GENERAL SEMICONDUCTOR®

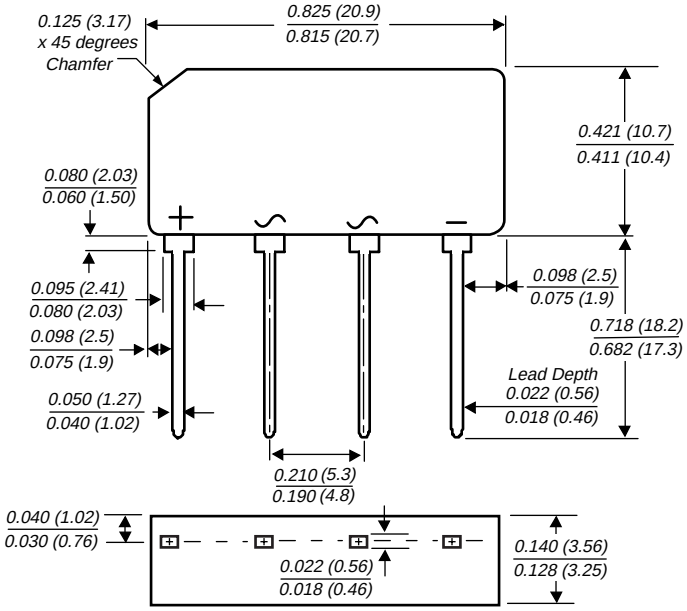
GBL005 thru GBL10

Glass Passivated Single-Phase Bridge Rectifier

Reverse Voltage 50 and 1000 V

Forward Current 4.0 A

Case Type GBL



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

Dimensions in inches and (millimeters)

Features

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- This series is UL listed under the Recognized Component Index, file number E54214
- Glass passivated chip junction
- High case dielectric strength
- Typical I_R less than 0.1μA
- High surge current capability
- Ideal for printed circuit boards

Mechanical Data

Case: Molded plastic body over passivated junctions

Terminals: Plated leads solderable per MIL-STD-750, Method 2026

High temperature soldering guaranteed:
260°C/10 seconds, 0.375 (9.5mm) lead length,
5lbs. (2.3kg) tension

Mounting Position: Any

Weight: 0.071 ounce, 2.0 grams

Packaging codes/options:
1/400 EA. per Bulk Tray Stack

Maximum Ratings & Thermal Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	GBL 005	GBL 01	GBL 02	GBL 04	GBL 06	GBL 08	GBL 10	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 / T_A=40°C	$I_{F(AV)}$	4.0(1) / 3.0(2)							A
Peak forward surge current single sine-wave superimposed on rated load (JEDEC Method) T_J=150°C	I_{FSM}	150							A
Rating for fusing (t<8.3ms)	I^2t	93							A^2sec
Typical thermal resistance per leg	$R_{\Theta JA}$ / $R_{\Theta JL}$	22(1) / 3.5(2)							°C/W
Operating junction storage and temperature range	T_J, T_{STG}	-55 to +150							°C

Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Maximum instantaneous forward drop per leg at 4.0 Amperes	V_F	1.00		V
Maximum DC reverse current at rated DC blocking voltage per leg T_A= 25°C / T_A=125°C	I_R	5.0 / 500		μA
Typical junction capacitance per leg at 4.0V, 1MHz	C_J	95	40	pF

Notes: (1) Unit mounted on 3.0 x 3.0 x 0.11" thick (7.5 x 7.5 x 0.3cm) Al. plate
(2) Unit mounted on P.C.B. at 0.375" (9.5mm) lead length and 0.5 x 0.5" (12 x12mm) copper pads

3/15/01

GBL005 thru GBL10

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Ratings and Characteristic Curves (T_A = 25°C unless otherwise noted)

