

# RGP50A-RGP50M

Fast Recovery Rectifiers

**VOLTAGE RANGE: 50 --- 1000 V**

**CURRENT: 5.0 A**

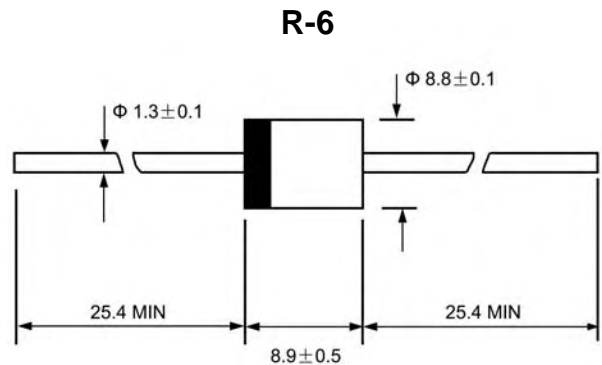


## Features

- ◇ Low cost
- ◇ Glass passivated junction
- ◇ Low leakage
- ◇ Low forward voltage drop
- ◇ High current capability
- ◇ Easily cleaned with Freon, Alcohol, Isopropanol and similar solvents
- ◇ The plastic material carries U/L recognition 94V-0

## Mechanical Data

- ◇ Case: JEDEC R-6, molded plastic
- ◇ Polarity: Color band denotes cathode
- ◇ Weight: 0.072 ounces, 2.04 grams
- ◇ Mounting position: Any



Dimensions in millimeters

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load. For capacitive load, derate by 20%.

		RGP 50A	RGP 50B	RGP 50D	RGP 50G	RGP 50J	RGP 50K	RGP 50M	UNITS
Maximum recurrent peak reverse voltage	$V_{RRM}$	50	100	200	400	600	800	1000	V
Maximum RMS voltage	$V_{RMS}$	35	70	140	280	420	560	700	V
Maximum DC blocking voltage	$V_{DC}$	50	100	200	400	600	800	1000	V
Maximum average forward rectified current 9.5mm lead length, @ $T_A=55^\circ\text{C}$	$I_{F(AV)}$	5.0							A
Peak forward surge current 8.3ms single half-sine-wave superimposed on rated load @ $T_J=125^\circ\text{C}$	$I_{FSM}$	300							A
Maximum instantaneous forward voltage @ 5.0 A	$V_F$	1.3							V
Maximum reverse current @ $T_A=25^\circ\text{C}$ at rated DC blocking voltage @ $T_A=100^\circ\text{C}$	$I_R$	5.0 100.0							$\mu\text{A}$
Maximum reverse recovery time (Note1)	$t_{rr}$	150				250	500		ns
Typical junction capacitance (Note2)	$C_J$	32							pF
Typical thermal resistance (Note3)	$R_{\theta JA}$	10							$^\circ\text{C}/\text{W}$
Operating junction temperature range	$T_J$	- 55---- +175							$^\circ\text{C}$
Storage temperature range	$T_{STG}$	- 55---- + 175							$^\circ\text{C}$

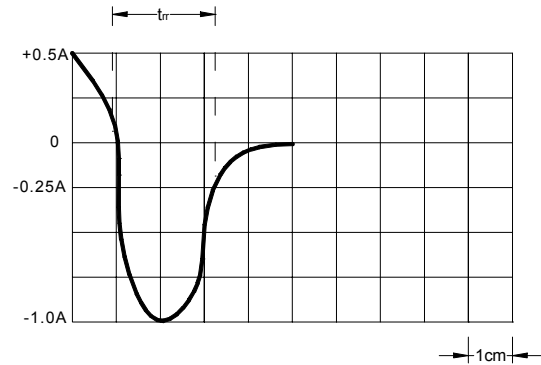
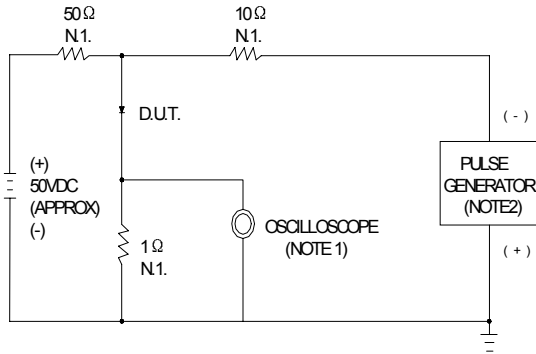
NOTE:1. Measured with  $I_F=0.5\text{A}$ ,  $I_R=1\text{A}$ ,  $t_{rr}=0.25\text{A}$ .

