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[G5SBA20-E3/51](#)

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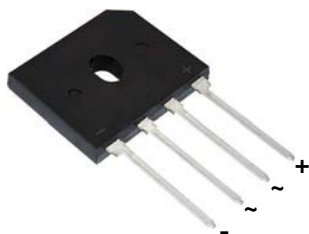


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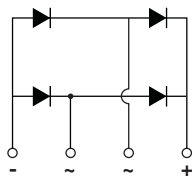
## G5SBA20, G5SBA60, G5SBA80

Vishay General Semiconductor

### 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<sub>RMS</sub>
- Solder dip 275 °C max. 10 s, per JESD 22-B106
- Material categorization: For definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



RoHS COMPLIANT

#### 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-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)

PRIMARY CHARACTERISTICS	
Package	GBU
I <sub>F(AV)</sub>	6.0 A
V <sub>RRM</sub>	200 V, 600 V, 800 V
I <sub>FSM</sub>	150 A
I <sub>R</sub>	5 μA
V <sub>F</sub> at I <sub>F</sub> = 3.0 V	1.05 V
T <sub>J</sub> max.	150 °C
Diode variations	In-Line

MAXIMUM RATINGS (T <sub>A</sub> = 25 °C unless otherwise noted)					
PARAMETER	SYMBOL	G5SBA20	G5SBA60	G5SBA80	UNIT
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	200	600	800	V
Maximum RMS reverse voltage	V <sub>RWM</sub>	140	420	560	V
Maximum DC blocking voltage	V <sub>DC</sub>	200	600	800	V
Maximum average forward rectified output current at	I <sub>F(AV)</sub>	T <sub>C</sub> = 100 °C <sup>(1)</sup>		6.0	A
		T <sub>A</sub> = 25 °C <sup>(2)</sup>		2.8	
Peak forward surge current single sine-wave superimposed on rated load	I <sub>FSM</sub>	150		A	
Rating for fusing (t < 8.3 ms)	I <sup>2</sup> t	93		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

ELECTRICAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted)						
PARAMETER	TEST CONDITIONS	SYMBOL	G5SBA20	G5SBA60	G5SBA80	UNIT
Maximum instantaneous forward voltage per diode	3.0 A	V <sub>F</sub>	1.05		V	
Maximum DC reverse current at rated DC blocking voltage per diode	T <sub>J</sub> = 25 °C	I <sub>R</sub>	5.0		μA	
	T <sub>J</sub> = 125 °C		300			



