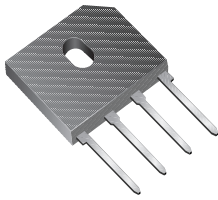




# GBU4A thru GBU4M

Vishay Semiconductors  
formerly General Semiconductor



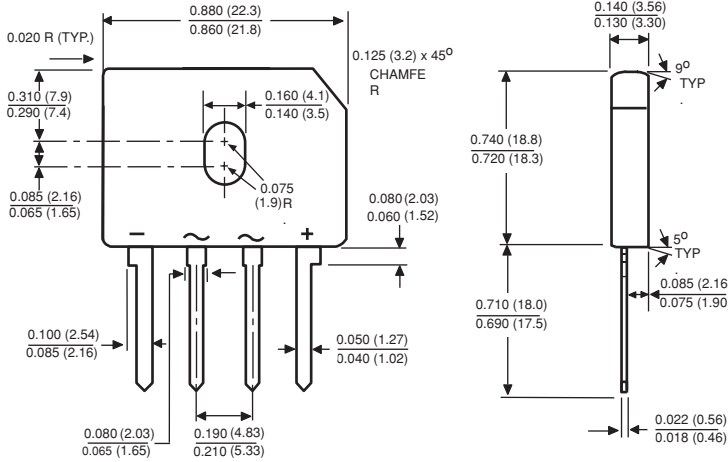
## Glass Passivated Single-Phase Bridge Rectifier

Reverse Voltage 50 and 1000V  
Forward Current 4.0A

Case Style GBU

### 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 surge current capability
- High temperature soldering guaranteed: 260°C/10 seconds, 0.375 (9.5mm) lead length, 5lbs. (2.3kg) tension



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

Dimensions in inches and (millimeters)

### Mechanical Data

**Case:** Molded plastic body over passivated junctions  
**Terminals:** Plated leads solderable per MIL-STD-750, Method 2026

**Mounting Position:** Any (NOTE 4)

**Weight:** 0.15 oz., 4.0 g

**Packaging codes/options:**  
1/250 EA. per Bulk Tray Stack

### Maximum Ratings & Thermal Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

|   | Symbols                            | GBU 4A | GBU 4B | GBU 4D | GBU 4G | GBU 4J      | GBU 4K | GBU 4M | 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 $T_C=100^\circ\text{C}$ (1)<br>$T_A=40^\circ\text{C}$ (2) | $I_{F(AV)}$                        |        |        |        |        | 4.0         |        |        | A                  |
| Peak forward surge current single sine-wave superimposed on rated load (JEDEC Method) $T_J=150^\circ\text{C}$ | $I_{FSM}$                          |        |        |        |        | 150         |        |        | A                  |
| Rating for fusing ( $t < 8.3\text{ms}$ )  | $I^2t$                             |        |        |        |        | 93          |        |        | A <sup>2</sup> sec |
| Typical thermal resistance per leg (2)<br>(1)   | $R_{\theta JA}$<br>$R_{\theta JC}$ |        |        |        |        | 22          |        |        | °C/W               |
| Operating junction and storage temperature range  | $T_J, T_{STG}$                     |        |        |        |        | -55 to +150 |        |        | °C                 |

### Electrical Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

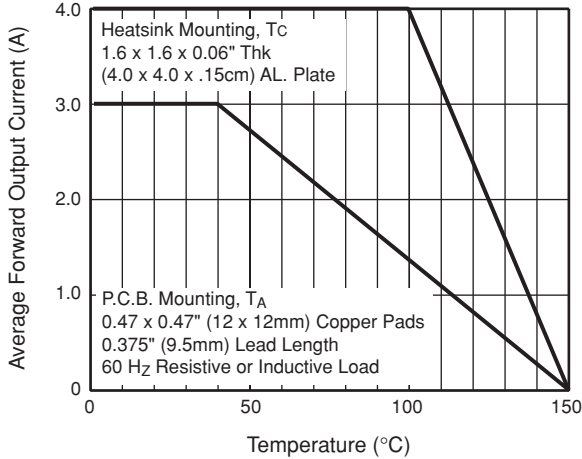
|   |       |  |  |  |  |     |    |  |    |
|---|-------|--|--|--|--|-----|----|--|----|
| Maximum instantaneous forward drop per leg at 4.0 Amperes   | $V_F$ |  |  |  |  | 1.0 |    |  | V  |
| Maximum DC reverse current at rated DC blocking voltage per leg $T_A=25^\circ\text{C}$<br>$T_A=125^\circ\text{C}$ | $I_R$ |  |  |  |  | 5.0 |    |  | μA |
| Typical junction capacitance per leg at 4.0V, 1MHz  | $C_J$ |  |  |  |  | 100 | 45 |  | pF |

