

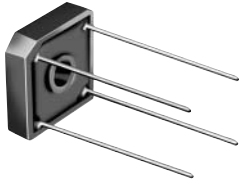


# GBPC12, 15, 25 and 35

Vishay Semiconductors  
formerly General Semiconductor

## Glass Passivated Single-Phase Bridge Rectifier

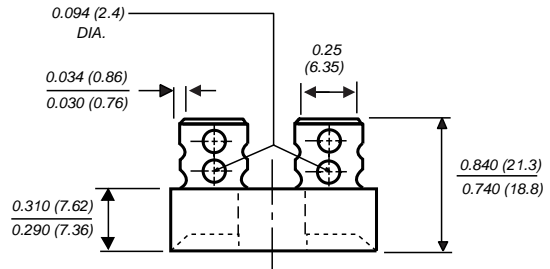
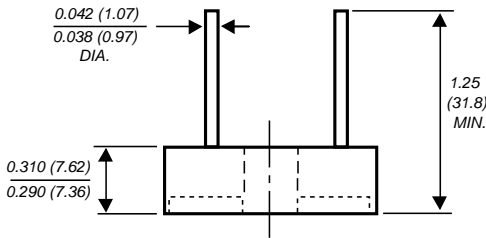
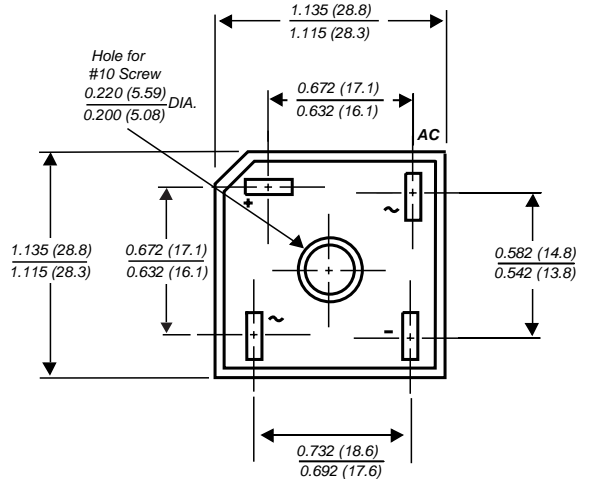
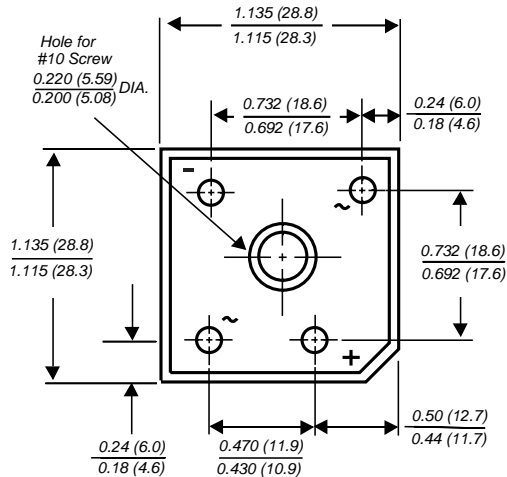
Reverse Voltage 50 and 1000V  
Forward Current 12 to 35A



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<sub>A</sub> = 25°C unless otherwise noted)

	Symbols	GBPC12, 15, 25, 35							Units
		005	01	02	04	06	08	10	
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	50	100	200	400	600	800	1000	V
Maximum RMS voltage	V <sub>RMS</sub>	35	70	140	280	420	560	700	V
Maximum DC blocking voltage	V <sub>DC</sub>	50	100	200	400	600	800	1000	V
Maximum average forward rectified output current (See Fig.1)	GBPC12 GBPC15 GBPC25 GBPC35 I <sub>F(AV)</sub>	12 15 25 35							A
Peak forward surge current single sine-wave superimposed on rated load (JEDEC Method)	GBPC12 GBPC15 GBPC25 GBPC35 I <sub>FSM</sub>	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 <sup>2</sup> t	160 375 375 660							A <sup>2</sup> sec
RMS isolation voltage from case to leads	V <sub>ISO</sub>	2500							V
Typical thermal resistance per leg <sup>(1)</sup>	GBPC12-25 GBPC35 R <sub>θJC</sub>	1.9 1.4							°C/W
Operating junction storage temperature range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150							°C

