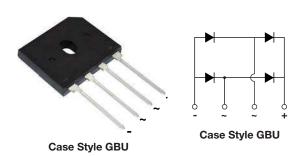


GBU8A, GBU8B, GBU8D, GBU8G, GBU8J, GBU8K, GBU8M

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Glass Passivated Single-Phase Bridge Rectifier



PRIMARY CHARACTERISTICS							
Package	GBU						
I _{F(AV)}	8.0 A						
V _{RRM}	50 V, 100 V, 200 V, 400 V, 600 V, 800 V, 1000 V						
I _{FSM}	200 A						
I _R	5 μΑ						
V _F at I _F = 8.0 A	1.0 V						
T _J max.	150 °C						
Diode variations	In-Line						

FEATURES





- Ideal for printed circuit boards
- High surge current capability
- 3 11 3 11 11 11 11 11 11
- \bullet 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 <u>www.vishay.com/doc?99912</u>

TYPICAL APPLICATIONS

General purpose use in AC/DC bridge full wave rectification for monitor, TV, printer, power supply, 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-E3 - RoHS-compliant, commercial grade

Terminals: Matte tin plated leads, solderable per

J-STD-002 and JESD 22-B102

E3 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)

MAXIMUM RATINGS (T _A = 25 °C unless otherwise noted)										
PARAMETER		SYMBOL	GBU8A	GBU8B	GBU8D	GBU8G	GBU8J	GBU8K	GBU8M	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 $T_C = 60 ^{\circ}\text{C}$		I _{F(AV)} (1)	8.0							A
		I _{F(AV)} (2)	3.9							
Peak forward surge current single sine-wave super-imposed on rated load		I _{FSM}	200							Α
Rating for fusing (t < 8.3 ms)		l ² t	166							A ² s
Operating junction and storage temperature range		T _J , T _{STG}	-55 to +150							°C

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



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ELECTRICAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)										
PARAMETER	TEST CONDITIONS	SYMBOL	GBU8A	GBU8B	GBU8D	GBU8G	GBU8J	GBU8K	GBU8M	UNIT
Maximum instantaneous forward voltage drop per diode	8.0 A	V _F				1.0				V
Maximum DC reverse current at rated DC	T _A = 25 °C	L				5.0				
blocking voltage per diode	T _A = 125 °C	IR	500							μA
Typical junction capacitance per diode	4 V, 1 MHz	СЈ	68					pF		

THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)									
PARAMETER	SYMBOL GBU8A GBU8B GBU8D GBU8G GBU8J GBU8K GBU8M UNIT								
Typical thermal resistance	R _{0JA} (2)	20							°C/W
$R_{\theta JC}^{(1)(3)} \qquad \qquad 4.0$							C/VV		

Notes

- (1) Units case mounted on aluminum plate heatsink
- (2) Units mounted in free air, no heatsink on PCB, 0.5" x 0.5" (12 mm 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

ORDERING INFORMATION									
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE					
GBU8J-E3/45	3.857	45	20	Tube					
GBU8J-E3/51	3.857	51	250	Paper tray					

RATINGS AND CHARACTERISTICS CURVES (T_A = 25 °C unless otherwise noted)

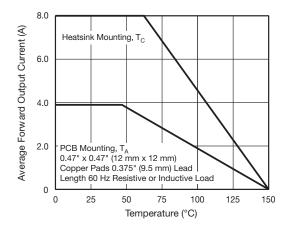


Fig. 1 - Derating Curve Output Rectified Current

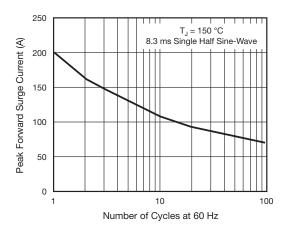


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode



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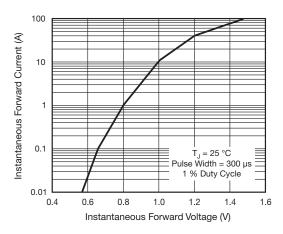


Fig. 3 - Typical Forward Characteristics Per Diode

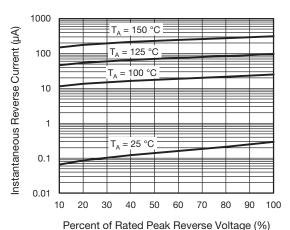


Fig. 4 - Typical Reverse Leakage Characteristics Per Diode

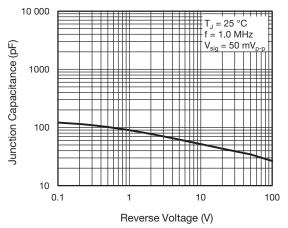


Fig. 5 - Typical Junction Capacitance Per Diode

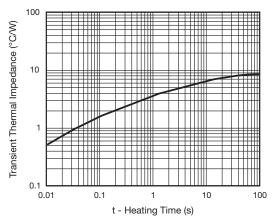
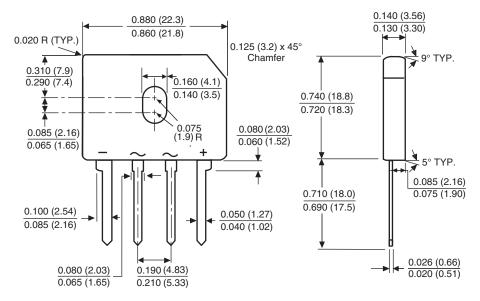


Fig. 6 - Typical Transient Thermal Impedance Per Diode

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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