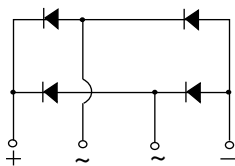
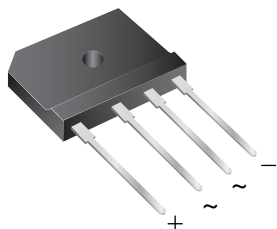




## Single-Phase Single In-Line Bridge Rectifiers



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  
HALOGEN  
**FREE**

### 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-M3 - halogen-free, RoHS-compliant, and commercial grade

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

M3 suffix meets JESD 201 class 1A whisker test

**Polarity:** As marked on body

**Mounting Torque:** 10 cm-kg (8.8 in-lbs) maximum

**Recommended Torque:** 5.7 cm-kg (5 in-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 $I_F = 7.5$ A  | 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                            | GSIB15A20N                        | GSIB15A40N | GSIB15A60N | GSIB15A80N | 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                    | T <sub>C</sub> = 107 °C           | I <sub>F(AV)</sub> <sup>(1)</sup> | 15         |            |            | A                |
|                                                                        | T <sub>A</sub> = 25 °C            | I <sub>F(AV)</sub> <sup>(2)</sup> | 3.5        |            |            |                  |
| 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

(1) Unit case mounted on aluminum plate heatsink

(2) Units mounted on PCB without heatsink

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

| PARAMETER                                                         | TEST CONDITIONS         | SYMBOL         | GSIB15A20N | GSIB15A40N | GSIB15A60N | GSIB15A80N | UNIT |
|-------------------------------------------------------------------|-------------------------|----------------|------------|------------|------------|------------|------|
| Maximum instantaneous forward voltage drop per diode              | I <sub>F</sub> = 7.5 A  | V <sub>F</sub> | 1.0        |            |            |            | 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                          | GSIB15A20N | GSIB15A40N | GSIB15A60N | GSIB15A80N | UNIT |
|----------------------------|---------------------------------|------------|------------|------------|------------|------|
| Maximum thermal resistance | R <sub>θJA</sub> <sup>(2)</sup> | 22         |            |            |            | °C/W |
|                            | R <sub>θJC</sub> <sup>(1)</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 |
|------------------|-----------------|------------------------|---------------|---------------|
| GSIB15A60N-M3/45 | 7.0             | 45                     | 20            | Tube          |

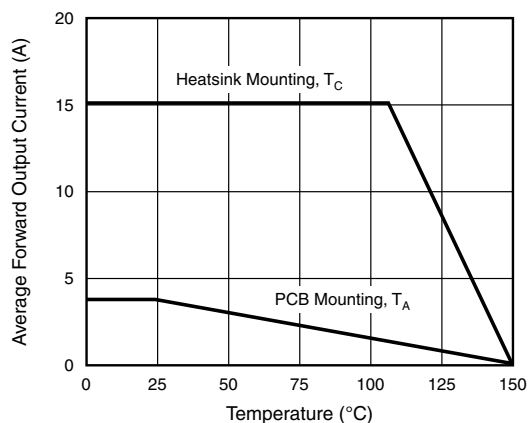
**RATINGS AND CHARACTERISTICS CURVES** ( $T_A = 25\text{ }^{\circ}\text{C}$  unless otherwise noted)

