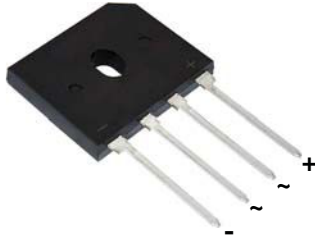
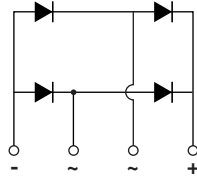




Glass Passivated Single-Phase Bridge Rectifier



Case Style GBU



Case Style GBU



RoHS COMPLIANT HALOGEN FREE

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 275 °C max. 10 s, per JESD 22-B106
- Material categorization: For definitions of compliance please see www.vishay.com/doc?99912

TYPICAL APPLICATIONS

General purpose use in AC/DC bridge full wave rectification for monitor, TV, printer, switching mode power supply, adapter, audio equipment, and home appliances applications.

MECHANICAL DATA

Case: GBU
Molding compound meets UL 94 V-0 flammability rating Base P/N-M3 - halogen-free and RoHS-compliant, commercial grade

Terminals: Matte tin plated leads, solderable per J-STD-002 and JESD 22-B102
M3 suffix meets JESD 201 class 1A whisker test

Polarity: As marked on body

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

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

PRIMARY CHARACTERISTICS	
Package	GBU
I _{F(AV)}	4.0 A
V _{RRM}	50 V, 100 V, 200 V, 400 V, 600 V, 800 V, 1000 V
I _{FSM}	150 A
I _R	5 μA
V _F at I _F = 4.0 A	1.0 V
T _J max.	150 °C
Diode variations	In-line

MAXIMUM RATINGS (T _A = 25 °C unless otherwise noted)									
PARAMETER	SYMBOL	GBU4A	GBU4B	GBU4D	GBU4G	GBU4J	GBU4K	GBU4M	UNIT
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)}	4.0							A
$\frac{T_C = 100\text{ °C}^{(1)}}{T_A = 40\text{ °C}^{(2)}}$		3.0							
Peak forward surge current single sine-wave superimposed on rated load	I _{FSM}	150							A
Rating for fusing (t < 8.3 ms)	I ² t	93							A ² s
Operating junction and storage temperature range	T _J , T _{STG}	- 55 to + 150							°C

Notes

- (1) Unit case mounted on 1.6" x 1.6" x 0.06" thick (4.0 cm x 4.0 cm x 0.15 cm) aluminum plate
- (2) Units mounted on PCB with 0.5" x 0.5" (12 mm x 12 mm) copper pads and 0.375" (9.5 mm) lead length



ELECTRICAL CHARACTERISTICS ($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)										
PARAMETER		SYMBOL	GBU4A	GBU4B	GBU4D	GBU4G	GBU4J	GBU4K	GBU4M	UNIT
Maximum instantaneous forward drop per diode	4.0 A	V_F	1.0							V
Maximum DC reverse current at rated DC blocking voltage per diode	$T_A = 25\text{ }^\circ\text{C}$	I_R	5.0							μA
	$T_A = 125\text{ }^\circ\text{C}$		500							
Typical junction capacitance per diode	4.0 A, 1 MHz	C_J	100			45			pF	

THERMAL CHARACTERISTICS ($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)										
PARAMETER		SYMBOL	GBU4A	GBU4B	GBU4D	GBU4G	GBU4J	GBU4K	GBU4M	UNIT
Typical thermal resistance		$R_{\theta JA}$ (2)	22							$^\circ\text{C/W}$
		$R_{\theta JC}$ (1)	4.2							

Notes

- (1) Unit case mounted on aluminum plate heatsink
- (2) Units mounted on PCB with 0.5" x 0.5" (12 mm x 12 mm) copper pads and 0.375" (9.5 mm) lead length

ORDERING INFORMATION (Example)				
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
GBU4J-M3/45	3.565	45	20	Tube
GBU4J-M3/51	3.565	51	250	Paper tray

RATINGS AND CHARACTERISTICS CURVES ($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)

