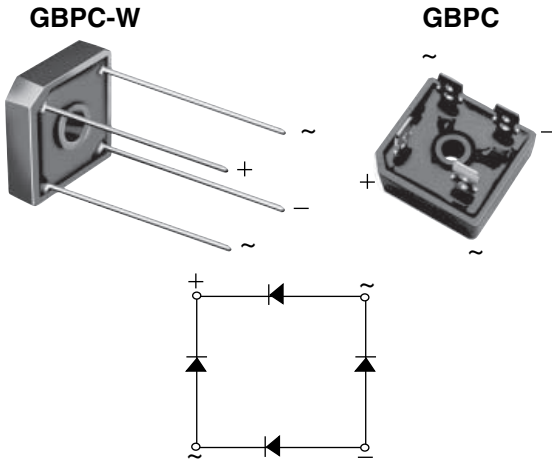


Glass Passivated Single-Phase Bridge Rectifier



LINKS TO ADDITIONAL RESOURCES



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 μ 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



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.

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 μ A
V_F at I_F	1.1 V
T_J max.	150 °C
Package	GBPC, GBPC-W
Circuit configuration	Quad

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_{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 (Fig. 1)	GBPC12	12							A
	GBPC15	15							
	GBPC25	25							
	GBPC35	35							
Peak forward surge current single sine-wave superimposed on rated load	GBPC12	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	160							A ² s
	GBPC15	375							
	GBPC25	375							
	GBPC35	660							
RMS isolation voltage from case to leads	V_{ISO}	2500							V
Operating junction storage temperature range	T_J, T_{STG}	-55 to +150							°C



ELECTRICAL CHARACTERISTICS (T _A = 25 °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 _F = 6.0 A	V _F	1.1							V
	GBPC15	I _F = 7.5 A									
	GBPC25	I _F = 12.5 A									
	GBPC35	I _F = 17.5 A									
Maximum reverse DC current at rated DC blocking voltage per diode	T _A = 25 °C	I _R	5.0							μA	
	T _A = 125 °C		500								
Typical junction capacitance per diode	4 V, 1 MHz	C _J	300							pF	

THERMAL CHARACTERISTICS (T _A = 25 °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 _{θJC} ⁽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)

