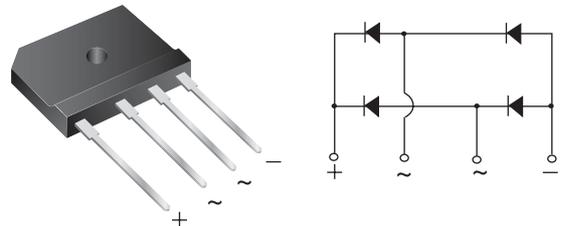


Single-Phase Single In-Line Bridge Rectifiers

Major Ratings and Characteristics

| | |
|-------------|----------------|
| $I_{F(AV)}$ | 6 A |
| V_{RRM} | 200 V to 800 V |
| I_{FSM} | 180 A |
| I_R | 10 μ A |
| V_F | 0.95 V |
| T_j max. | 150 °C |

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 1500 V_{RMS}
- Solder Dip 260 °C, 40 seconds



Mechanical Data

Case: GSIB-5S

Epoxy meets UL-94V-0 Flammability rating

Terminals: Matte tin plated (E3 Suffix) leads, solderable per J-STD-002B and JESD22-B102D

Polarity: As marked on body

Mounting Torque: 10 cm·kg (8.8 inches·lbs) max.

Recommended Torque: 5.7cm·kg (5 inches·lbs)

Typical Applications

General purpose use in ac-to-dc bridge full wave rectification for Switching Power Supply, Home Appliances, Office Equipment, Industrial Automation applications

Maximum Ratings

Ratings at 25 °C ambient temperature unless otherwise specified.

| Parameter | Symbol | GSIB620 | GSIB640 | GSIB660 | GSIB680 | 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 $T_C = 100$ °C $T_A = 25$ °C | $I_{F(AV)}$ | 6.0 ⁽¹⁾ 2.8 ⁽²⁾ | | | | A |
| Peak forward surge current single sine-wave superimposed on rated load (JEDEC Method) | I_{FSM} | 180 | | | | A |
| Rating for fusing ($t < 8.3$ ms) | I^2t | 120 | | | | A ² sec |
| Operating junction and storage temperature range | T_J, T_{STG} | - 55 to + 150 | | | | °C |

Electrical Characteristics

Ratings at 25 °C ambient temperature unless otherwise specified.

| Parameter | Test condition | Symbol | GSIB620 | GSIB640 | GSIB660 | GSIB680 | Unit |
|---|---------------------------------|--------|-----------|---------|---------|---------|---------|
| Maximum instantaneous forward voltage drop per leg | at 3.0 A | V_F | 0.95 | | | | V |
| Maximum DC reverse current at rated DC blocking voltage per leg | $T_A = 25$ °C $T_A = 125$ °C | I_R | 10 250 | | | | μ A |

Thermal Characteristics

Ratings at 25 °C ambient temperature unless otherwise specified.

| Parameter | Symbol | GSIB620 | GSIB640 | GSIB660 | GSIB680 | Unit |
|------------------------------------|-----------------|---------|---------|--------------------|---------|------|
| Typical thermal resistance per leg | $R_{\theta JA}$ | | | 22 ⁽²⁾ | | °C/W |
| | $R_{\theta JC}$ | | | 3.4 ⁽¹⁾ | | |

Notes:

- (1) Unit case mounted on Al plate heatsink
- (2) Units mounted on P.C.B. with 0.5 x 0.5" (12 x 12 mm) copper pads and 0.375" (9.5 mm) lead length
- (3) Recommended mounting position is to bolt down on heatsink with silicone thermal compound for maximum heat transfer with #6 screw

Ratings and Characteristics Curves

($T_A = 25\text{ °C}$ unless otherwise noted)

