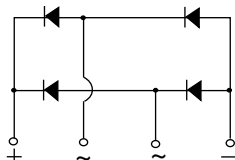
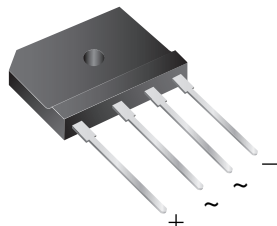


## Single-Phase Single In-Line Bridge Rectifiers



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 2500 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
$I_{F(AV)}$	15 A
$V_{RRM}$	200 V, 400 V, 600 V, 800 V
$I_{FSM}$	300 A
$I_R$	10 $\mu$ A
$V_F$ at $I_F = 7.5$ V	0.95 V
$T_J$ max.	150 °C
Diode variations	In-Line

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

PARAMETER	SYMBOL	GSIB1520	GSIB1540	GSIB1560	GSIB1580	UNIT
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	200	400	600	800	V
Maximum RMS voltage	V <sub>RMS</sub>	140	280	420	560	V
Maximum DC blocking voltage	V <sub>DC</sub>	200	400	600	800	V
Maximum average forward rectified output current at	I <sub>F(AV)</sub>	15				A
<div>T<sub>C</sub> = 107 °C <sup>(1)</sup> T<sub>A</sub> = 25 °C <sup>(2)</sup></div>		3.5				
Peak forward surge current single sine-wave superimposed on rated load	I <sub>FSM</sub>	300				A
Rating for fusing (t < 8.3 ms)	I <sup>2</sup> t	240				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 without heatsink

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

PARAMETER	TEST CONDITIONS	SYMBOL	GSIB1520	GSIB1540	GSIB1560	GSIB1580	UNIT
Maximum instantaneous forward voltage drop per diode	7.5 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** ( $T_A = 25\text{ }^{\circ}\text{C}$  unless otherwise noted)

PARAMETER	SYMBOL	GSIB1520	GSIB1540	GSIB1560	GSIB1580	UNIT
Typical thermal resistance	R <sub>θJA</sub> <sup>(1)</sup>	22				°C/W
	R <sub>θJC</sub> <sup>(2)</sup>	1.5				

**Notes**

- (1) Unit case mounted on aluminum plate heatsink  
 (2) Units mounted on PCB without heatsink  
 (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
GSIB1560-E3/45	7.0	45	20	Tube

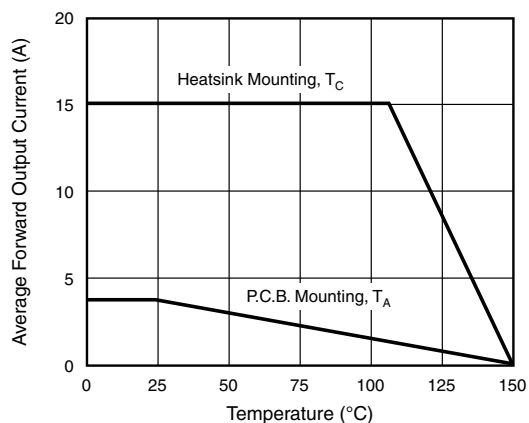
**RATINGS AND CHARACTERISTICS CURVES** ( $T_A = 25\text{ }^{\circ}\text{C}$  unless otherwise noted)

