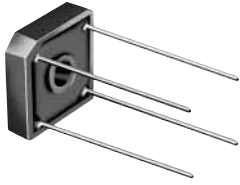




Glass Passivated Single-Phase Bridge Rectifier

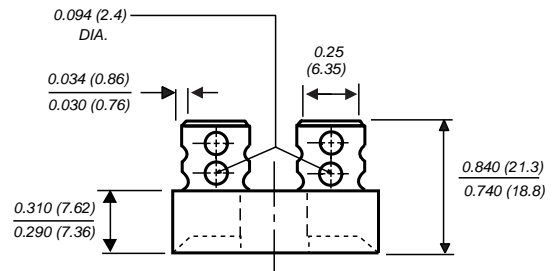
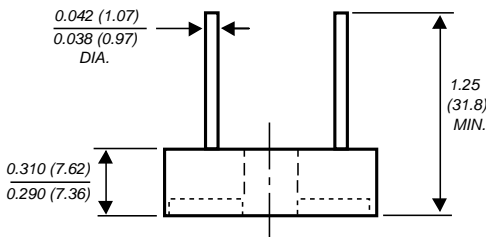
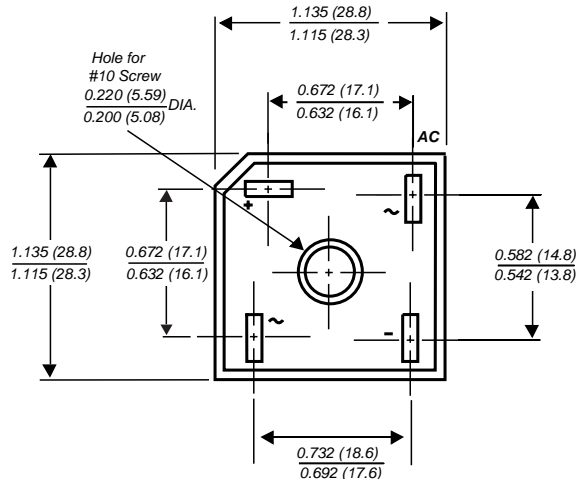
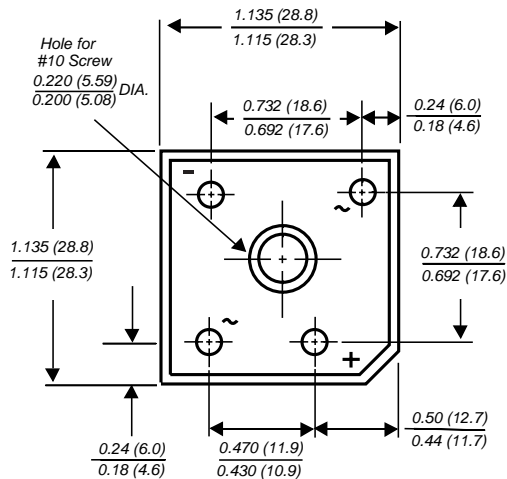
Reverse Voltage 50 and 1000V
Forward Current 12 to 35A



GBPC-W



GBPC



Dimensions in inches and (millimeters)

Mechanical Data

Case: Molded plastic with heatsink integrally mounted in the bridge encapsulation

Terminals: Either plated 0.25" (6.35mm) Faston lugs or plated copper leads 0.040" (1.02mm) diameter. Suffix letter "W" added to indicate wire leads (e.g. GBPC12005W)

Mounting Position: See NOTE 2

Polarity: Polarity symbols molded on body

Mounting Torque: 20 in. - lb. max.

Weight: 0.53 ounce, 15 grams

Packaging codes/options:

1/100 EA. per Bulk Box

Features

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- This series is UL listed under the Recognized Component Index, file number E54214
- Integrally molded heatsink provides very low thermal resistance for maximum heat dissipation
- Universal 3-way terminals; snap-on, wire wrap-around, or P.C.B. mounting
- High forward surge current capability
- Glass passivated chip junctions
- Typical I_R less than 0.3μA
- High temperature soldering guaranteed: 260°C/10 seconds at 5lbs. (2.3kg) tension

