

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

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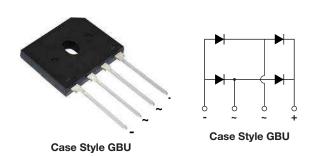
Vishay General Semiconductor

COMPLIANT

HALOGEN

FREE

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

- 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, 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-M3 - halogen-free, RoHS-compliant, and commercial grade

Terminals: Matte tin plated leads, solderable per

J-STD-002 and JESD22-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)

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 °C	I _{F(AV)} (1)	8.0							А
	T _A = 40 °C	I _{F(AV)} (2)	3.9							
Peak forward surge current single sine-wave superimposed on rated load		I _{FSM}	200							Α
Rating for fusing (t < 8.3 ms)		l²t	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				٧
Maximum DC reverse current at rated DC	T _A = 25 °C	I_				5.0				μA
blocking voltage per diode	T _A = 125 °C	IR	500						μΛ	
Typical junction capacitance per diode	4 V, 1 MHz	CJ	68					pF		

THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)									
PARAMETER	SYMBOL GBU8A GBU8B GBU8D GBU8G GBU8J GBU8K GBU8M UN							UNIT	
Typical thormal registance	R _{0JA} (2)	20							°C/W
Typical thermal resistance $ \begin{array}{c c} \hline R_{\theta JC} \ ^{(1)(3)} & 4.0 \end{array} $					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-M3/45	3.857	45	20	Tube					
GBU8J-M3/51	3.857	51	250	Paper tray					

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

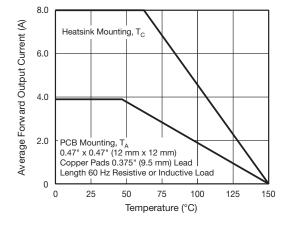


Fig. 1 - Derating Curve Output Rectified Current

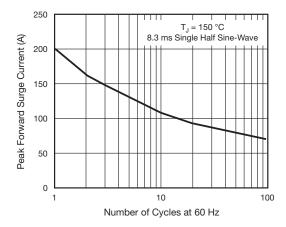


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode



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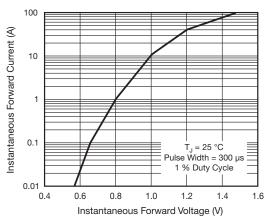


Fig. 3 - Typical Forward Characteristics Per Diode

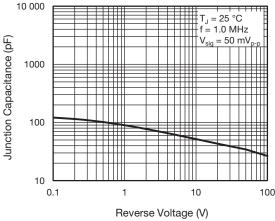


Fig. 5 - Typical Junction Capacitance Per Diode

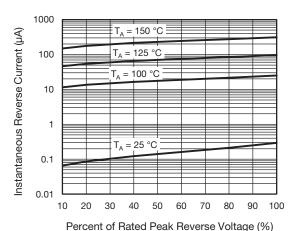


Fig. 4 - Typical Reverse Leakage Characteristics Per Diode

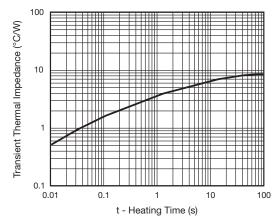


Fig. 6 - Typical Transient Thermal Impedance Per Diode

0.020 (0.51)

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

0.140 (3.56) 0.880 (22.3) 0.130 (3.30) 0.860 (21.8) 0.020 R (TYP.) 0.125 (3.2) x 45° Chamfer 0.310 (7.9) 0.290 (7.4) 0.160 (4.1) 0.140 (3.5) 0.740 (18.8) 0.720 (18.3) 0.075 (1.9) R 0.080 (2.03) 0.085 (2.16) 0.060 (1.52) 0.065 (1.65 5° TYP. 0.085 (2.16) 0.075 (1.90) 0.710 (18.0) 0.690 (17.5) 0.100 (2.54) 0.050 (1.27) 0.085 (2.16) 0.040 (1.02) 0.026 (0.66) 0.080 (2.03) 0.190 (4.83)

Case Type GBU

Polarity shown on front side of case, positive lead by beveled corner

0.210 (5.33)



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