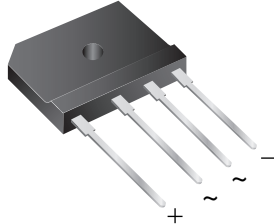


## Single-Phase Single In-Line Bridge Rectifiers



Case Style GSIB-5S

### FEATURES

- UL recognition file number E54214
- Thin single in-line package
- Glass passivated chip junction
- 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 switching power supply, home appliances, office equipment, industrial automation applications.

### MECHANICAL DATA

**Case:** GSIB-5S

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	GSIB-5S
$I_{F(AV)}$	6.0 A
$V_{RRM}$	200 V, 400 V, 600 V, 800 V
$I_{FSM}$	180 A
$I_R$	10 $\mu$ A
$V_F$ at $I_F = 3.0$ V	0.95 V
$T_J$ max.	150 °C
Diode variations	In-Line

MAXIMUM RATINGS ( $T_A = 25$ °C unless otherwise specified)						
PARAMETER	SYMBOL	GSIB620	GSIB640	GSIB660	GSIB680	UNIT
Maximum repetitive peak reverse voltage	$V_{RRM}$	200	400	600	800	V
Maximum RMS voltage	$V_{RMS}$	140	280	420	560	V
Maximum DC blocking voltage	$V_{DC}$	200	400	600	800	V
Maximum average forward rectified output current at	$I_{F(AV)}$	$T_C = 100$ °C <sup>(1)</sup>				A
		$T_A = 25$ °C <sup>(2)</sup>				
Peak forward surge current single sine-wave superimposed on rated load (JEDEC method)	$I_{FSM}$	180				A
Rating for fusing ( $t < 8.3$ ms)	$I^2t$	120				A <sup>2</sup> s
Operating junction and storage temperature range	$T_J, T_{STG}$	-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 ( $T_A = 25$ °C unless otherwise noted)							
PARAMETER	TEST CONDITIONS	SYMBOL	GSIB620	GSIB640	GSIB660	GSIB680	UNIT
Maximum instantaneous forward voltage drop per diode	3.0 A	$V_F$	0.95				V
Maximum DC reverse current at rated DC blocking voltage per diode	$T_A = 25$ °C	$I_R$	10				$\mu$ A
	$T_A = 125$ °C		250				



THERMAL CHARACTERISTICS ( $T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)						
PARAMETER	SYMBOL	GSIB620	GSIB640	GSIB660	GSIB680	UNIT
Typical thermal resistance	$R_{\theta JA}$ (2)	22				
	$R_{\theta JC}$ (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
- (3) Recommended mounting position is to bolt down on heatsink with silicone thermal compound for maximum heat transfer with #6 screw

ORDERING INFORMATION (Example)				
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
GSIB660-E3/45	7.0	45	20	Tube

