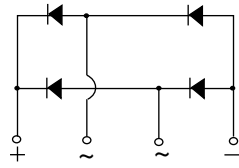
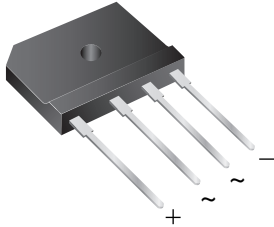


Single-Phase Single In-Line Bridge Rectifiers



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
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 |
| $I_{F(AV)}$ | 20 A |
| V_{RRM} | 200 V, 400 V, 600 V, 800 V |
| I_{FSM} | 240 A |
| I_R | 10 μ A |
| V_F at $I_F = 7.5$ A | 1.0 V |
| T_J max. | 150 °C |
| Diode variations | In-Line |

| MAXIMUM RATINGS ($T_A = 25$ °C unless otherwise noted) | | | | | | |
|--|----------------|-------------------|-----------|-----------|-----------|------------------|
| PARAMETER | SYMBOL | GSIB2020N | GSIB2040N | GSIB2060N | GSIB2080N | 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 | $T_C = 87$ °C | $I_{F(AV)}^{(1)}$ | | | | A |
| | $T_A = 25$ °C | $I_{F(AV)}^{(2)}$ | | | | |
| Peak forward surge current single sine-wave superimposed on rated load | I_{FSM} | 240 | | | | A |
| Rating for fusing ($t < 8.3$ ms) | I^2t | 240 | | | | 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 ($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted) | | | | | | | |
|--|-----------------------------------|--------|-----------|-----------|-----------|-----------|---------------|
| PARAMETER | TEST CONDITIONS | SYMBOL | GSIB2020N | GSIB2040N | GSIB2060N | GSIB2080N | UNIT |
| Maximum instantaneous forward voltage drop per diode | $I_F = 7.5\text{ A}$ | V_F | 1.0 | | | | V |
| Maximum DC reverse current at rated DC blocking voltage per diode | $T_A = 25\text{ }^\circ\text{C}$ | I_R | 10 | | | | μA |
| | $T_A = 125\text{ }^\circ\text{C}$ | | 250 | | | | |

| THERMAL CHARACTERISTICS ($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted) | | | | | | | |
|---|--------------------------------|-----------|-----------|-----------|-----------|--------------------|--|
| PARAMETER | SYMBOL | GSIB2020N | GSIB2040N | GSIB2060N | GSIB2080N | 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 |
| GSIB2060N-M3/45 | 7.0 | 45 | 20 | Tube |

