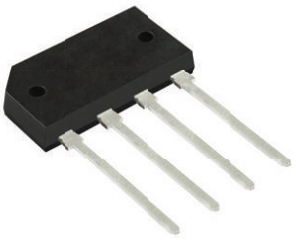
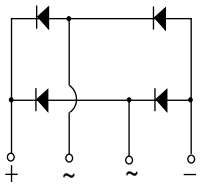
GBL005E, GBL01E, GBL02E, GBL04E, GBL06E, GBL08E, GBL10E

Glass Passivated Single-Phase Bridge Rectifier





Case Type GBL

FEATURES

- UL recognition file number E54214
- Enhanced thermal capability
- High surge current capability
- Typical reverse leakage current 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

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}	150 A
I_R	5 µA
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	GBL005E	GBL01E	GBL02E	GBL04E	GBL06E	GBL08E	GBL10E	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_A = 25 °C	$I_{F(AV)}$	4.0 (1)							A
			2.6 (2)							
Peak forward surge current single sine-wave superimposed on rated load		I_{FSM}	150							A
Rating for fusing (t < 8.3 ms)		I^2t	93							A^2s
Operating junction and storage temperature range		T_J, T_{STG}	-55 to +150							°C

Note

(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) Free air, mounted on recommended copper pad area

ELECTRICAL CHARACTERISTICS (T_J = 25 °C unless otherwise noted)

PARAMETER	TEST CONDITIONS	SYMBOL	GBL005E	GBL01E	GBL02E	GBL04E	GBL06E	GBL08E	GBL10E	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_J = 25 °C	I_R	5.0							µA
	T_J = 125 °C		500							
Typical junction capacitance per diode	4.0 V, 1 MHz	C_J	50							pF

THERMAL CHARACTERISTICS (T_A = 25 °C unless otherwise noted)									
PARAMETER	SYMBOL	GBL005E	GBL01E	GBL02E	GBL04E	GBL06E	GBL08E	GBL10E	UNIT
Typical thermal resistance	$R_{\theta JA}$	28 (1)(2)							°C/W
	$R_{\theta JM}$	2.2 (3)							

Notes

(1) The heat generated must be less than the thermal conductivity from junction-to-ambient: $dP_D/R_{\theta JA}$

(2) Thermal resistance junction-to-ambient to follow JEDEC® 51-2A, device mounted on FR4 PCB, 2 oz., standard footprint

(3) Thermal resistance junction-to-mount to follow JEDEC® 51-14 transient dual interface test method (TDIM)

ORDERING INFORMATION (Example)				
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
GBL06E-E3/P	2.31	P	20	Tube
GBL06E-E3/A	2.31	A	400	Paper tray

