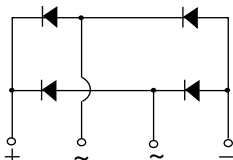
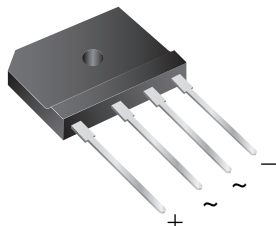


## Single-Phase Single In-Line Bridge Rectifiers



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 |
| $I_{FSM}$               | 200 A                      |
| $I_R$                   | 10 $\mu$ A                 |
| $V_F$ at $I_F = 7.5$ V  | 1.0 V                      |
| $T_J$ max.              | 150 °C                     |
| Diode variations        | In-Line                    |

| MAXIMUM RATINGS (T <sub>A</sub> = 25 °C unless otherwise noted)        |                                   |                                        |           |           |           |                  |
|------------------------------------------------------------------------|-----------------------------------|----------------------------------------|-----------|-----------|-----------|------------------|
| PARAMETER                                                              | SYMBOL                            | GSIB15A20                              | GSIB15A40 | GSIB15A60 | GSIB15A80 | 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>                | T <sub>C</sub> = 107 °C <sup>(1)</sup> |           |           |           | A                |
|                                                                        |                                   | T <sub>A</sub> = 25 °C <sup>(2)</sup>  |           |           |           |                  |
| Peak forward surge current single sine-wave superimposed on rated load | I <sub>FSM</sub>                  | 200                                    |           |           |           | A                |
| Rating for fusing (t < 8.3 ms)                                         | I <sup>2</sup> t                  | 166                                    |           |           |           | 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 <sub>A</sub> = 25 °C unless otherwise noted) |                         |                |           |           |           |           |      |
|----------------------------------------------------------------------------|-------------------------|----------------|-----------|-----------|-----------|-----------|------|
| PARAMETER                                                                  | TEST CONDITIONS         | SYMBOL         | GSIB15A20 | GSIB15A40 | GSIB15A60 | GSIB15A80 | UNIT |
| Maximum instantaneous forward voltage drop per diode                       | 7.5 A                   | V <sub>F</sub> | 1.00      |           |           |           | 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                | GSIB15A20 | GSIB15A40 | GSIB15A60 | GSIB15A80            |
| Typical thermal resistance                                                           | $R_{\theta JA}^{(2)}$ | 22        |           |           |                      |
|                                                                                      | $R_{\theta JC}^{(1)}$ | 1.5       |           |           |                      |
|                                                                                      |                       |           |           |           |                      |
|                                                                                      |                       |           |           |           | $^{\circ}\text{C/W}$ |

## 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 |
| GSIB15A60-E3/45                | 7.0             | 45                     | 20            | Tube          |