GBPC12, 15, 25 and 35

Vishay Semiconductors
formerly General Semiconductor



Maximum Ratings and Thermal Characteristics (T_A = 25°C unless otherwise noted)

| | Symbols | GBPC12, 15, 25, 35 | | | | | | | Units |
|---|--|--------------------------|-----|-----|-----|-----|-----|------|--------------------|
| | | 005 | 01 | 02 | 04 | 06 | 08 | 10 | |
| 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 (See Fig.1) | GBPC12 GBPC15 GBPC25 GBPC35 I _{F(AV)} | 12 15 25 35 | | | | | | | A |
| Peak forward surge current single sine-wave superimposed on rated load (JEDEC Method) | GBPC12 GBPC15 GBPC25 GBPC35 I _{FSM} | 200 300 300 400 | | | | | | | A |
| Rating (non-repetitive, for t greater than 1ms and less than 8.3ms) for fusing | GBPC12 GBPC15 GBPC25 GBPC35 I ² t | 160 375 375 660 | | | | | | | A ² sec |
| RMS isolation voltage from case to leads | V _{ISO} | 2500 | | | | | | | V |
| Typical thermal resistance per leg ⁽¹⁾ | GBPC12-25 GBPC35 R _{θJC} | 1.9 1.4 | | | | | | | °C/W |
| Operating junction storage temperature range | T _J , T _{STG} | -55 to +150 | | | | | | | °C |

Electrical Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

| | Symbols | GBPC12, 15, 25, 35 | | | | | | | Units |
|---|----------------|--------------------|----|----|----|----|----|----|-------|
| | | 005 | 01 | 02 | 04 | 06 | 08 | 10 | |
| Maximum instantaneous forward voltage drop per leg at GBPC12 I _F =6.0A GBPC15 I _F =7.5A GBPC25 I _F =12.5A GBPC35 I _F =17.5A | V _F | 1.1 | | | | | | | V |
| Maximum reverse DC current at rated DC blocking voltage per leg T _A =25°C T _A =125°C | I _R | 5.0 500 | | | | | | | μA |
| Typical junction capacitance per leg at 4V, 1MHZ | C _J | 300 | | | | | | | pF |

Notes:

- (1) Thermal resistance from junction to case per leg
- (2) Bolt down on heatsink with silicone thermal compound between bridge and mounting surface for maximum heat transfer with #10 screw

Ratings and Characteristic Curves ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Fig. 1 — Maximum Output Rectified Current

