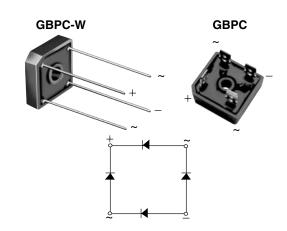


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### **Glass Passivated Single-Phase Bridge Rectifier**



PRIMARY CHARACTERISTICS							
I <sub>F(AV)</sub>	12 A, 15 A, 25 A, 35 A						
V <sub>RRM</sub>	50 V to 1000 V						
I <sub>FSM</sub>	200 A, 300 A, 300 A, 400 A						
I <sub>R</sub>	5 μΑ						
V <sub>F</sub>	1.1 V						
T <sub>J</sub> max.	150 °C						

### FEATURES

- UL recognition file number E54214
- Universal 3-way terminals: snap-on, wire wrap-around, or P.C.B. mounting
- Typical I<sub>R</sub> less than 0.3 μA
- High surge current capability
- Low thermal resistance
- Solder dip 260 °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.

#### **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 belevled corner **Mounting Torque:** 20 inches-lbs. max.

<b>MAXIMUM RATINGS</b> $(T_A = 2)$	5 °C unles	s otherwis	e noted	)						
PARAMETER		SYMBOL	GBPC12, 15, 25, 35						GBPC12, 15, 25, 35	
FARAMETER		STMBOL	005	01	02	04	06	08	10	UNIT
Maximum repetitive peak reverse voltage	ł	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 GBPC15 GBPC25 GBPC35	I <sub>F(AV)</sub>	12 15 25 35						A	
Peak forward surge current single sine-wave superimposed on rated load	GBPC12 GBPC15 GBPC25 GBPC35	I <sub>FSM</sub>	200 300 300 400					A		
Rating (non-repetitive, for t greater than 1 ms and less than 8.3 ms) for fusing	GBPC12 GBPC15 GBPC25 GBPC35	l <sup>2</sup> t	160 375 375 660				A <sup>2</sup> s			
RMS isolation voltage from case to leads	V <sub>ISO</sub>	2500							V	
Operating junction storage temperature r	ange	T <sub>J</sub> , T <sub>STG</sub>			-	55 to + 1	50			°C

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COMPLIANT

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ELECTRICAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted)											
PARAMETER	TEST	SYMBOL	GBPC12, 15, 25, 35							UNIT	
		CONDITIONS	STMBOL	005	01	02	04	06	08	10	UNIT
Maximum instantaneous forward drop per diode	GBPC12 GBPC15 GBPC25 GBPC35	I <sub>F</sub> = 6.0 A I <sub>F</sub> = 7.5 A I <sub>F</sub> = 12.5 A I <sub>F</sub> = 17.5 A	V <sub>F</sub>				1.1				v
Maximum reverse DC curr DC blocking voltage per di		T <sub>A</sub> = 25 °C T <sub>A</sub> = 125 °C	I <sub>R</sub>	5.0 500				μΑ			
Typical junction capacitance	e per diode	4 V, 1 MHz	CJ				300				pF

<b>THERMAL CHARACTERISTICS</b> ( $T_A = 25 \degree C$ unless otherwise noted)										
DADAMETED			GBPC12, 15, 25, 35							
PARAMETER		SYMBOL	005	01	02	04	06	08	10	UNIT
Typical thermal resistance <sup>(1)</sup>	GBPC12-25 GBPC35	$R_{ ext{ heta}JC}$				1.9 1.4				°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				



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### **RATINGS AND CHARACTERISTICS CURVES**

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

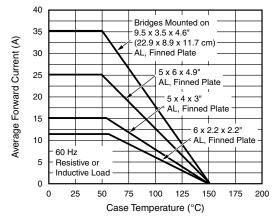


Figure 1. Maximum Output Rectified Current

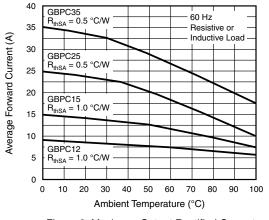


Figure 2. Maximum Output Rectified Current

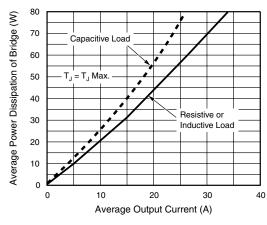


Figure 3. Maximum Power Dissipation

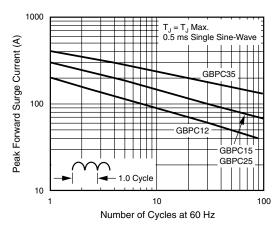


Figure 4. Maximum Non-Repetitive Peak Forward Surge Current Per Diode

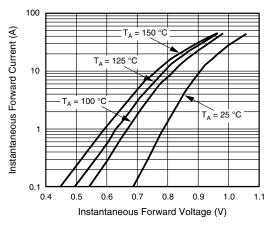


Figure 5. Typical Instantaneous Forward Characteristics Per Diode

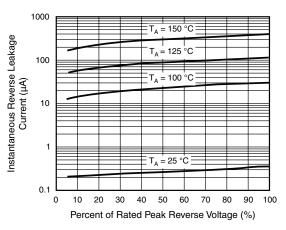
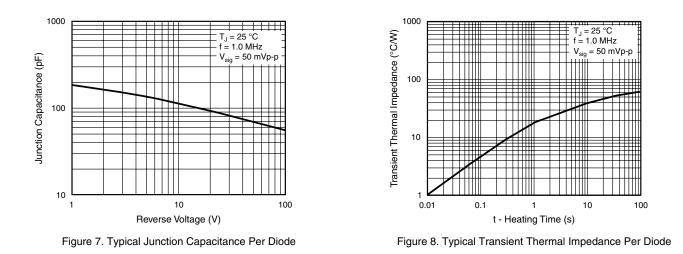


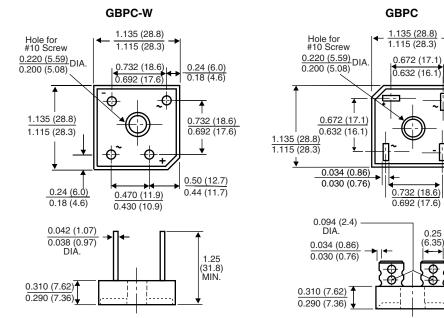
Figure 6. Typical Reverse Leakage Characteristics Per Diode

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



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