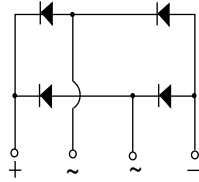




Glass Passivated Single-Phase Bridge Rectifier



Case Type GBL



FEATURES

- UL recognition file number E54214
- Ideal for printed circuit boards
- High surge current capability
- Typical I_R less than 0.1 μ A
- High case dielectric strength
- Solder dip 275 °C max. 10 s, per JESD 22-B106
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912



LINKS TO ADDITIONAL RESOURCES



TYPICAL APPLICATIONS

General purpose use in AC/DC bridge full wave rectification for monitor, TV, printer, SMPS, adapter, audio equipment, and home appliances application.

MECHANICAL DATA

Case: GBL

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

| PRIMARY CHARACTERISTICS | |
|-------------------------|---|
| $I_{F(AV)}$ | 4.0 A |
| V_{RRM} | 50 V, 100 V, 200 V, 400 V, 600 V, 800 V, 1000 V |
| I_{FSM} | 120 A |
| I_R | 5 μ A |
| V_F at $I_F = 4.0$ A | 1.0 V |
| T_J max. | 150 °C |
| Package | GBL |
| Circuit configuration | In-line |

| MAXIMUM RATINGS ($T_A = 25$ °C unless otherwise noted) | | | | | | | | | |
|--|----------------|-------------|--------|--------|--------|--------|--------|--------|------------------|
| PARAMETER | SYMBOL | GBLA005 | GBLA01 | GBLA02 | GBLA04 | GBLA06 | GBLA08 | GBLA10 | UNIT |
| Maximum repetitive peak reverse voltage | V_{RRM} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum RMS voltage | V_{RMS} | 35 | 70 | 140 | 280 | 420 | 560 | 700 | V |
| Maximum DC blocking voltage | V_{DC} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum average forward rectified output current at $T_C = 50$ °C ⁽¹⁾ $T_A = 40$ °C ⁽²⁾ | $I_{F(AV)}$ | 4.0 | | | | | | | A |
| | | 3.0 | | | | | | | |
| Peak forward surge current single sine-wave superimposed on rated load | I_{FSM} | 120 | | | | | | | A |
| Rating for fusing ($t < 8.3$ ms) | I^2t | 60 | | | | | | | A ² s |
| Operating junction and storage temperature range | T_J, T_{STG} | -55 to +150 | | | | | | | °C |

Notes

⁽¹⁾ Unit mounted on 3.0" x 3.0" x 0.11" thick (7.5 cm x 7.5 cm x 0.3 cm) aluminum plate

⁽²⁾ Unit mounted on PCB at 0.375" (9.5 mm) lead length and 0.5" x 0.5" (12 mm x 12 mm) copper pads

| ELECTRICAL CHARACTERISTICS ($T_A = 25$ °C unless otherwise noted) | | | | | | | | | | |
|--|-----------------|--------|---------|--------|--------|--------|--------|--------|---------|------|
| PARAMETER | TEST CONDITIONS | SYMBOL | GBLA005 | GBLA01 | GBLA02 | GBLA04 | GBLA06 | GBLA08 | GBLA10 | UNIT |
| Maximum instantaneous forward voltage drop per diode | 4.0 A | V_F | 1.0 | | | | | | V | |
| Maximum DC reverse current at rated DC blocking voltage per diode | $T_A = 25$ °C | I_R | 5.0 | | | | | | μ A | |
| | $T_A = 125$ °C | | 500 | | | | | | | |



| THERMAL CHARACTERISTICS ($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted) | | | | | | | | | | |
|---|---------------------|---------|--------|--------|--------|--------|--------|--------|------|--------------------|
| PARAMETER | SYMBOL | GBLA005 | GBLA01 | GBLA02 | GBLA04 | GBLA06 | GBLA08 | GBLA10 | UNIT | |
| Typical thermal resistance | $R_{\theta JA}$ (2) | | | | | 47 | | | | $^\circ\text{C/W}$ |
| | $R_{\theta JC}$ (1) | | | | | 10 | | | | |

