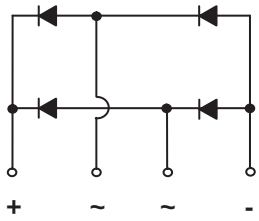
Single-Phase Bridge Rectifier in GBL



Features

- Ideal for printed circuit boards
- High surge current capability
- Typical IR less than 0.1μA
- High case dielectric strength
- Glass passivated chip junction

Mechanical Data

- **Case:** GBL((plastic package). RoHS compliant
- **Molding Compound Flammability Rating:** UL 94 V-0
- **Terminals:** High temperature soldering guaranteed: 260 °C/10 sec. at terminals

Applications

- Audio equipment
- Monitor
- TV
- Printer
- SMPS
- Other AC/DC rectification application

Absolute Maximum Ratings

Ratings at 25 °C, ambient temperature unless otherwise specified

Parameter	Symbol	GBL402	GBL404	GBL406	GBL408	GBL410	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	200	400	600	800	1000	V
Maximum RMS voltage	V_{RMS}	140	280	420	560	700	V
Maximum DC blocking voltage	V_{DC}	200	400	600	800	1000	V
Maximum average forward output rectified current (fig. 1) on glass-epoxy PCB (1) / on aluminum substrate (2)	$I_{F(AV)}$	4.0 3.0					A
Peak forward surge current 8.3 ms single half 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

Thermal Characteristics

Ratings at 25 °C, ambient temperature unless otherwise specified

Parameter	Symbol	GBL402	GBL404	GBL406	GBL408	GBL410	Unit
Typical thermal resistance (junction to ambient)	$R_{\theta JA}$ (1)	22					°C/W
Typical thermal resistance (junction to ambient)	$R_{\theta JA}$ (2)	13					°C/W
Typical thermal resistance (junction to lead)	$R_{\theta JL}$ (1)	20					°C/W

Electrical Characteristics

(T_A = 25 °C unless otherwise specified)

Parameter	Condition	Symbol	GBL402	GBL404	GBL406	GBL408	GBL410	Unit
Maximum instantaneous forward voltage per diode	I_F = 0.4 A	V_F	1.0					V
Maximum DC reverse current at rated DC blocking voltage per diode	T_A = 25 °C	I_R	10					μA
	T_A = 125 °C	I_R	500					μA
Typical junction capacitance per diode	4.0 V, 1 MHz	C_J	40					pF

Notes

(1) Unit mounted on P.C.B. at 0.375" (9.5 mm) lead length and 0.5 x 0.5" (13 x13 mm) copper pads
(2) Unit mounted on 3.0 x 3.0 x 0.11" thick (7.5 x 7.5 x 0.3 cm) Al. plate

Typical Characteristics (T_{amb} = 25 °C unless otherwise specified)

