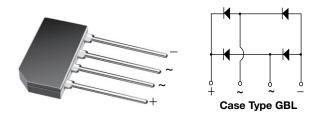


# GBLA005, GBLA01, GBLA02, GBLA04, GBLA06, GBLA08, GBLA10

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# Glass Passivated Single-Phase Bridge Rectifier



# FEATURES

- UL recognition, file number E54214
- 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 275 °C max. 10 s, per JESD 22-B106
- Material categorization: for definitions of compliance please see <a href="https://www.vishav.com/doc?99912"><u>www.vishav.com/doc?99912</u></a>

#### **LINKS TO ADDITIONAL RESOURCES**



PRIMARY CHARACTERISTICS							
I <sub>F(AV)</sub>	4 A						
V <sub>RRM</sub>	50 V, 100 V, 200 V, 400 V, 600 V, 800 V, 1000 V						
I <sub>FSM</sub>	120 A						
I <sub>R</sub>	5 μΑ						
$V_F$ at $I_F = 4.0 A$	1.0 V						
T <sub>J</sub> max.	150 °C						
Package	GBL						
Circuit configuration	In-line						

## TYPICAL APPLICATIONS

General purpose use in AC/DC bridge full wave rectification for monitor, TV, printer, SMPS, adapter, audio equipment, and home appliances application.

### **MECHANICAL DATA**

Case: GBL

Molding compound meets UL 94 V-0 flammability rating Base P/N-E3 - RoHS-compliant, commercial grade

Terminals: matte tin plated leads, solderable per

J-STD-002 and JESD 22-B102

E3 suffix 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	V
Maximum DC blocking voltage	$V_{DC}$	50	100	200	400	600	800	1000	V
Maximum average forward $T_C = 50  ^{\circ}C^{(1)}$	1	4.0							A
rectified output current at $T_A = 40  ^{\circ}\text{C}$ (2)	I <sub>F(AV)</sub>	3.0							
Peak forward surge current single sine-wave superimposed on rated load	I <sub>FSM</sub>	120			Α				
Rating for fusing (t < 8.3 ms)	I <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				

### Notes

- $^{(1)}$  Unit mounted on 3.0" x 3.0" x 0.11" thick (7.5 cm x 7.5 cm x 0.3 cm) aluminum plate
- $^{(2)}$  Unit mounted on PCB at 0.375" (9.5 mm) lead length and 0.5" x 0.5" (12 mm x 12 mm) copper pads

<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		V <sub>F</sub>	1.0				٧			
Maximum DC reverse current at rated DC	T <sub>A</sub> = 25 °C		5.0							
blocking voltage per diode	T <sub>A</sub> = 125 °C	I <sub>R</sub>	500					μA		



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THERMAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted)								
PARAMETER	SYMBOL GBLA005 GBLA01 GBLA02 GBLA04 GBLA06 GBLA08 GBLA10 UNI						UNIT	
Typical thermal resistance R <sub>θJA</sub> (2) 47						°C/W		
Typical thermal resistance	R <sub>θJC</sub> <sup>(1)</sup>	10					0/44	

#### Notes

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

ORDERING INFORMATION (Example)									
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)

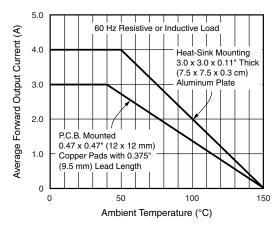


Fig. 1 - Derating Curves Output Rectified Current

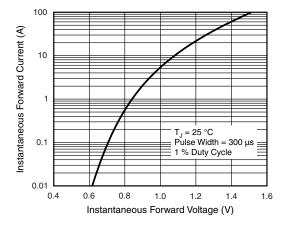


Fig. 3 - Typical Forward Voltage Characteristics Per Diode

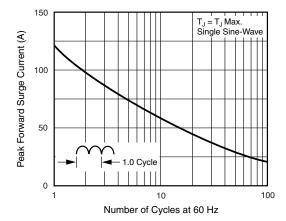


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

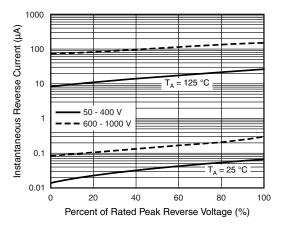


Fig. 4 - Typical Reverse Characteristics
Per Diode

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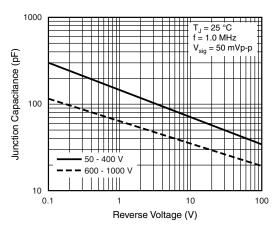


Fig. 5 - Typical Junction Capacitance Per Diode

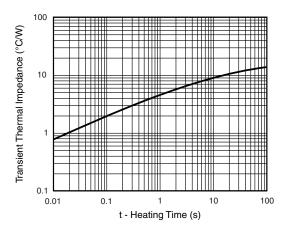


Fig. 6 - Typical Transient Thermal Impedance Per Diode

## **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) 0.030 (0.76) + + 0.140 (3.56) 0.022 (0.56) 0.128 (3.25) 0.018 (0.46)

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



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