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

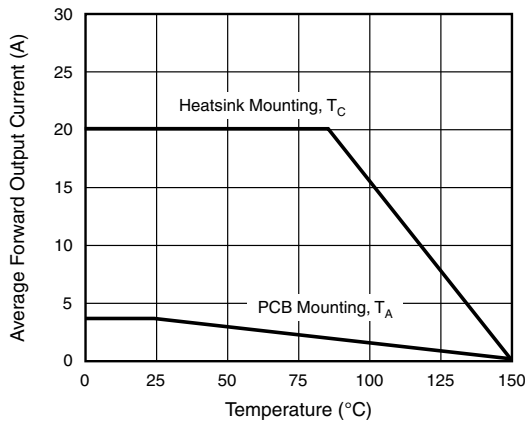


Fig. 1 - Derating Curve Output Rectified Current

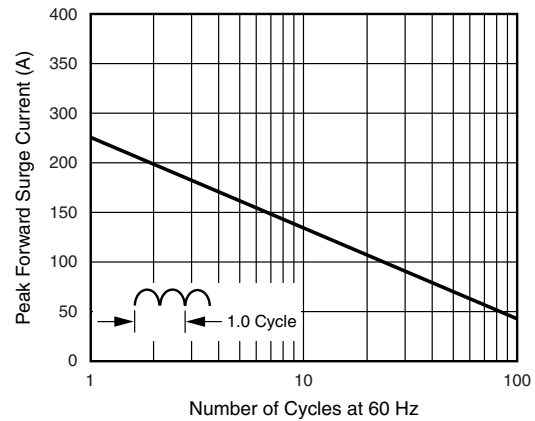


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

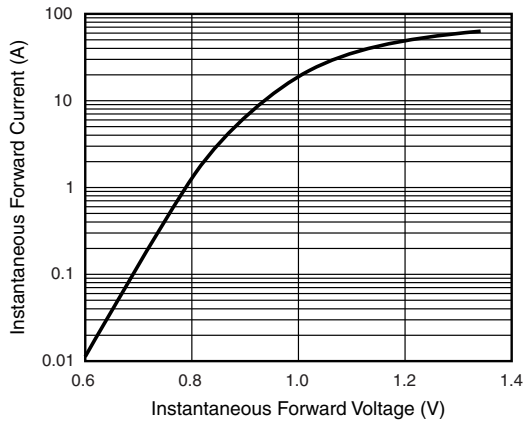


Fig. 3 - Typical Forward Characteristics Per Diode

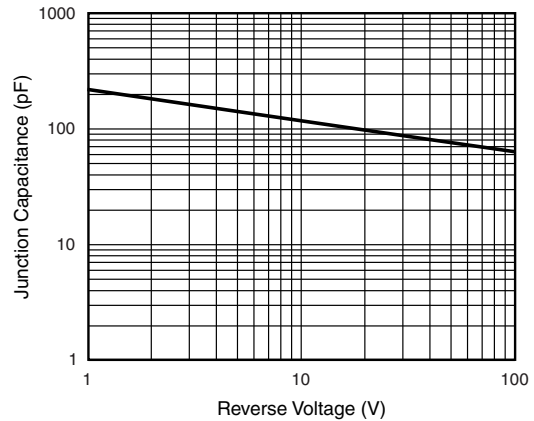


Fig. 5 - Typical Junction Capacitance Per Diode

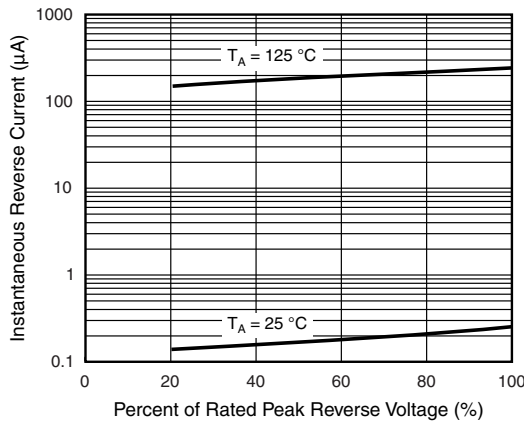


Fig. 4 - Typical Reverse Characteristics Per Diode

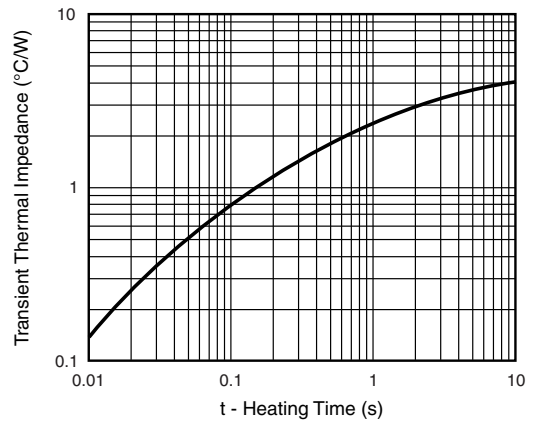
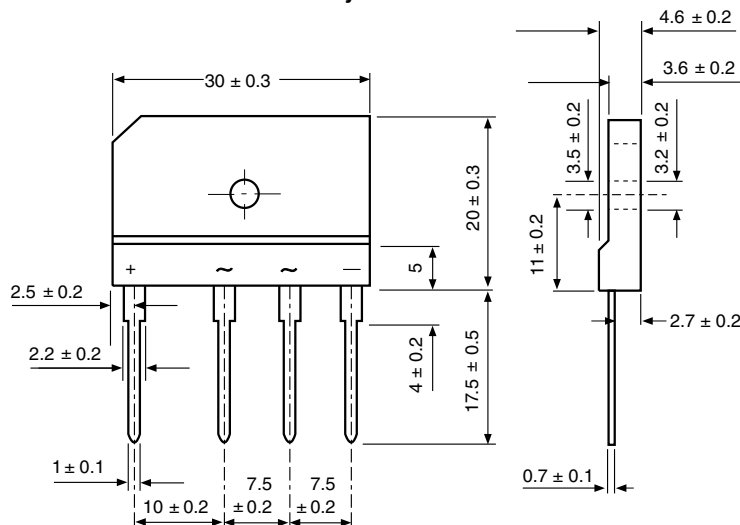


Fig. 6 - Typical Transient Thermal Impedance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

Case Style GSIB-5S





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