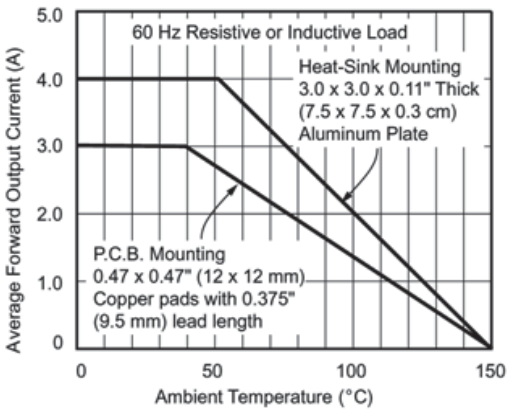


Figure 1. Derating Curves Output Rectified Current

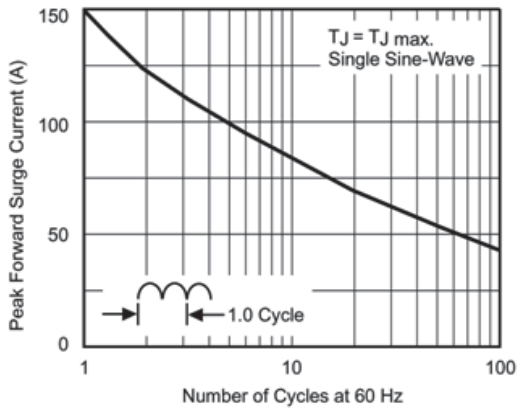


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current Per Leg

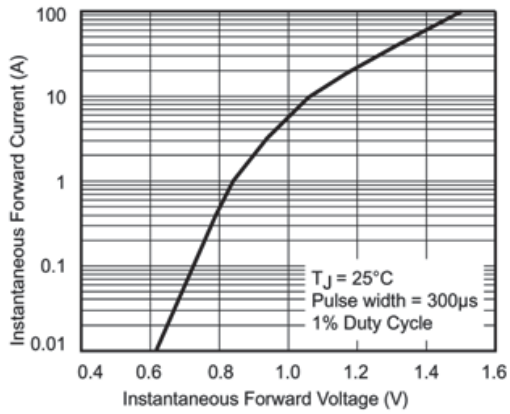


Figure 3. Typical Forward Voltage Characteristics Per Leg

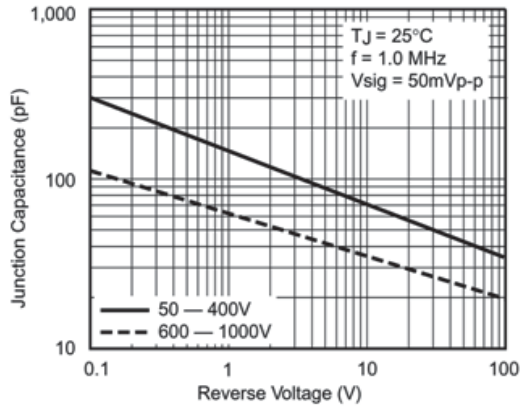


Figure 5. Typical Junction Capacitance Per Leg

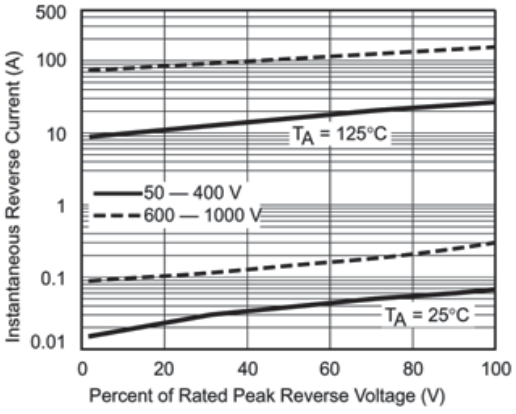


Figure 4. Typical Reverse Characteristics Per Leg

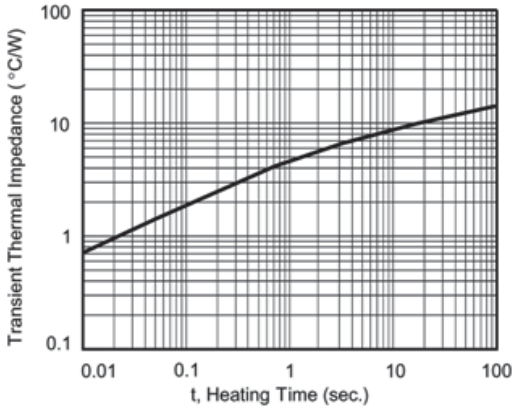
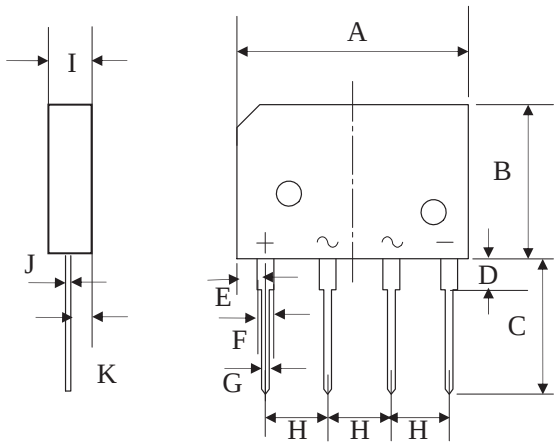


Figure 6. Typical Transient Thermal Impedance Per Leg

Package Dimensions



GBL (Millimeter)		
DIM	Min	Ma
A	19.70	20.30
B	10.7	11.3
C	13.0	14.0
D	2.3	2.7
E	2.3	2.7
F	1.3	1.7
G	0.9	1.1
H	4.8	5.2
I	3.3	3.7
J	0.4	0.6
K	0.8	1.2

Ordering information

Order code	Package	Packaging option	Base quantity	Packaging specification
GBL402 thru GBL410	GBL	BOX	500pcs / BOX	EIA STD RS-481

Revision history

Date	Revision	Changes
23-May-2020	1.0	Initial release

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