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

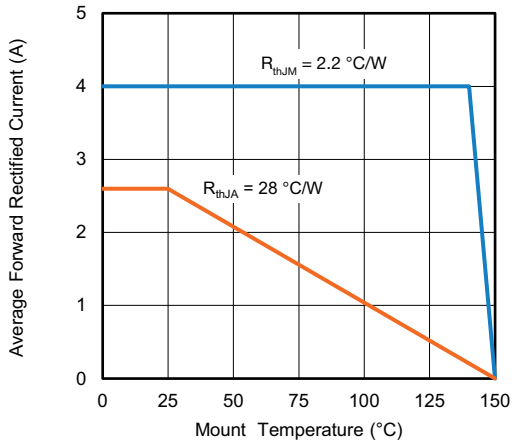


Fig. 1 - Derating Curves Output Rectified Current

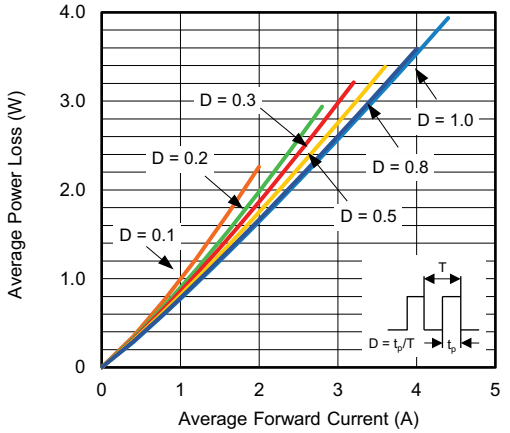


Fig. 3 - Forward Power Loss Characteristics Per Diode

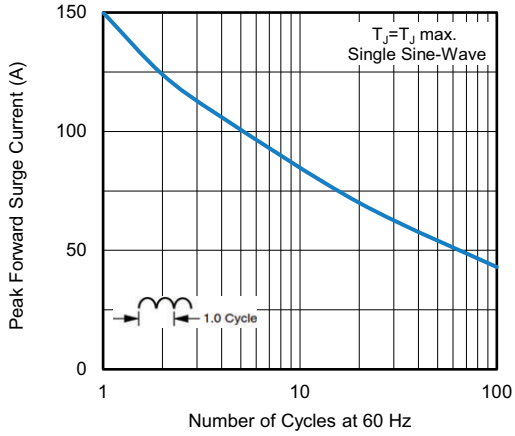


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

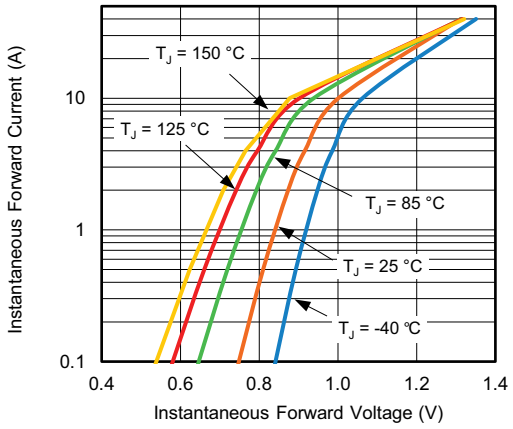


Fig. 4 - Typical Forward Voltage Characteristics Per Diode

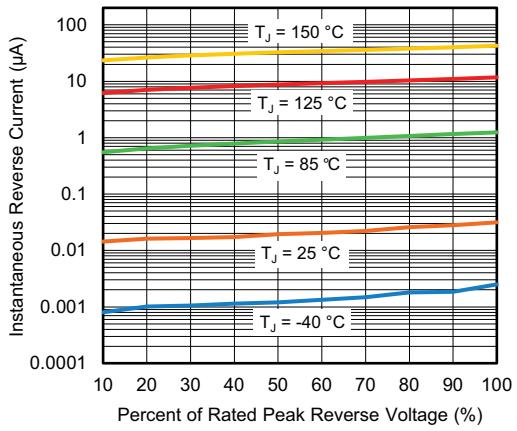


Fig. 5 - Typical Reverse Characteristics
Per Diode

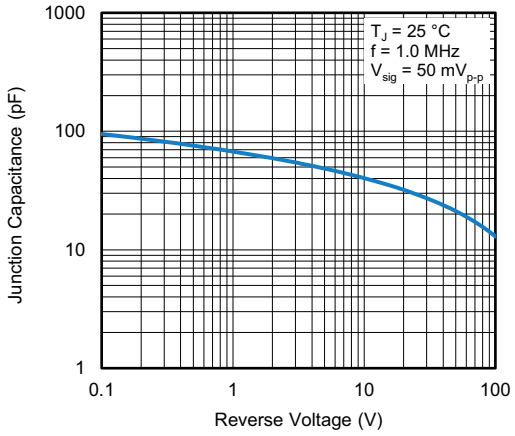


Fig. 6 - Typical Junction Capacitance
Per Diode

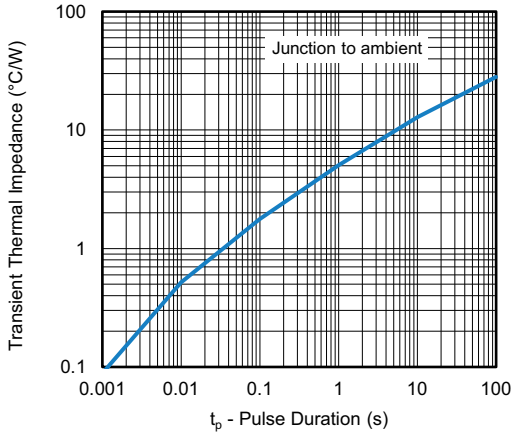
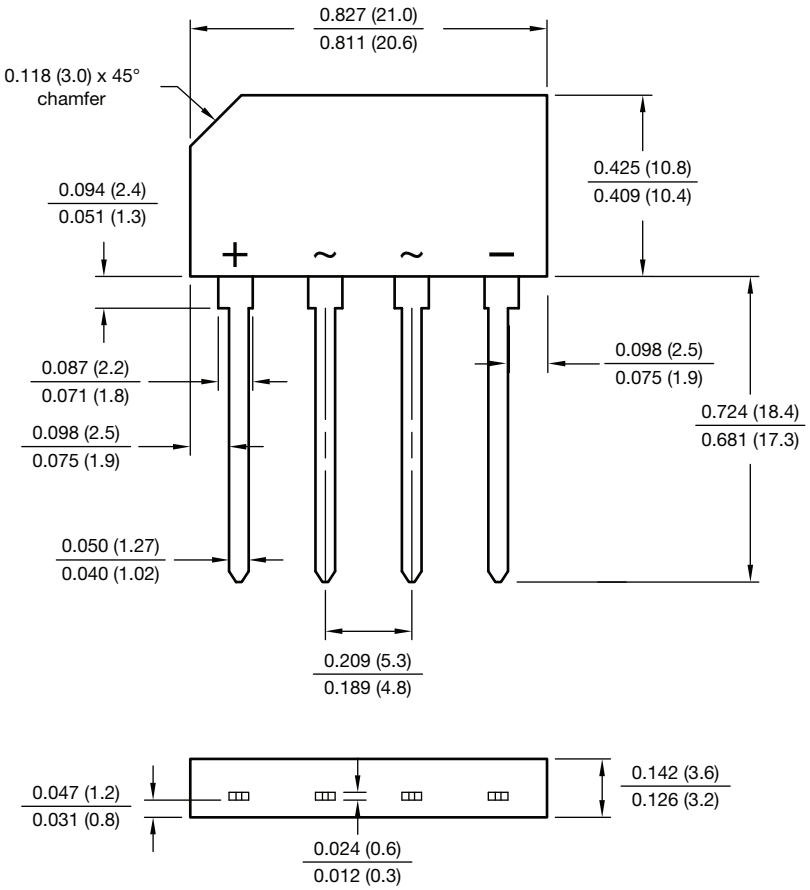


Fig. 7 - Typical Transient Thermal Impedance
Per Diode

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)



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