/Bulk
PR1001G-T	DO-41	5K/Tape & Reel, 13-inch
PR1002G-A	DO-41	5K/Ammo Pack
PR1002G-B	DO-41	1K/Bulk
PR1002G-T	DO-41	5K/Tape & Reel, 13-inch
PR1003G-A	DO-41	5K/Ammo Pack
PR1003G-B	DO-41	1K/Bulk
PR1003G-T	DO-41	5K/Tape & Reel, 13-inch
PR1004G-A	DO-41	5K/Ammo Pack
PR1004G-B	DO-41	1K/Bulk
PR1004G-T	DO-41	5K/Tape & Reel, 13-inch
PR1005G-A	DO-41	5K/Ammo Pack
PR1005G-B	DO-41	1K/Bulk
PR1005G-T	DO-41	5K/Tape & Reel, 13-inch
PR1001GL-T	A-405	5K/Tape & Reel, 13-inch
PR1002GL-T	A-405	5K/Tape & Reel, 13-inch
PR1003GL-T	A-405	5K/Tape & Reel, 13-inch
PR1004GL-T	A-405	5K/Tape & Reel, 13-inch
PR1005GL-T	A-405	5K/Tape & Reel, 13-inch

Notes: 6. For packaging details, visit our website at http://www.diodes.com/datasheets/ap02008.pdf.