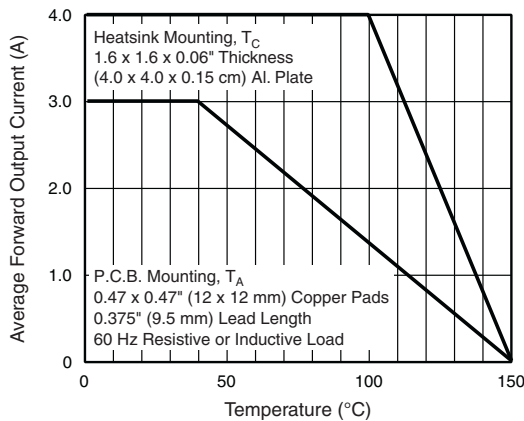


Fig. 1 - Derating Curve Output Rectified Current

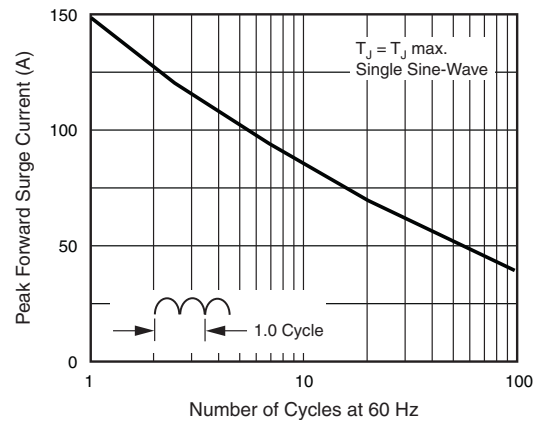


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

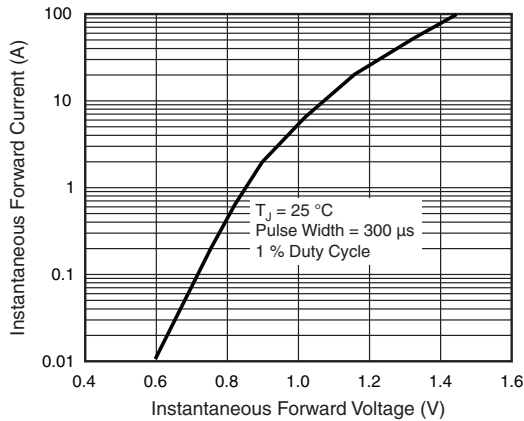


Fig. 3 - Typical Forward Characteristics Per Diode

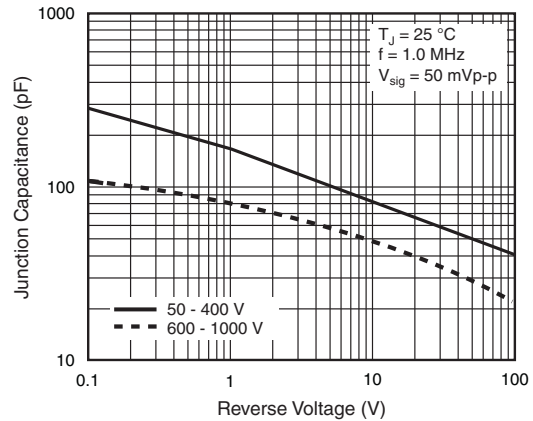


Fig. 5 - Typical Junction Capacitance Per Diode

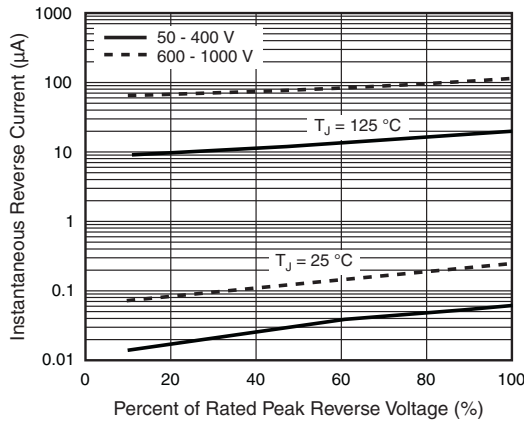


Fig. 4 - Typical Reverse Leakage Characteristics Per Diode

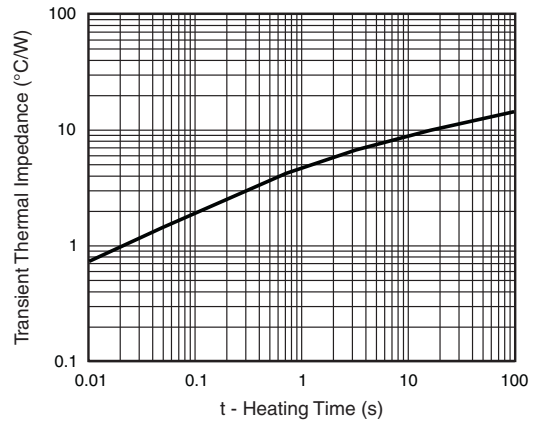
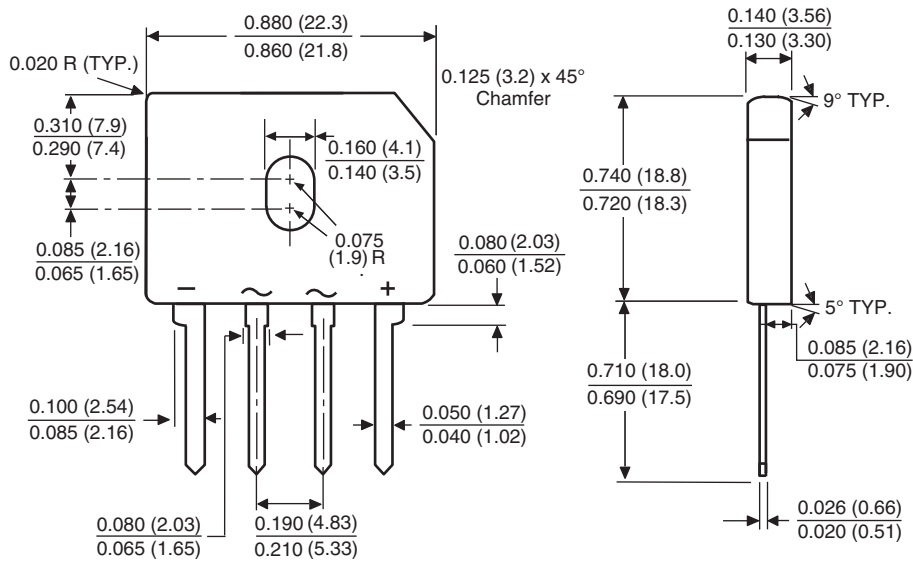


Fig. 6 - Typical Transient Thermal Impedance

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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