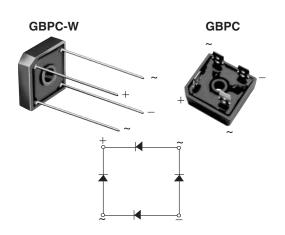


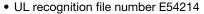
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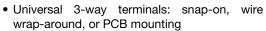
## **Glass Passivated Single-Phase Bridge Rectifier**



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**







RoHS

COMPLIANT

• Typical I<sub>R</sub> less than 0.3 μA

High surge current capability

· Low thermal resistance

Solder dip 260 °C, 40 s

 Compliant to RoHS Directive 2002/95/EC accordance to WEEE 2002/96/EC

#### **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

Epoxy meets UL 94 V-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.

MAXIMUM RATINGS (T <sub>A</sub> = 25 °C unless otherwise noted)										
PARAMETER		SYMBOL	GBPC12, 15, 25, 35							
			005	01	02	04	06	08	10	UNIT
Maximum repetitive peak reverse voltage	$V_{RRM}$	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		$V_{DC}$	50	100	200	400	600	800	1000	V
	GBPC12	I <sub>F (AV)</sub>				12				
Maximum average forward rectified output current (Fig. 1)	GBPC15		15							
	GBPC25		25							A
	GBPC35					35				
	GBPC12		200							
Peak forward surge current single	GBPC15		300							
sine-wave superimposed on rated load	GBPC25	I <sub>FSM</sub>	300							
	GBPC35		400							1
	GBPC12		160							
Rating (non-repetitive, for t greater than 1 ms and less than 8.3 ms) for fusing	GBPC15	l <sup>2</sup> t	375							
	GBPC25	1-1	375							A <sup>2</sup> s
GBPC35			660							]
RMS isolation voltage from case to leads	V <sub>ISO</sub>	2500							V	
Operating junction storage temperature ra	T <sub>J</sub> , T <sub>STG</sub>	- 55 to + 150						°C		

Document Number: 88612 Revision: 28-Mar-11

# GBPC12, GBPC15, GBPC25, GBPC35

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

THERMAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted)										
PARAMETER		SYMBOL	GBPC12, 15, 25, 35							
			005	01	02	04	06	80	10	UNIT
Typical thormal registance	GBPC12 to GBPC25	R <sub>θJC</sub> <sup>(1)</sup>	1.9						°C ///	
Typical thermal resistance	GBPC35	DθJC (.)	1.4							°C/W

#### Notes

<sup>(2)</sup> 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					

<sup>(1)</sup> With heatsink

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#### **RATINGS AND CHARACTERISTICS CURVES**

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

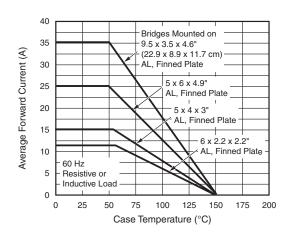


Fig. 1 - Maximum Output Rectified Current

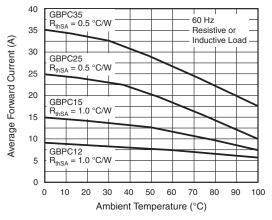


Fig. 2 - Maximum Output Rectified Current

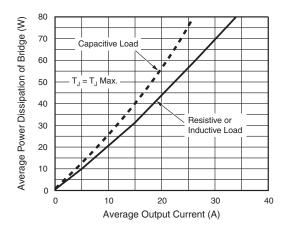


Fig. 3 - Maximum Power Dissipation

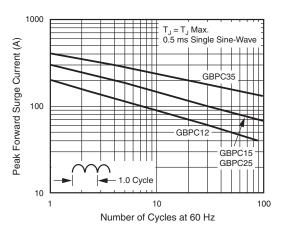


Fig. 4 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

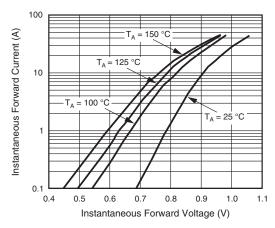


Fig. 5 - Typical Instantaneous Forward Characteristics Per Diode

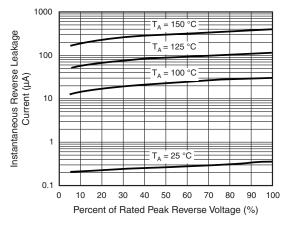
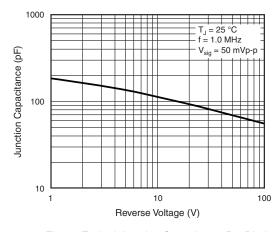


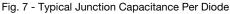
Fig. 6 - Typical Reverse Leakage Characteristics Per Diode

## GBPC12, GBPC15, GBPC25, GBPC35

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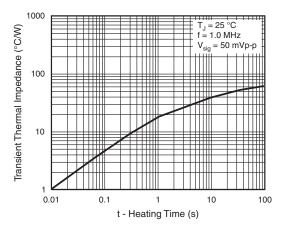
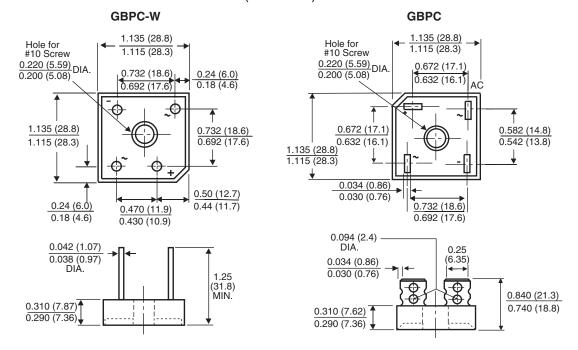


Fig. 8 - Typical Transient Thermal Impedance Per Diode

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





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