Notes

- (1) Unit mounted on 3.0" x 3.0" x 0.11" thick (7.5 cm x 7.5 cm x 0.3 cm) aluminum plate
- (2) Unit mounted on PCB at 0.375" (9.5 mm) lead length and 0.5" x 0.5" (12 mm x 12 mm) copper pads

| ORDERING INFORMATION (Example) | | | | |
|---------------------------------------|-----------------|------------------------|---------------|----------------------|
| PREFERRED P/N | UNIT WEIGHT (g) | PREFERRED PACKAGE CODE | BASE QUANTITY | DELIVERY MODE |
| GBLA06-M3/45 | 2.133 | 45 | 20 | Tube |
| GBLA06-M3/51 | 2.133 | 51 | 400 | Anti-static PVC tray |

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

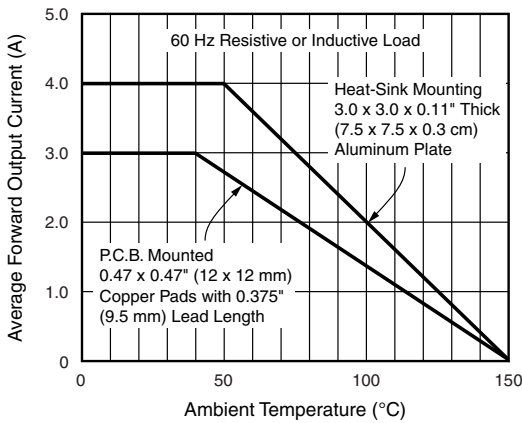


