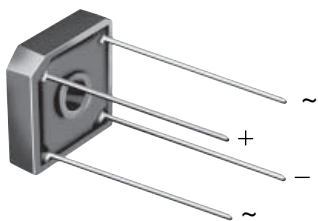
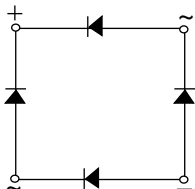
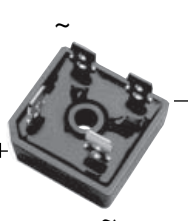


## Glass Passivated Single-Phase Bridge Rectifier

**GBPC-W**

**GBPC**


### LINKS TO ADDITIONAL RESOURCES



#### PRIMARY CHARACTERISTICS

$I_{F(AV)}$	12 A, 15 A, 25 A, 35 A
$V_{RRM}$	50 V to 1000 V
$I_{FSM}$	200 A, 300 A, 300 A, 400 A
$I_R$	5 $\mu$ A
$V_F$ at $I_F$	1.1 V
$T_J$ max.	150 °C
Package	GBPC, GBPC-W
Circuit configuration	Quad

#### FEATURES

- UL recognition file number E54214
- Universal 3-way terminals: snap-on, wire wrap-around, or PCB mounting
- Typical  $I_R$  less than 0.3  $\mu$ A
- High surge current capability
- Low thermal resistance
- Solder dip 275 °C max. 10 s, per JESD 22-B106
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



#### TYPICAL APPLICATIONS

General purpose use in AC/DC bridge full wave rectification for power supply, home appliances, office equipment, industrial automation applications.

#### MECHANICAL DATA

**Case:** GBPC, GBPC-W

Molding compound meets UL 94 V-0 flammability rating Base P/N-E4 - RoHS-compliant, commercial grade

**Terminals:** Nickel plated on faston lugs or silver plated on wire leads, solderable per J-STD-002 and JESD 22-B102. Suffix letter "W" added to indicate wire leads (e.g. GBPC12005W).

**Polarity:** As marked, positive lead by beveled corner

**Mounting Torque:** 20 inches-lbs. max.

#### MAXIMUM RATINGS ( $T_A = 25$ °C unless otherwise noted)

PARAMETER		SYMBOL	GBPC12, 15, 25, 35							UNIT
			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 (Fig. 1)	GBPC12	I <sub>F</sub> (AV)	12							A
	GBPC15		15							
	GBPC25		25							
	GBPC35		35							
Peak forward surge current single sine-wave superimposed on rated load	GBPC12	I <sub>FSM</sub>	200							A
	GBPC15		300							
	GBPC25		300							
	GBPC35		400							
Rating (non-repetitive, for t greater than 1 ms and less than 8.3 ms) for fusing	GBPC12	I <sup>2</sup> t	160							A <sup>2</sup> s
	GBPC15		375							
	GBPC25		375							
	GBPC35		660							
RMS isolation voltage from case to leads		V <sub>ISO</sub>	2500							V
Operating junction storage temperature range		T <sub>J</sub> , T <sub>STG</sub>	-55 to +150							°C

**ELECTRICAL CHARACTERISTICS** ( $T_A = 25\text{ }^{\circ}\text{C}$  unless otherwise noted)

PARAMETER		TEST CONDITIONS	SYMBOL	GBPC12, 15, 25, 35							UNIT
				005	01	02	04	06	08	10	
Maximum instantaneous forward drop per diode	GBPC12	I <sub>F</sub> = 6.0 A	V <sub>F</sub>	1.1							V
	GBPC15	I <sub>F</sub> = 7.5 A									
	GBPC25	I <sub>F</sub> = 12.5 A									
	GBPC35	I <sub>F</sub> = 17.5 A									
Maximum reverse DC current at rated DC blocking voltage per diode	T <sub>A</sub> = 25 °C		I <sub>R</sub>	5.0							μA
	T <sub>A</sub> = 125 °C			500							
Typical junction capacitance per diode		4 V, 1 MHz	C <sub>J</sub>	160							pF

**THERMAL CHARACTERISTICS** ( $T_A = 25\text{ }^{\circ}\text{C}$  unless otherwise noted)

PARAMETER		SYMBOL	GBPC12, 15, 25, 35							UNIT
			005	01	02	04	06	08	10	
Typical thermal resistance	GBPC12 to GBPC25	R <sub>θJC</sub> (1)	1.9							°C/W
	GBPC35		1.4							

**Notes**

(1) With heatsink

(2) Bolt down on heatsink with silicone thermal compound between bridge and mounting surface for maximum heat transfer with #10 screw

**ORDERING INFORMATION** (Example)

PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
GBPC1206-E4/51	15.79	51	100	Paper box
GBPC1506-E4/51	15.79	51	100	Paper box
GBPC2506-E4/51	15.79	51	100	Paper box
GBPC3506-E4/51	15.79	51	100	Paper box
GBPC1206W-E4/51	13.8	51	100	Paper box
GBPC1506W-E4/51	13.8	51	100	Paper box
GBPC2506W-E4/51	13.8	51	100	Paper box
GBPC3506W-E4/51	13.8	51	100	Paper box



