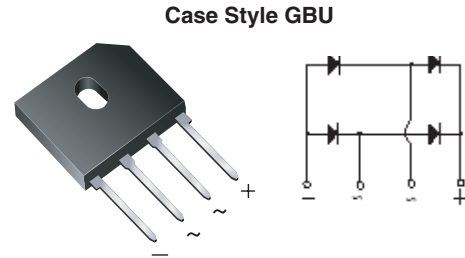


## Glass Passivated Single-Phase Bridge Rectifier

### Major Ratings and Characteristics

$I_{F(AV)}$	6 A
$V_{RRM}$	50 V to 1000 V
$I_{FSM}$	175 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	GBU6A	GBU6B	GBU6D	GBU6G	GBU6J	GBU6K	GBU6M	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 (Fig. 1)	$I_{F(AV)}$	6.0 3.0								A
Peak forward surge current single sine-wave superimposed on rated load	$I_{FSM}$	175								A
Rating for fusing ( $t < 8.3$ ms)	$I^2t$	127								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 Al plate heatsink

## Electrical Characteristics

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

Parameter	Test condition	Symbols	GBU6A	GBU6B	GBU6D	GBU6G	GBU6J	GBU6K	GBU6M	Units
Maximum instantaneous forward voltage drop per leg	at 6.0 A	$V_F$	1.0							V
Maximum DC reverse current at rated DC blocking voltage per leg	$T_A = 25\text{ }^\circ\text{C}$ $T_A = 125\text{ }^\circ\text{C}$	$I_R$	5.0 500							$\mu\text{A}$
Typical junction capacitance per leg	at 4.0 A, 1 MHz	$C_J$	211				94			pF

## Thermal Characteristics

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

Parameter	Symbols	GBU6A	GBU6B	GBU6D	GBU6G	GBU6J	GBU6K	GBU6M	Units	
Typical thermal resistance per leg	$R_{\theta JA}^{(2)}$ $R_{\theta JC}^{(1,3)}$	20				2.5				$^\circ\text{C/W}$

**Note:**

- (1) Units case mounted on Al plate heatsink
- (2) Units mounted in free air, no heatsink on P.C.B., 0.5 x 0.5" (12 x 12 mm) copper pads, 0.375" (9.5 mm) lead length
- (3) Recommended mounting position is to bolt down on heatsink with silicone thermal compound for maximum heat transfer with #6 screws

