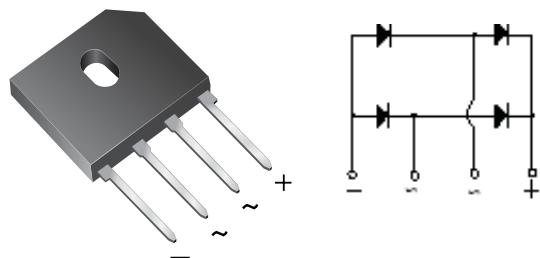


Glass Passivated Single-Phase Bridge Rectifier



Case Style GBU

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
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC



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.

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)

MAJOR RATINGS AND CHARACTERISTICS

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

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 $T_C = 100$ °C ⁽¹⁾ $T_A = 40$ °C ⁽²⁾	$I_{F(AV)}$	4.0 3.0							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 ² 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 noted)										
PARAMETER	TEST CONDITIONS	SYMBOL	GBU4A	GBU4B	GBU4D	GBU4G	GBU4J	GBU4K	GBU4M	UNIT
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	$T_A = 25\text{ }^{\circ}\text{C}$ $T_A = 125\text{ }^{\circ}\text{C}$	I_R	5.0 500							μA
Typical junction capacitance per leg	at 4.0 A, 1 MHz	C_J	100				45			pF

THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)									
PARAMETER	SYMBOL	GBU4A	GBU4B	GBU4D	GBU4G	GBU4J	GBU4K	GBU4M	UNIT
Typical thermal resistance per leg	R _{θJA} ⁽²⁾	22							°C/W
	R _{θJC} ⁽¹⁾	4.2							

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

ORDERING INFORMATION				
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
GBU4J-E3/45	3.565	45	20	Tube
GBU4J-E3/72	3.565	72	200	Paper Box

