

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

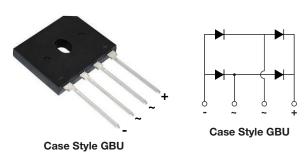
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Vishay General Semiconductor

HALOGEN

FREE

# **Glass Passivated Single-Phase Bridge Rectifier**



### **LINKS TO ADDITIONAL RESOURCES**



PRIMARY CHARACTERISTICS							
I <sub>F(AV)</sub>	8.0 A						
V <sub>RRM</sub>	50 V, 100 V, 200 V, 400 V, 600 V, 800 V, 1000 V						
I <sub>FSM</sub>	200 A						
I <sub>R</sub>	5 μΑ						
$V_F$ at $I_F = 8.0 A$	1.0 V						
T <sub>J</sub> max.	150 °C						
Package	GBU						
Circuit configuration	In-line						

#### **FEATURES**

- UL recognition file number E54214
- Ideal for printed circuit boards
- · High surge current capability
- High case dielectric strength of 1500 V<sub>RMS</sub>
- Solder dip 275 °C max. 10 s, per JESD 22-B106
- Material categorization: for definitions of compliance please see <a href="https://www.vishay.com/doc?99912">www.vishay.com/doc?99912</a>

### **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

Base P/N-M3 - halogen-free, RoHS-compliant, and commercial grade

**Terminals:** matte tin plated leads, solderable per

J-STD-002 and JESD 22-B102

E3 and M3 suffix meet 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)

<b>MAXIMUM RATINGS</b> (T <sub>A</sub> = 25 °C unless otherwise noted)										
PARAMETER		SYMBOL	GBU8A	GBU8B	GBU8D	GBU8G	GBU8J	GBU8K	GBU8M	UNIT
Maximum repetitive peak reverse voltage		V <sub>RRM</sub>	50	100	200	400	600	800	1000	V
Maximum RMS voltage		V <sub>RMS</sub>	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	T <sub>C</sub> = 60 °C	I <sub>F(AV)</sub> (1)	8.0							А
rectified output current at	T <sub>A</sub> = 40 °C	I <sub>F(AV)</sub> (2)	3.9							
Peak forward surge current single sine-wave super-imposed on rated load		I <sub>FSM</sub>	200							Α
Rating for fusing (t < 8.3 ms)		l <sup>2</sup> t	166							A <sup>2</sup> s
Operating junction and storage temperature range		T <sub>J</sub> , T <sub>STG</sub>	-55 to +150							°C

#### Notes

<sup>(1)</sup> Unit case mounted on aluminum plate heatsink

<sup>(2)</sup> 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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<b>ELECTRICAL CHARACTERISTICS</b> (T <sub>A</sub> = 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 <sub>F</sub>				1.0				<b>V</b>
Maximum DC reverse current at rated DC	T <sub>A</sub> = 25 °C	I_				5.0				
blocking voltage per diode	T <sub>A</sub> = 125 °C	IR	500					μA		
Typical junction capacitance per diode	4 V, 1 MHz	CJ				68				pF

THERMAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted)									
PARAMETER	SYMBOL GBU8A GBU8B GBU8D GBU8G GBU8J GBU8K GBU8M UNIT								
Typical thermal resistance	R <sub>0JA</sub> (2)	20							°C/W
Typical trieffial resistance	R <sub>0</sub> JC (1)(3)	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					
GBU8J-M3/45	3.857	45	20	Tube					
GBU8J-M3/51	3.857	51	250	Paper tray					

### RATINGS AND CHARACTERISTICS CURVES (T<sub>A</sub> = 25 °C unless otherwise noted)

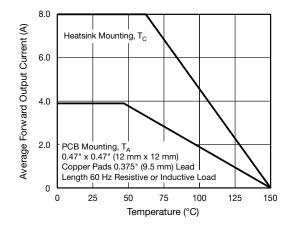


Fig. 1 - Derating Curve Output Rectified Current

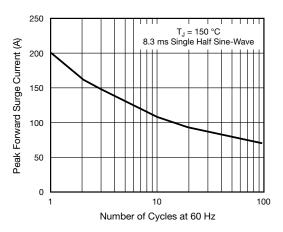


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode



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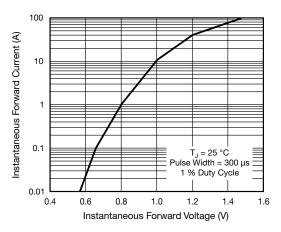


Fig. 3 - Typical Forward Characteristics Per Diode

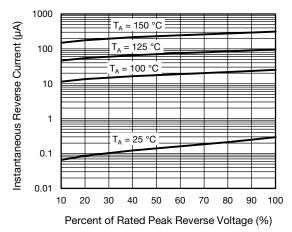


Fig. 4 - Typical Reverse Leakage Characteristics Per Diode

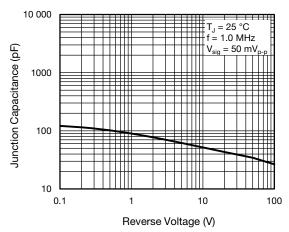


Fig. 5 - Typical Junction Capacitance Per Diode

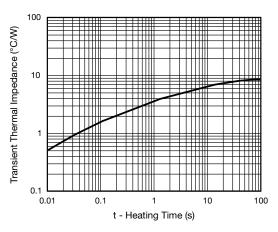
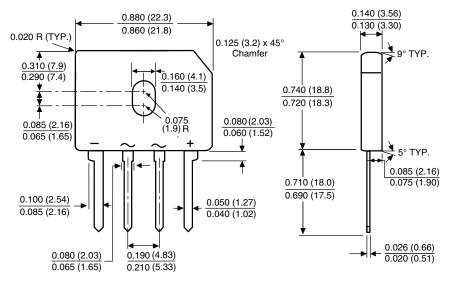


Fig. 6 - Typical Transient Thermal Impedance Per Diode

### **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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