

ANTREX Electronics

Electronic Components Sourcing Information

Product Reference Information

Part Number: GBLA10-E3/51

Manufacturer: Vishay General Semiconductor - Diodes Division

Package: 4-SIP, GBL

Availability: Please confirm with sales

Product Page:

<https://antrexco.com/product/details/vishay-general-semiconductor-diodes-division/gbla10-e3-51.html>



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Supplier verification and packaging condition review

CoC / RoHS / REACH documents available on request

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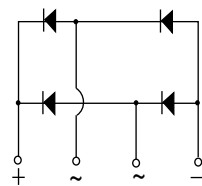
Note:

This PDF includes an ANTREX product reference cover page.

The original manufacturer datasheet follows from the next page.



Glass Passivated Single-Phase Bridge Rectifier



Case Type GBL

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

RoHS
COMPLIANT

LINKS TO ADDITIONAL RESOURCES



3D Models

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	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
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 _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	T _C = 50 °C (1)	I _{F(AV)}	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 ² t	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							μA
	T _A = 125 °C		500							



THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)									
PARAMETER	SYMBOL	GBLA005	GBLA01	GBLA02	GBLA04	GBLA06	GBLA08	GBLA10	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
GBLA06-E3/45	2.133	45	20	Tube
GBLA06-E3/51	2.133	51	400	Anti-static PVC tray

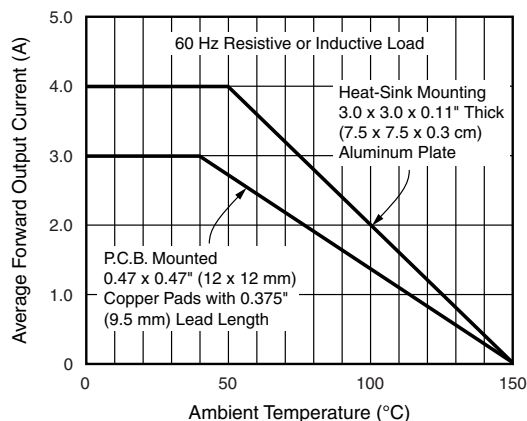
RATINGS AND CHARACTERISTICS CURVES ($T_A = 25\text{ }^{\circ}\text{C}$ unless otherwise noted)

