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[Vishay Semiconductor/Diodes Division](#)
[GBLA005-E3/51](#)

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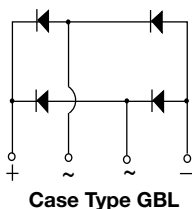


GBLA005, GBLA01, GBLA02, GBLA04, GBLA06, GBLA08, GBLA10

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Vishay General Semiconductor

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 μ A
- 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

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}	120 A
I_R	5 μ A
V_F at $I_F = 4.0$ A	1.0 V
T_J max.	150 °C
Diode variations	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 ($T_A = 25$ °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_{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	$I_{F(AV)}$	$T_C = 50$ °C (1)							4.0	A
		$T_A = 40$ °C (2)							3.0	
Peak forward surge current single sine-wave superimposed on rated load	I_{FSM}	120							A	
Rating for fusing ($t < 8.3$ ms)	I^2t	60							A ² s	
Operating junction and storage temperature range	T_J, T_{STG}	- 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

ELECTRICAL CHARACTERISTICS ($T_A = 25$ °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_F	1.0							V
Maximum DC reverse current at rated DC blocking voltage per diode	$T_A = 25$ °C	I_R	5.0							μ A
	$T_A = 125$ °C		500							



GBLA005, GBLA001, GBLA002, GBLA004, GBLA006, GBLA008, GBLA010

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THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)										
PARAMETER	SYMBOL	GBLA005	GBLA001	GBLA002	GBLA004	GBLA006	GBLA008	GBLA010	UNIT	
Typical thermal resistance	R _{θJA} (2)					47				°C/W
	R _{θJC} (1)					10				

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
GBLA006-E3/45	2.133	45	20	Tube
GBLA006-E3/51	2.133	51	400	Anti-static PVC tray

