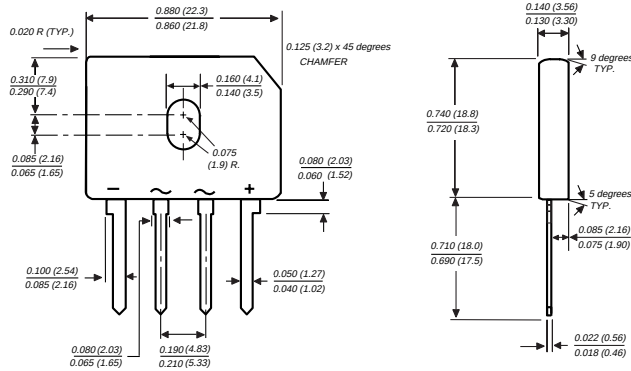


# GBU8A THRU GBU8M

## GLASS PASSIVATED SINGLE-PHASE BRIDGE RECTIFIER

Reverse Voltage - 50 to 1000 Volts      Forward Current - 8.0 Amperes

### Case Style GBU

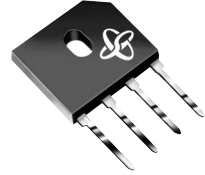


Polarity shown on front side of case, positive lead by beveled corner

Dimensions in inches and (millimeters)

### FEATURES

- ◆ Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- ◆ This series is UL listed under the Recognized Component Index, file number E54214
- ◆ High case dielectric strength of 1500 VRMS
- ◆ Ideal for printed circuit boards
- ◆ Glass passivated chip junction
- ◆ High forward surge current capability
- ◆ Typical  $I_R$  less than  $0.5\mu A$
- ◆ High temperature soldering guaranteed:  
260°C/10 seconds, 0.375 (9.5mm) lead length,  
5lbs. (2.3kg) tension



### MECHANICAL DATA

**Case:** Molded plastic body over passivated junctions

**Terminals:** Plated leads solderable per MIL-STD-750, Method 2026

**Mounting Position:** Any (NOTE 3)

**Mounting Torque:** 5 in. - lbs. max.

**Weight:** 0.15 ounce, 4.0 grams

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

|                                                                                                                     | SYMBOLS                              | GBU<br>8A    | GBU<br>8B | GBU<br>8D | GBU<br>8G | GBU<br>8J | GBU<br>8K | GBU<br>8M | UNITS |
|---------------------------------------------------------------------------------------------------------------------|--------------------------------------|--------------|-----------|-----------|-----------|-----------|-----------|-----------|-------|
| Maximum repetitive peak reverse voltage                                                                             | V <sub>RRM</sub>                     | 50           | 100       | 200       | 400       | 600       | 800       | 1000      | Volts |
| Maximum RMS voltage                                                                                                 | V <sub>RMS</sub>                     | 35           | 70        | 140       | 280       | 420       | 560       | 700       | Volts |
| Maximum DC blocking voltage                                                                                         | V <sub>DC</sub>                      | 50           | 100       | 200       | 400       | 600       | 800       | 1000      | Volts |
| Maximum average forward rectified<br>output current at<br>T <sub>C</sub> =100°C (NOTE 1)                            | I <sub>(AV)</sub>                    | 8.0          |           |           |           |           |           |           | Amps  |
| Peak forward surge current single sine-wave<br>superimposed on rated load (JEDEC Method) T <sub>J</sub> =150°C      | I <sub>FSM</sub>                     | 200.0        |           |           |           |           |           |           | Amps  |
| Rating for fusing (t<8.3ms)                                                                                         | I²t                                  | 166.0        |           |           |           |           |           |           | A²sec |
| Maximum instantaneous forward voltage drop<br>per leg at 8.0A                                                       | V <sub>F</sub>                       | 1.0          |           |           |           |           |           |           | Volts |
| Maximum DC reverse current at<br>rated DC blocking voltage per leg<br>T <sub>A</sub> =25°C<br>T <sub>A</sub> =125°C | I <sub>R</sub>                       | 5.0<br>500.0 |           |           |           |           |           |           | µA    |
| Typical junction capacitance (NOTE 2)                                                                               | C <sub>J</sub>                       | 211.0        |           |           |           | 94.0      |           |           | pF    |
| Typical thermal resistance per leg (NOTE 4)<br>(NOTE 1)                                                             | R <sub>θJA</sub><br>R <sub>θJC</sub> | 21.0<br>2.2  |           |           |           |           |           |           | °C/W  |
| Operating junction and storage temperature range                                                                    | T <sub>J</sub> , T <sub>STG</sub>    | -55 to +150  |           |           |           |           |           |           | °C    |

#### NOTES:

- (1) Units case mounted on 3.2 x 3.2 x 0.12" thick (8.2 x 8.2 x 0.3cm.) Al. Plate heatsink
- (2) Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts
- (3) Recommended mounting position is to bolt down on heatsink with silicone thermal compound for maximum heat transfer with #6 screws
- (4) Units mounted in free air, no heat sink on P.C.B., 0.5 x 0.5" (12 x 12mm) copper pads, 0.375" (9.5mm) lead length