Fig. 1 - Derating Curves Output Rectified Current

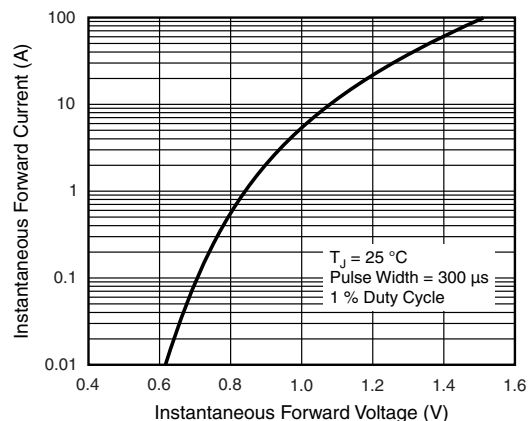


Fig. 3 - Typical Forward Voltage Characteristics Per Diode

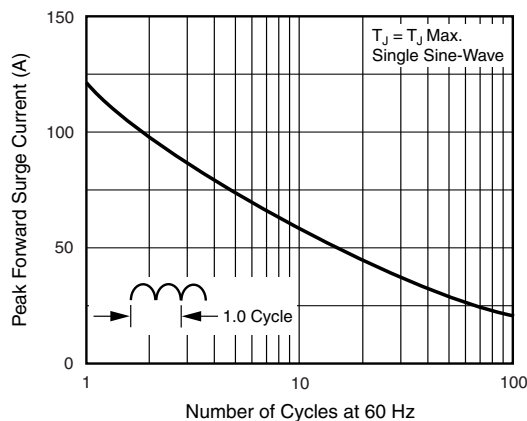


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

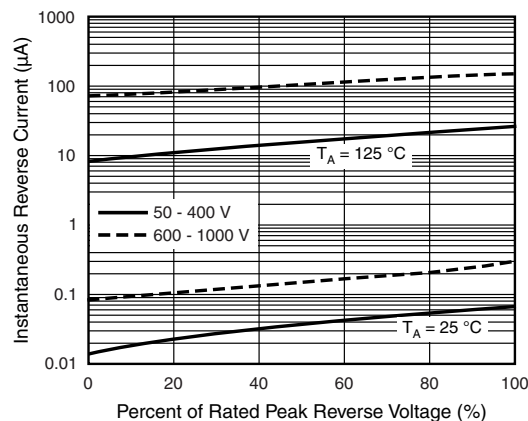


Fig. 4 - Typical Reverse Characteristics Per Diode

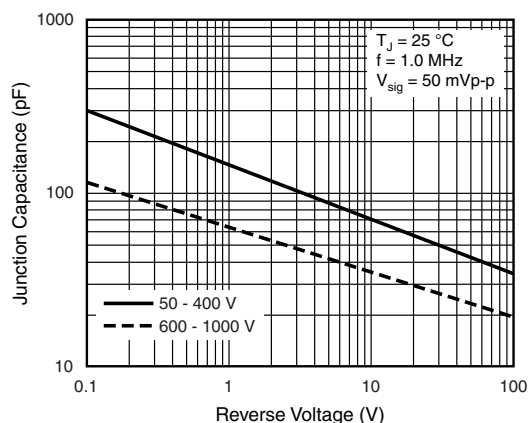


Fig. 5 - Typical Junction Capacitance Per Diode

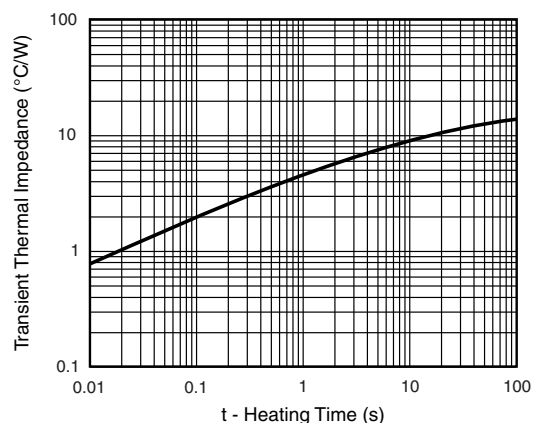
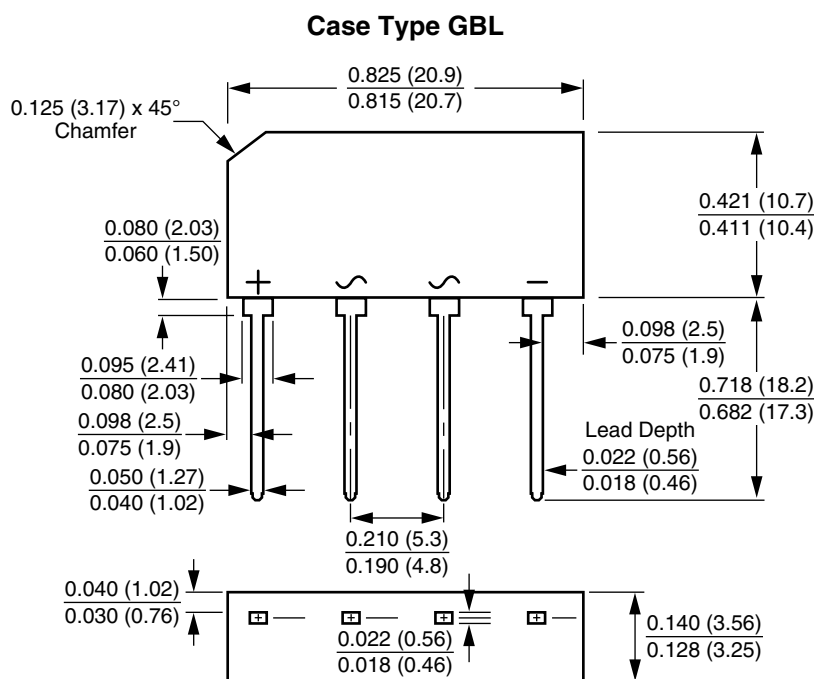


Fig. 6 - Typical Transient Thermal Impedance Per Diode

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

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



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