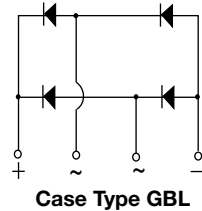


Glass Passivated Single-Phase Bridge Rectifier


RoHS
COMPLIANT

FEATURES

- UL recognition file number E54214
- Ideal for printed circuit boards
- High surge current capability
- Typical I_R 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 www.vishay.com/doc?99912

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

PRIMARY CHARACTERISTICS	
Package	GBL
$I_{F(AV)}$	4 A
V_{RRM}	50 V, 100 V, 200 V, 400 V, 600 V, 800 V, 1000 V
I_{FSM}	150 A
I_R	5 μA
V_F at $I_F = 4.0 \text{ A}$	1.0 V
T_J max.	150 °C
Diode variations	In-Line

MAXIMUM RATINGS ($T_A = 25 \text{ }^\circ\text{C}$ unless otherwise noted)									
PARAMETER	SYMBOL	GBL005	GBL01	GBL02	GBL04	GBL06	GBL08	GBL10	UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS voltage	V_{RMS}	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 rectified output current at $T_C = 50 \text{ }^\circ\text{C}$ (1) $T_A = 40 \text{ }^\circ\text{C}$ (2)	$I_{F(AV)}$	4.0							A
		3.0							
Peak forward surge current single sine-wave superimposed on rated load	I_{FSM}	150							A
Rating for fusing ($t < 8.3 \text{ ms}$)	I^2t	93							A^2s
Operating junction and storage temperature range	T_J, T_{STG}	- 55 to + 150							$^\circ\text{C}$

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

ELECTRICAL CHARACTERISTICS ($T_A = 25 \text{ }^\circ\text{C}$ 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_F	1.0							V
Maximum DC reverse current at rated DC blocking voltage per diode	$T_A = 25 \text{ }^\circ\text{C}$	I_R	5.0							μA
	$T_A = 125 \text{ }^\circ\text{C}$		500							
Typical junction capacitance per diode	4.0 V, 1 MHz	C_J	95				40			pF



THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)									
PARAMETER	SYMBOL	GBL005	GBL01	GBL02	GBL04	GBL06	GBL08	GBL10	UNIT
Typical thermal resistance	R _{θJA} ⁽²⁾	22						°C/W	
	R _{θJC} ⁽¹⁾	3.5							

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
GBL06-E3/45	2.18	45	20	Tube
GBL06-E3/51	2.18	51	400	Anti-static PVC tray

RATINGS AND CHARACTERISTICS CURVES (T_A = 25 °C unless otherwise noted)