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

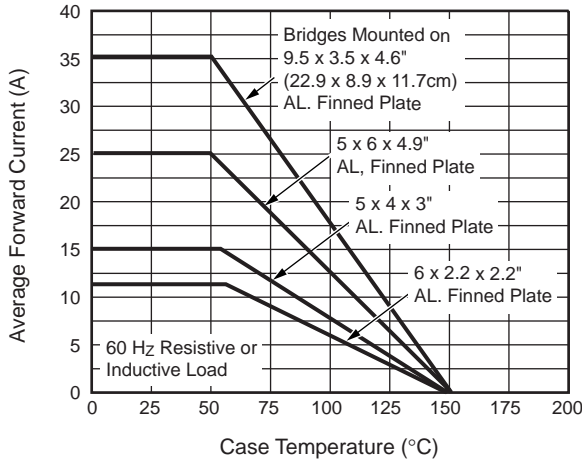
	Symbols	GBPC12, 15, 25, 35							Units
		005	01	02	04	06	08	10	
Maximum instantaneous forward voltage drop per leg at GBPC12 I <sub>F</sub> =6.0A GBPC15 I <sub>F</sub> =7.5A GBPC25 I <sub>F</sub> =12.5A GBPC35 I <sub>F</sub> =17.5A	V <sub>F</sub>	1.1							V
Maximum reverse DC current at rated DC blocking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

**Notes:**

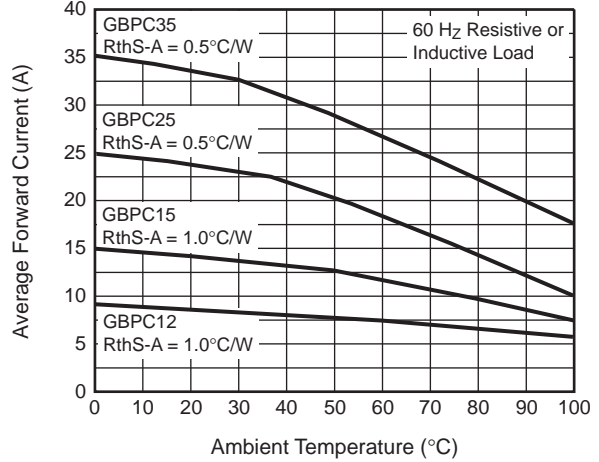
- (1) Thermal resistance from junction to case per leg
- (2) Bolt down on heatsink with silicone thermal compound between bridge and mounting surface for maximum heat transfer with #10 screw

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

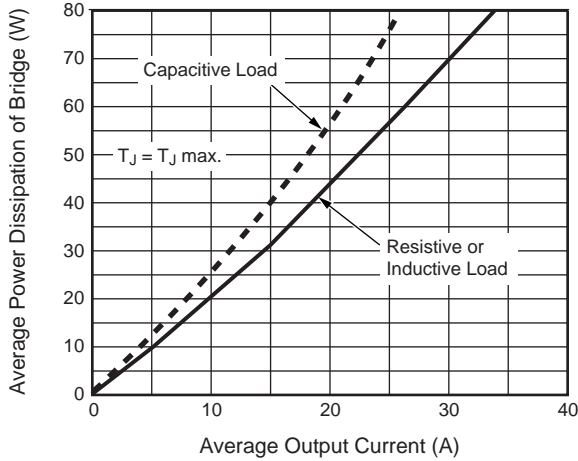
**Fig. 1 — Maximum Output Rectified Current**



