



## FAST RECOVERY RECTIFIER

VOLTAGE RANGE: 50 --- 1000 V

CURRENT: 1.0 A

**RGP10A(Z)---RGP10M(Z)**

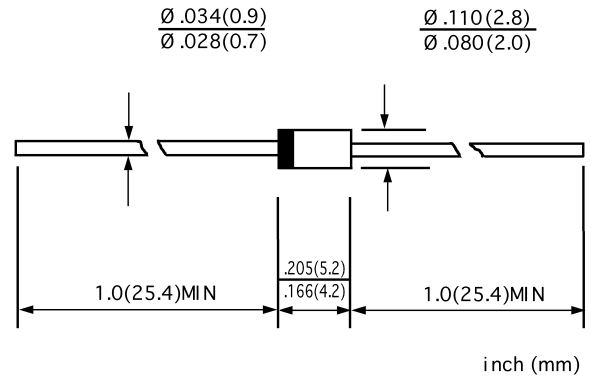
### FEATURES

- ◇ Low cost
- ◇ Diffused 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 DO-41,molded plastic
- ◇ Terminals: Axial lead ,solderable per MIL- STD-202,Method 208
- ◇ Polarity: Color band denotes cathode
- ◇ Weight: 0.012ounces,0.34 grams
- ◇ Mounting position: Any

### DO - 41



### 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 10A	RGP 10B	RGP 10D	RGP 10G	RGP 10J	RGP 10K	RGP 10M	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, @ $T_A=75^\circ\text{C}$	$I_{F(AV)}$	1.0							A
Peak forward surge current 8.3ms single half-sine-wave superimposed on rated load @ $T_J=125^\circ\text{C}$	$I_{FSM}$	30.0							A
Maximum instantaneous forward voltage @ 1.0 A	$V_F$	1.3							V
Maximum reverse current @ $T_A=25^\circ\text{C}$ at rated DC blocking voltage @ $T_A=100^\circ\text{C}$	$I_R$	10.0 200.0							$\mu\text{A}$
Maximum reverse recovery time (Note1)	$t_{rr}$	150				250	500		ns
Typical junction capacitance (Note2)	$C_J$	15							pF
Typical thermal resistance (Note3)	$R_{\theta JA}$	50							$^\circ\text{C}/\text{W}$
Operating junction temperature range	$T_J$	- 55---- + 150							$^\circ\text{C}$
Storage temperature range	$T_{STG}$	- 55---- + 150							$^\circ\text{C}$

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

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

3. Thermal resistance from junction to ambient.

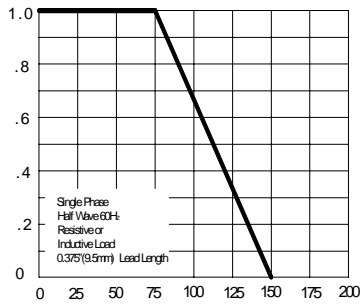
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**VOLTAGE RANGE: 50 --- 1000 V**  
**CURRENT: 1.0 A**

AVERAGE FORWARD RECTIFIED CURRENT AMPERES

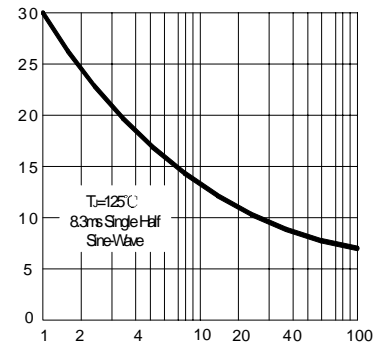
**FIG.1 – FORWARD DERATING CURVE**



AMBIENT TEMPERATURE, °C

PEAK FORWARD SURGE CURRENT AMPERES

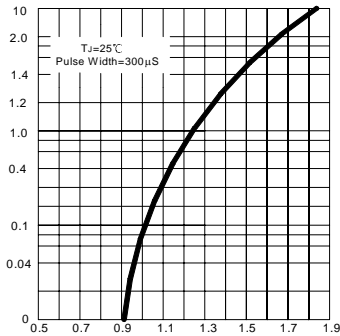
**FIG.2-PEAK FORWARD SURGE CURRENT**



NUMBER OF CYCLES AT 60 Hz

**FIG.3-TYPICAL FORWARD CHARACTERISTIC**

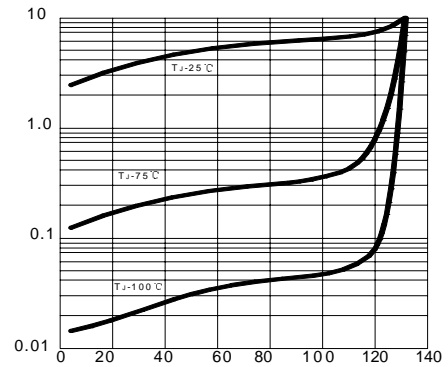
FORWARD CURRENT AMPERES



REVERSE VOLTAGE, VOLTS

**FIG.4 -REVERSE CURRENT VS REVERSE VOTAGE**

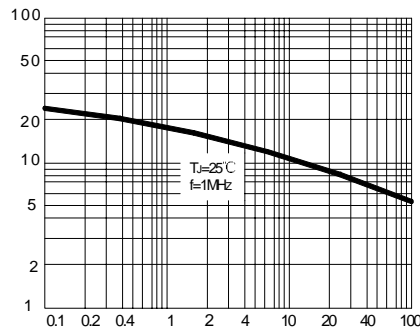
REVERSE CURRENT AMPERES



PERCENT OF RATED PEAK REVERSE VOLTAGE, %

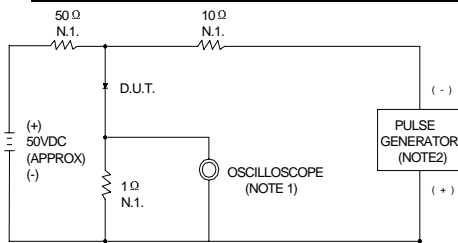
**FIG.5 – TYPICAL JUNCTION CAPACITANCE**

JUNCTION CAPACITANCE,pF

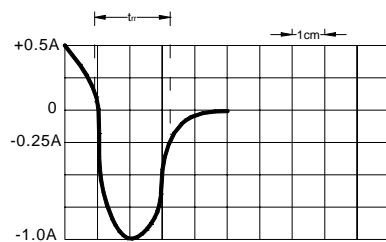


REVERSE VOLTAGE, VOLTS

**FIG.6 – REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM**



NOTES:1.RISE TIME=7ns MAX. INPUT IMPEDANCE=1MΩ,22pF  
 2.RISE TIME=10ns MAX. SOURCE IMPEDANCE=50Ω



SET TIME BASE FOR 50/100 ns /cm