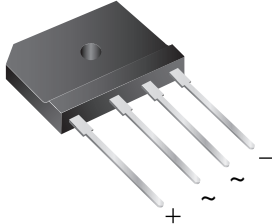


Single-Phase Single In-Line Bridge Rectifiers



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_{RMS}
- Solder dip 275 °C max. 10 s, per JESD 22-B106
- Material categorization: for definitions of compliance please see 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 μA |
| V _F at I _F = 7.5 V | 1.0 V |
| T _J max. | 150 °C |
| Diode variations | In-Line |

| MAXIMUM RATINGS (T _A = 25 °C unless otherwise noted) | | | | | | |
|--|-----------------------------------|-------------|-----------|-----------|-----------|------------------|
| PARAMETER | SYMBOL | GSIB15A20 | GSIB15A40 | GSIB15A60 | GSIB15A80 | 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 |
| | | 3.5 | | | | |
| Peak forward surge current single sine-wave superimposed on rated load | I _{FSM} | 200 | | | | A |
| Rating for fusing (t < 8.3 ms) | I ² t | 166 | | | | A ² s |
| Operating junction and storage temperature range | T _J , T _{STG} | -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 °C unless otherwise noted) | | | | | | | |
|--|-------------------------|----------------|-----------|-----------|-----------|-----------|------|
| PARAMETER | TEST CONDITIONS | SYMBOL | GSIB15A20 | GSIB15A40 | GSIB15A60 | GSIB15A80 | UNIT |
| Maximum instantaneous forward voltage drop per diode | 7.5 A | V _F | 1.00 | | | | V |
| Maximum DC reverse current at rated DC blocking voltage per diode | T _A = 25 °C | I _R | 10 | | | | μA |
| | T _A = 125 °C | | 250 | | | | |



| THERMAL CHARACTERISTICS ($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted) | | | | | | |
|--|---------------------|-----------|-----------|-----------|-----------|--------------------|
| PARAMETER | SYMBOL | GSIB15A20 | GSIB15A40 | GSIB15A60 | GSIB15A80 | 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 |
| GSIB15A60-E3/45 | 7.0 | 45 | 20 | Tube |

