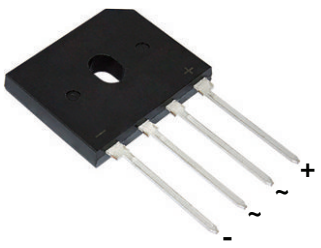
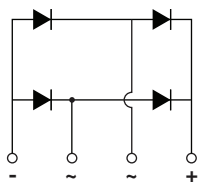
Glass Passivated Single-Phase Bridge Rectifier



Case Style GBU



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 275 °C max. 10 s, per JESD 22-B106
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

RoHS COMPLIANT
HALOGEN FREE

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.

LINKS TO ADDITIONAL RESOURCES

3D Models

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)

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	6.0 A
V_{RRM}	200 V, 600 V, 800 V
I_{FSM}	150 A
I_R	5 µA
V_F at I_F = 3.0 V	1.05 V
T_J max.	150 °C
Package	GBU
Circuit configuration	In-line

MAXIMUM RATINGS (T_A = 25 °C unless otherwise noted)

PARAMETER		SYMBOL	G5SBA20	G5SBA60	G5SBA80	UNIT
Maximum repetitive peak reverse voltage		V_{RRM}	200	600	800	V
Maximum RMS reverse voltage		V_{RWM}	140	420	560	V
Maximum DC blocking voltage		V_{DC}	200	600	800	V
Maximum average forward rectified output current at	T_C = 100 °C (1)	$I_{F(AV)}$	6.0			A
	T_A = 25 °C (2)		2.8			
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^2s
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

ELECTRICAL CHARACTERISTICS (T_A = 25 °C unless otherwise noted)

PARAMETER	TEST CONDITIONS	SYMBOL	G5SBA20	G5SBA60	G5SBA80	UNIT
Maximum instantaneous forward voltage per diode	3.0 A	V_F	1.05			V
Maximum DC reverse current at rated DC blocking voltage per diode	T_J = 25 °C	I_R	5.0			µA
	T_J = 125 °C		300			

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THERMAL CHARACTERISTICS (T_A = 25 °C unless otherwise noted)					
PARAMETER	**SYMBOL**	**G5SBA20**	**G5SBA60**	**G5SBA80**	**UNIT**
Typical thermal resistance	$R_{\theta JA}$ (2)	22			°C/W
	$R_{\theta JC}$ (1)	3.4			

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

ORDERING INFORMATION (Example)				
PREFERRED P/N	**UNIT WEIGHT (g)**	**PREFERRED PACKAGE CODE**	**BASE QUANTITY**	**DELIVERY MODE**
G5SBA60-E3/45	3.565	45	20	Tube
G5SBA60-E3/51	3.565	51	250	Paper tray
G5SBA60-M3/45	3.565	45	20	Tube
G5SBA60-M3/51	3.565	51	250	Paper tray

