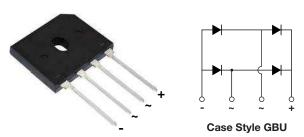
GBU4A, GBU4B, GBU4D, GBU4G, GBU4J, GBU4K, GBU4M



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Vishay General Semiconductor

Glass Passivated Single-Phase Bridge Rectifier



Case Style GBU

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						

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 <u>www.vishay.com/doc?99912</u>

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, RoHS-compliant, and 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)

MAXIMUM RATINGS ($T_A = 25 \text{ °C}$ 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	$T_{C} = 100 \ ^{\circ}C \ ^{(1)}$	I _{F(AV)}	4.0							^
rectified output current at	$T_A = 40 \ ^{\circ}C \ ^{(2)}$		3.0							A
Peak forward surge current single sine-wave superimposed on rated load		I _{FSM}	150							А
Rating for fusing (t < 8.3 ms)		l 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

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GBU4A, GBU4B, GBU4D, GBU4G, GBU4J, GBU4K, GBU4M

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ELECTRICAL CHARACTERISTICS ($T_A = 25 \text{ °C}$ 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	$T_A = 25 \ ^\circ C$		5.0							
reverse current at rated DC blocking voltage per diode	T _A = 125 °C	I _R 500						μA		
Typical junction capacitance per diode	4.0 A, 1 MHz	CJ	57				pF			

THERMAL CHARACTERISTICS ($T_A = 25 \text{ °C}$ unless otherwise noted)									
PARAMETER	SYMBOL GBU4A GBU4B GBU4D GBU4G GBU4J GBU4K GBU4M UNIT								
Typical thermal resistance	R _{0JA} ⁽²⁾	22							°C/W
Typical merma resistance	R _{0JC} ⁽¹⁾	4.2							0/10

Notes

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

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

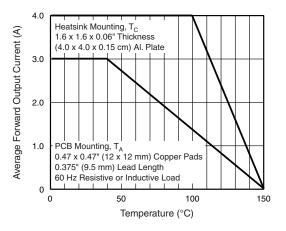
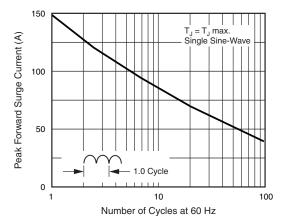
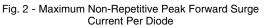


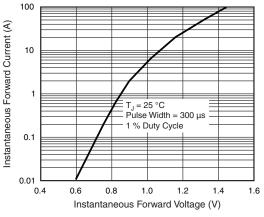
Fig. 1 - Derating Curve Output Rectified Current





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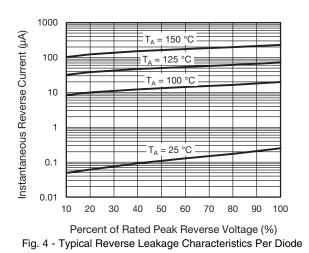
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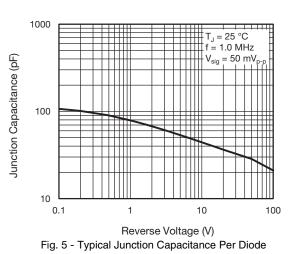


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Fig. 3 - Typical Forward Characteristics Per Diode





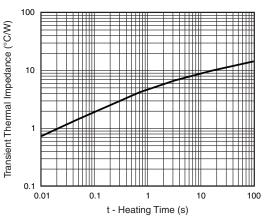
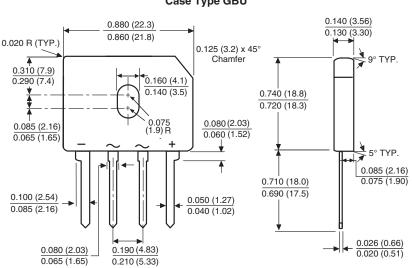


Fig. 6 - Typical Transient Thermal Impedance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)



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

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Case Type GBU



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