#### Notes:

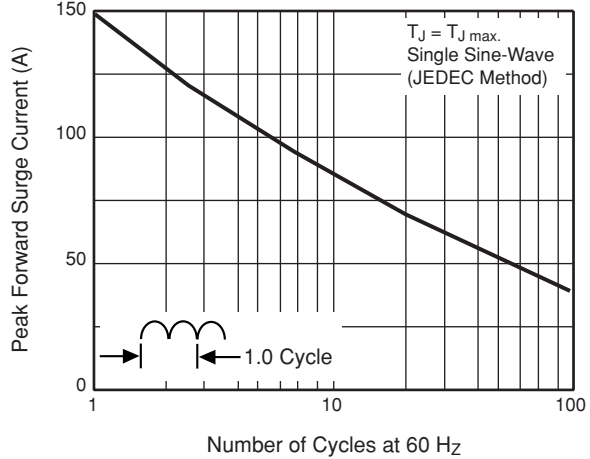
- (1) Unit case mounted on 1.6 x 1.6 x 0.06" thick (4.0 x 4.0 x 0.15cm) Al. Plate
- (2) Units mounted on P.C.B. with 0.5 x 0.5" (12 x 12mm) copper pads and 0.375" (9.5mm) lead length
- (3) Recommended mounting position is to bolt down on heatsink with silicone thermal compound for maximum heat transfer with #6 screw

## Ratings and Characteristic Curves (T<sub>A</sub> = 25°C unless otherwise noted)

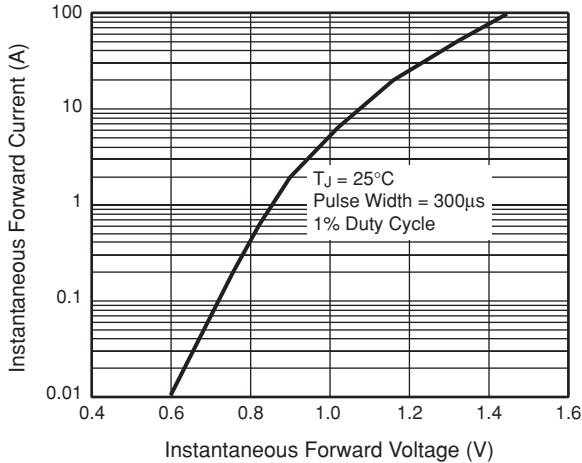
**Fig. 1 — Derating Curve Output Rectified Current**



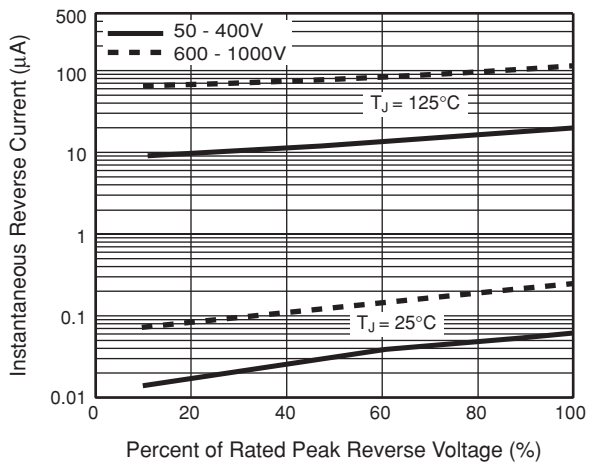
**Fig. 2 — Maximum Non-Repetitive Peak Forward Surge Current Per Leg**



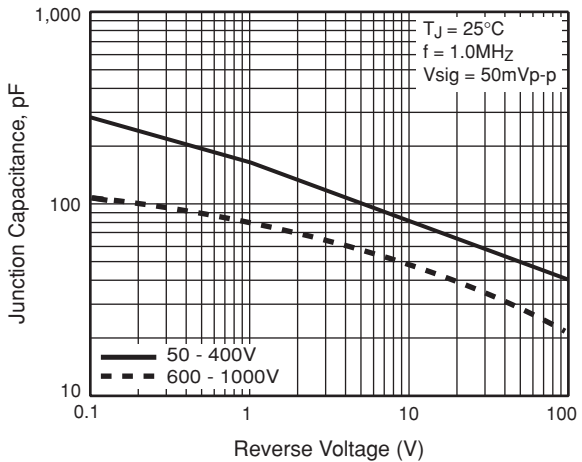
**Fig. 3 — Typical Forward Characteristics Per Leg**



**Fig. 4 — Typical Reverse Leakage Characteristics Per Leg**



**Fig. 5 — Typical Junction Capacitance Per Leg**



**Fig. 6 — Typical Transient Thermal Impedance**