## Ratings and Characteristics Curves

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

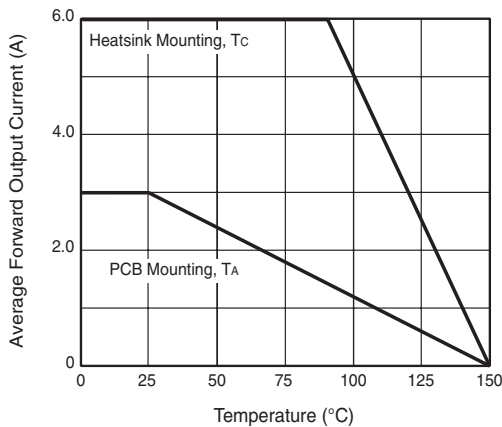


Figure 1. Derating Curve Output Rectified Current

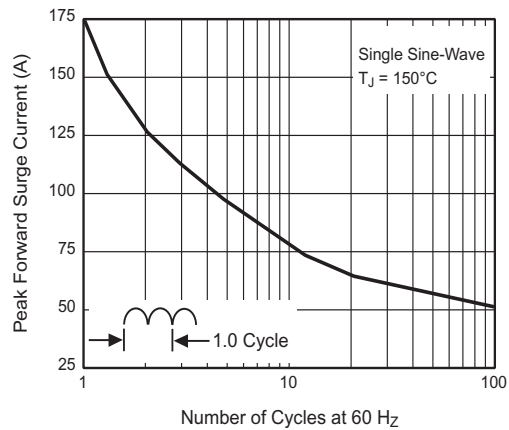


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current Per Leg

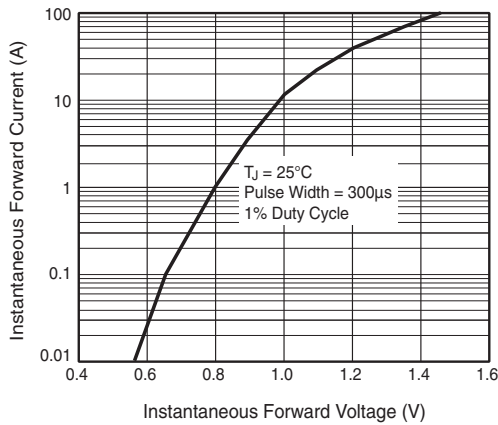


Figure 3. Typical Forward Characteristics Per Leg

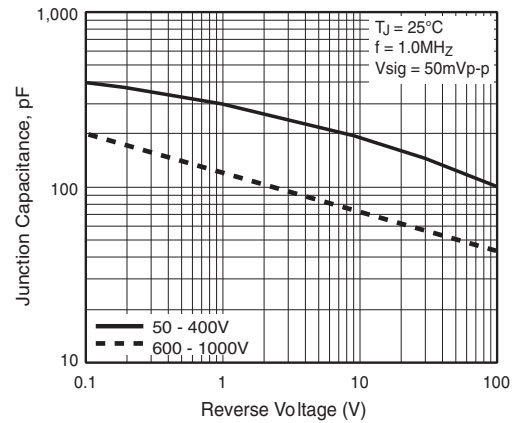


Figure 5. Typical Junction Capacitance Per Leg

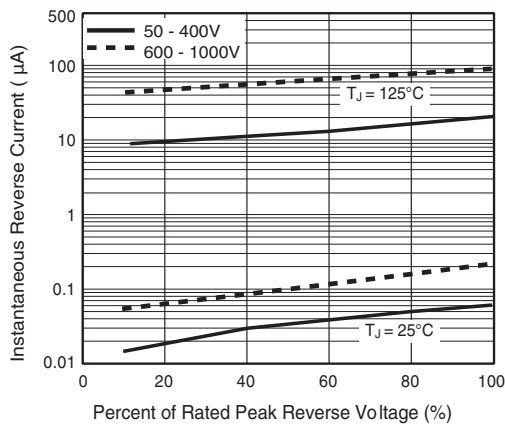


Figure 4. Typical Reverse Leakage Characteristics Per Leg

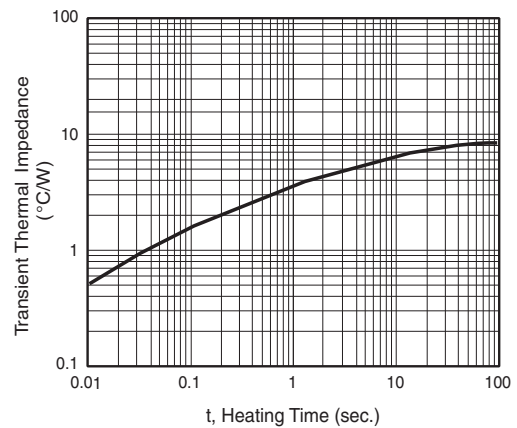
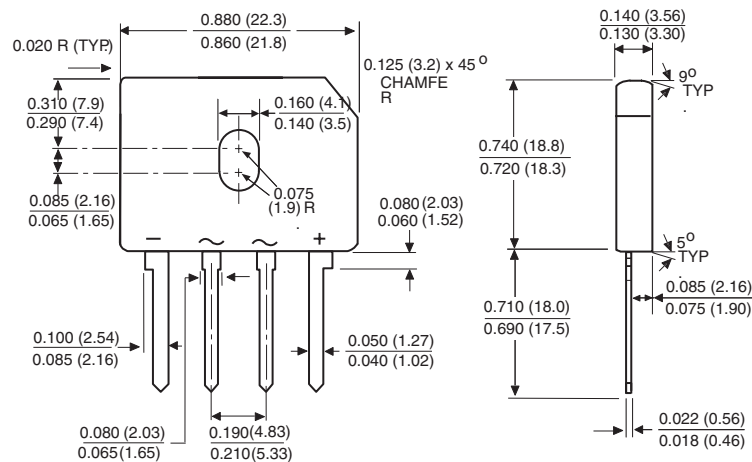


Figure 6. Typical Transient Thermal Impedance

## 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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