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

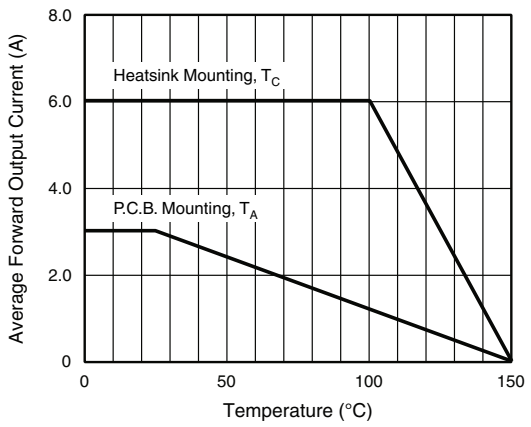

Fig. 1 - Derating Curve Output Rectified Current

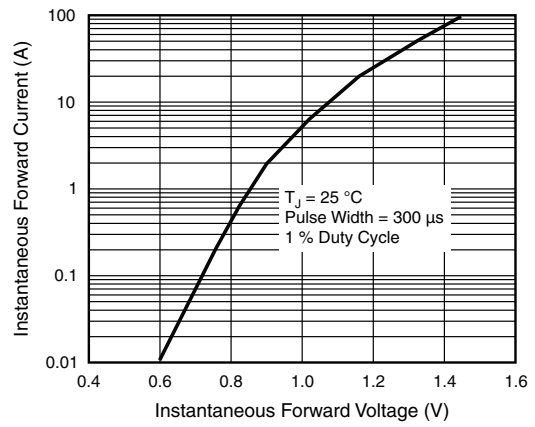

Fig. 3 - Typical Instantaneous Forward Characteristics Per Diode

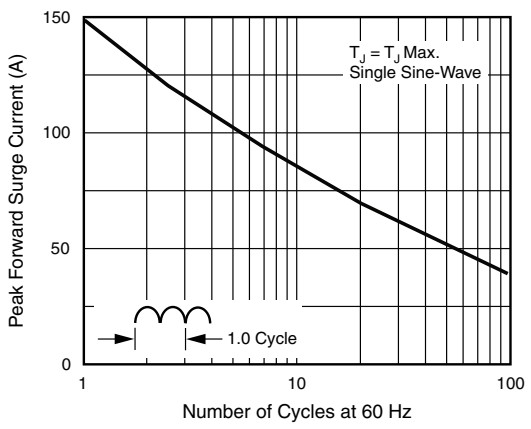

Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

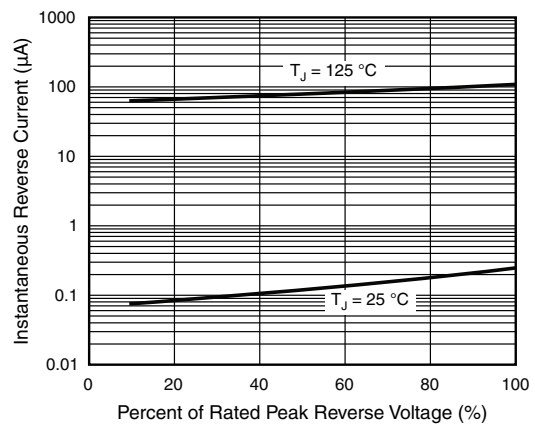

Fig. 4 - Typical Reverse Leakage Characteristics Per Diode

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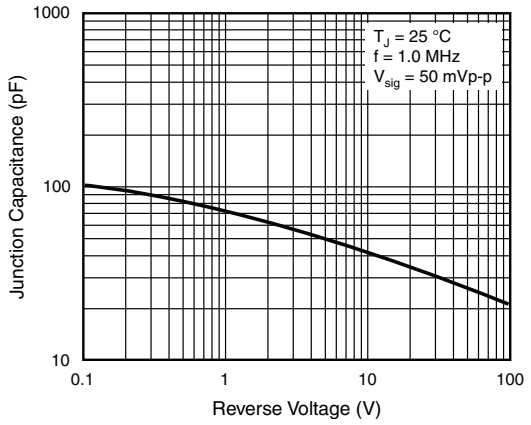


Fig. 5 - Typical Junction Capacitance Per Diode

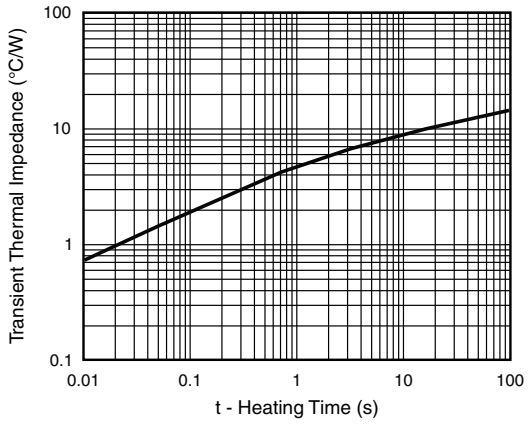
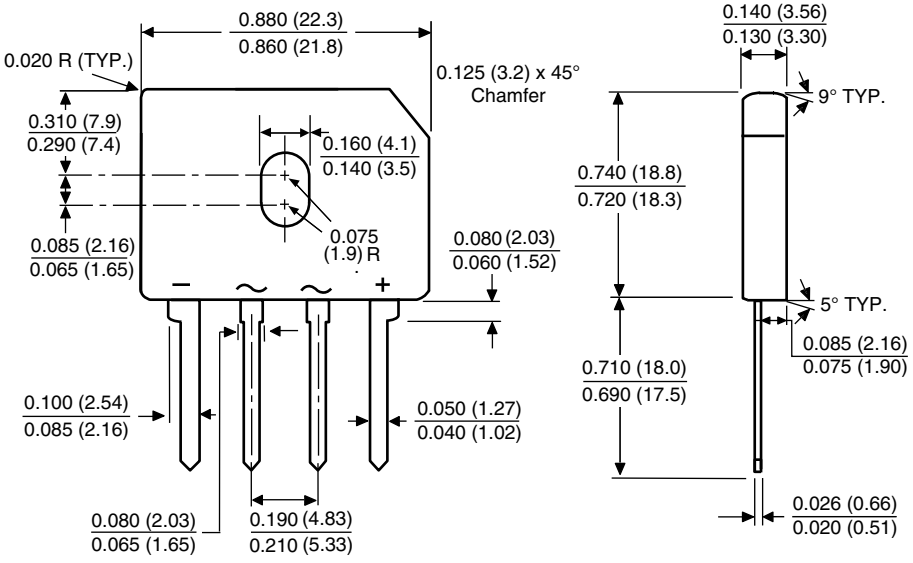


Fig. 6 - Typical Transient Thermal Impedance

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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