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

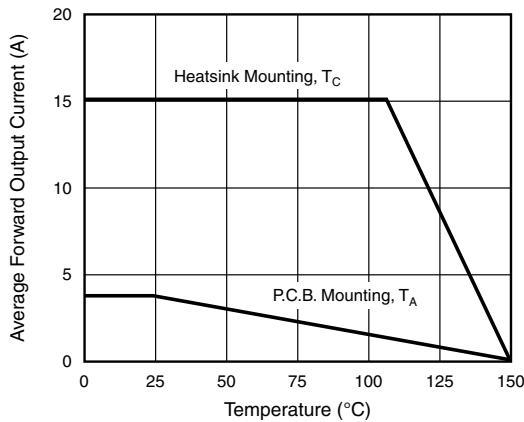


Fig. 1 - Derating Curve Output Rectified Current

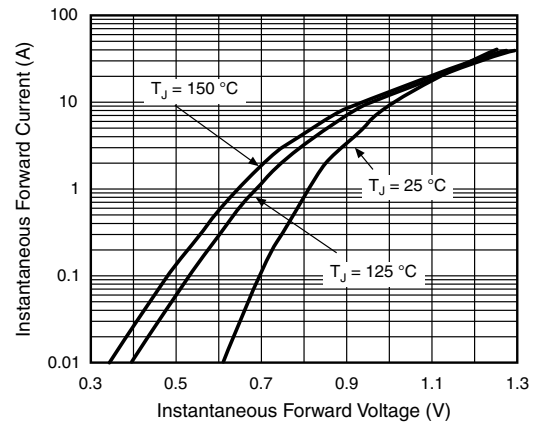


Fig. 3 - Typical Forward Characteristics Per Diode

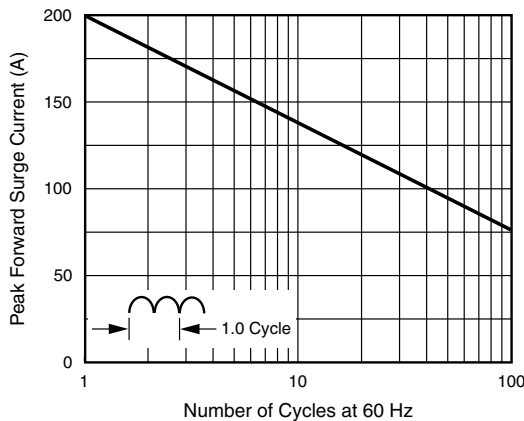


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

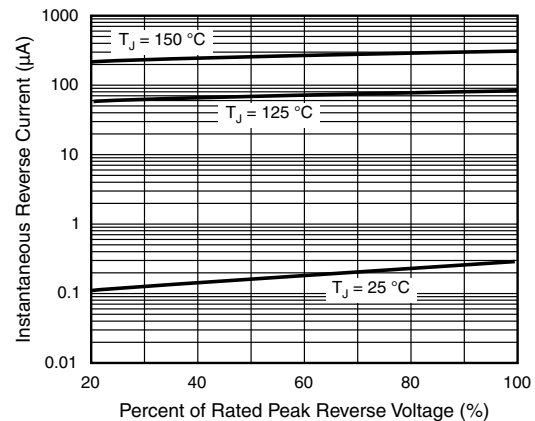


Fig. 4 - Typical Reverse Characteristics Per Diode

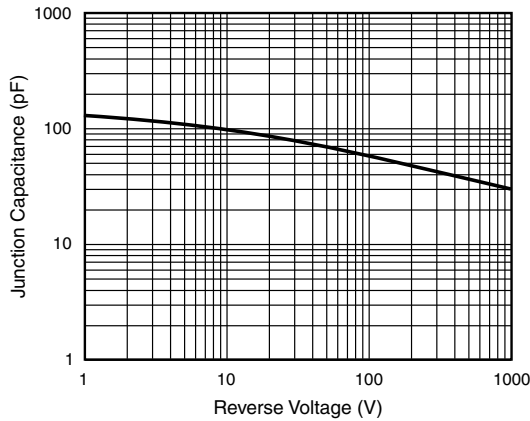


Fig. 5 - Typical Junction Capacitance Per Diode

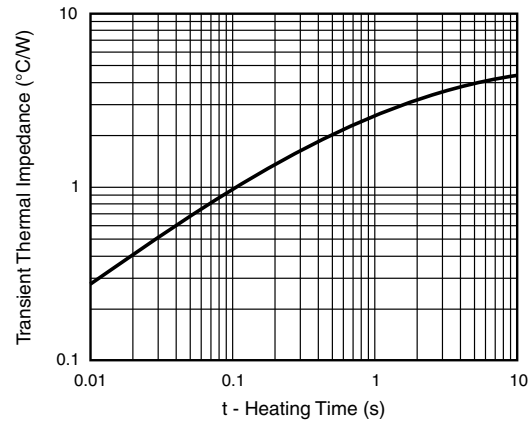
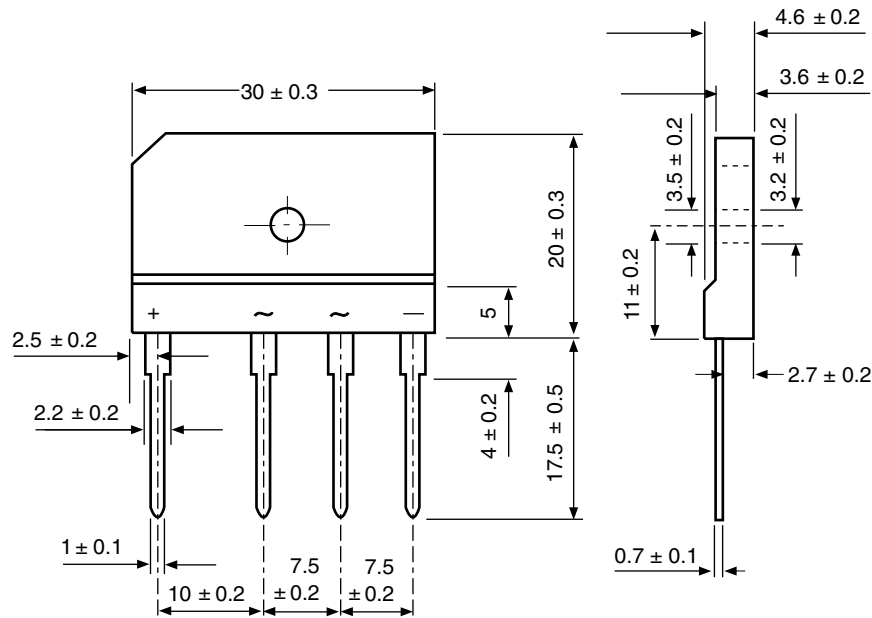


Fig. 6 - Typical Transient Thermal Impedance

PACKAGE OUTLINE DIMENSIONS in millimeters

Case Style GSIB-5S





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