Fig. 1 - Derating Curve Output Rectified Current

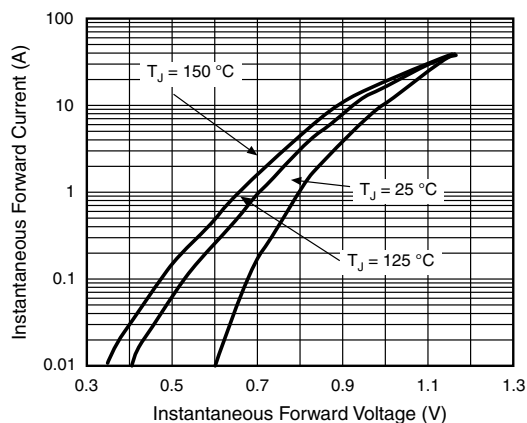


Fig. 3 - Typical Forward Characteristics Per Diode

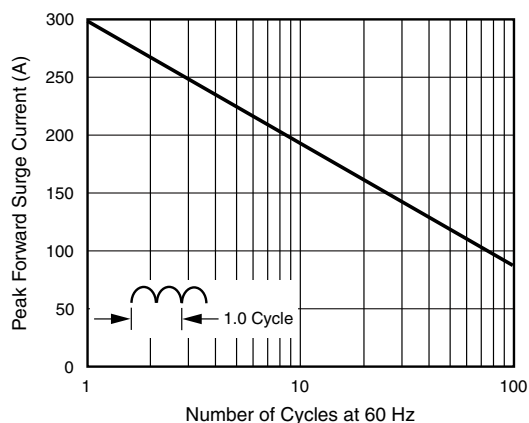


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

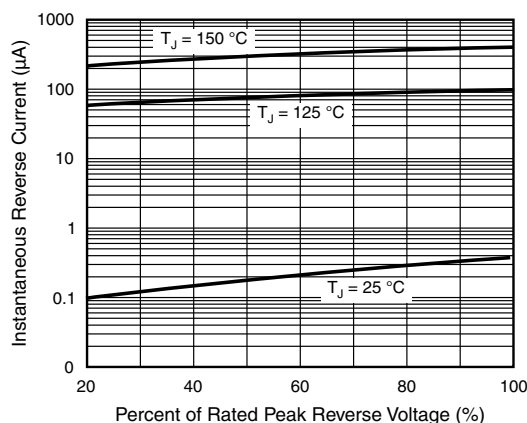


Fig. 4 - Typical Reverse Characteristics Per Diode

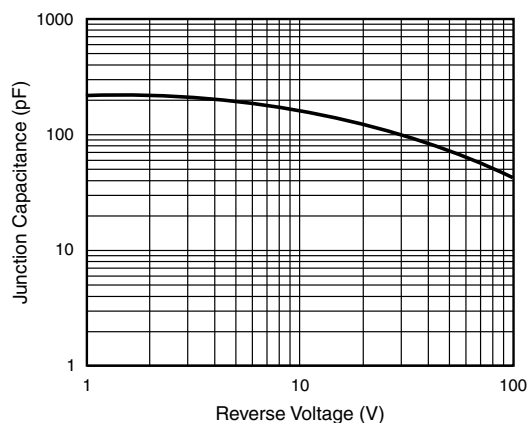


Fig. 5 - Typical Junction Capacitance Per Diode

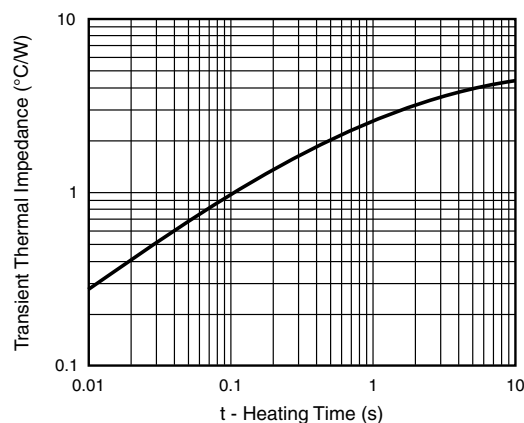
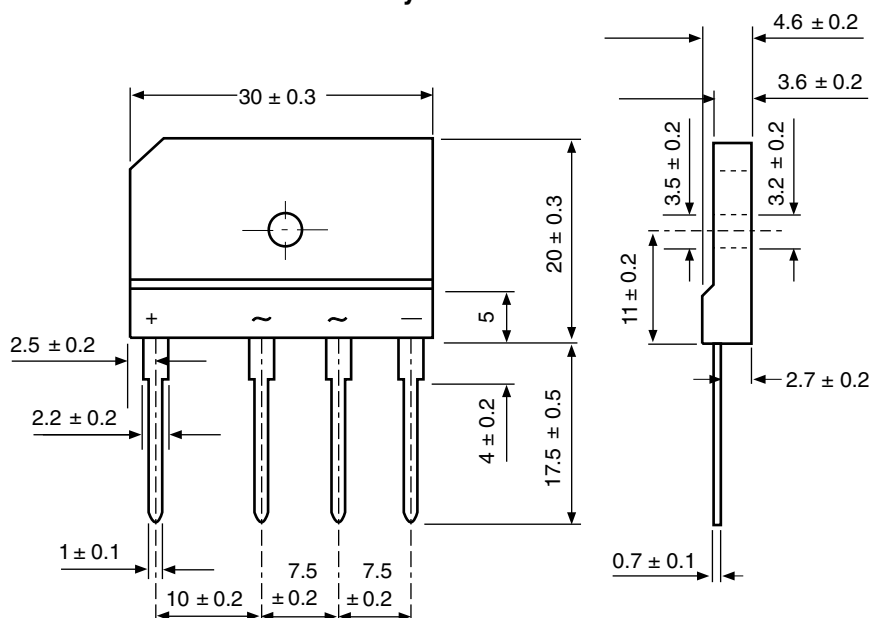


Fig. 6 - Typical Transient Thermal Impedance

**PACKAGE OUTLINE DIMENSIONS** in millimeters

**Case Style GSIB-5S**




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