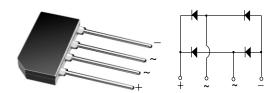


### Vishay General Semiconductor

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



Case Type GBL

PRIMARY CHARACTERISTICS							
I <sub>F(AV)</sub> 4 A							
V <sub>RRM</sub>	50 V to 1000 V						
I <sub>FSM</sub>	120 A						
I <sub>R</sub>	5 μΑ						
V <sub>F</sub>	1.0 V						
T <sub>J</sub> max.	150 °C						

### **FEATURES**





· Ideal for printed circuit boards



· High surge current capability

Typical I<sub>R</sub> less than 0.1 μA

· High case dielectric strength

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 monitor, TV, printer, SMPS, adapter, audio equipment, and home appliances application.

#### **MECHANICAL DATA**

Case: GBL

Epoxy meets UL 94V-0 flammability rating

Terminals: Matte tin plated leads, solderable per

J-STD-002 and JESD22-B102

E3 suffix for consumer grade, meets JESD 201 class

1A whisker test

Polarity: As marked on body

MAXIMUM RATINGS (T <sub>A</sub> = 25 °C unless otherwise noted)									
PARAMETER	SYMBOL	GBLA005	GBLA01	GBLA02	GBLA04	GBLA06	GBLA08	GBLA10	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				700	V		
Maximum DC blocking voltage	$V_{DC}$	50 100 200 400 600 800 1000				1000	V		
Maximum average forward $T_C = 50  ^{\circ}C^{(1)}$ rectified output current at $T_A = 40  ^{\circ}C^{(2)}$	I <sub>F(AV)</sub>	4.0 3.0				Α			
Peak forward surge current single sine-wave superimposed on rated load	I <sub>FSM</sub>	120				Α			
Rating for fusing (t < 8.3 ms)	l <sup>2</sup> t	60				A <sup>2</sup> s			
Operating junction and storage temperature range	T <sub>J</sub> , T <sub>STG</sub>	- 55 to + 150				°C			

- (1) Unit mounted on 3.0 x 3.0 x 0.11" thick (7.5 x 7.5 x 0.3 cm) aluminum plate
- (2) Unit mounted on P.C.B. at 0.375" (9.5 mm) lead length and 0.5 x 0.5" (12 x 12 mm) copper pads

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<b>ELECTRICAL CHARACTERISTICS</b> (T <sub>A</sub> = 25 °C unless otherwise noted)										
PARAMETER	TEST CONDITIONS	SYMBOL	GBLA005	GBLA01	GBLA02	GBLA04	GBLA06	GBLA08	GBLA10	UNIT
Maximum instantaneous forward voltage drop per diode	4.0 A	V <sub>F</sub>				1.0				٧
Maximum DC reverse current at rated DC blocking voltage per diode	T <sub>A</sub> = 25 °C T <sub>A</sub> = 125 °C	I <sub>R</sub>				5.0 500				μΑ

THERMAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted)								
PARAMETER	SYMBOL GBLA005 GBLA01 GBLA02 GBLA04 GBLA06 GBLA08 GBLA10						UNIT	
Typical thermal resistance	$egin{array}{l} {\sf R}_{ heta {\sf JA}} \ {\sf R}_{ heta {\sf JC}} \end{array}$	47 <sup>(2)</sup> 10 <sup>(1)</sup>				°C/W		

#### Notes:

- (1) Unit mounted on  $3.0 \times 3.0 \times 0.11$ " thick (7.5 x 7.5 x 0.3 cm) aluminum plate
- (2) Unit mounted on P.C.B. at 0.375" (9.5 mm) lead length and 0.5 x 0.5" (12 x 12 mm) copper pads

ORDERING INFORMATION (Example)									
PREFERRED P/N	PREFERRED P/N UNIT WEIGHT (g) PREFERRED PACKAGE CODE BASE QUANTITY DELIVERY MODE								
GBLA06-E3/45	2.133	45	20	Tube					
GBLA06-E3/51	2.133	51	400	Anti-static PVC tray					

### **RATINGS AND CHARACTERISTICS CURVES**

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

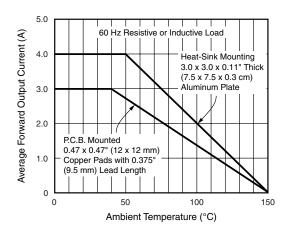


Figure 1. Derating Curves Output Rectified Current

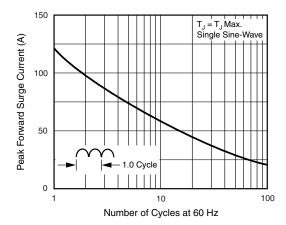


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current Per Diode



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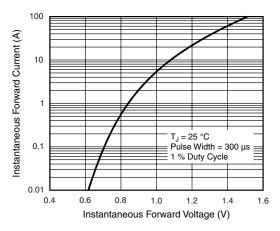


Figure 3. Typical Forward Voltage Characteristics Per Diode

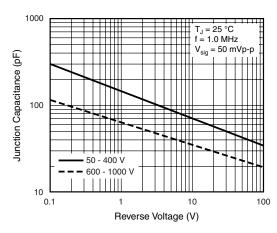


Figure 5. Typical Junction Capacitance Per Diode

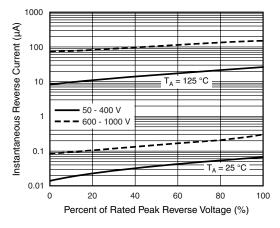


Figure 4. Typical Reverse Characteristics Per Diode

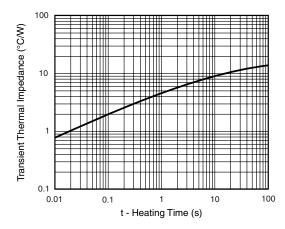


Figure 6. Typical Transient Thermal Impedance Per Diode

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

#### Case Type GBL 0.825 (20.9) 0.815 (20.7) 0.125 (3.17) x 45° Chamfer 0.421 (10.7) 0.080 (2.03) 0.411 (10.4) 0.060 (1.50) 0.098 (2.5) 0.075 (1.9) 0.095 (2.41) 0.718 (18.2) 0.080 (2.03) 0.682 (17.3) 0.098 (2.5) Lead Depth 0.075 (1.9) 0.022 (0.56) 0.050 (1.27) 0.018 (0.46) 0.040 (1.02) 0.210 (5.3) 0.190 (4.8) 0.040 (1.02) 0.026 (0.66) 0.030 (0.76) + + 0.140 (3.56) 0.128 (3.25) 0.020 (0.51)

Polarity shown on front side of case, positive lead beveled corner



## **Legal Disclaimer Notice**

Vishay

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