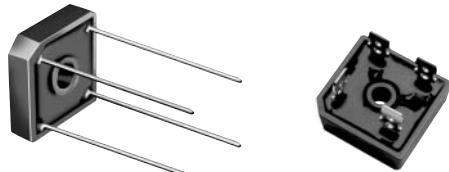
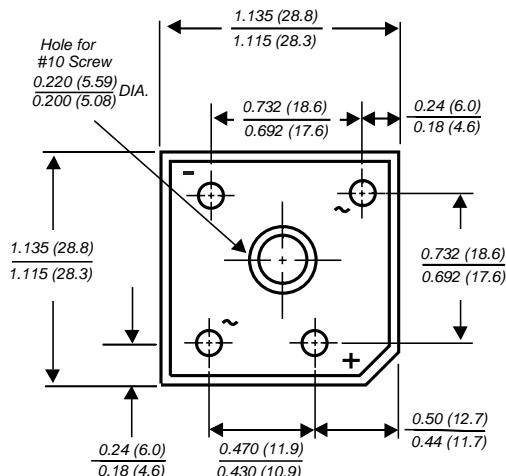
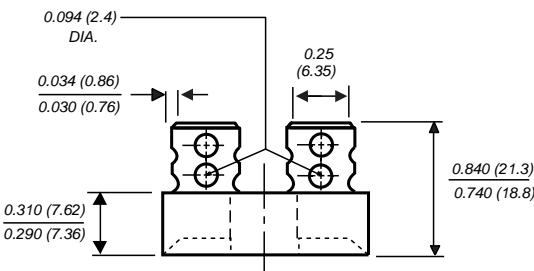
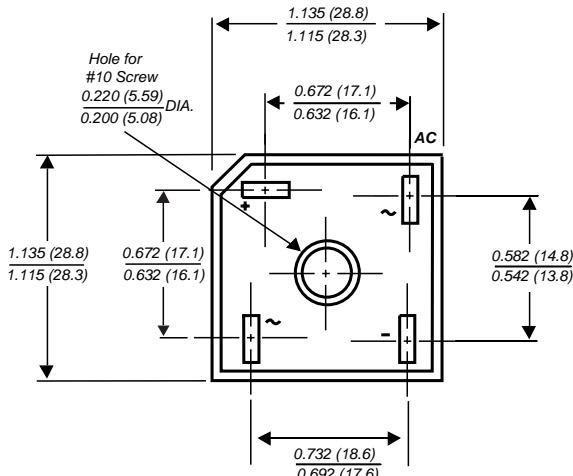


## Glass Passivated Single-Phase Bridge Rectifier


**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 IR 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 ( $T_A = 25^\circ\text{C}$ 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				A
					15				
					25				
					35				
Peak forward surge current single sine-wave superimposed on rated load (JEDEC Method)	GBPC12 GBPC15 GBPC25 GBPC35	$I_{FSM}$			200				A
					300				
					300				
					400				
Rating (non-repetitive, for t greater than 1ms and less than 8.3ms) for fusing	GBPC12 GBPC15 GBPC25 GBPC35	$I^2t$			160				$\text{A}^2 \text{ sec}$
					375				
					375				
					660				
RMS isolation voltage from case to leads	$V_{ISO}$				2500				V
Typical thermal resistance per leg <sup>(1)</sup>	GBPC12-25 GBPC35	$R_{\Theta JC}$			1.9				$^\circ\text{C/W}$
					1.4				
Operating junction storage temperature range	$T_J, T_{STG}$				-55 to +150				$^\circ\text{C}$

## Electrical Characteristics

Ratings at  $25^\circ\text{C}$  ambient temperature unless otherwise specified.

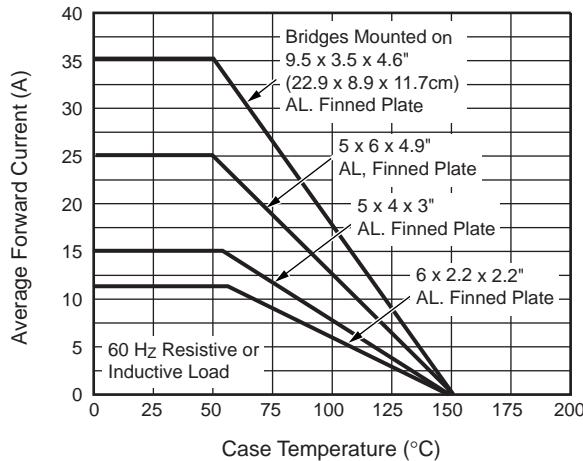
	Symbols	GBPC12, 15, 25, 35							Units
		005	01	02	04	06	08	10	
Maximum instantaneous forward voltage drop per leg at	GBPC12 $I_F=6.0\text{A}$ GBPC15 $I_F=7.5\text{A}$ GBPC25 $I_F=12.5\text{A}$ GBPC35 $I_F=17.5\text{A}$	$V_F$			1.1				V
Maximum reverse DC current at rated DC blocking voltage per leg	$T_A=25^\circ\text{C}$ $T_A=125^\circ\text{C}$		$I_R$		5.0	500			
Typical junction capacitance per leg at 4V, 1MHz	C <sub>J</sub>				300				pF

