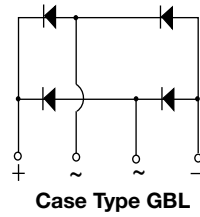
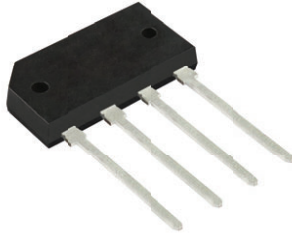




## Glass Passivated Single-Phase Bridge Rectifier



### FEATURES

- UL recognition file number E54214
- Enhanced thermal capability
- High surge current capability
- Typical reverse leakage current less than 0.1  $\mu$ 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](http://www.vishay.com/doc?99912)



RoHS  
COMPLIANT

### LINKS TO ADDITIONAL RESOURCES



### 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	
$I_{F(AV)}$	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 $\mu$ A
$V_F$ at $I_F = 4.0$ A	1.0 V
$T_J$ max.	150 °C
Package	GBL
Circuit configuration	In-line

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 <sup>(1)</sup>							A
		2.6 <sup>(2)</sup>							
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 <sup>2</sup> s
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			$\mu$ A
	$T_J = 125$ °C						500			
Typical junction capacitance per diode	4.0 V, 1 MHz	$C_J$					50			pF



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

**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<sup>®</sup> 51-2A, device mounted on FR4 PCB, 2 oz., standard footprint
- (3) Thermal resistance junction-to-mount to follow JEDEC<sup>®</sup> 51-14 transient dual interface test method (TDIM)

<b>ORDERING INFORMATION</b> (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** ( $T_A = 25\text{ }^\circ\text{C}$  unless otherwise noted)

