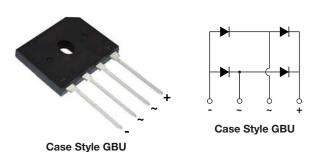
G5SBA20, G5SBA60, G5SBA80

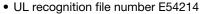
Vishay General Semiconductor

Glass Passivated Single-Phase Bridge Rectifier



PRIMARY CHARACTERISTICS				
Package	GBU			
I _{F(AV)}	6.0 A			
V_{RRM}	200 V, 600 V, 800 V			
I _{FSM}	150 A			
I _R	5 μΑ			
V_F at $I_F = 3.0 \text{ V}$	1.05 V			
T _J max.	150 °C			
Diode variations	In-Line			

FEATURES





- · Ideal for printed circuit boards
- High surge current capability
- 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-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)

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 $T_C = 100 ^{\circ}C^{(1)}$	I _{F(AV)}	6.0		А	
output current at $T_A = 25 ^{\circ}\text{C}^{(2)}$		2.8			
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 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	T _J = 25 °C	1	5.0		μΑ	
rated DC blocking voltage per diode	T _J = 125 °C	IR	300			



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THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)						
PARAMETER	SYMBOL	G5SBA20	G5SBA60	G5SBA80	UNIT	
Typical thermal resistance	R _{0JA} (2)	22			°C/W	
	R _{θJC} ⁽¹⁾	3.4			C/ VV	

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 °C unless otherwise noted)

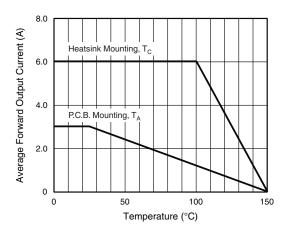


Fig. 1 - Derating Curve Output Rectified Current

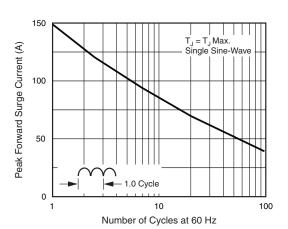


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

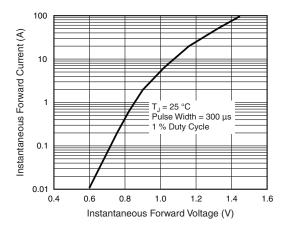


Fig. 3 - Typical Instantaneous Forward Characteristics Per Diode

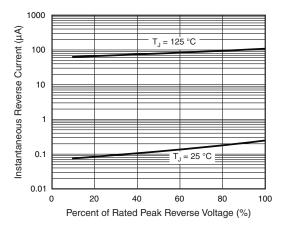


Fig. 4 - Typical Reverse Leakage Characteristics Per Diode

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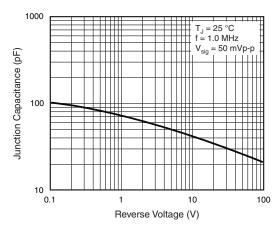


Fig. 5 - Typical Junction Capacitance Per Diode

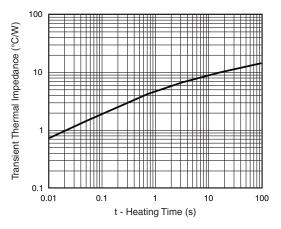


Fig. 6 - Typical Transient Thermal Impedance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

Case Type GBU 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) 0.160 <u>(4.1)</u> 0.290 (7.4) 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) 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) 0.020 (0.51) 0.065 (1.65) 0.210 (5.33)

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



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