

## GUF02-12E THRU GUF02-20E



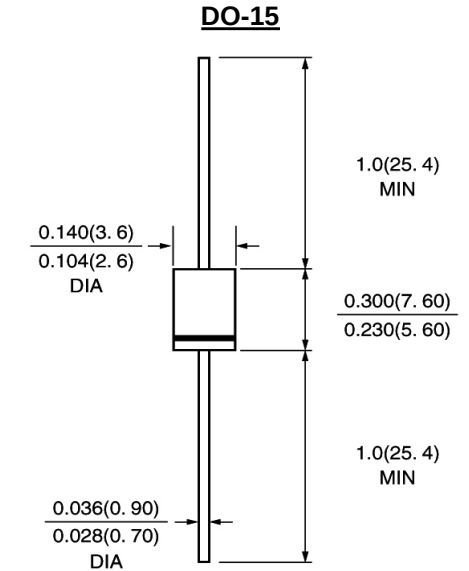
**SINTERED GLASS JUNCTION  
FAST SWITCHING PLASTIC RECTIFIER**  
VOLTAGE:1200 TO 2000V      CURRENT: 0.25A

### 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  $I_r < 0.5\mu\text{A}$

### MECHANICAL DATA

Terminal:Plated axial leads solderable per MIL-STD 202E, method 208C  
Case:Molded with UL-94 Class V-0 recognized Flame Retardant Epoxy  
Polarity:color band denotes cathode  
Mounting position:any



Dimensions in inches and (millimeters)

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

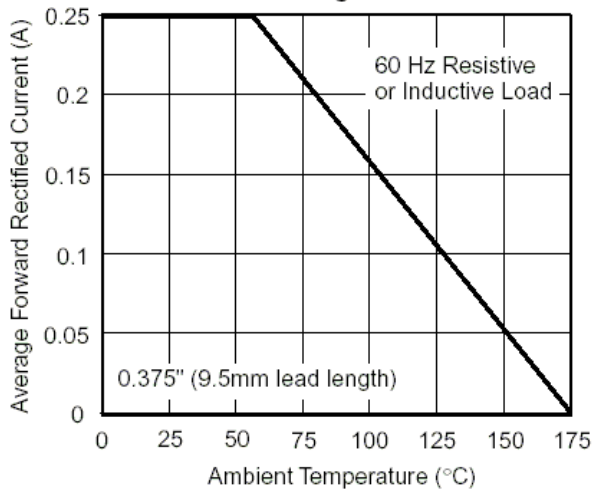
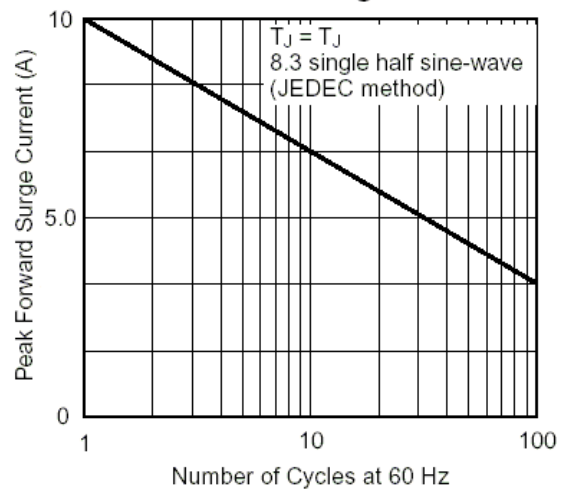
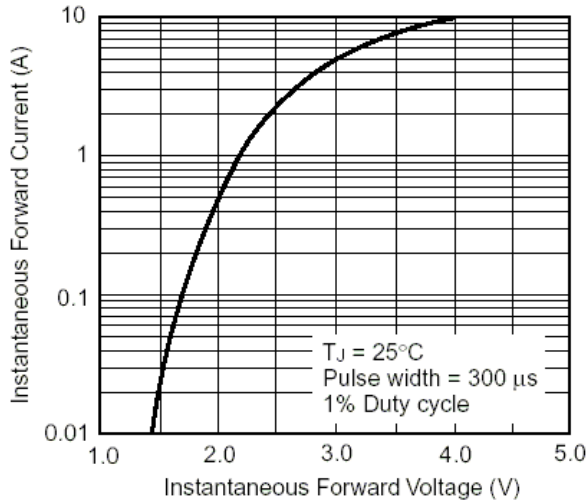
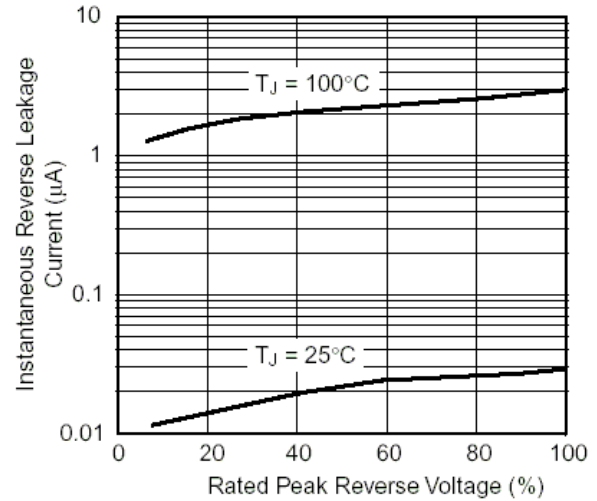
(single-phase, half-wave, 60HZ, resistive or inductive load rating at  $25^\circ\text{C}$ , unless otherwise stated)

|                                                                                                            | SYMBOL         | GUF02<br>-12E | GUF02<br>-14E | GUF02<br>-16E | GUF02<br>-18E | GUF02<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 $T_a = 55^\circ\text{C}$                      | $I_f(av)$      | 0.25          |               |               |               |               | A                              |
| Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load                          | $I_{fsm}$      | 10.0          |               |               |               |               | A                              |
| Maximum Forward Voltage at 0.25A and $25^\circ\text{C}$                                                    | $V_f$          | 6.0           |               |               |               |               | 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 $T_a = 125^\circ\text{C}$ | $I_r$          | 10.0<br>300.0 |               |               |               |               | $\mu\text{A}$<br>$\mu\text{A}$ |
| Maximum Reverse Recovery Time (Note 1)                                                                     | $T_{rr}$       | 75            |               |               |               |               | nS                             |
| Typical Junction Capacitance (Note 2)                                                                      | $C_j$          | 5.0           |               |               |               |               | pF                             |
| Typical Thermal Resistance (Note 3)                                                                        | $R(ja)$        | 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. B
4. oard Mounted<sup>1</sup>

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**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**
