

## GP02-12E THRU GP02-20E



**SINTERED GLASS JUNCTION  
FAST SWITCHING PLASTIC RECTIFIER**  
VOLTAGE:1200 TO 2000V      CURRENT: 0.5A

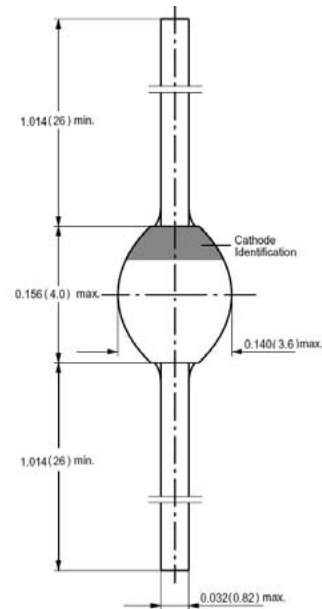
### FEATURE

High temperature metallurgically bonded construction  
Sintered glass cavity free junction  
Capability of meeting environmental standard of MIL-S-19500  
High temperature soldering guaranteed  
350°C/10sec/0.375"lead length at 5 lbs tension  
Operate at  $T_a = 55^\circ\text{C}$  with no thermal run away  
Typical  $I_r < 0.2\mu\text{A}$

### MECHANICAL DATA

Terminal: Plated axial leads solderable per J-STD-002  
Case: Molded with UL-94 Class V-0 recognized Flame Retardant Epoxy  
Polarity: color band denotes cathode  
Mounting position: any

### SOD-57



Dimensions in inches and (millimeters)

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

(single-phase, half-wave, 60HZ, resistive or inductive load rating at  $25^\circ\text{C}$ , unless otherwise stated)

|                                                                                                            | SYMBOL         | GP02<br>-12E | GP02<br>-14E | GP02<br>-16E | GP02<br>-18E | GP02<br>-20E | units                     |
|------------------------------------------------------------------------------------------------------------|----------------|--------------|--------------|--------------|--------------|--------------|---------------------------|
| Maximum Recurrent Peak Reverse Voltage                                                                     | $V_{rrm}$      | 1200         | 1400         | 1600         | 1800         | 2000         | V                         |
| Maximum RMS Voltage                                                                                        | $V_{rms}$      | 840          | 980          | 1120         | 1360         | 1400         | V                         |
| Maximum DC blocking Voltage                                                                                | $V_{dc}$       | 1200         | 1400         | 1600         | 1800         | 2000         | V                         |
| Maximum Average Forward Rectified Current 3/8"lead length at $T_a = 55^\circ\text{C}$                      | $I_{f(av)}$    | 0.5          |              |              |              |              | A                         |
| Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load                          | $I_{fsm}$      | 20.0         |              |              |              |              | A                         |
| Maximum Forward Voltage at 0.1A and $25^\circ\text{C}$                                                     | $V_f$          | 1.8          |              |              |              |              | V                         |
| Maximum full load reverse current full cycle Average at $55^\circ\text{C}$ Ambient                         | $I_r(av)$      | 100          |              |              |              |              | $\mu\text{A}$             |
| Maximum DC Reverse Current $T_a = 25^\circ\text{C}$ at rated DC blocking voltage $T_a = 125^\circ\text{C}$ | $I_r$          | 5.0<br>50.0  |              |              |              |              | $\mu\text{A}$             |
| Maximum Reverse Recovery Time (Note 1)                                                                     | $T_{rr}$       | 300          |              |              |              |              | nS                        |
| Typical Junction Capacitance (Note 2)                                                                      | $C_j$          | 5.0          |              |              |              |              | pF                        |
| Typical Thermal Resistance (Note 3)                                                                        | $R_{th(ja)}$   | 65.0         |              |              |              |              | $^\circ\text{C}/\text{W}$ |
| Storage and Operating Junction Temperature                                                                 | $T_{stg}, T_j$ | -65 to +175  |              |              |              |              | $^\circ\text{C}$          |

Note:

1. Reverse Recovery Condition  $I_f = 0.5\text{A}$ ,  $I_r = 1.0\text{A}$ ,  $I_{rr} = 0.25\text{A}$
2. Measured at 1.0 MHz and applied reverse voltage of 4.0Vdc
3. Thermal Resistance from Junction to Ambient at 3/8"lead length, P.C. Board Mounted

