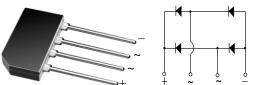
Vishay General Semiconductor

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



Case Type GBL

**PRIMARY CHARACTERISTICS** 

I<sub>F(AV)</sub>

V<sub>RRM</sub>

I<sub>FSM</sub>

 $I_{R}$ 

 $V_{F}$ 

T<sub>J</sub> max.

### 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 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	GBL005	GBL01	GBL02	GBL04	GBL06	GBL08	GBL10	UNIT
Maximum repetitive peak reverse voltage	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
	I <sub>F(AV)</sub>	4.0 <sup>(1)</sup> 3.0 <sup>(2)</sup>				А			
Peak forward surge current single sine-wave superimposed on rated load	I <sub>FSM</sub>	150							А
Rating for fusing (t < 8.3 ms)	l <sup>2</sup> t	93							A <sup>2</sup> s
Operating junction and storage temperature range		- 55 to + 150							°C

#### Notes:

(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

4 A

50 V to 1000 V

150 A

5 μΑ

1.0 V

150 °C



ROHS COMPLIANT



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<b>ELECTRICAL CHARACTERISTICS</b> ( $T_A = 25$ °C unless otherwise noted)										
PARAMETER	TEST CONDITIONS	SYMBOL	GBL005	GBL01	GBL02	GBL04	GBL06	GBL08	GBL10	UNIT
Maximum instantaneous forward voltage drop per diode	4.0 A	V <sub>F</sub>				1.00				V
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				μA			
Typical junction capacitance per diode	4.0 V, 1 MHz	CJ		9	5			40		pF

<b>THERMAL CHARACTERISTICS</b> (T <sub>A</sub> = 25 °C unless otherwise noted)								
PARAMETER	SYMBOL GBL005 GBL01 GBL02 GBL04 GBL06 GBL08 GBL10 UNIT							
Typical thermal resistance	$R_{ heta JA} \ R_{ heta JC}$	22 <sup>(2)</sup> 3.5 <sup>(1)</sup>					°C/W	

Notes:

(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

ORDERING INFORMATION (Example)								
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE				
GBL06-E3/45	2.18	45	20	Tube				
GBL06-E3/51	2.18	51	400	Anti-static PVC tray				

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

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

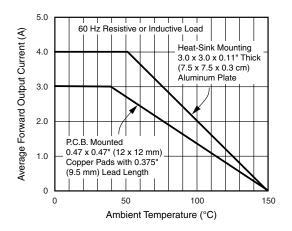
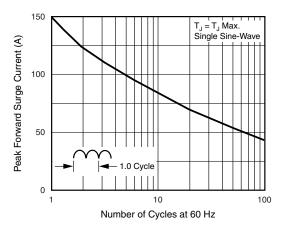
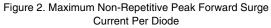


Figure 1. Derating Curves Outzput Rectified Current







## GBL005 thru GBL10

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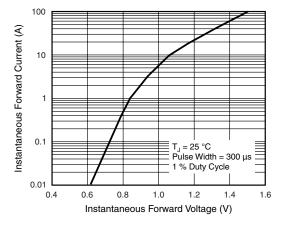


Figure 3. Typical Forward Voltage Characteristics Per Diode

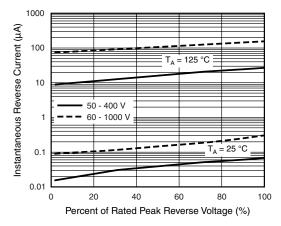


Figure 4. Typical Reverse Characteristics Per Diode

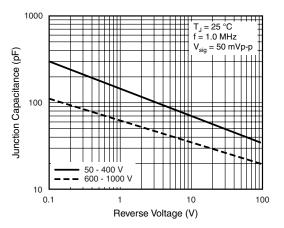
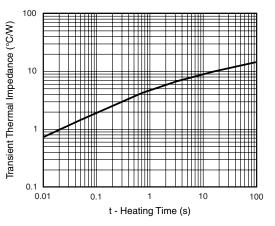
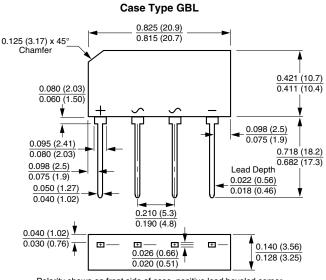


Figure 5. Typical Junction Capacitance Per Diode





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



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



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