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

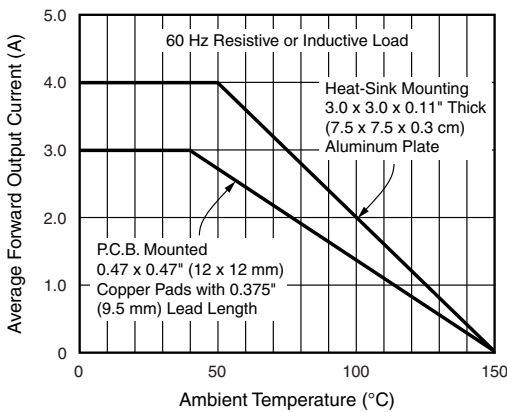


Fig. 1 - Derating Curves Output Rectified Current

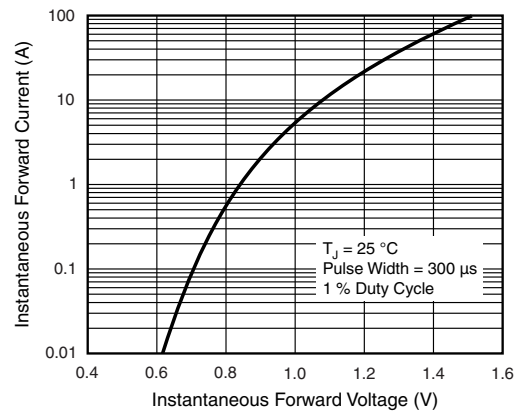


Fig. 3 - Typical Forward Voltage Characteristics Per Diode

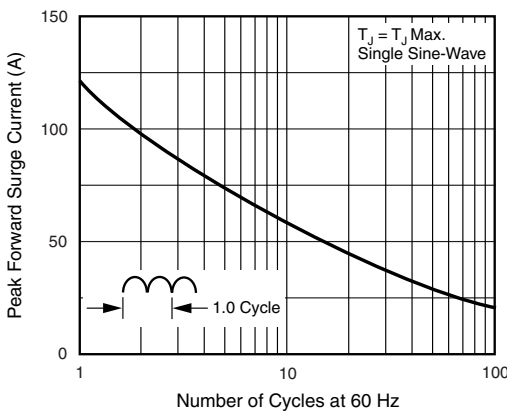


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

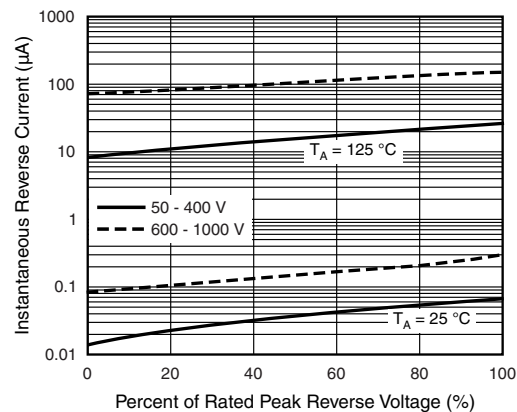


Fig. 4 - Typical Reverse Characteristics Per Diode



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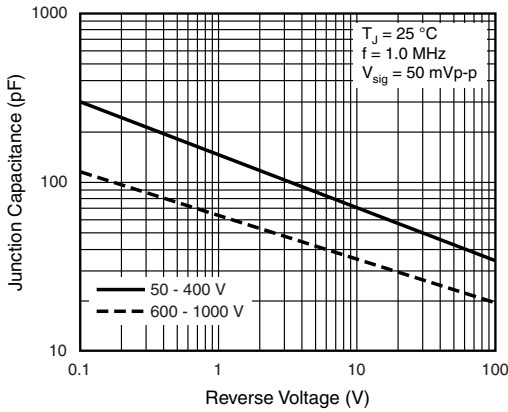


Fig. 5 - Typical Junction Capacitance Per Diode

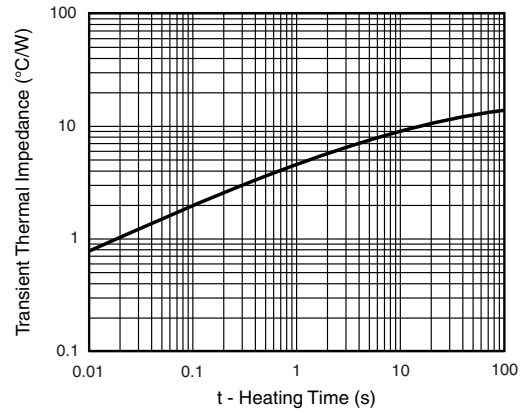
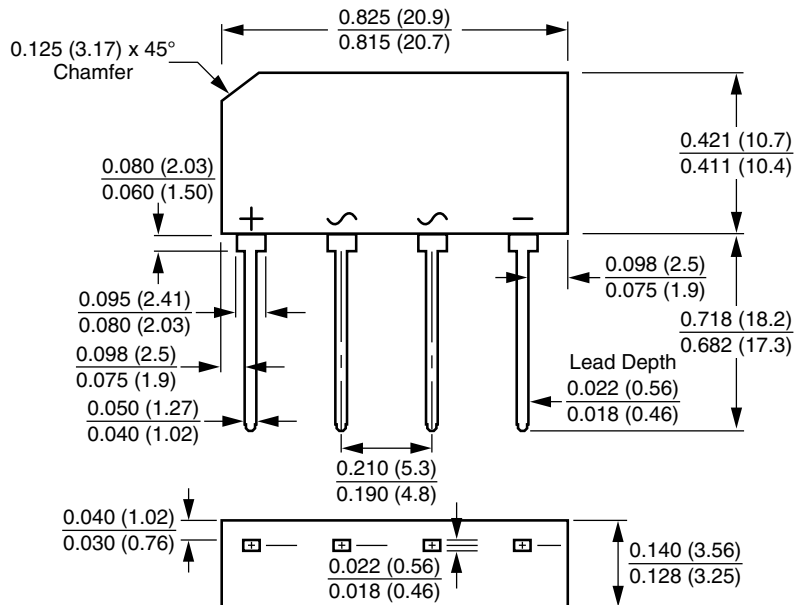


Fig. 6 - Typical Transient Thermal Impedance Per Diode

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

Case Type GBL



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



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