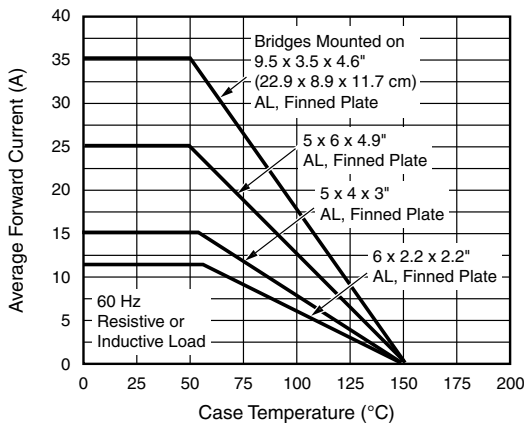


Fig. 1 - Maximum Output Rectified Current

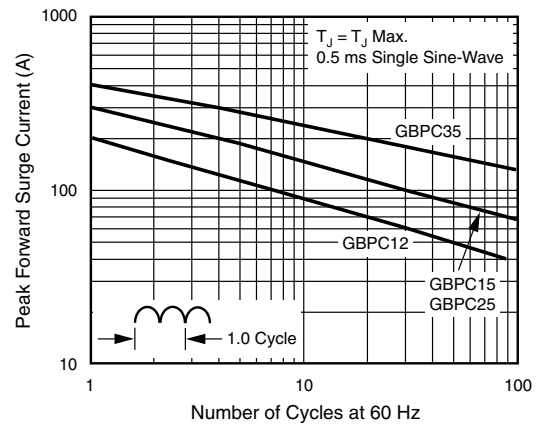


Fig. 4 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

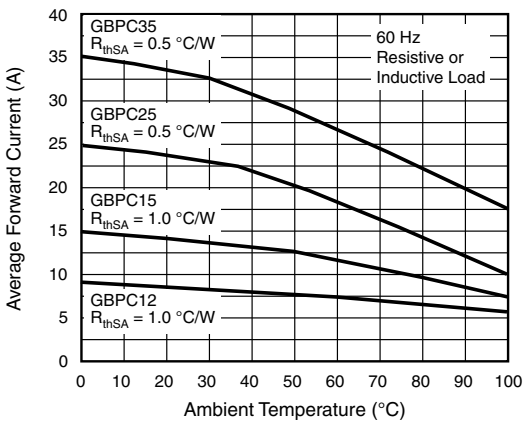


Fig. 2 - Maximum Output Rectified Current

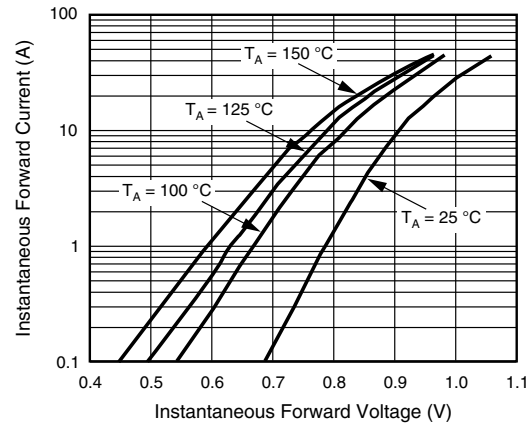


Fig. 5 - Typical Instantaneous Forward Characteristics Per Diode

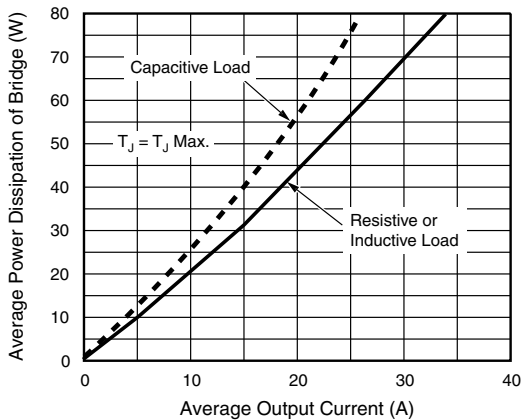


Fig. 3 - Maximum Power Dissipation

