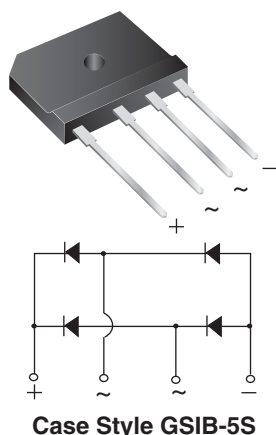




## Single-Phase Single In-Line Bridge Rectifiers



### 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 260 °C, 40 s
- 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

Epoxy meets UL 94 V-0 flammability rating

**Terminals:** Matte tin plated leads, solderable per J-STD-002 and JESD 22-B102

E3 suffix for consumer grade, 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 A
$V_{RRM}$	200 V, 400 V, 600 V, 800 V
$I_{FSM}$	180 A
$I_R$	10 $\mu$ A
$V_F$ at $I_F = 3.0$ A	0.95 V
$T_J$ max.	150 °C
Diode variations	In-Line

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

PARAMETER	SYMBOL	VSIB620	VSIB640	VSIB660	VSIB680	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 $T_C = 100$ °C <sup>(1)</sup> $T_A = 25$ °C <sup>(2)</sup>	$I_{F(AV)}$	6.0				A
		2.8				
Peak forward surge current single sine-wave superimposed on rated load	$I_{FSM}$	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	VSIB620	VSIB640	VSIB660	VSIB680	UNIT
Maximum instantaneous forward voltage drop per diode	3.0 A	V <sub>F</sub>	0.95				V
Maximum DC reverse current at rated DC blocking voltage per diode	T <sub>A</sub> = 25 °C	I <sub>R</sub>	10				μA
	T <sub>A</sub> = 125 °C		250				



THERMAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted)						
PARAMETER	SYMBOL	VSIB620	VSIB640	VSIB660	VSIB680	UNIT
Typical thermal resistance	R <sub>θJA</sub>	22 <sup>(2)</sup>				°C/W
	R <sub>θJC</sub>	3.4 <sup>(1)</sup>				

**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
VSIB660-E3/45	7.0	45	20	Tube

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

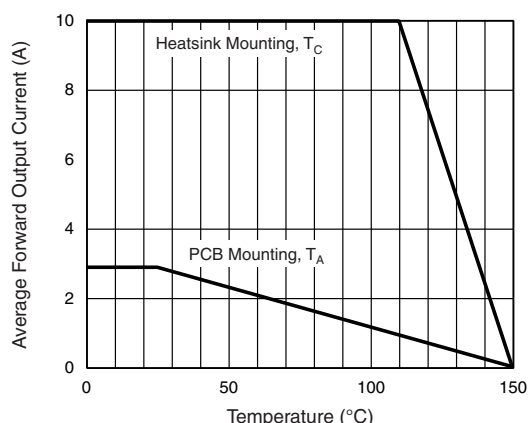


Fig. 1 - Derating Curve Output Rectified Current

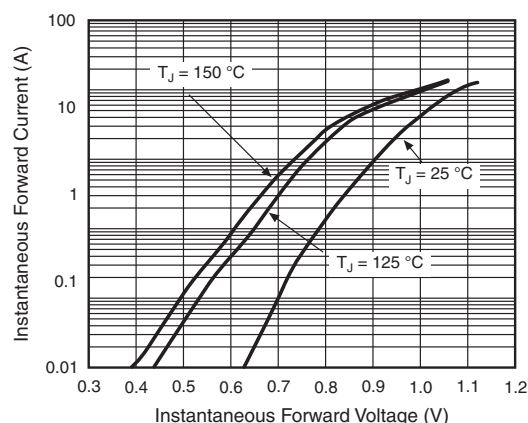


Fig. 3 - Typical Forward Characteristics Per Diode

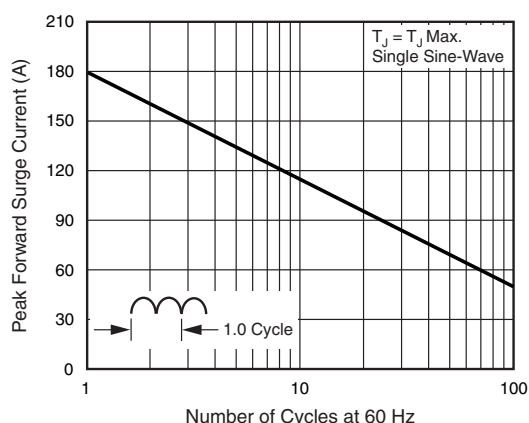


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

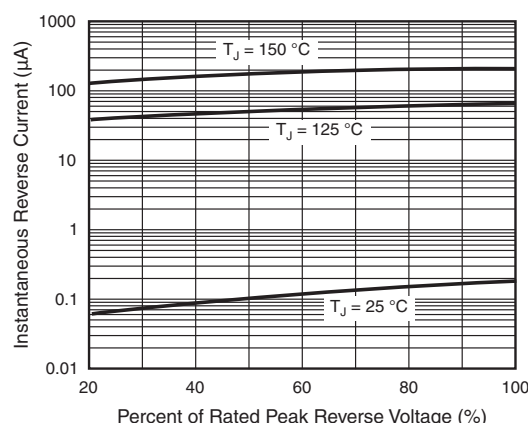


Fig. 4 - Typical Reverse Characteristics Per Diode

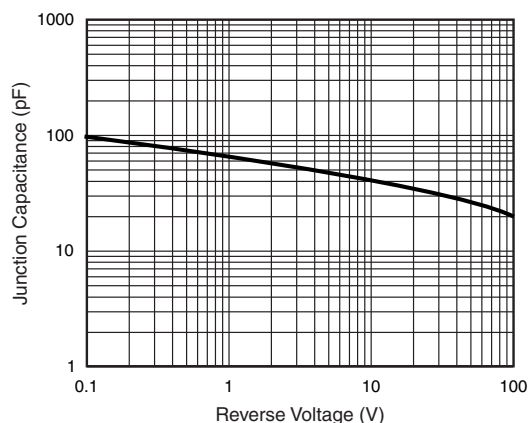


Fig. 5 - Typical Junction Capacitance Per Diode

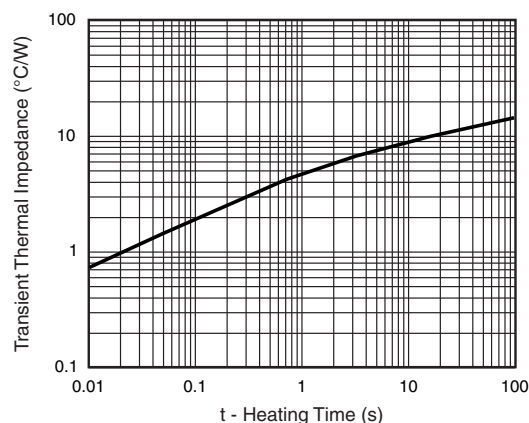


Fig. 6 - Typical Transient Thermal Impedance

## PACKAGE OUTLINE DIMENSIONS in millimeters

### Case Style GSIB-5S

