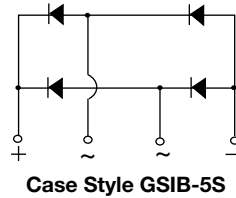
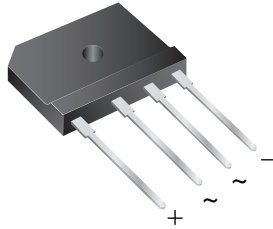


## Single-Phase Single In-Line Bridge Rectifiers



### FEATURES

- UL recognition file number E54214
- Thin single in-line package
- Glass passivated chip junction
- High surge current capability
- High case dielectric strength of 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)



### LINKS TO ADDITIONAL RESOURCES



| PRIMARY CHARACTERISTICS |                            |
|-------------------------|----------------------------|
| $I_{F(AV)}$             | 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                     |
| Package                 | GSIB-5S                    |
| Circuit configuration   | In-line                    |

### 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)

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

| PARAMETER  | SYMBOL         | GSIB1520    | GSIB1540 | GSIB1560 | GSIB1580 | 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                    | $I_{F(AV)}$    | 15          |          |          |          | A                |
| $T_C = 107$ °C <sup>(1)</sup><br>$T_A = 25$ °C <sup>(2)</sup>          |                |             |          |          |          |                  |
| Peak forward surge current single sine-wave superimposed on rated load | $I_{FSM}$      | 300         |          |          |          | A                |
| Rating for fusing ( $t < 8.3$ ms)                                      | $I^2t$         | 240         |          |          |          | 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 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           | $V_F$  | 0.95     |          |          |          | V       |
| Maximum DC reverse current at rated DC blocking voltage per diode | $T_A = 25$ °C   | $I_R$  | 10       |          |          |          | $\mu$ A |
|   | $T_A = 125$ °C  |        | 250      |          |          |          |         |



| THERMAL CHARACTERISTICS ( $T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted) |                     |          |          |          |          |                    |
|--|---------------------|----------|----------|----------|----------|--------------------|
| PARAMETER  | SYMBOL              | GSIB1520 | GSIB1540 | GSIB1560 | GSIB1580 | UNIT               |
| Typical thermal resistance   | $R_{\theta JA}$ (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 |
| GSIB1560-E3/45                 | 7.0             | 45                     | 20            | Tube          |

