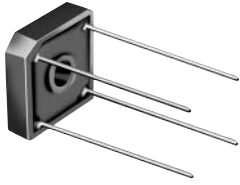




Glass Passivated Single-Phase Bridge Rectifier

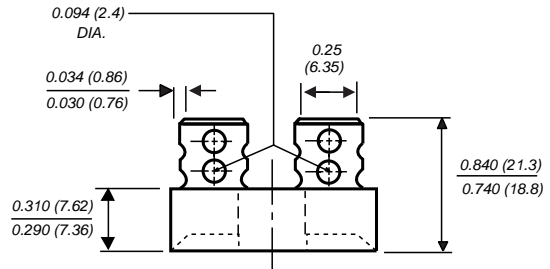
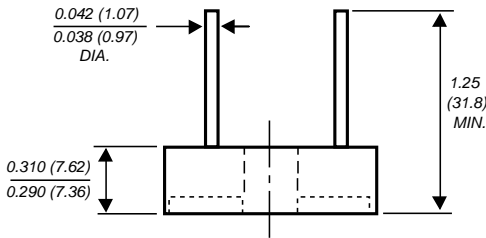
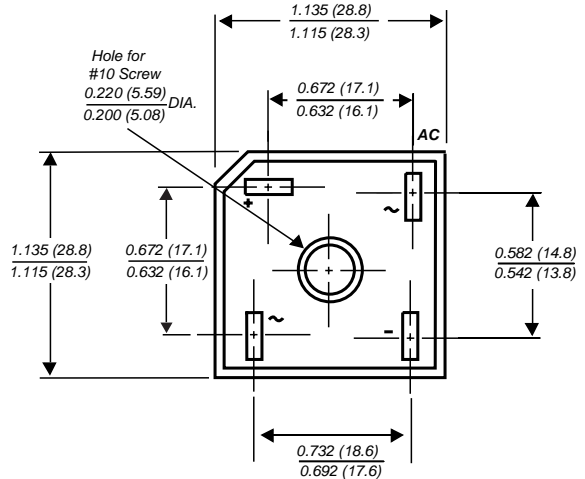
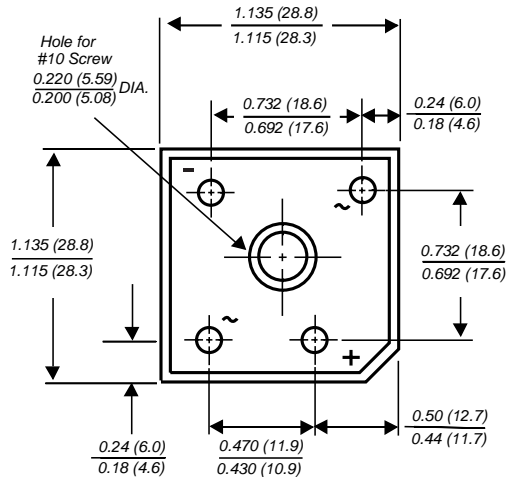
Reverse Voltage 50 and 1000V
Forward Current 12 to 35A



GBPC-W



GBPC



Dimensions in inches and (millimeters)

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 $0.3\mu A$
- High temperature soldering guaranteed: $260^\circ C/10$ seconds at 5lbs. (2.3kg) tension