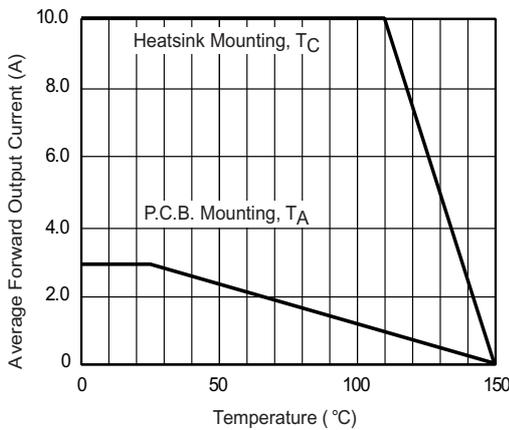


Figure 1. Derating Curve Output Rectified Current

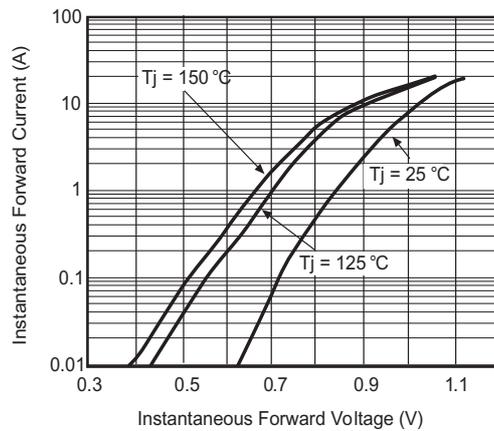


Figure 3. Typical Forward Characteristics Per Leg

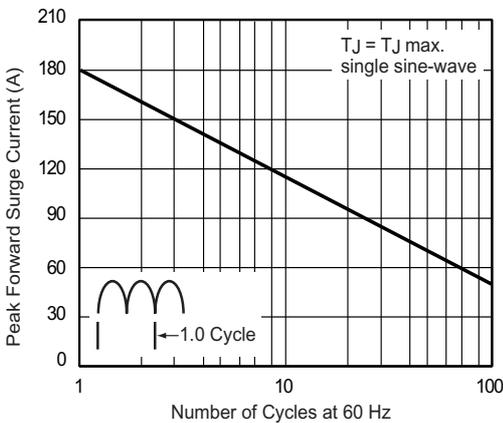


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current Per Leg

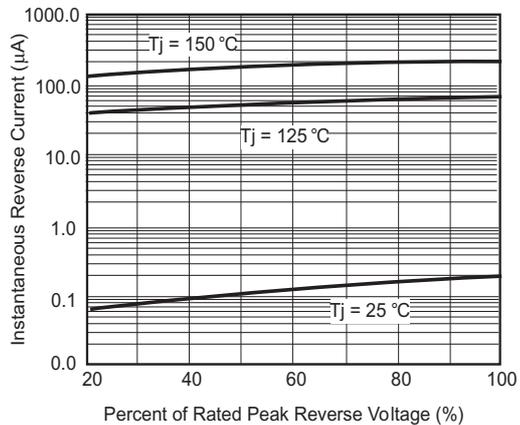


Figure 4. Typical Reverse Characteristics Per Leg

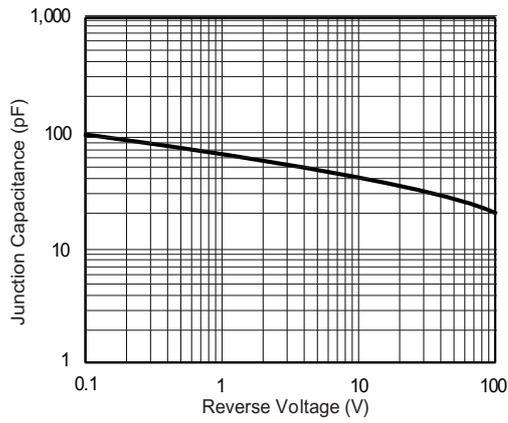


Figure 5. Typical Junction Capacitance Per Leg

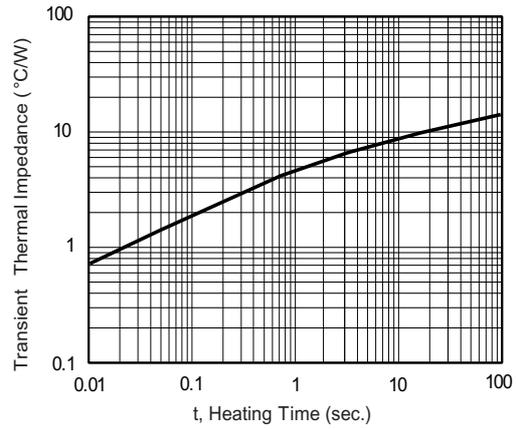
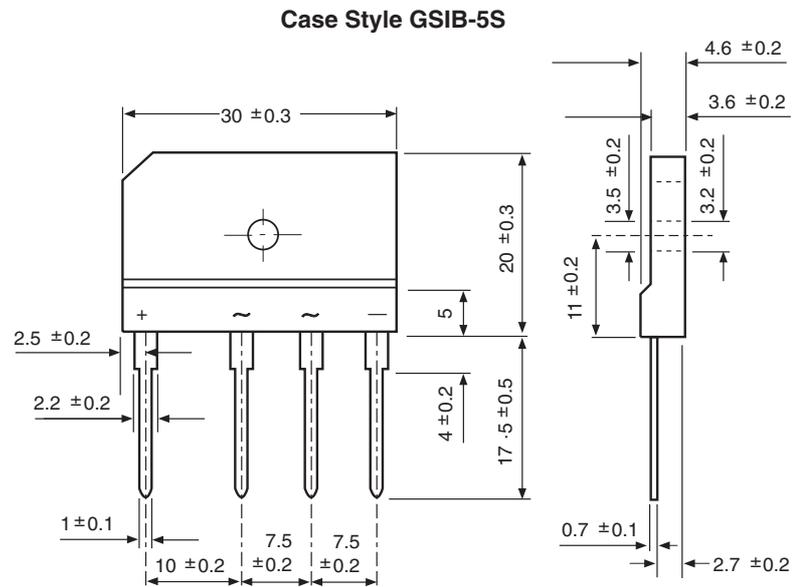


Figure 6. Typical Transient Thermal Impedance

Package outline dimensions in millimeters





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