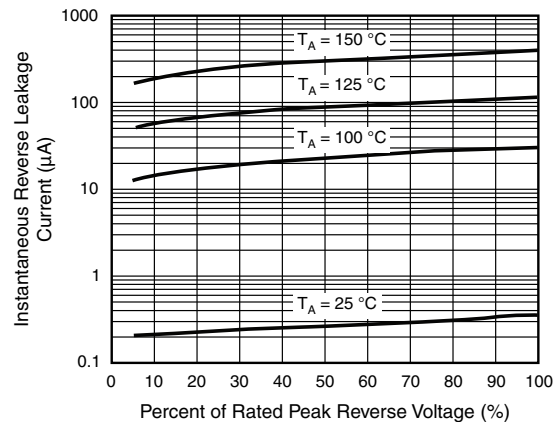


Fig. 6 - Typical Reverse Leakage Characteristics Per Diode

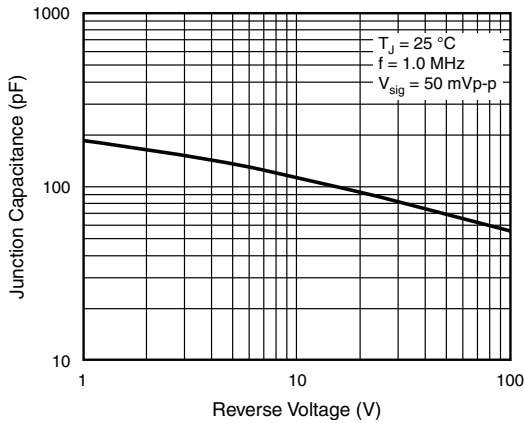


Fig. 7 - Typical Junction Capacitance Per Diode

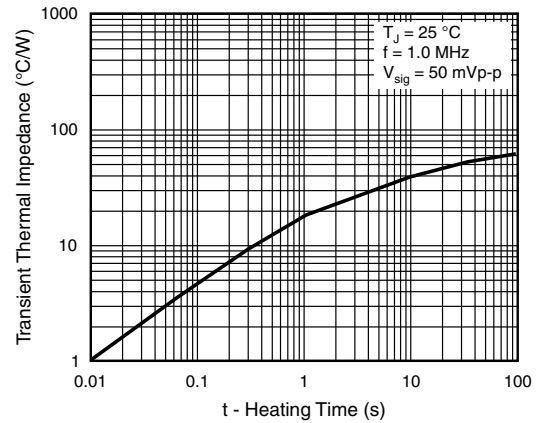
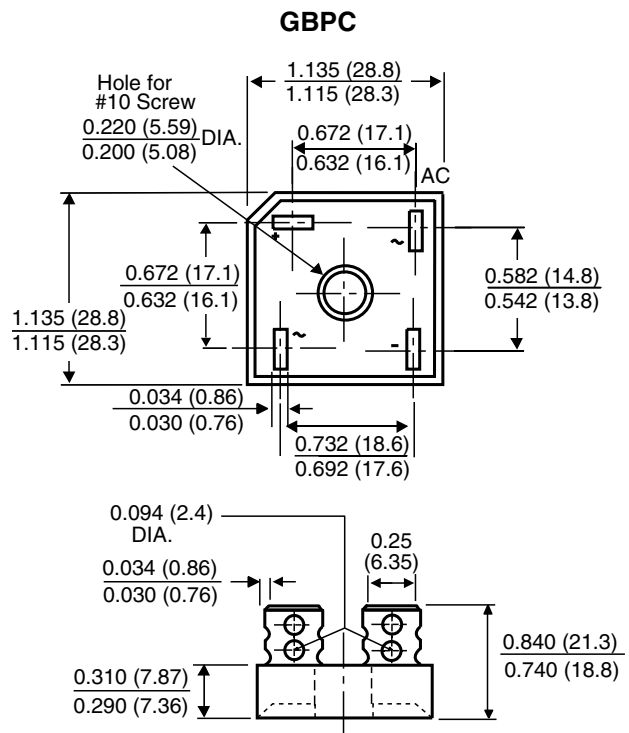
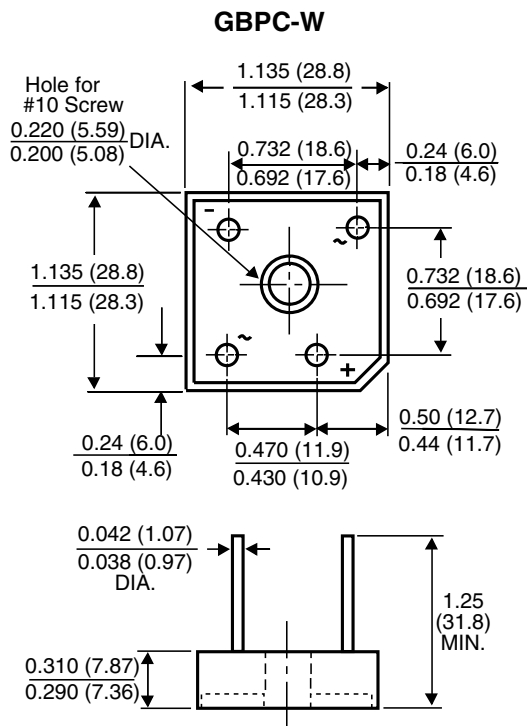


Fig. 8 - Typical Transient Thermal Impedance Per Diode

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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