# RATINGS AND CHARACTERISTICS CURVES GBU8A THRU GBU8M

FIG. 1 - DERATING CURVE OUTPUT RECTIFIED CURRENT

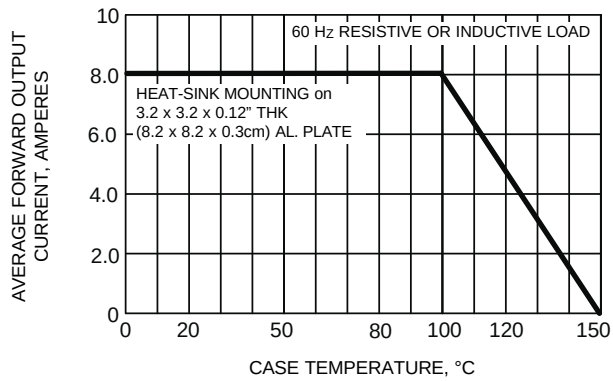


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PER LEG

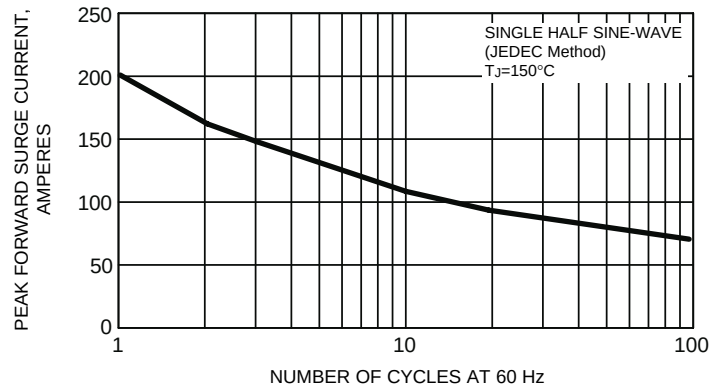


FIG. 3 - TYPICAL FORWARD CHARACTERISTICS PER LEG

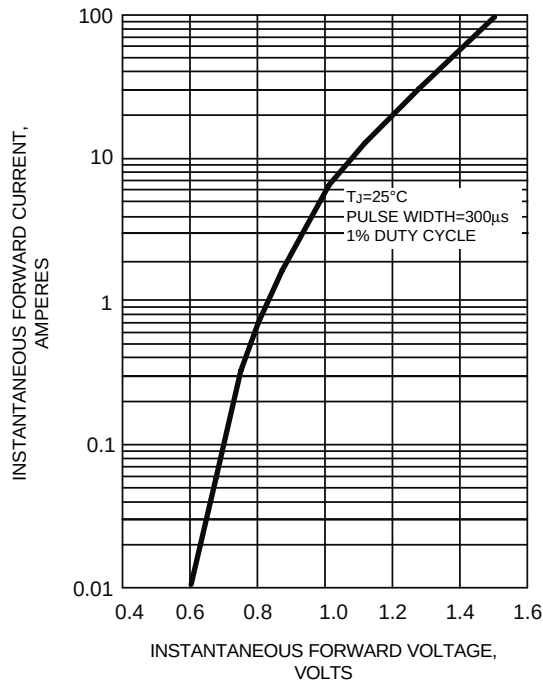


FIG. 4 - TYPICAL REVERSE LEAKAGE CHARACTERISTICS PER LEG

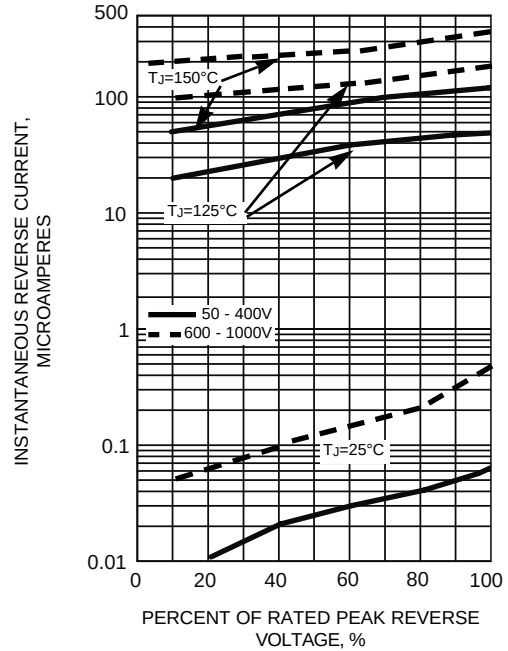


FIG. 5 - TYPICAL JUNCTION CAPACITANCE PER LEG

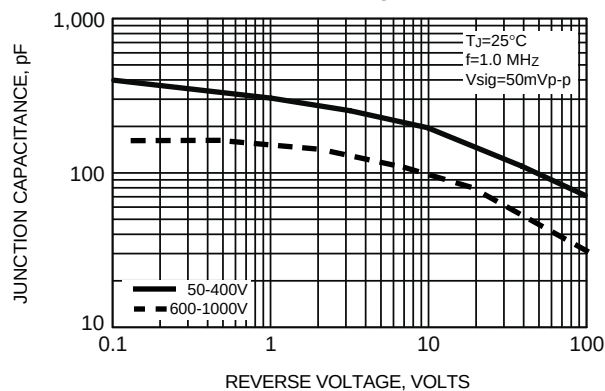


FIG. 6 - TYPICAL TRANSIENT THERMAL IMPEDANCE