Fig. 1 – Derating Curves Output Rectified Current

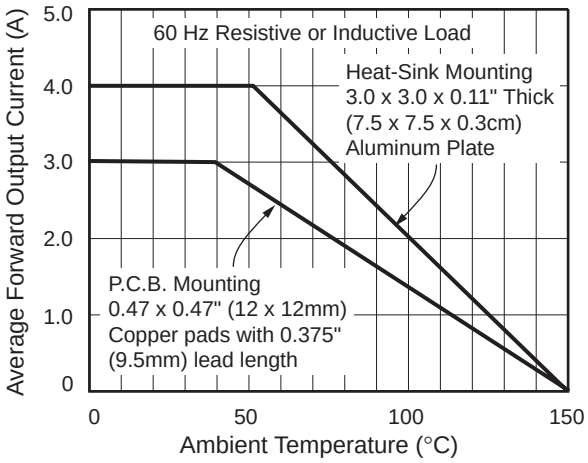

Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current Per Leg

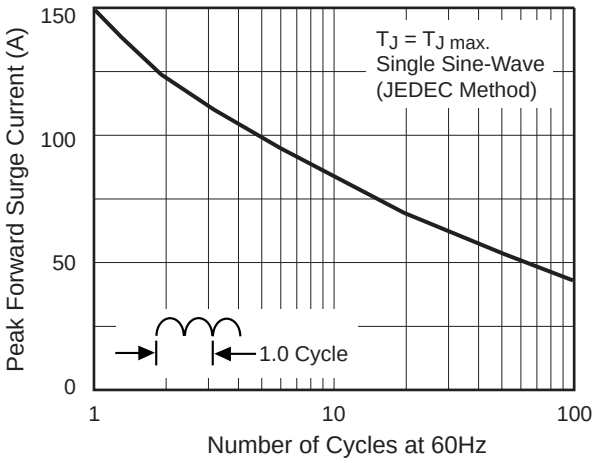

Fig. 3 – Typical Forward Voltage Characteristics Per Leg

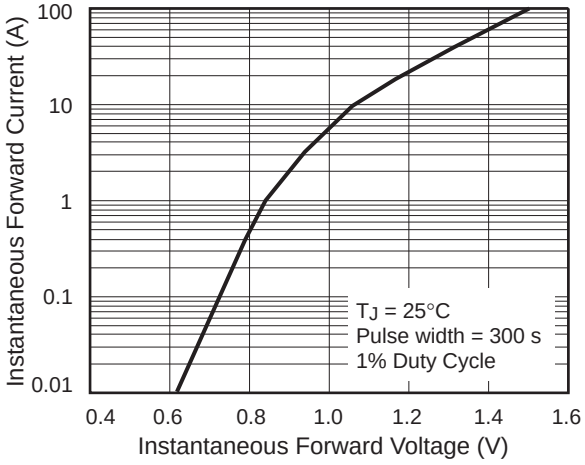

Fig. 4 – Typical Reverse Leakage Characteristics Per Leg

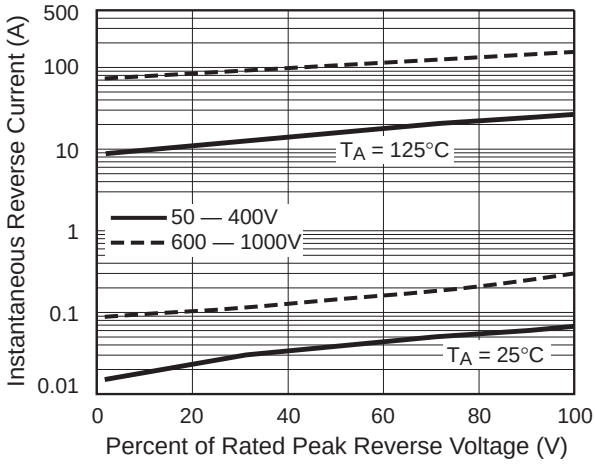

Fig. 5 – Typical Junction Capacitance Per Leg

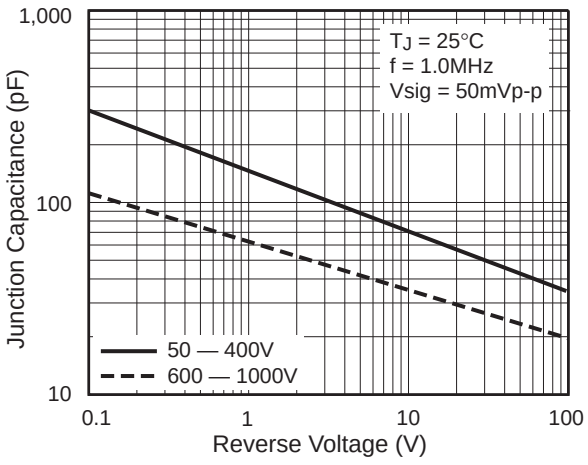

Fig. 6 – Typical Transient Thermal Impedance Per Leg