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

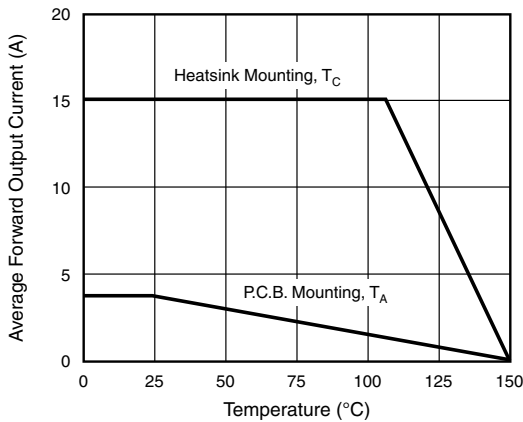


Fig. 1 - Derating Curve Output Rectified Current

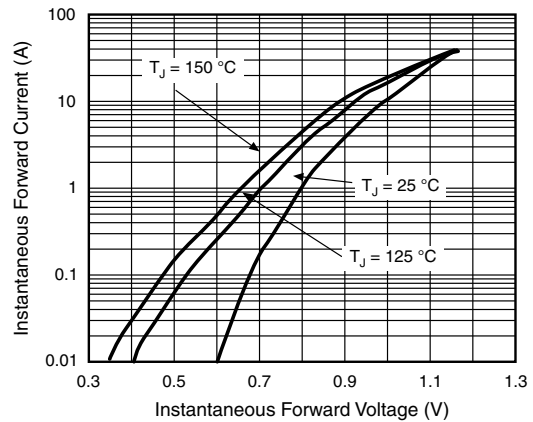


Fig. 3 - Typical Forward Characteristics Per Diode

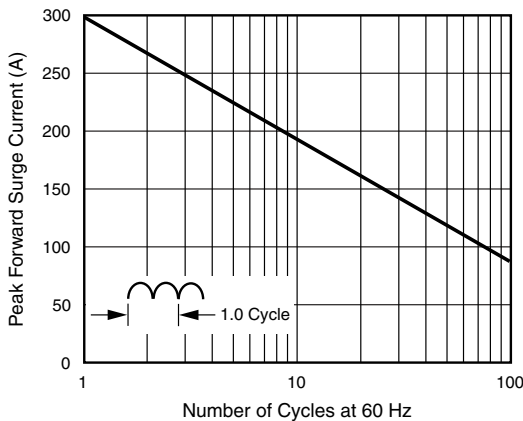


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

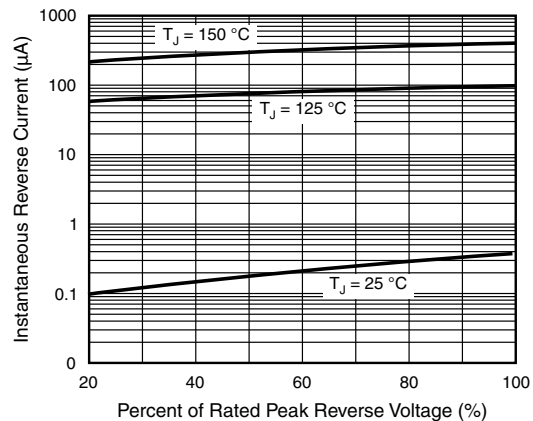


Fig. 4 - Typical Reverse Characteristics Per Diode

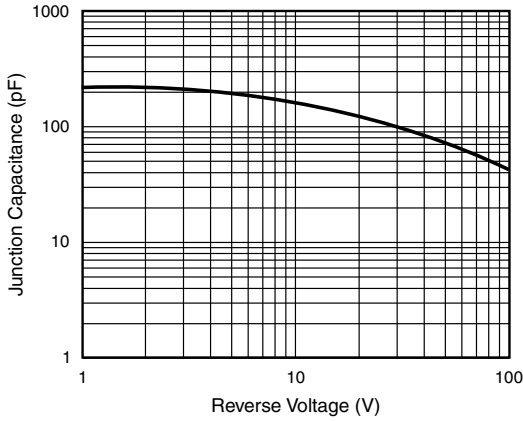


Fig. 5 - Typical Junction Capacitance Per Diode

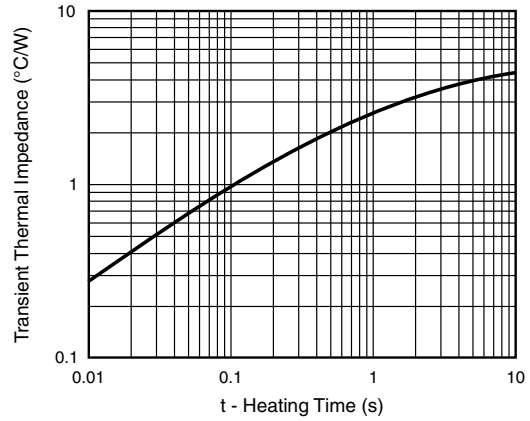
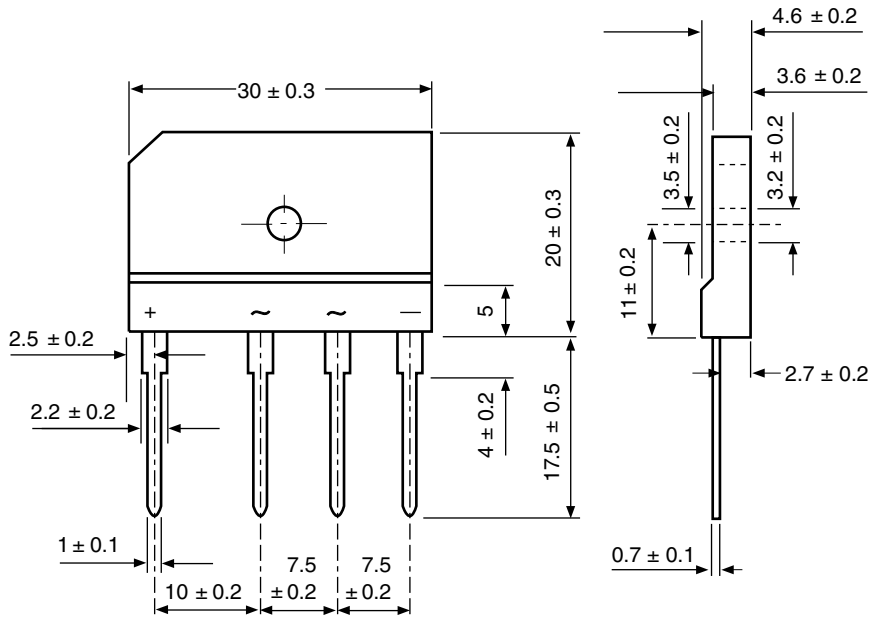


Fig. 6 - Typical Transient Thermal Impedance

**PACKAGE OUTLINE DIMENSIONS** in millimeters

**Case Style GSIB-5S**





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