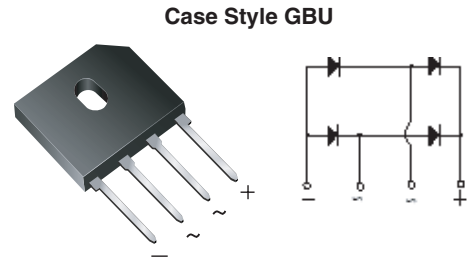


## Glass Passivated Single-Phase Bridge Rectifier

### Major Ratings and Characteristics

|             |                |
|-------------|----------------|
| $I_{F(AV)}$ | 4 A            |
| $V_{RRM}$   | 50 V to 1000 V |
| $I_{FSM}$   | 150 A          |
| $I_R$       | 5 $\mu$ A      |
| $V_F$       | 1.0 V          |
| $T_j$ max.  | 150 °C         |



### Features

- UL Recognition file number E54214
- Ideal for printed circuit boards
- High surge current capability
- High case dielectric strength of 1500  $V_{RMS}$
- Solder Dip 260 °C, 40 seconds



### Mechanical Data

**Case:** GBU

Epoxy meets UL-94V-0 Flammability rating

**Terminals:** Matte tin plated (E3 Suffix) leads, solderable per J-STD-002B and JESD22-B102D

**Polarity:** As marked on body

**Mounting Torque:** 10 cm-kg (8.8 inches-lbs) max.

**Recommended Torque:** 5.7 cm-kg (5 inches-lbs)

### Typical Applications

General purpose use in ac-to-dc bridge full wave rectification for Monitor, TV, Printer, Switching Mode Power Supply, Adapter, Audio equipment, and Home Appliances applications.

### Maximum Ratings

$T_A = 25$  °C, unless otherwise specified

| Parameter  | Symbols        | GBU4A   | GBU4B | GBU4D | GBU4G | GBU4J | GBU4K | GBU4M | Units              |
|--|----------------|---|-------|-------|-------|-------|-------|-------|--------------------|
| Maximum repetitive 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 output current at                    | $I_{F(AV)}$    | $T_C = 100$ °C <sup>(1)</sup><br>$T_A = 40$ °C <sup>(2)</sup> |       |       |       |       |       |       | A                  |
| Peak forward surge current single sine-wave superimposed on rated load | $I_{FSM}$      | 150   |       |       |       |       |       |       | A                  |
| Rating for fusing ( $t < 8.3$ ms)                                      | $I^2t$         | 93  |       |       |       |       |       |       | A <sup>2</sup> sec |
| Operating junction and storage temperature range                       | $T_J, T_{STG}$ | - 55 to + 150   |       |       |       |       |       |       | °C                 |

**Note:**

(1) Unit case mounted on 1.6 x 1.6 x 0.06" thick (4.0 x 4.0 x 0.15 cm) Al. Plate

(2) Units mounted on P.C.B. with 0.5 x 0.5" (12 x 12 mm) copper pads and 0.375" (9.5 mm) lead length

## Electrical Characteristics

$T_A = 25\text{ }^\circ\text{C}$ , unless otherwise specified

| Parameter   | Test condition  | Symbols | GBU4A      | GBU4B | GBU4D | GBU4G | GBU4J | GBU4K | GBU4M | Units |               |
|---|---|---------|------------|-------|-------|-------|-------|-------|-------|-------|---------------|
| Maximum instantaneous forward drop per leg                      | at 4.0 A  | $V_F$   | 1.0        |       |       |       |       |       |       |       | V             |
| Maximum DC reverse current at rated DC blocking voltage per leg | $T_A = 25\text{ }^\circ\text{C}$<br>$T_A = 125\text{ }^\circ\text{C}$ | $I_R$   | 5.0<br>500 |       |       |       |       |       |       |       | $\mu\text{A}$ |
| Typical junction capacitance per leg                            | at 4.0 A, 1 MHz   | $C_J$   | 100        |       |       | 45    |       |       |       |       | pF            |

## Thermal Characteristics

$T_A = 25\text{ }^\circ\text{C}$ , unless otherwise specified

| Parameter                          | Symbols  | GBU4A     | GBU4B | GBU4D | GBU4G | GBU4J | GBU4K | GBU4M | Units |                    |
|------------------------------------|--|-----------|-------|-------|-------|-------|-------|-------|-------|--------------------|
| Typical thermal resistance per leg | $R_{\theta JA}^{(2)}$<br>$R_{\theta JC}^{(1)}$ | 22<br>4.2 |       |       |       |       |       |       |       | $^\circ\text{C/W}$ |

**Note:**

- (1) Unit case mounted on Al plate heatsink
- (2) Units mounted on P.C.B. with 0.5 x 0.5" (12 x 12 mm) copper pads and 0.375" (9.5 mm) lead length

## Ratings and Characteristics Curves

( $T_A = 25\text{ }^\circ\text{C}$  unless otherwise specified)