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

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

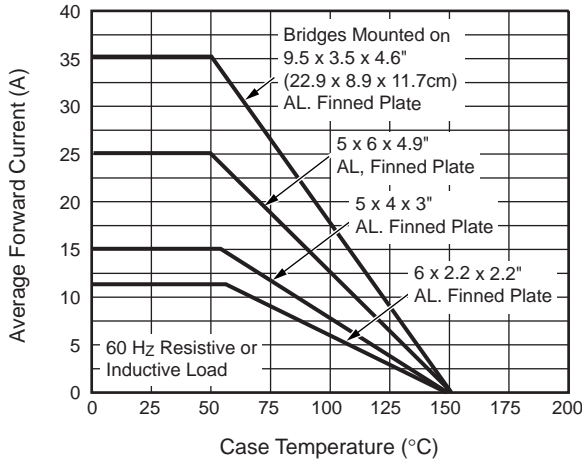


Fig. 2 — Maximum Output Rectified Current

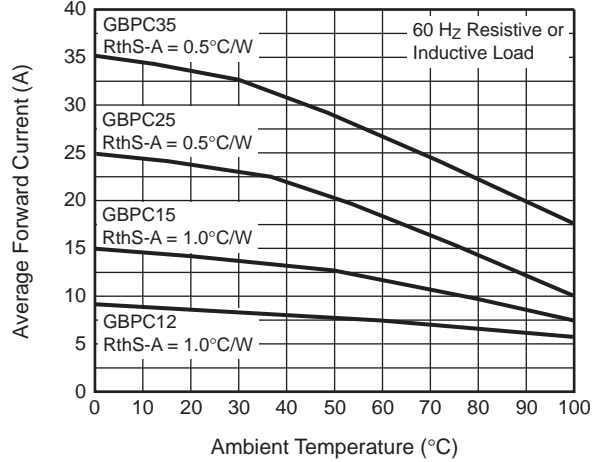


Fig. 3 — Maximum Power Dissipation

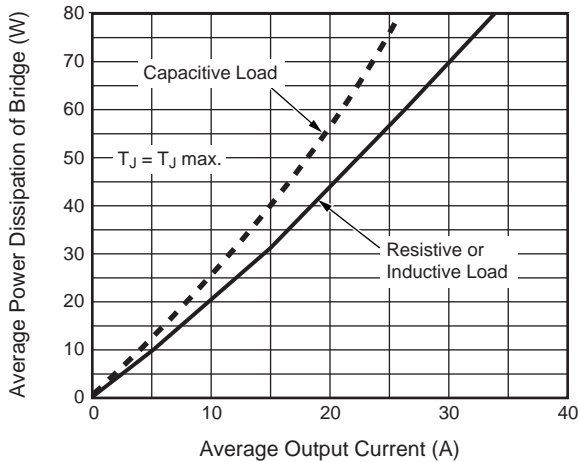
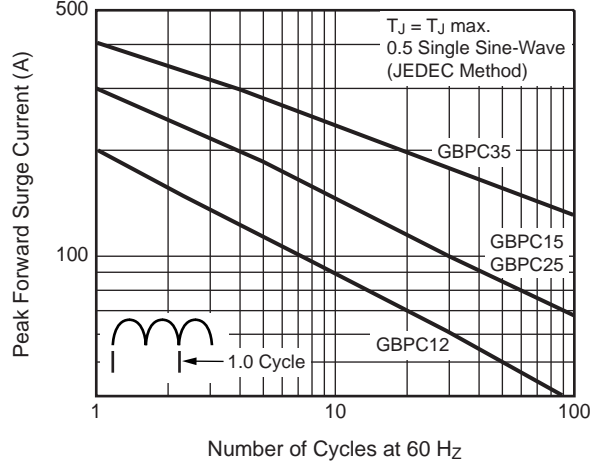


Fig. 4 — Maximum Non-Repetitive Peak Forward Surge Current Per Leg



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

Fig. 5 — Typical Instantaneous Forward Characteristics Per Leg

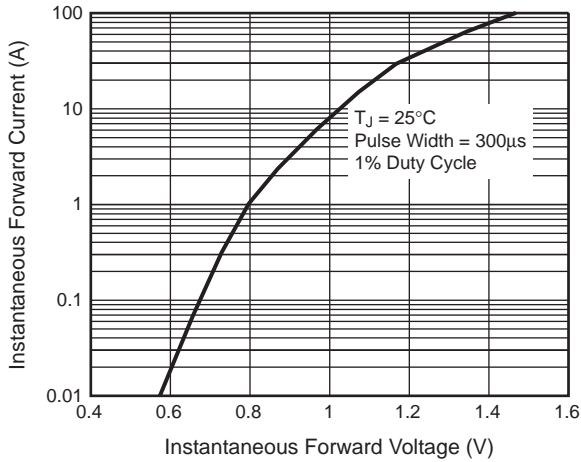


Fig. 6 — Typical Reverse Leakage Characteristics Per Leg

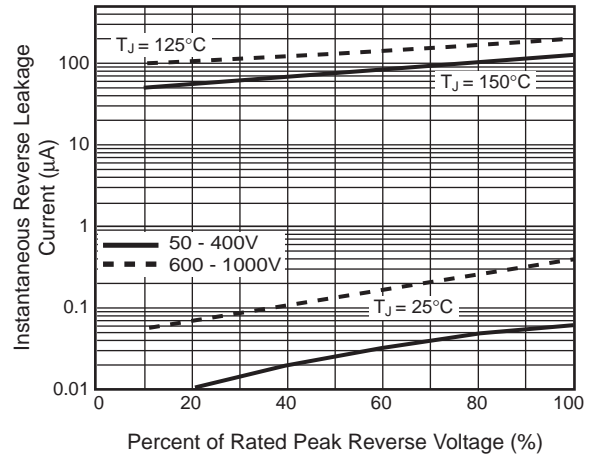


Fig. 7 — Typical Junction Capacitance Per Leg

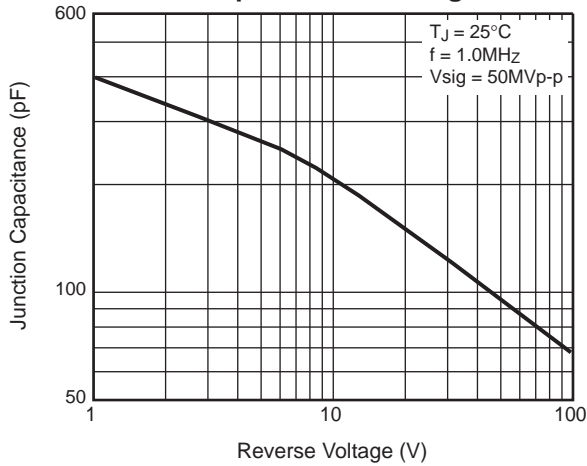


Fig. 8 — Typical Transient Thermal Impedance Per Leg