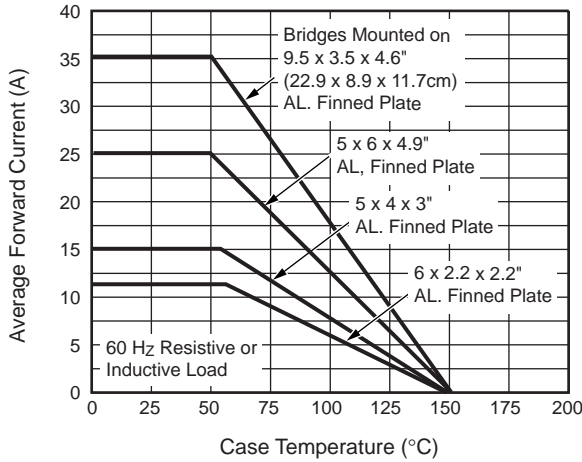


Fig. 2 — Maximum Output Rectified Current

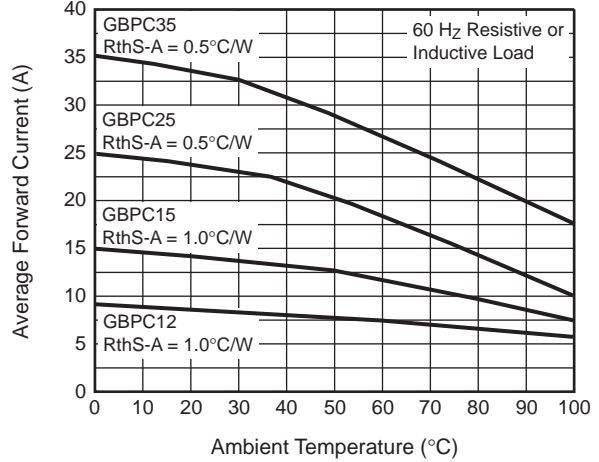


Fig. 3 — Maximum Power Dissipation

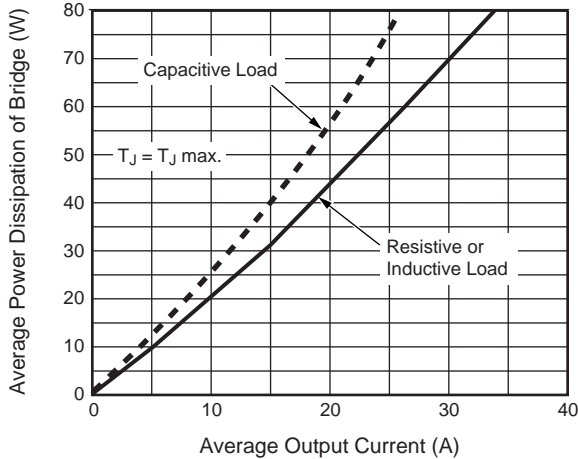
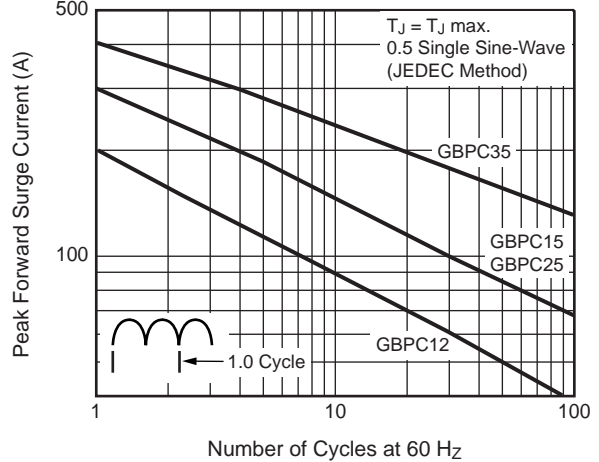


Fig. 4 — Maximum Non-Repetitive Peak Forward Surge Current Per Leg



Ratings and Characteristic Curves ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Fig. 5 — Typical Instantaneous Forward Characteristics Per Leg

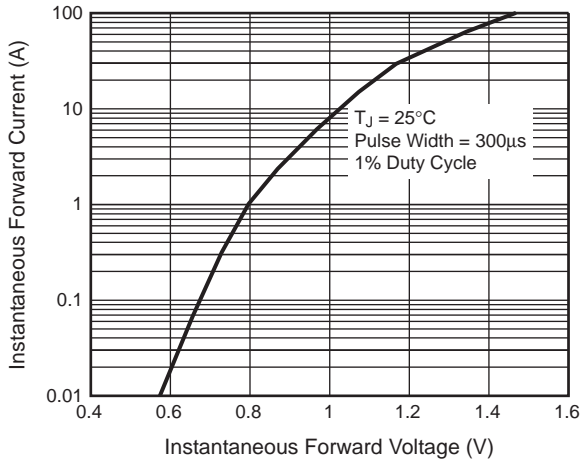


Fig. 6 — Typical Reverse Leakage Characteristics Per Leg

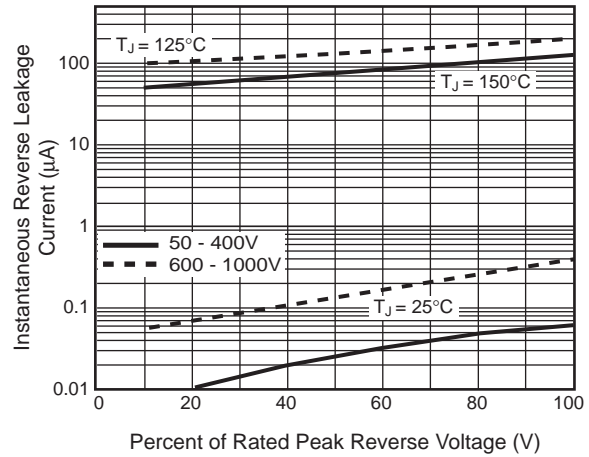


Fig. 7 — Typical Junction Capacitance Per Leg

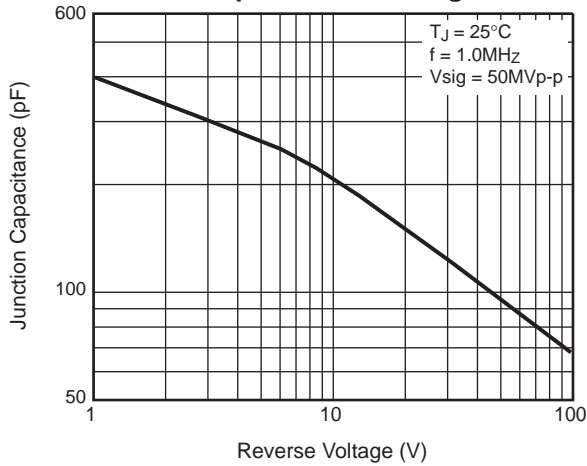


Fig. 8 — Typical Transient Thermal Impedance Per Leg