2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.

3. Thermal resistance from junction to ambient.

### Ratings AND Characteristic Curves

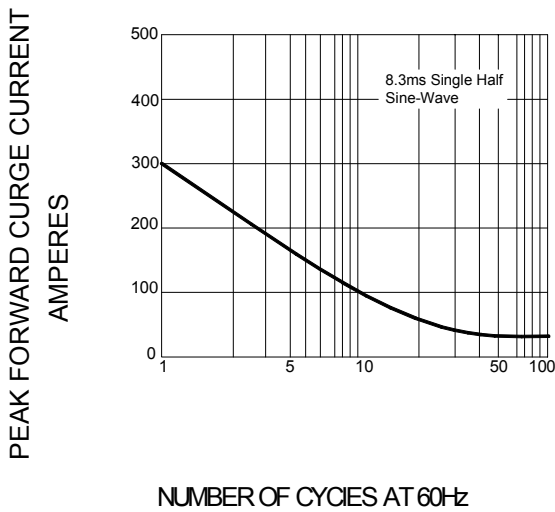
**FIG.1 –REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM**



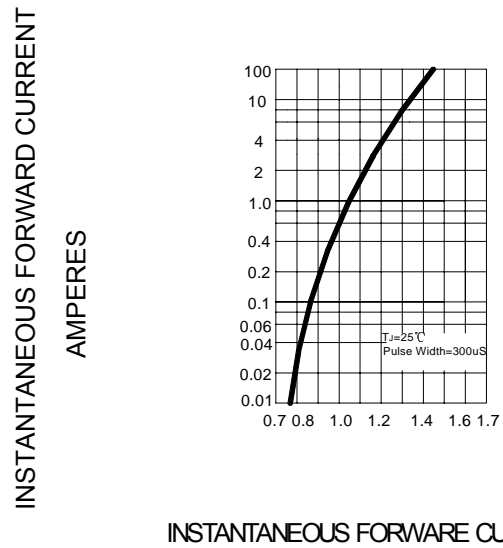
NOTES: 1. RESE TIME=7ns MAX.INPUT IMPEDANCE=1MΩ.22pF.  
2. RESE TIME=10ns MAX.SOURCE IMPEDANCE=500Ω.

SET TIME BASE FOR 50/100 ns /cm

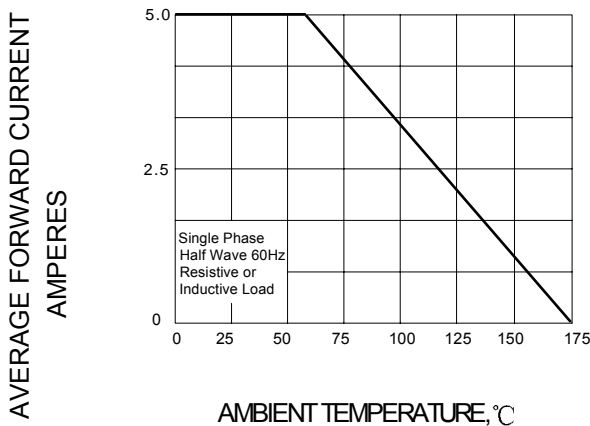
**FIG.2 –PEAK FORWARD SURGE CURRENT**



**FIG.3–TYPICAL FORWARD CHARACTERISTICS**



**FIG.4–FORWARD CURRENT DERATING CURVE**



**FIG.5–TYPICAL REVERSE CHARACTERISTICS**

