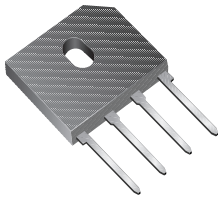




# GBU4A thru GBU4M

Vishay Semiconductors  
formerly General Semiconductor



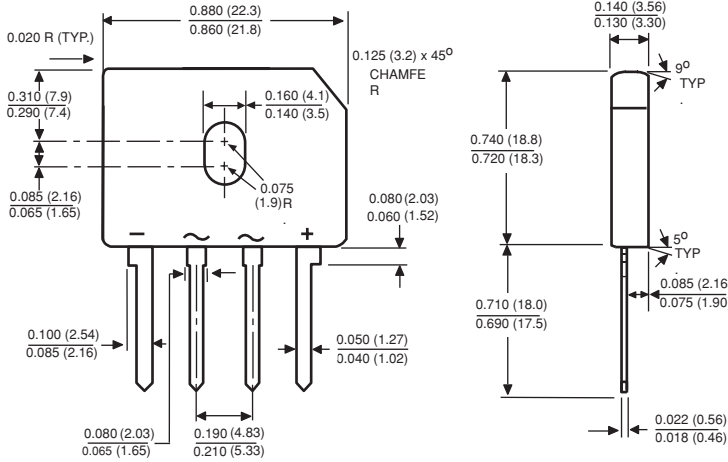
## Glass Passivated Single-Phase Bridge Rectifier

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) $T_A=40^\circ\text{C}$ (2)	$I_{F(AV)}$					4.0 3.0			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) (1)	$R_{\theta JA}$ $R_{\theta JC}$					22 4.2			°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.

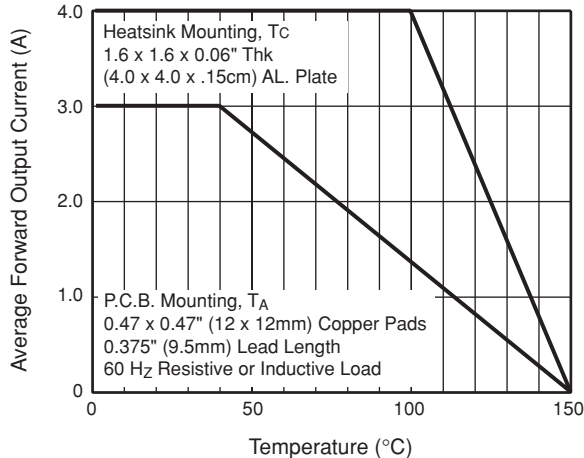
Maximum instantaneous forward drop per leg at 4.0 Amperes	$V_F$					1.0			V
Maximum DC reverse current at rated DC blocking voltage per leg $T_A=25^\circ\text{C}$ $T_A=125^\circ\text{C}$	$I_R$					5.0 500			μA
Typical junction capacitance per leg at 4.0V, 1MHz	$C_J$					100	45		pF

### Notes:

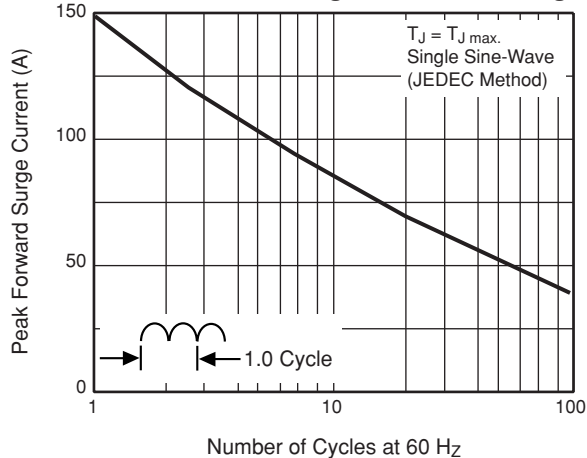
- (1) Unit case mounted on 1.6 x 1.6 x 0.06" thick (4.0 x 4.0 x 0.15cm) Al. Plate
- (2) Units mounted on P.C.B. with 0.5 x 0.5" (12 x 12mm) copper pads and 0.375" (9.5mm) lead length
- (3) Recommended mounting position is to bolt down on heatsink with silicone thermal compound for maximum heat transfer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

## Ratings and Characteristic Curves ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

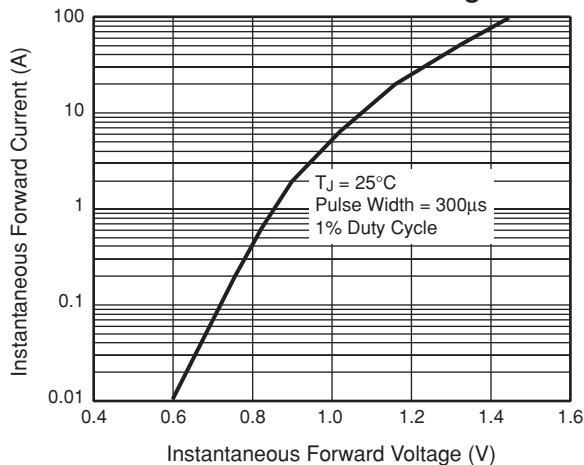
**Fig. 1 — Derating Curve Output Rectified Current**



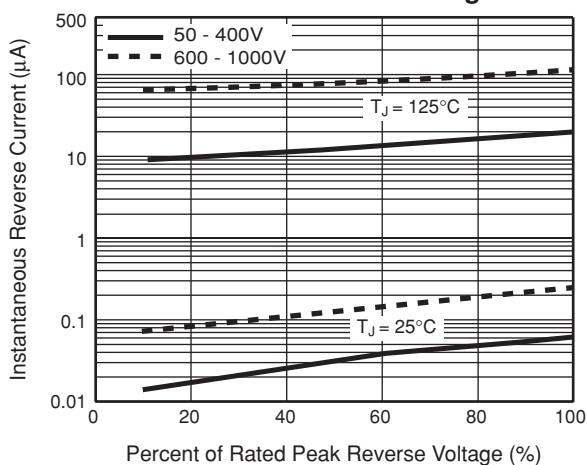
**Fig. 2 — Maximum Non-Repetitive Peak Forward Surge Current Per Leg**



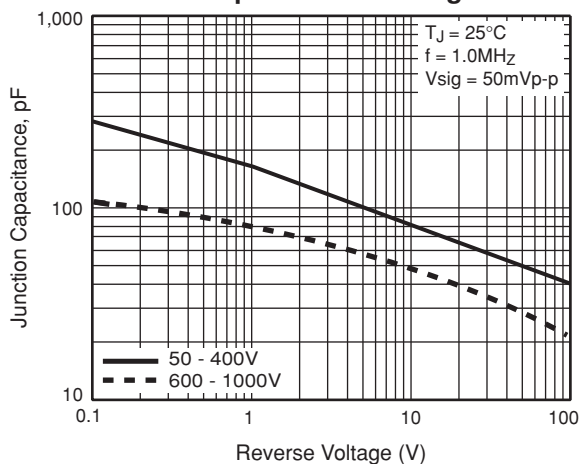
**Fig. 3 — Typical Forward Characteristics Per Leg**



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



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



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