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

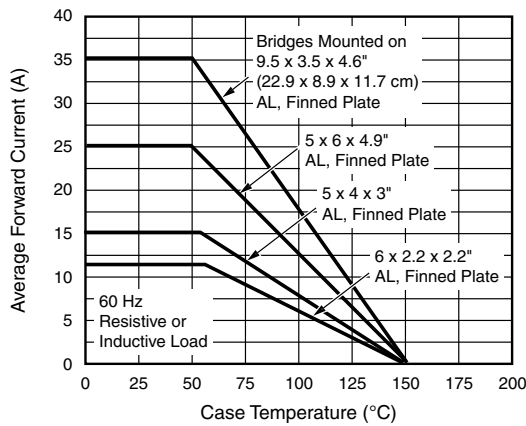


Fig. 1 - Maximum Output Rectified Current

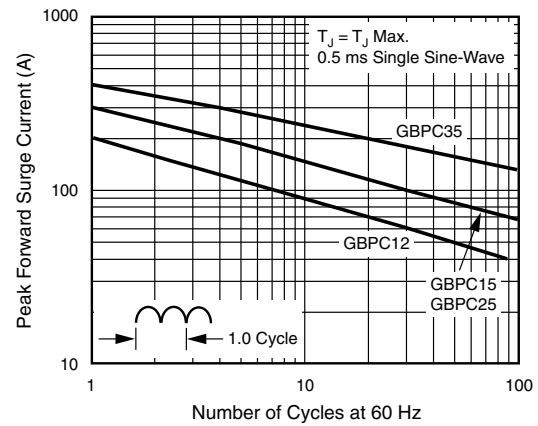


Fig. 4 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

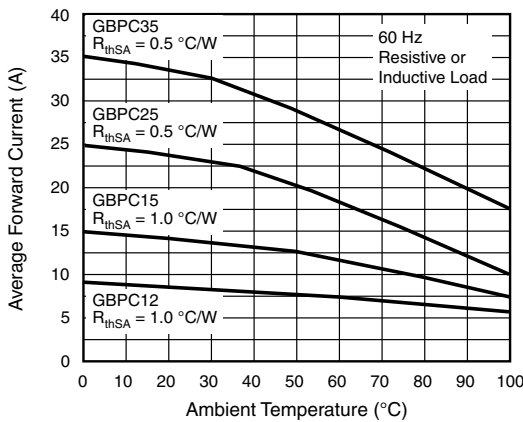


Fig. 2 - Maximum Output Rectified Current

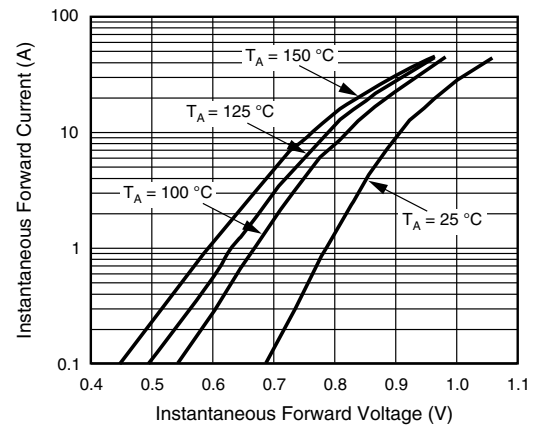


Fig. 5 - Typical Instantaneous Forward Characteristics Per Diode

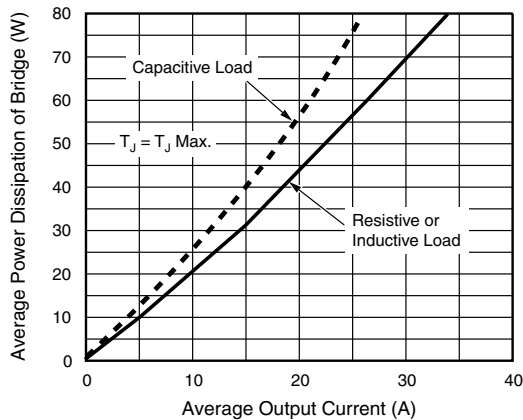


Fig. 3 - Maximum Power Dissipation

