



# RGP20A THRU RGP20M

2.0 AMPS. Glass Passivated Junction Fast Recovery Rectifiers



Voltage Range  
50 to 1000 Volts  
Current  
2.0 Amperes

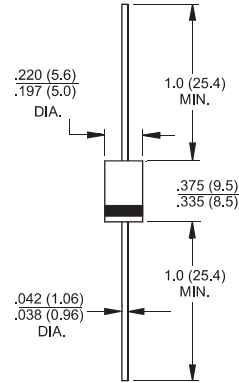
## Features

- ✦ High temperature metallurgically bonded constructed
- ✦ Plastic material used carries Underwriters Laboratory Classification 94V-0
- ✦ Glass passivated cavity-free junction
- ✦ Capable of meeting environmental standards of MIL-S-19500
- ✦ 2.0 amperes operation at  $T_A=55^\circ\text{C}$  with no thermal runaway
- ✦ Typical  $I_R$  less than 0.2 uA
- ✦ High temperature soldering guaranteed:  $350^\circ\text{C}/10\text{seconds}/.375''(9.5\text{mm})$  lead length at 5 lbs., 2.3 kg tension

## Mechanical Data

- ✦ Cases: JEDEC DO-201 molded plastic over glass body
- ✦ Lead: Plated Axial leads, solderable per MIL-STD-750, Method 2026
- ✦ Polarity: Color band denotes cathode end
- ✦ Mounting position: Any
- ✦ Weight: 0.03 ounce, 0.8 gram

## DO-201



Dimensions in inches and (millimeters)

## Maximum Ratings and Electrical Characteristics

Rating at  $25^\circ\text{C}$  ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load.

For capacitive load, derate current by 20%

| Type Number   | Symbol          | RGP 20A      | RGP 20B | RGP 20D | RGP 20G | RGP 20J | RGP 20K | RGP 20M | 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<br>.375" (9.5mm) Lead Length @ $T_A = 55^\circ\text{C}$             | $I_{(AV)}$      | 2.0          |         |         |         |         |         |         | A                              |
| Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)            | $I_{FSM}$       | 80.0         |         |         |         |         |         |         | A                              |
| Maximum Instantaneous Forward Voltage @ 2.0A  | $V_F$           | 1.3          |         |         |         |         |         |         | V                              |
| Maximum Full Load Reverse Current, Full Cycle Average 0.375" (9.3mm) Lead Length at $T_A=55^\circ\text{C}$    | $HT_{IR}$       | 100          |         |         |         |         |         |         | $\mu\text{A}$                  |
| Maximum DC Reverse Current @ $T_A=25^\circ\text{C}$<br>at Rated DC Blocking Voltage @ $T_A=125^\circ\text{C}$ | $I_R$           | 5.0<br>200   |         |         |         |         |         |         | $\mu\text{A}$<br>$\mu\text{A}$ |
| Maximum Reverse Recovery Time ( Note 1 )  | $T_{rr}$        | 150          |         |         |         | 250     | 500     |         | nS                             |
| Typical Junction Capacitance ( Note 2 )   | $C_j$           | 30           |         |         |         |         |         |         | pF                             |
| Typical Thermal Resistance (Note 3)   | $R_{\theta JA}$ | 40           |         |         |         |         |         |         | $^\circ\text{C}/\text{W}$      |
| Operating and Storage Temperature Range   | $T_J, T_{STG}$  | -65 to + 175 |         |         |         |         |         |         | $^\circ\text{C}$               |

Notes: 1. Reverse Recovery Test Conditions:  $I_F=0.5\text{A}$ ,  $I_R=1.0\text{A}$ ,  $I_{RR}=0.25\text{A}$

2. Measured at 1.0 MHz and Applied  $V_R=4.0$  Volts

3. Mount on Cu-Pad Size 10mm x 10mm on P.C.B.

## RATINGS AND CHARACTERISTIC CURVES (RGP20A THRU RGP20M)

FIG.1- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

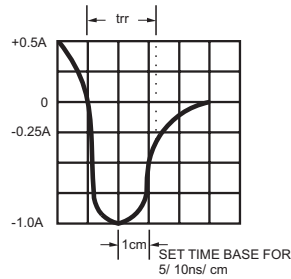
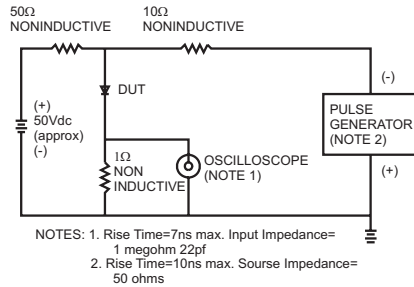


FIG.2- MAXIMUM FORWARD CURRENT DERATING CURVE

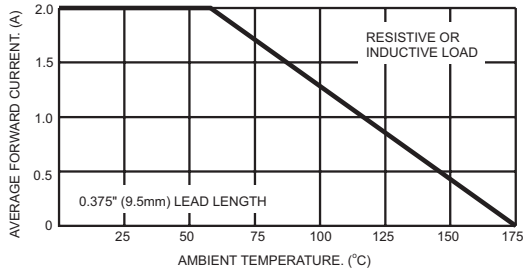


FIG.3- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

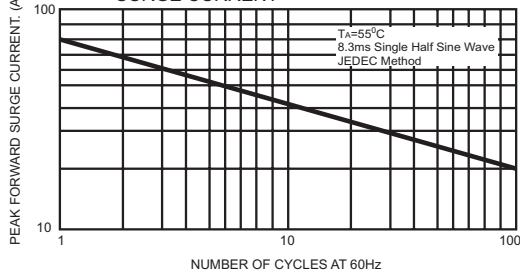


FIG.4- TYPICAL JUNCTION CAPACITANCE

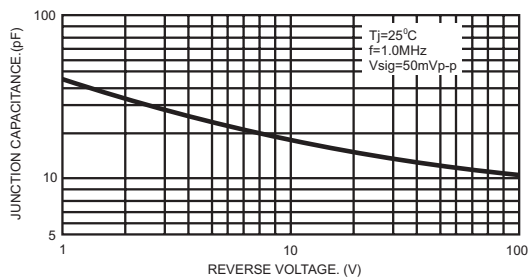


FIG.5- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

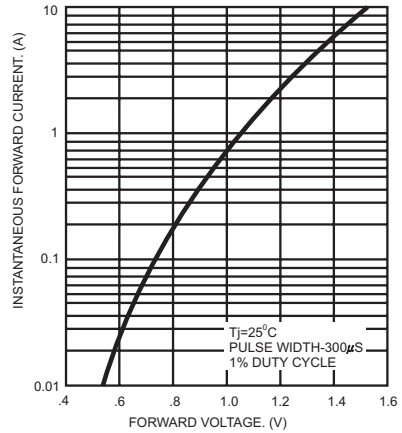


FIG.6- TYPICAL REVERSE CHARACTERISTICS