### Notes:

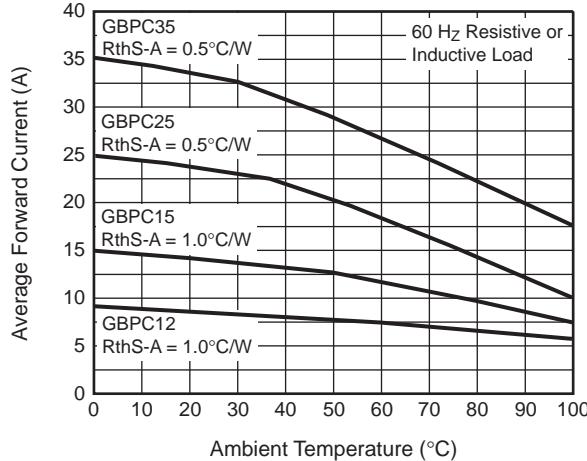
- (1) Thermal resistance from junction to case per leg
- (2) Bolt down on heatsink with silicone thermal compound between bridge and mounting surface for maximum heat transfer with #10 screw

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

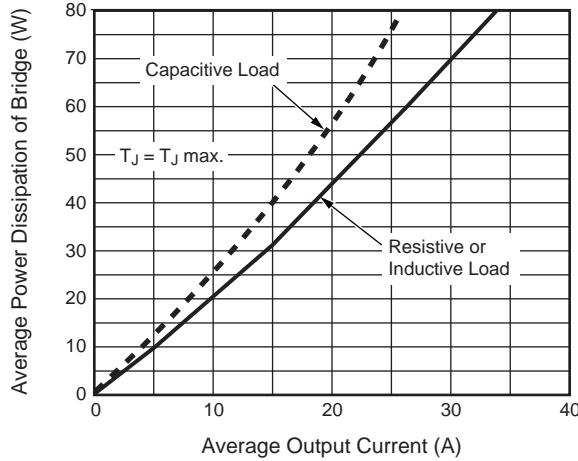
**Fig. 1 — Maximum Output Rectified Current**



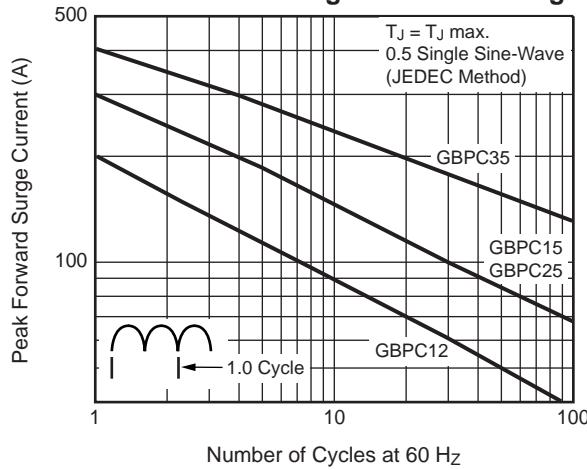
**Fig. 2 — Maximum Output Rectified Current**



**Fig. 3 — Maximum Power Dissipation**

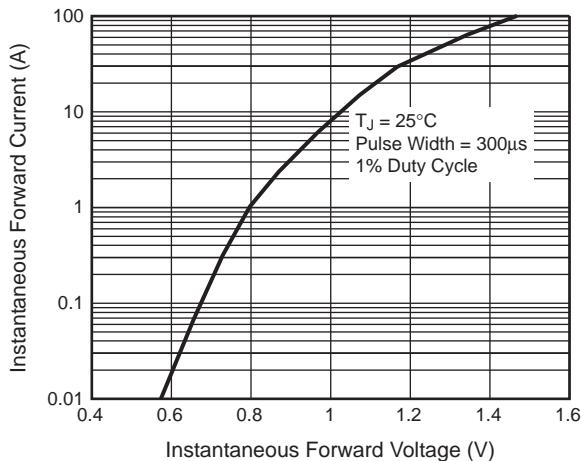


**Fig. 4 — Maximum Non-Repetitive Peak Forward Surge Current Per Leg**

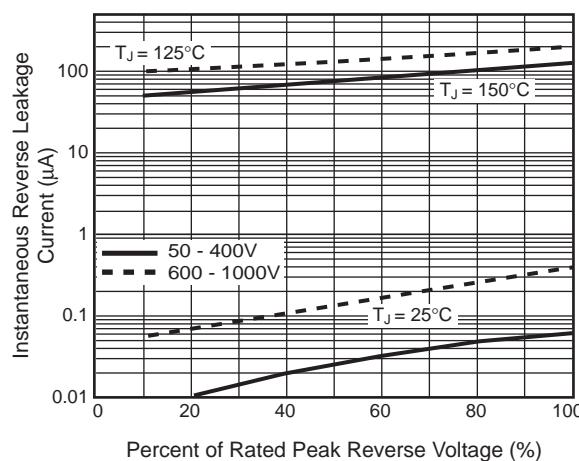


## Ratings and Characteristic Curves ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

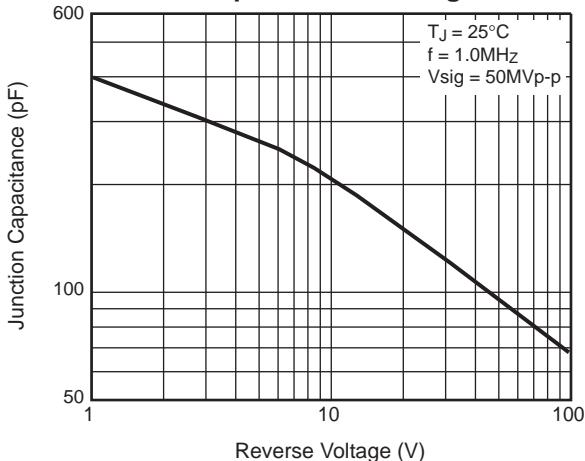
**Fig. 5 — Typical Instantaneous Forward Characteristics Per Leg**



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



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



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

