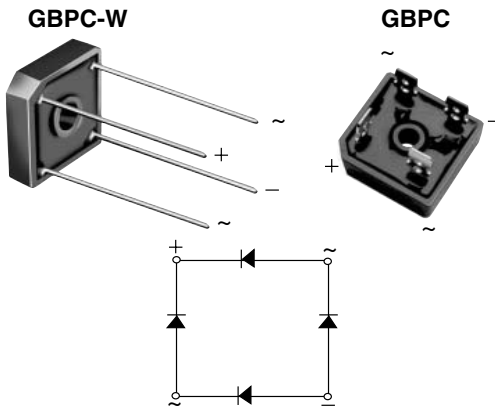


Glass Passivated Single-Phase Bridge Rectifier



FEATURES

- UL recognition file number E54214
- Universal 3-way terminals: snap-on, wire wrap-around, or P.C.B. mounting
- Typical I_R less than $0.3 \mu A$
- High surge current capability
- Low thermal resistance
- Solder dip $260^\circ C$, 40 s
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC



TYPICAL APPLICATIONS

General purpose use in ac-to-dc bridge full wave rectification for power supply, home appliances, office equipment, industrial automation applications.

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	1.1 V
$T_J \text{ max.}$	$150^\circ C$

MECHANICAL DATA

Case: GBPC, GBPC-W

Epoxy meets UL 94V-0 flammability rating

Terminals: Nickel plated on faston lugs or silver plated on wire leads, solderable per J-STD-002 and JESD22-B102. E4 suffix for consumer grade. 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 ($T_A = 25^\circ C$ 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)	$I_{F(AV)}$	GBPC12: 12 GBPC15: 15 GBPC25: 25 GBPC35: 35							A
Peak forward surge current single sine-wave superimposed on rated load	I_{FSM}	GBPC12: 200 GBPC15: 300 GBPC25: 300 GBPC35: 400							A
Rating (non-repetitive, for t greater than 1 ms and less than 8.3 ms) for fusing	I^2t	GBPC12: 160 GBPC15: 375 GBPC25: 375 GBPC35: 660							A^2s
RMS isolation voltage from case to leads	V_{ISO}	2500							V
Operating junction storage temperature range	T_J, T_{STG}	- 55 to + 150							$^\circ C$



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 GBPC15 GBPC25 GBPC35	$I_F = 6.0\text{ A}$ $I_F = 7.5\text{ A}$ $I_F = 12.5\text{ A}$ $I_F = 17.5\text{ A}$	V_F	1.1						V
Maximum reverse DC current at rated DC blocking voltage per diode	$T_A = 25\text{ }^\circ\text{C}$ $T_A = 125\text{ }^\circ\text{C}$	I_R	5.0 500						μA	
Typical junction capacitance per diode	4 V, 1 MHz	C_J	300						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 ⁽¹⁾	GBPC12-25 GBPC35	$R_{\theta JC}$	1.9 1.4						$^\circ\text{C/W}$

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

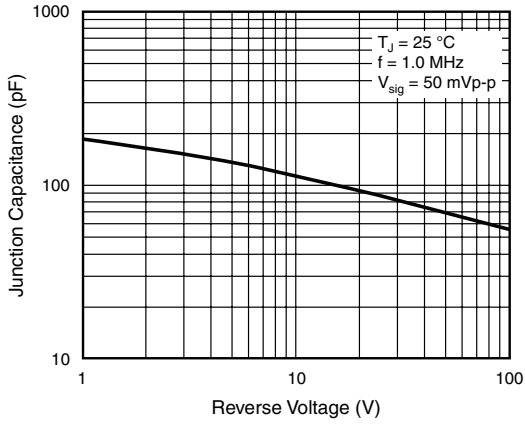


Figure 7. Typical Junction Capacitance Per Diode

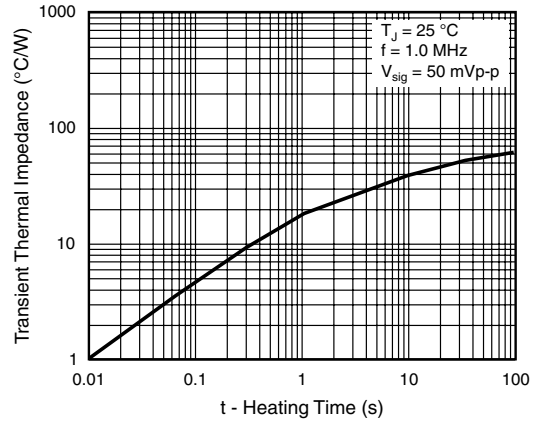


Figure 8. Typical Transient Thermal Impedance Per Diode

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