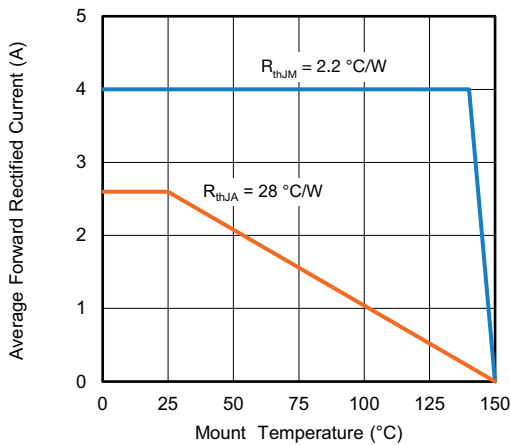


Fig. 1 - Derating Curves Output Rectified Current

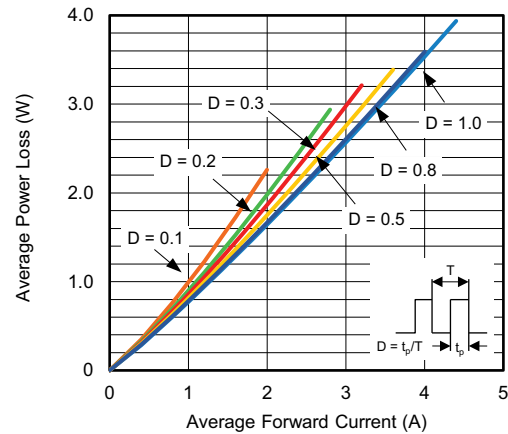


Fig. 3 - Forward Power Loss Characteristics Per Diode

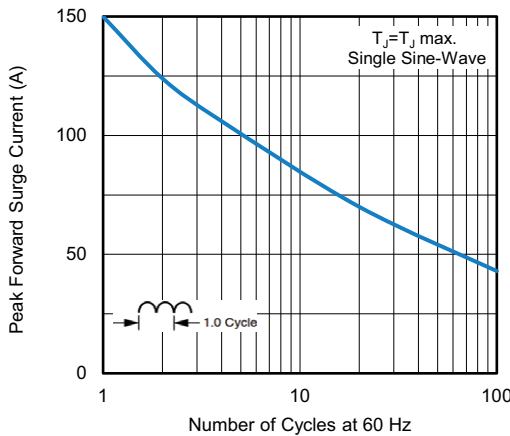


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

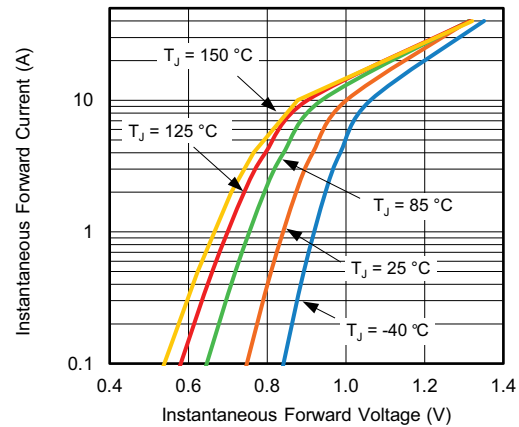


Fig. 4 - Typical Forward Voltage Characteristics Per Diode

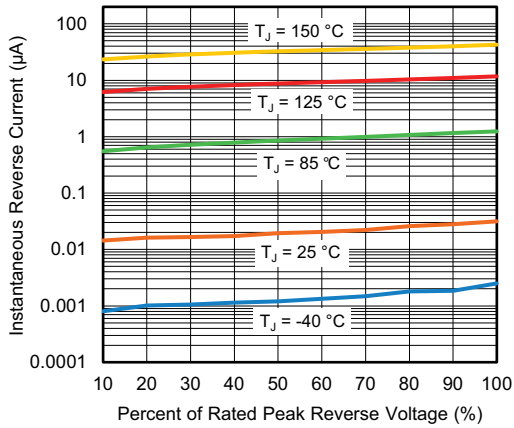


Fig. 5 - Typical Reverse Characteristics Per Diode

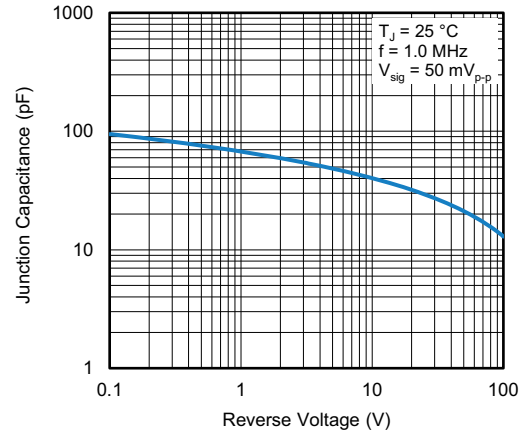


Fig. 6 - Typical Junction Capacitance Per Diode

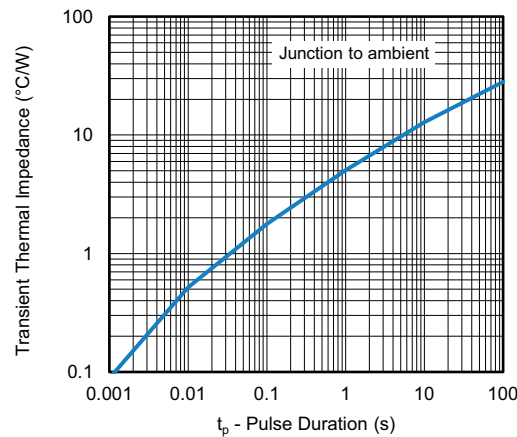
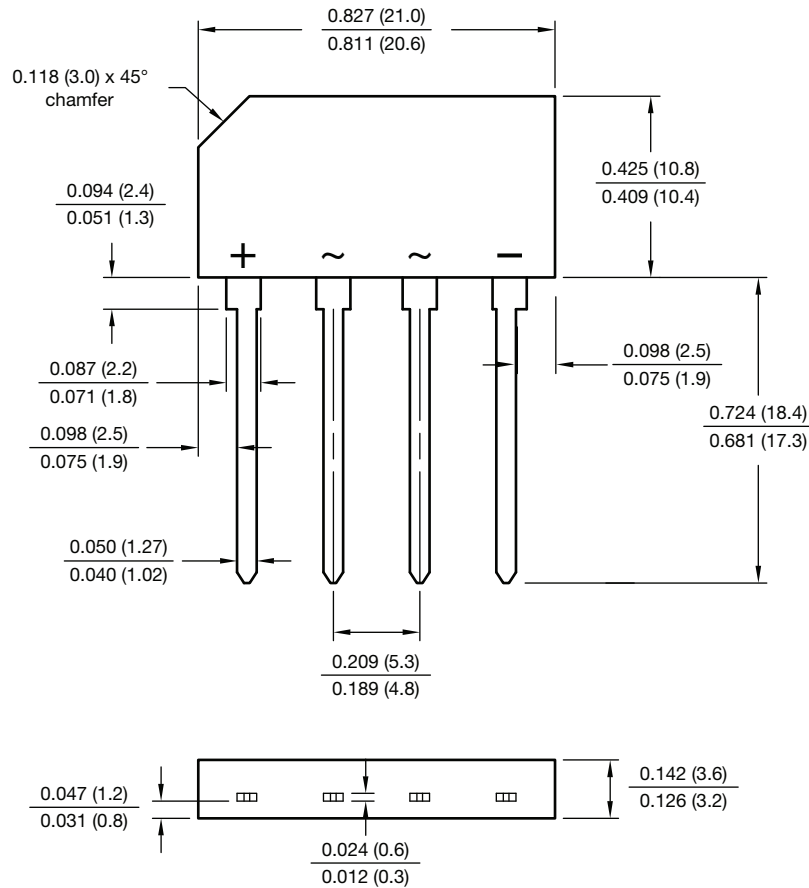


Fig. 7 - Typical Transient Thermal Impedance Per Diode



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





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