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

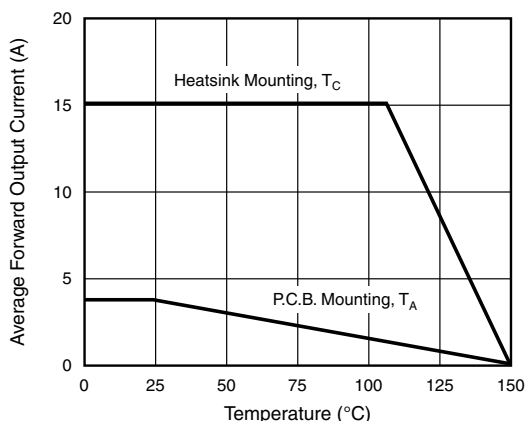


Fig. 1 - Derating Curve Output Rectified Current

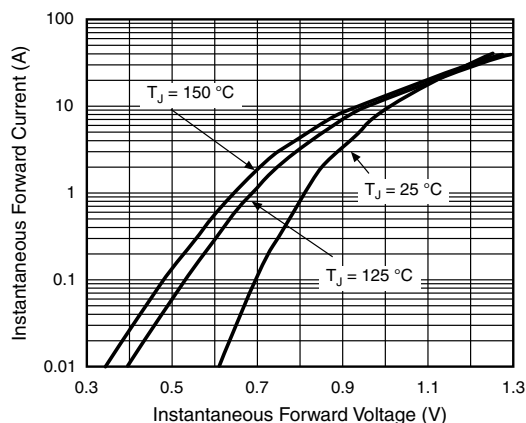


Fig. 3 - Typical Forward Characteristics Per Diode

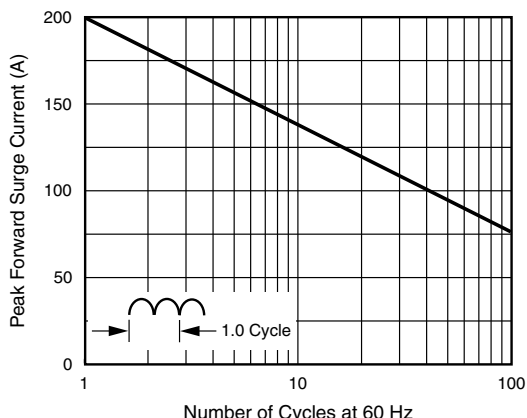


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

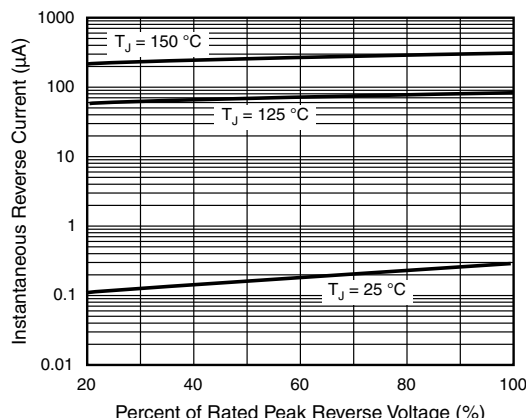


Fig. 4 - Typical Reverse Characteristics Per Diode

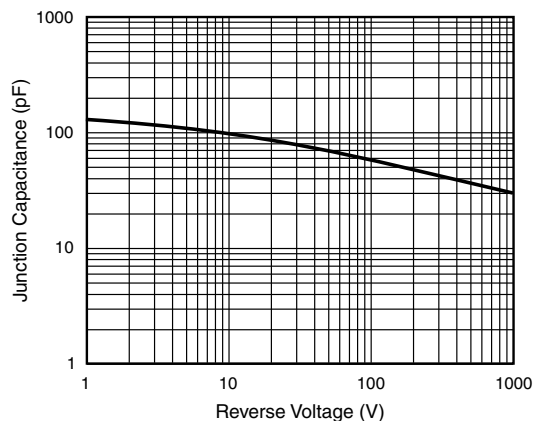


Fig. 5 - Typical Junction Capacitance Per Diode

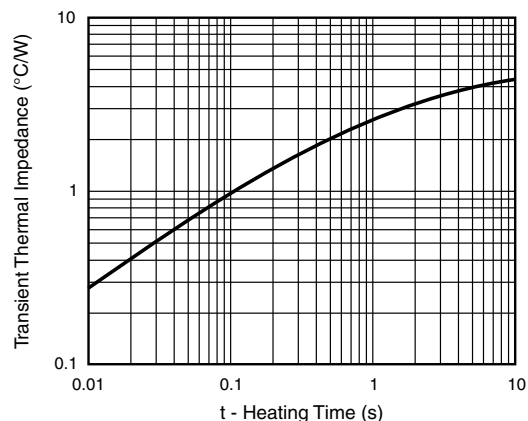
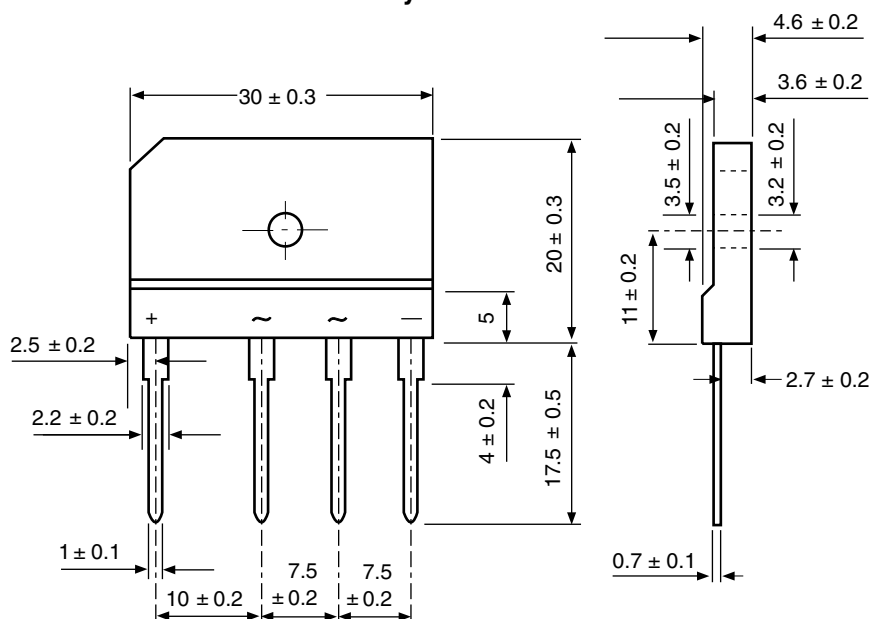


Fig. 6 - Typical Transient Thermal Impedance

**PACKAGE OUTLINE DIMENSIONS** in millimeters

**Case Style GSIB-5S**




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