Fig. 1 - Derating Curves Output Rectified Current

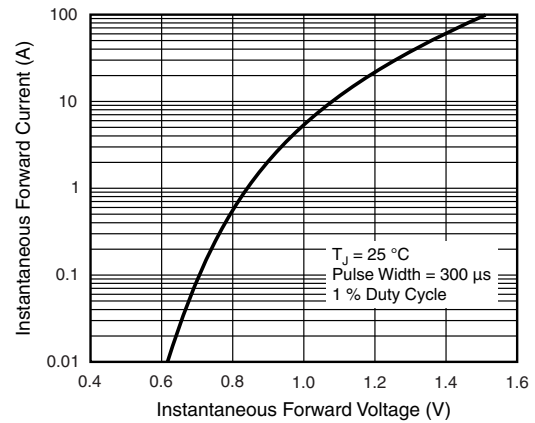


Fig. 3 - Typical Forward Voltage Characteristics Per Diode

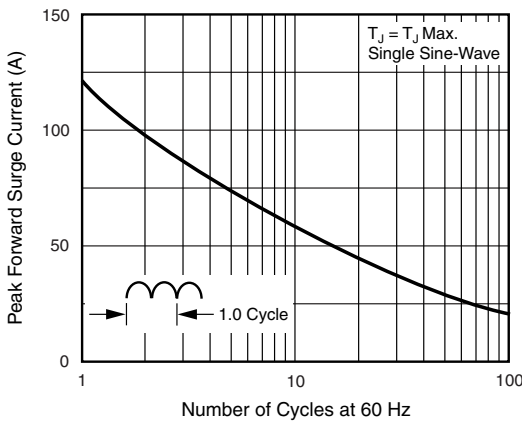


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

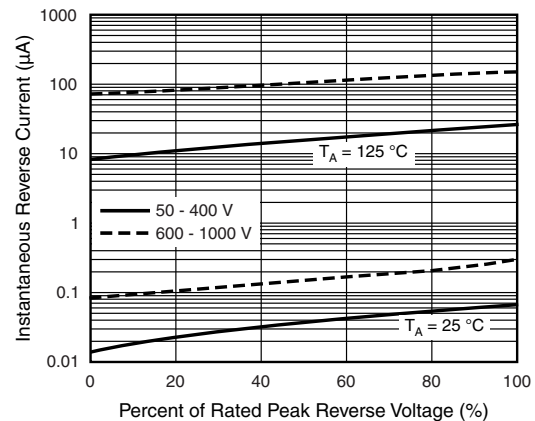


Fig. 4 - Typical Reverse Characteristics Per Diode

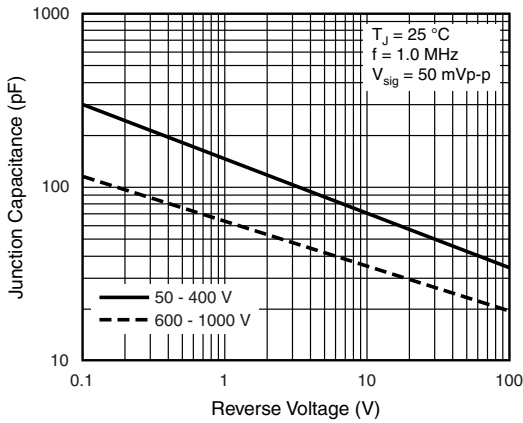


Fig. 5 - Typical Junction Capacitance Per Diode

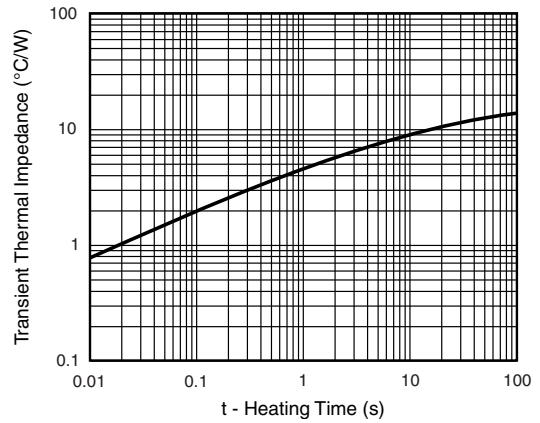
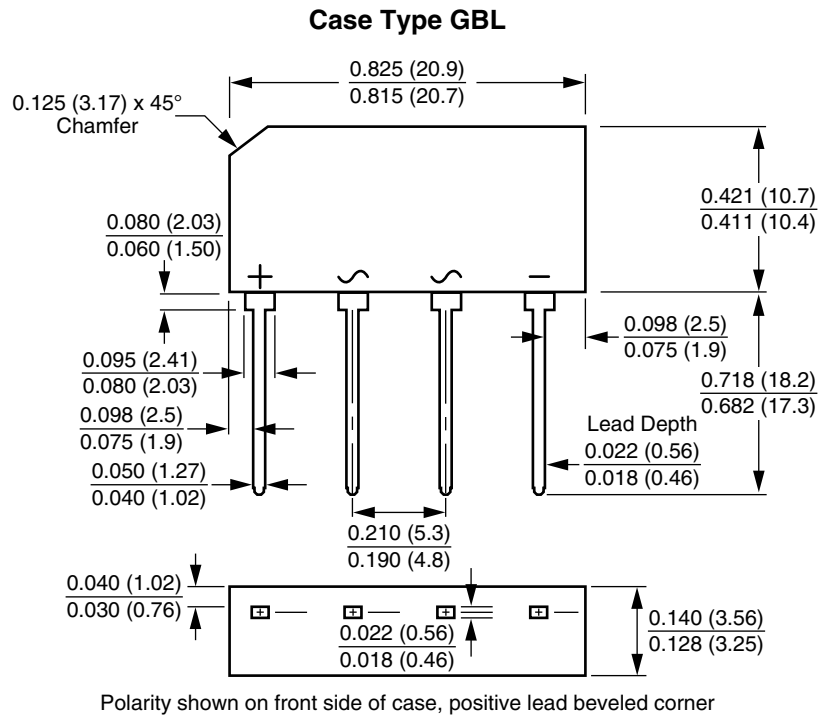


Fig. 6 - Typical Transient Thermal Impedance Per Diode

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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