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

## RATINGS AND CHARACTERISTICS CURVES ( $T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)

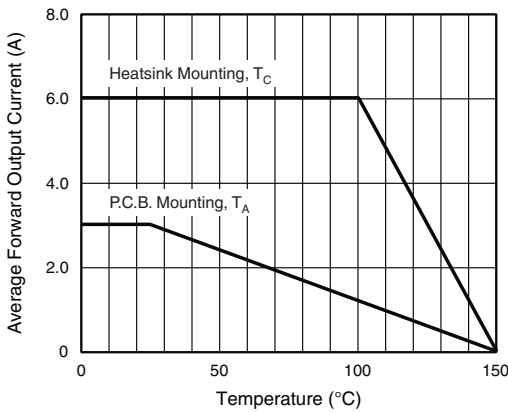


Fig. 1 - Derating Curve Output Rectified Current

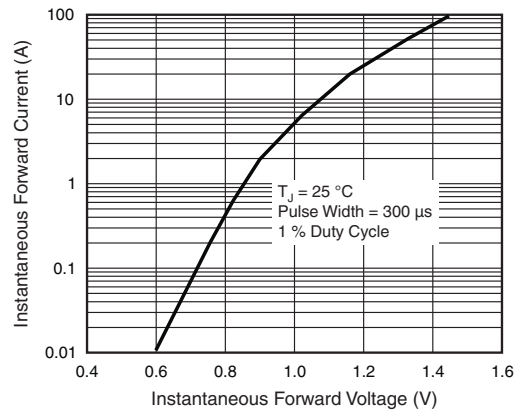


Fig. 3 - Typical Instantaneous Forward Characteristics Per Diode

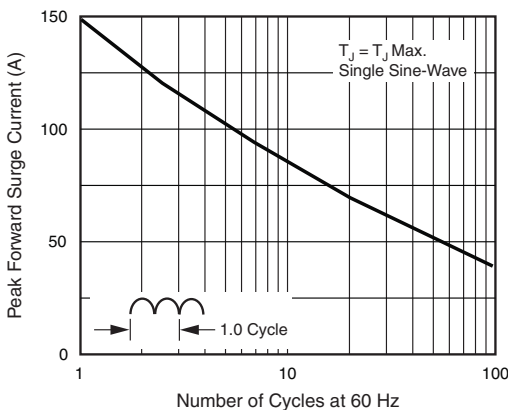


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

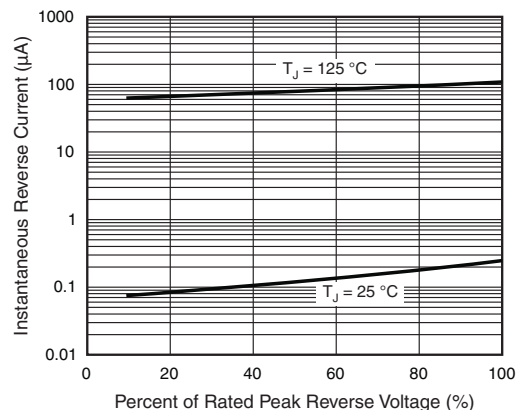


Fig. 4 - Typical Reverse Leakage Characteristics Per Diode



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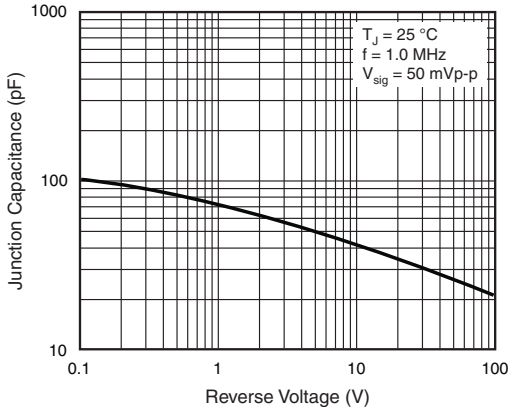


Fig. 5 - Typical Junction Capacitance Per Diode

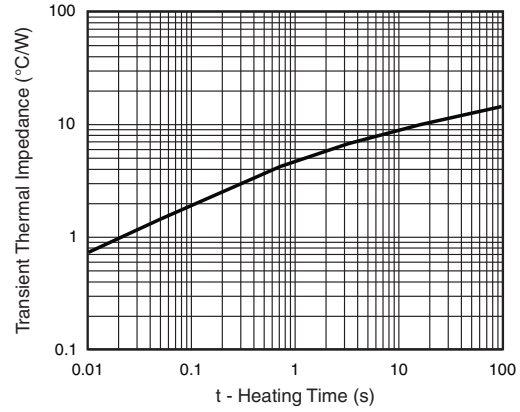
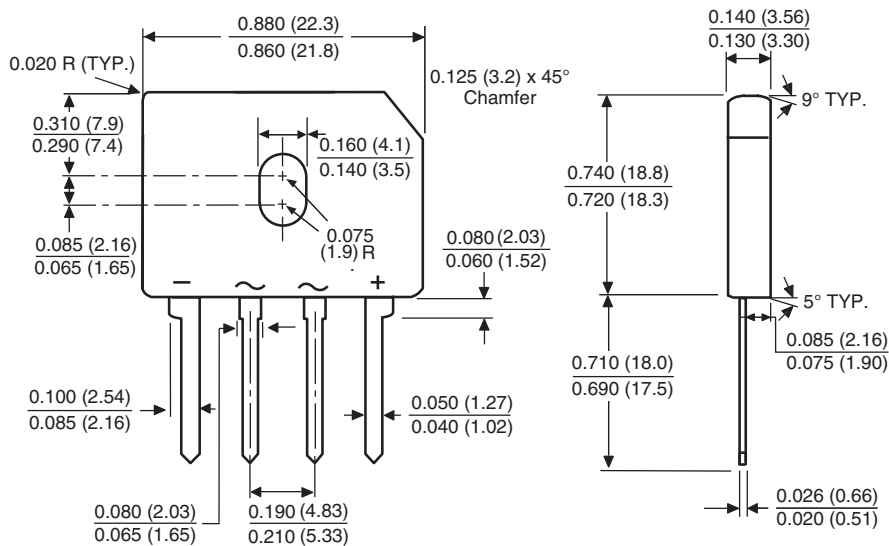


Fig. 6 - Typical Transient Thermal Impedance

## 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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