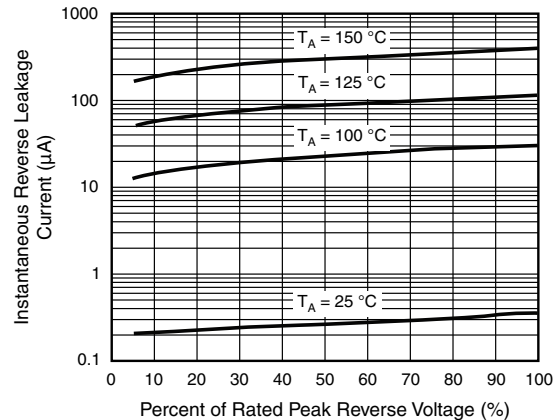


Fig. 6 - Typical Reverse Leakage Characteristics Per Diode

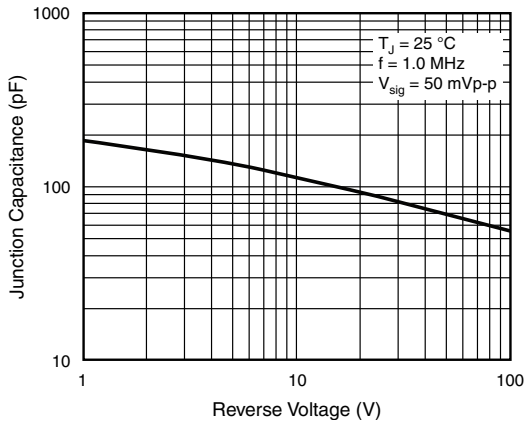


Fig. 7 - Typical Junction Capacitance Per Diode

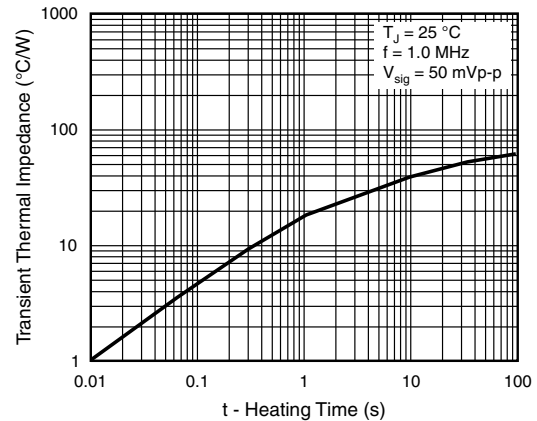
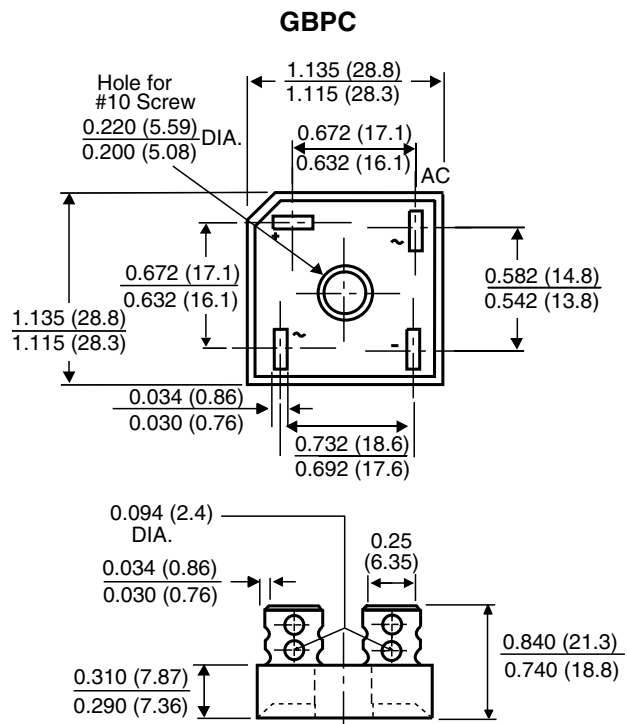
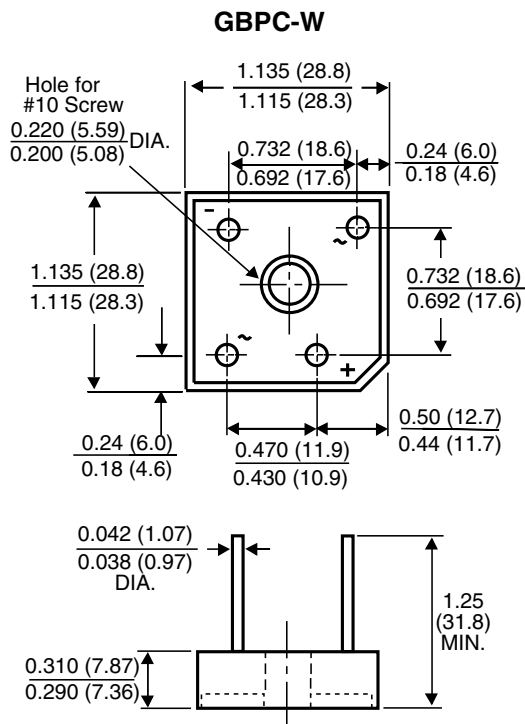


Fig. 8 - Typical Transient Thermal Impedance Per Diode

**PACKAGE OUTLINE DIMENSIONS** in inches (millimeters)




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