RATINGS AND CHARACTERISTICS CURVES

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

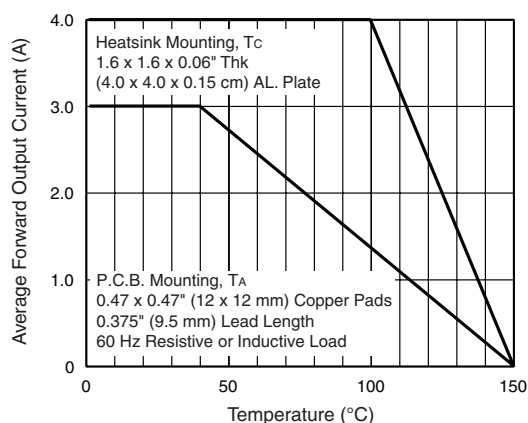


Figure 1. Derating Curve Output Rectified Current

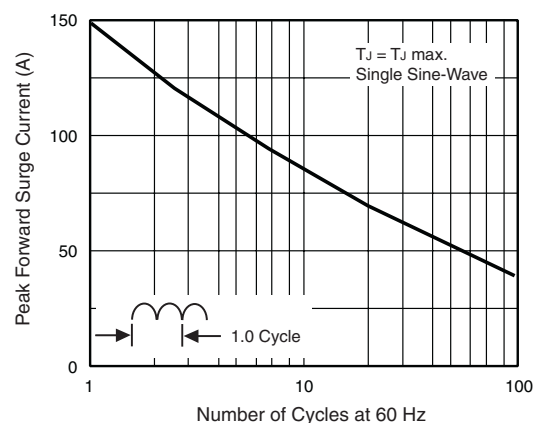


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current Per Leg

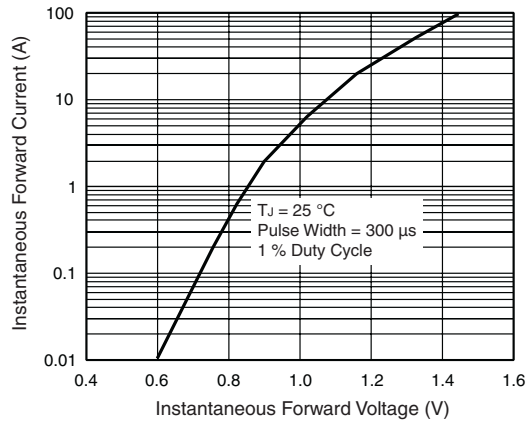


Figure 3. Typical Forward Characteristics Per Leg

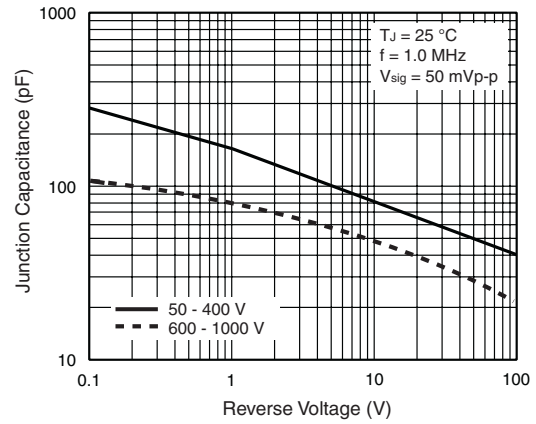


Figure 5. Typical Junction Capacitance Per Leg

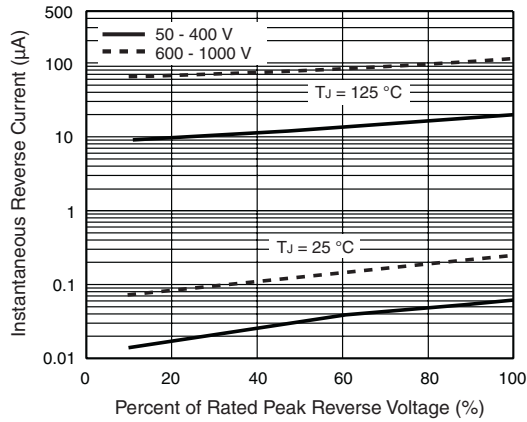


Figure 4. Typical Reverse Leakage Characteristics Per Leg

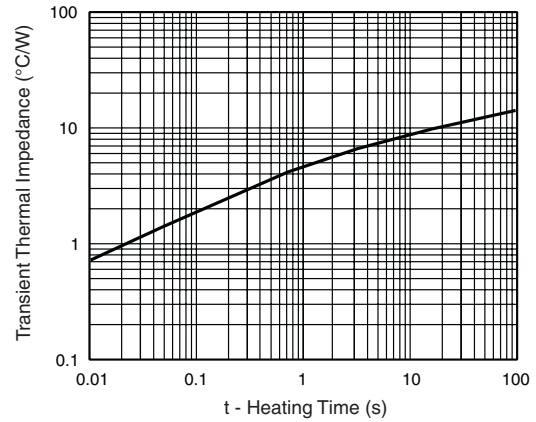
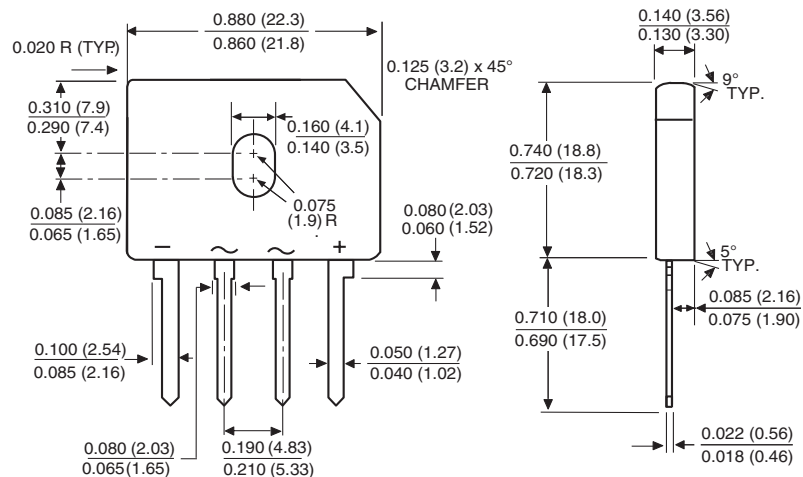


Figure 6. Typical Transient Thermal Impedance

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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