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

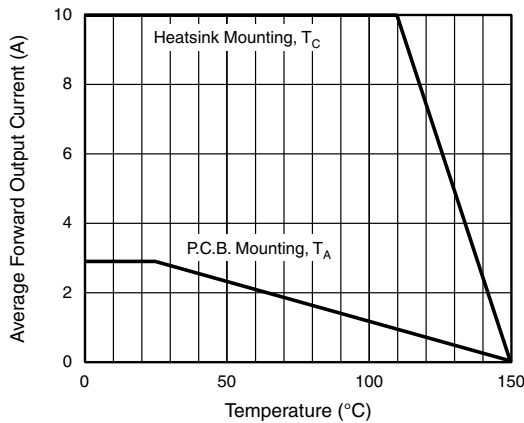


Fig. 1 - Derating Curve Output Rectified Current

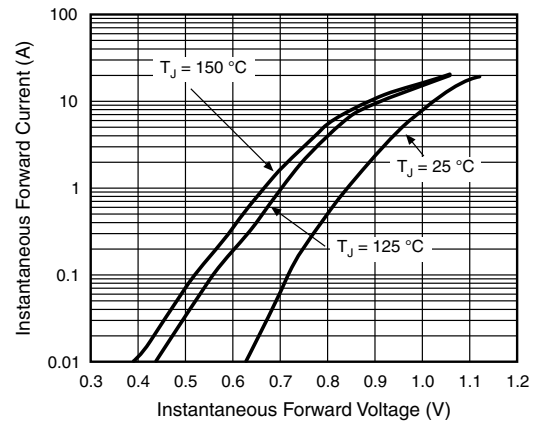


Fig. 3 - Typical Forward Characteristics Per Diode

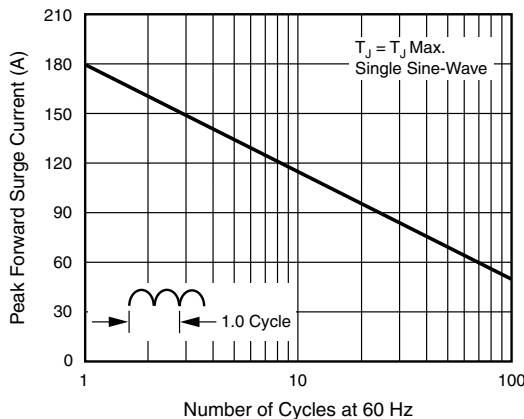


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

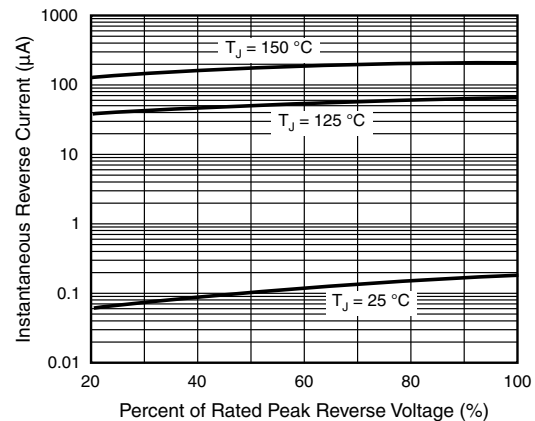


Fig. 4 - Typical Reverse Characteristics Per Diode

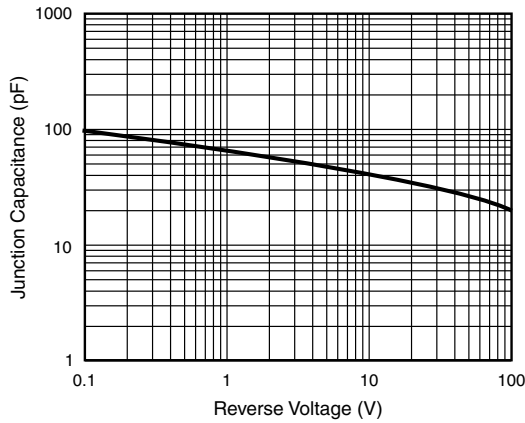


Fig. 5 - Typical Junction Capacitance Per Diode

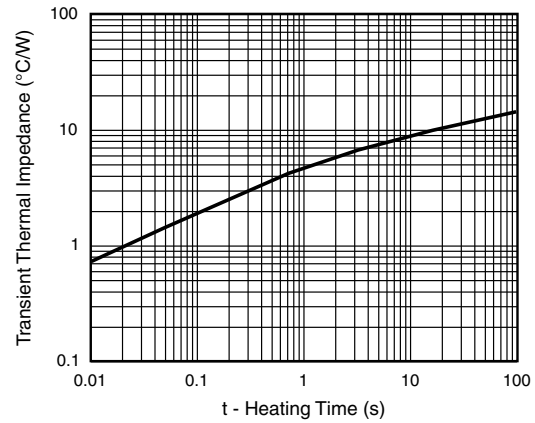
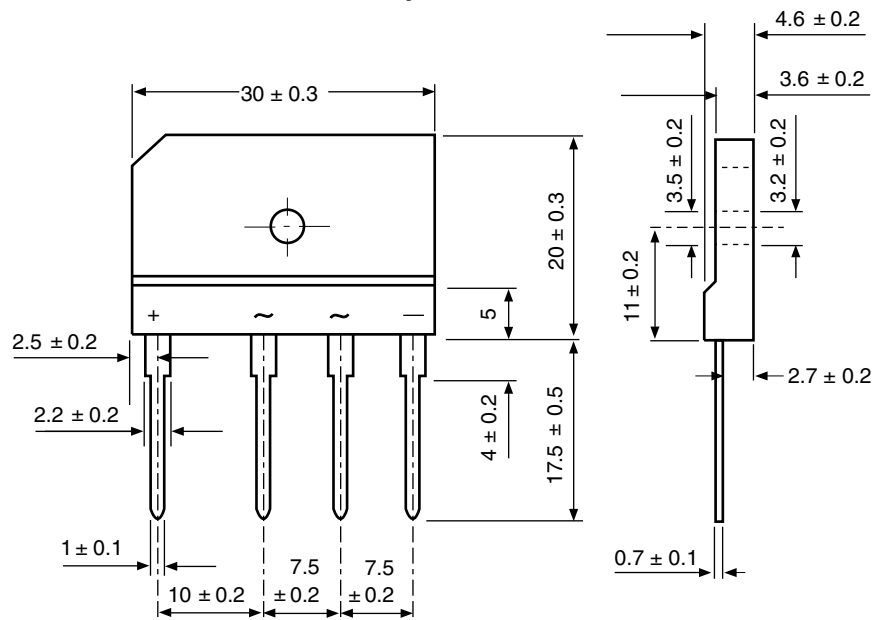


Fig. 6 - Typical Transient Thermal Impedance

## PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

### Case Style GSIB-5S





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