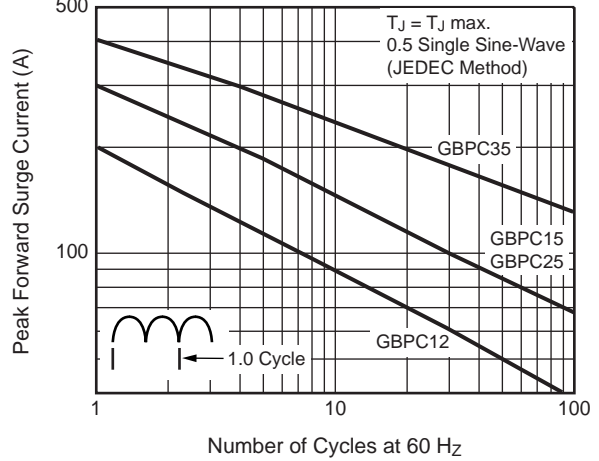
**Fig. 2 — Maximum Output Rectified Current**



**Fig. 3 — Maximum Power Dissipation**

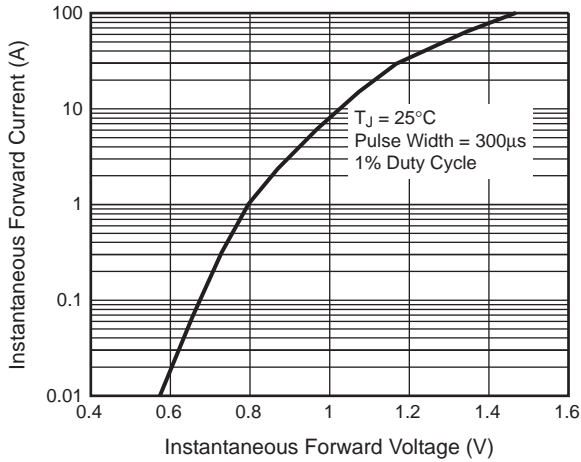


**Fig. 4 — Maximum Non-Repetitive Peak Forward Surge Current Per Leg**

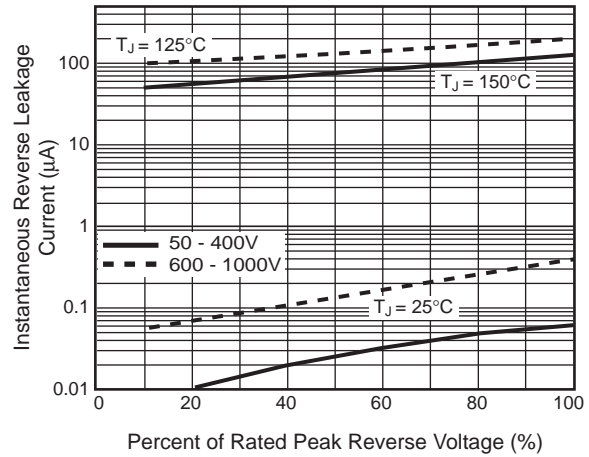


## Ratings and Characteristic Curves ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

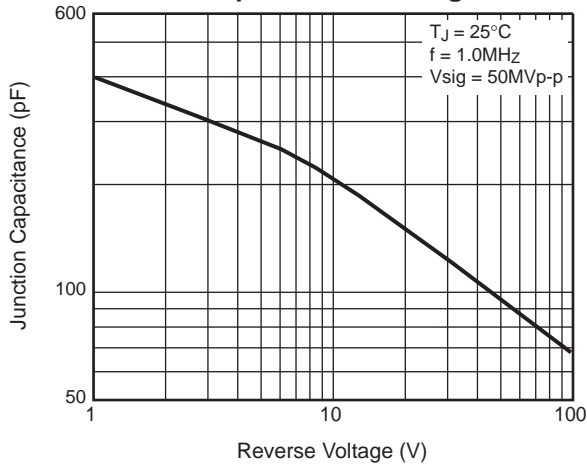
**Fig. 5 — Typical Instantaneous Forward Characteristics Per Leg**



**Fig. 6 — Typical Reverse Leakage Characteristics Per Leg**



**Fig. 7 — Typical Junction Capacitance Per Leg**



**Fig. 8 — Typical Transient Thermal Impedance Per Leg**