Fig. 1 - Derating Curve Output Rectified Current

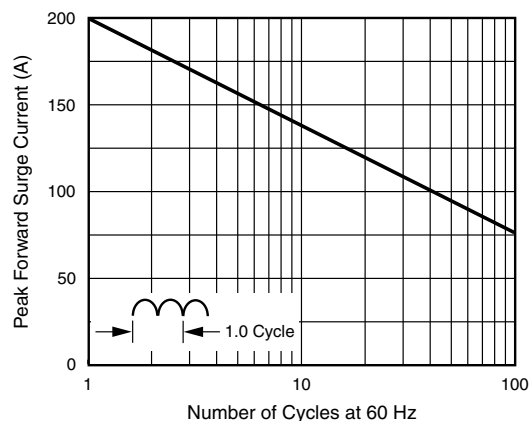


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

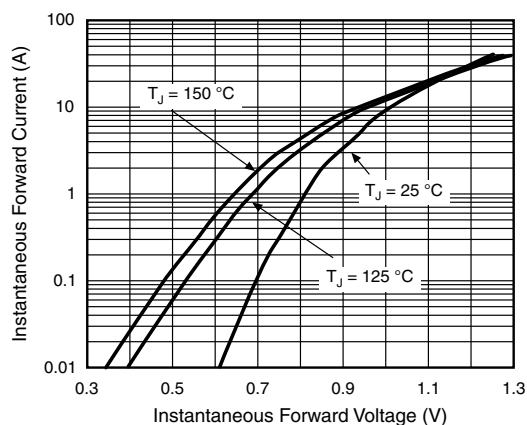


Fig. 3 - Typical Forward Characteristics Per Diode

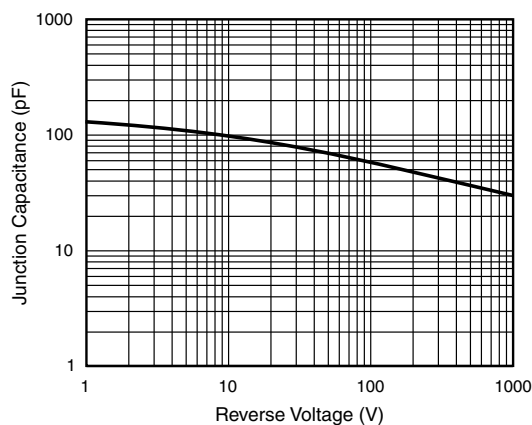


Fig. 5 - Typical Junction Capacitance Per Diode

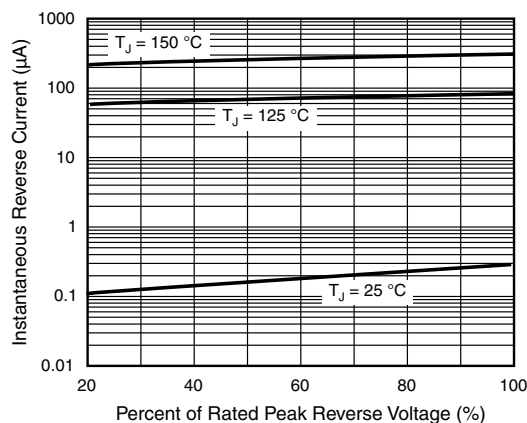


Fig. 4 - Typical Reverse Characteristics Per Diode

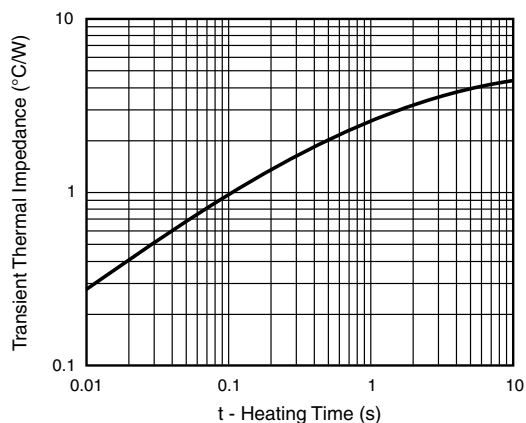
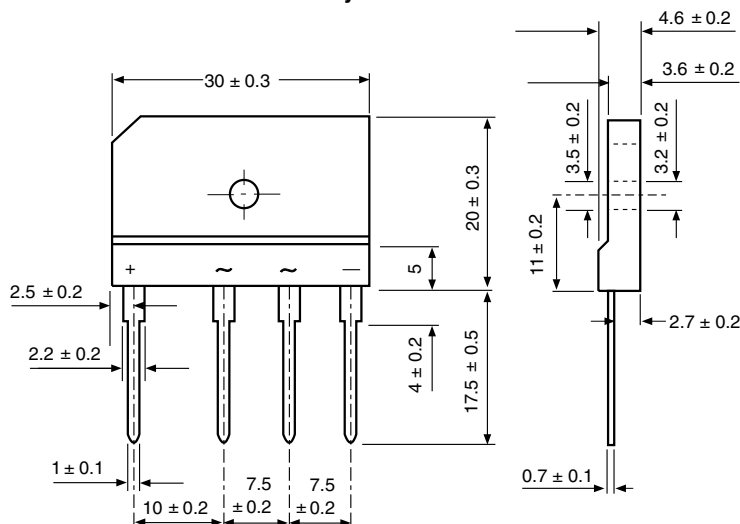


Fig. 6 - Typical Transient Thermal Impedance

### PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

### Case Style GSIB-5S





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