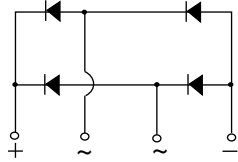
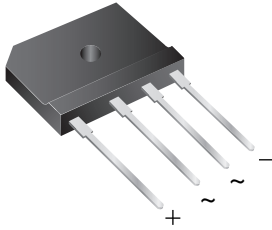




## Single-Phase Single In-Line Bridge Rectifiers



Case Style GSIB-5S

### LINKS TO ADDITIONAL RESOURCES



### 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)



### 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                  |                            |
|--|----------------------------|
| I <sub>F(AV)</sub>                       | 15 A                       |
| V <sub>RRM</sub>                         | 200 V, 400 V, 600 V, 800 V |
| I <sub>FSM</sub>                         | 200 A                      |
| I <sub>R</sub>                           | 10 μA                      |
| V <sub>F</sub> at I <sub>F</sub> = 7.5 A | 1.0 V                      |
| T <sub>J</sub> max.                      | 150 °C                     |
| Package                                  | GSIB-5S                    |
| Circuit configuration                    | 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> |            |            |            | A                |
|  | T <sub>A</sub> = 25 °C            | I <sub>F(AV)</sub> <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

(1) Unit case mounted on aluminum plate heatsink

(2) Units mounted on PCB without heatsink

| ELECTRICAL CHARACTERISTICS (T <sub>A</sub> = 25 °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   | $R_{\theta JA}$ (2) |            |            | 22         |            | $^\circ\text{C/W}$ |
|  | $R_{\theta JC}$ (1) |            |            | 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)**