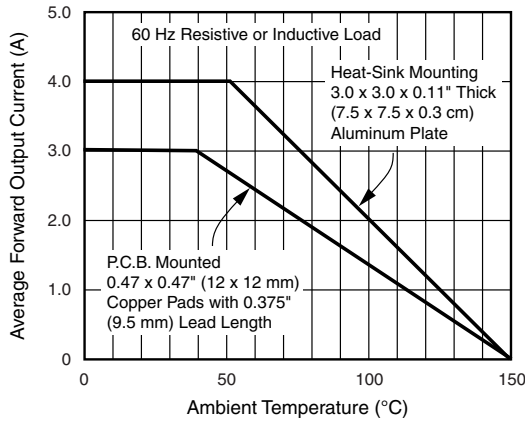


Fig. 1 - Derating Curves Output Rectified Current

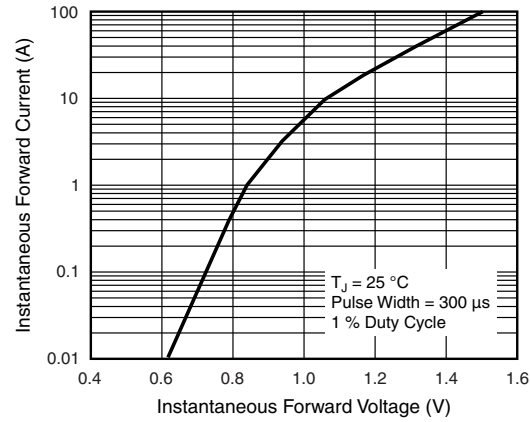


Fig. 3 - Typical Forward Voltage Characteristics Per Diode

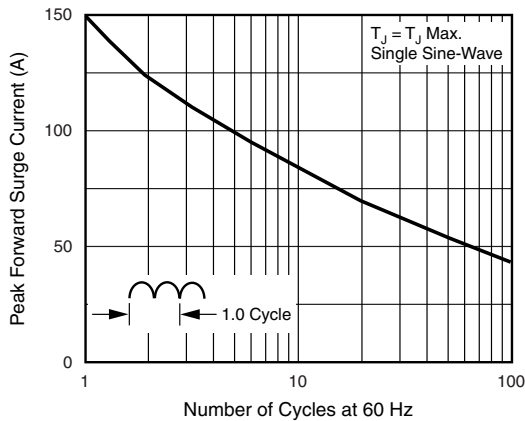


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

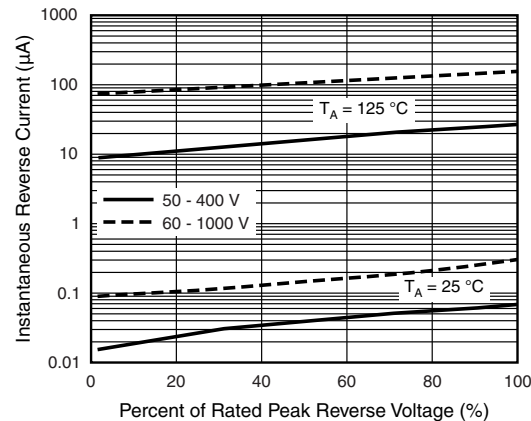


Fig. 4 - Typical Reverse Characteristics Per Diode

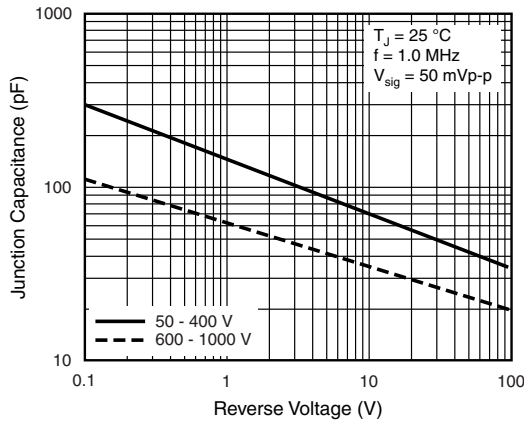


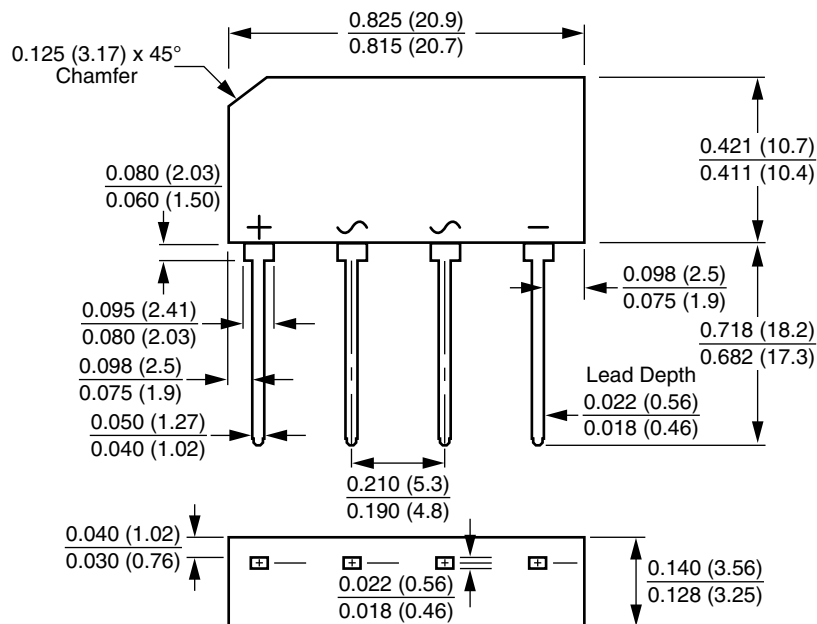
Fig. 5 - Typical Junction Capacitance Per Diode



Fig. 6 - Typical Transient Thermal Impedance Per Diode

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

Case Type GBL



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



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