FIG. 1 - FORWARD CURRENT DERATING CURVE

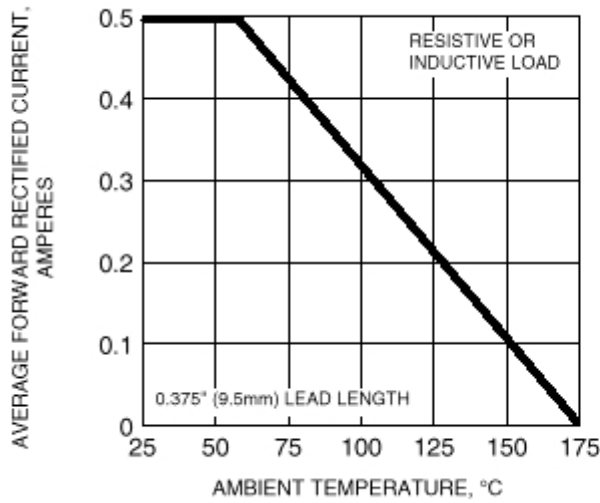


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

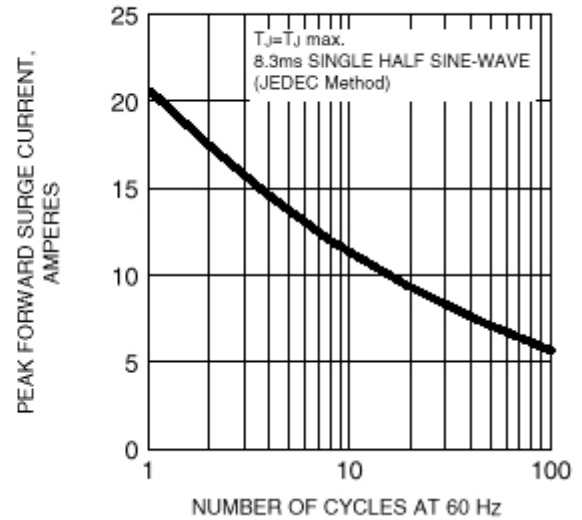


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

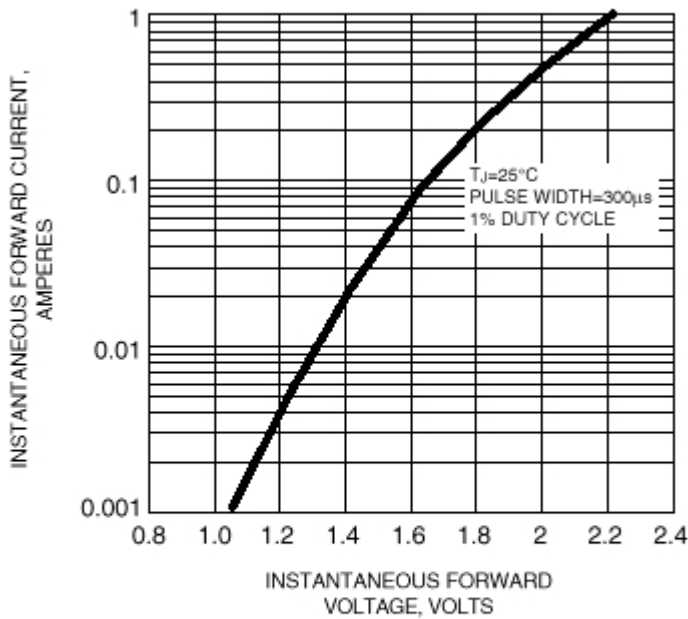


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

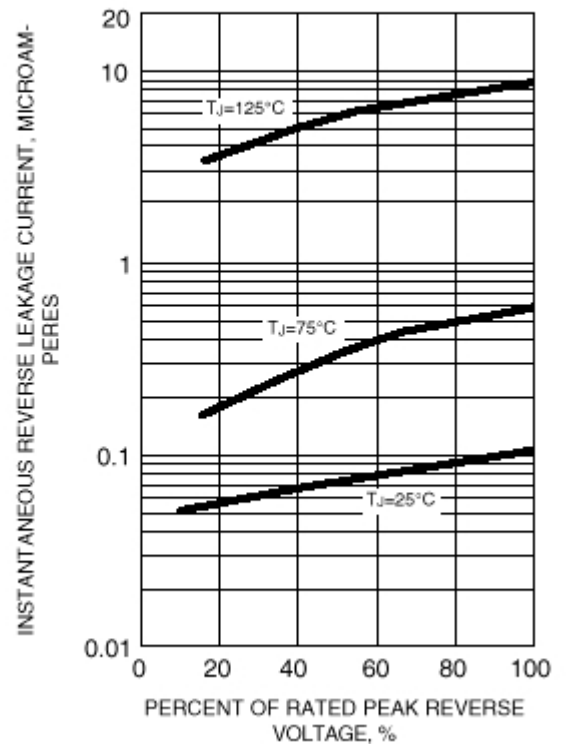


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