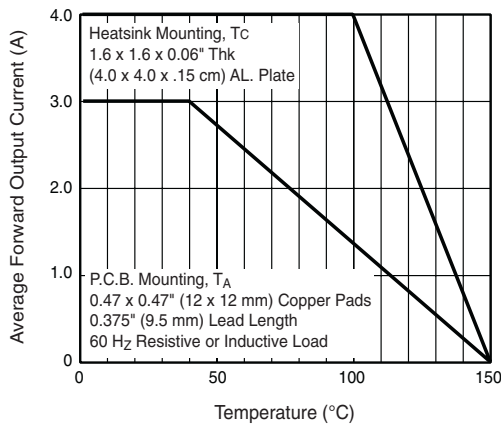


Figure 1. Derating Curve Output Rectified Current

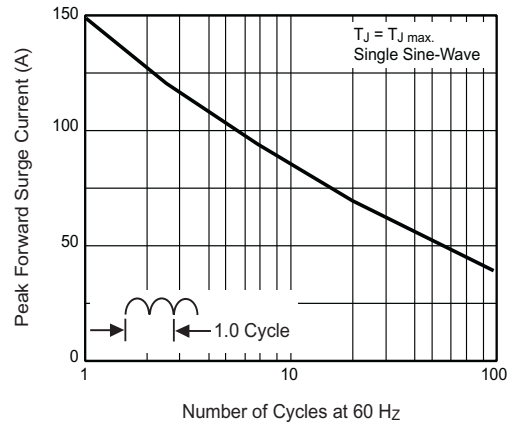


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current Per Leg

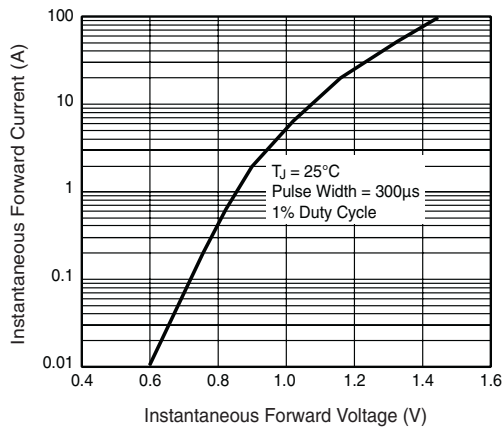


Figure 3. Typical Forward Characteristics Per Leg

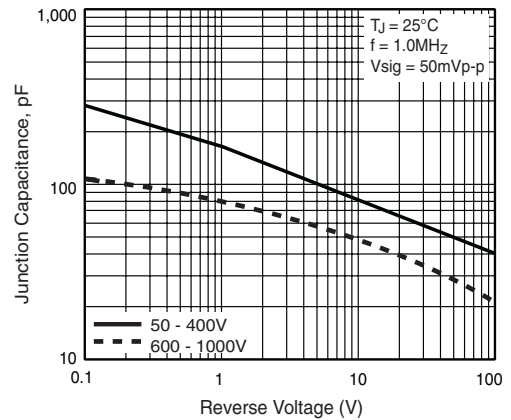


Figure 5. Typical Junction Capacitance Per Leg

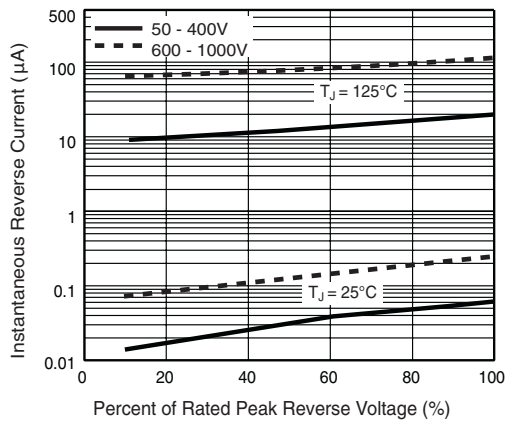


Figure 4. Typical Reverse Leakage Characteristics Per Leg

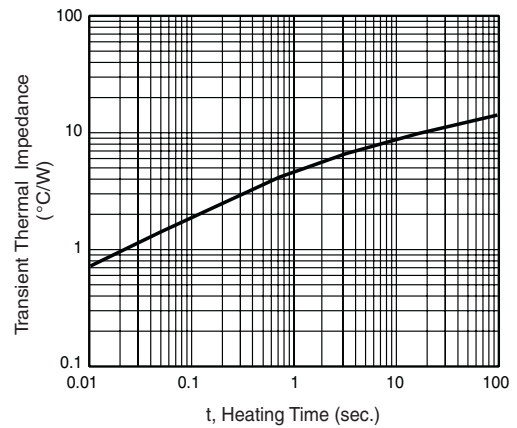
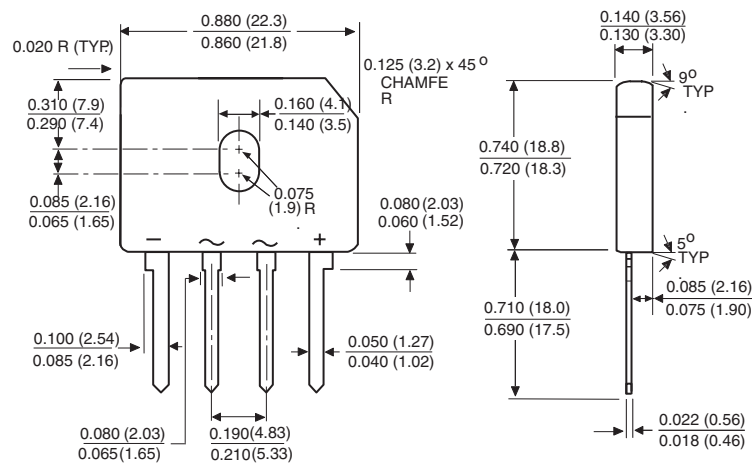


Figure 6. Typical Transient Thermal Impedance

## Package outline dimensions in inches (millimeters)

### Case Type GBU



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



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