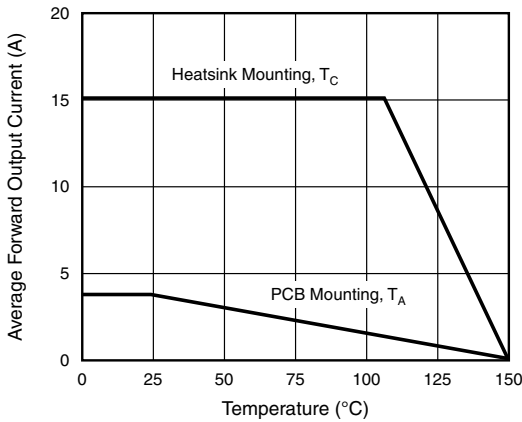


Fig. 1 - Derating Curve Output Rectified Current

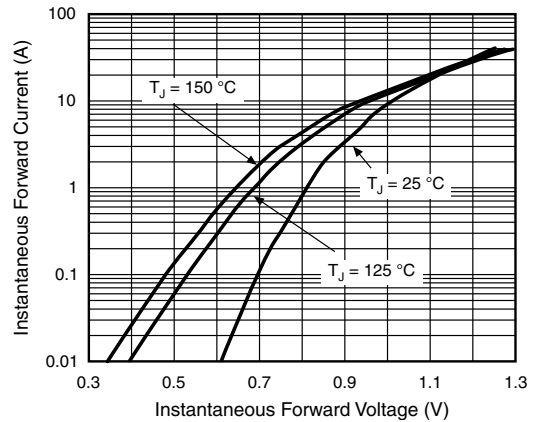


Fig. 3 - Typical Forward Characteristics Per Diode

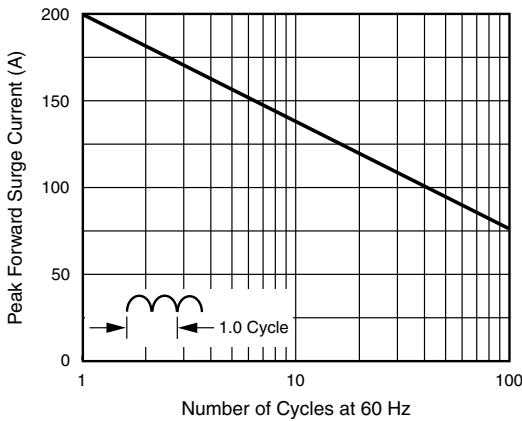


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

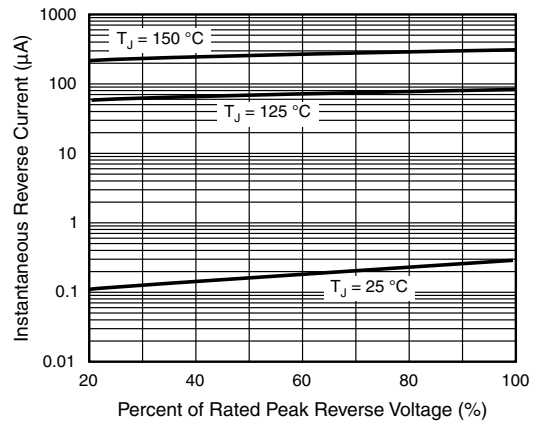


Fig. 4 - Typical Reverse Characteristics Per Diode

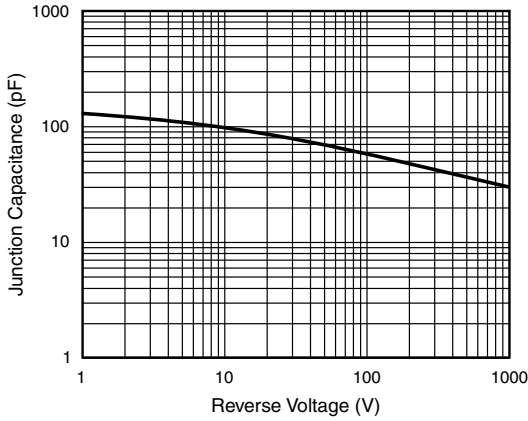


Fig. 5 - Typical Junction Capacitance Per Diode

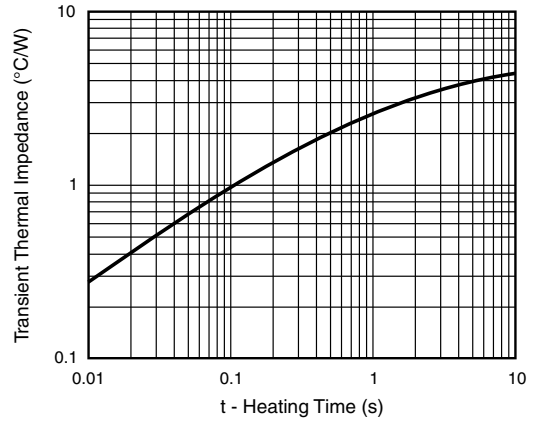
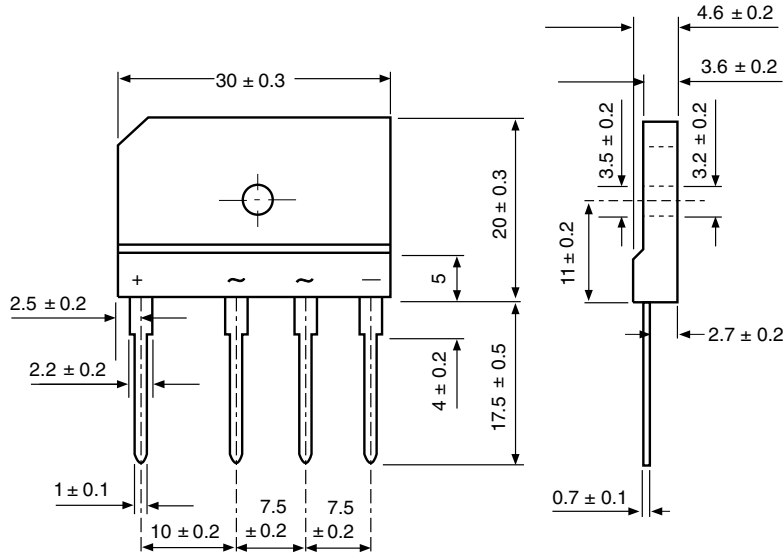


Fig. 6 - Typical Transient Thermal Impedance

**PACKAGE OUTLINE DIMENSIONS** in inches (millimeters)

**Case Style GSIB-5S**





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