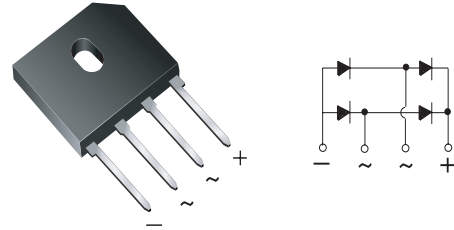


Glass Passivated Single-Phase Bridge Rectifier

Major Ratings and Characteristics

$I_{F(AV)}$	4 A
V_{RRM}	50 V to 1000 V
I_{FSM}	150 A
I_R	5 μ A
V_F	1.0 V
T_j max.	150 °C



Case Style GBU

Features

- UL Recognition file number E54214
- Ideal for printed circuit boards
- High surge current capability
- High case dielectric strength of 1500 V_{RMS}
- Meets MSL level 1, per J-STD-020C

Typical Applications

General purpose use in ac-to-dc bridge full wave rectification for Monitor, TV, Printer, Switching Mode Power Supply, Adapter, Audio equipment, and Home Appliances applications.

Mechanical Data

Case: GBU

Epoxy meets UL-94V-0 Flammability rating

Terminals: Matte Tin plated (E3 Suffix) leads, solderable per J-STD-002B and MIL-STD-750, Method 2026

Polarity: As marked on body

Mounting Torque: 10 cm·kg (8.8 inches·lbs) max.

Recommended Torque: 5.7 cm·kg (5 inches·lbs)

Maximum Ratings

$T_A = 25$ °C, unless otherwise specified

Parameter	Symbol	GBU4A	GBU4B	GBU4D	GBU4G	GBU4J	GBU4K	GBU4M	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 $T_C = 100$ °C (1) $T_A = 40$ °C (2)	$I_{F(AV)}$	4.0 3.0						A	
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 ² sec	
Operating junction and storage temperature range	T_J , T_{STG}	- 55 to + 150						°C	

Note:

(1) Unit case mounted on 1.6 x 1.6 x 0.06" thick (4.0 x 4.0 x 0.15 cm) Al. Plate

(2) Units mounted on P.C.B with 0.5 x 0.5" (12 x 12 mm) copper pads and 0.375" (9.5 mm) lead length

GBU4A thru GBU4M



Vishay Semiconductors

Electrical Characteristics

$T_A = 25\text{ }^\circ\text{C}$, unless otherwise specified

Parameter	Test condition	Symbol	GBU4A	GBU4B	GBU4D	GBU4G	GBU4J	GBU4K	GBU4M	Unit
Maximum instantaneous forward drop per leg	at 4.0 A	V_F								V
Maximum DC reverse current at rated DC blocking voltage per leg	$T_A = 25\text{ }^\circ\text{C}$	I_R								5.0
	$T_A = 125\text{ }^\circ\text{C}$									500
Typical junction capacitance per leg	at 4.0 A, 1MHz	C_J				100			45	pF

Thermal Characteristics

$T_A = 25\text{ }^\circ\text{C}$, unless otherwise specified

Parameter	Symbol	GBU4A	GBU4B	GBU4D	GBU4G	GBU4J	GBU4K	GBU4M	Unit	
Typical thermal resistance per leg	$R_{\theta JA}^{(2)}$								22	$^\circ\text{C/W}$
	$R_{\theta JC}^{(1)}$								4.2	

Note:

(1) Unit case mounted on Al plate heatsink

(2) Units mounted on P.C.B with 0.5 x 0.5" (12 x 12 mm) Copper pads and 0.375" (9.5 mm) lead length

Ratings and Characteristics Curves

($T_A = 25^\circ\text{C}$ unless otherwise specified)

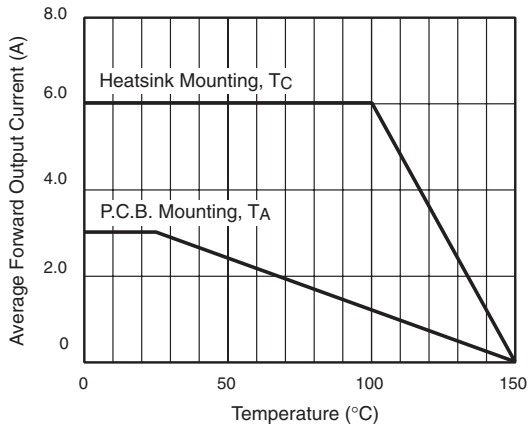


Figure 1. Derating Curve Output Rectified Current

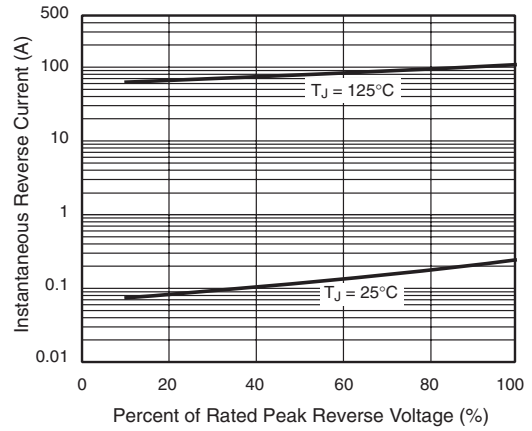


Figure 4. Typical Reverse Leakage Characteristics Per Leg

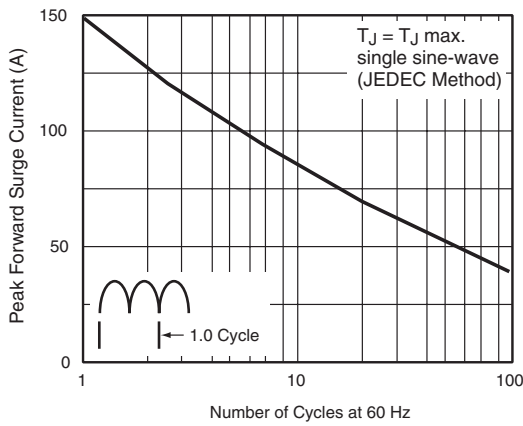


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current Per Leg

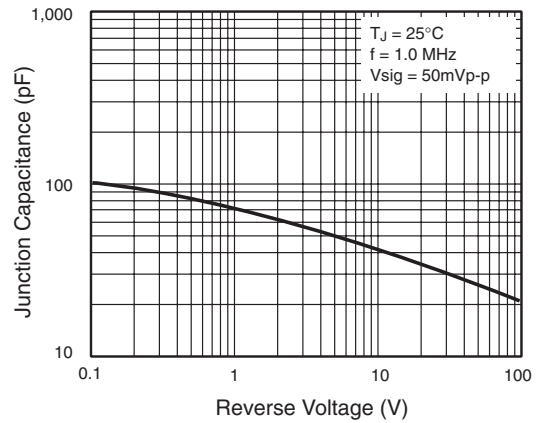


Figure 5. Typical Junction Capacitance Per Leg

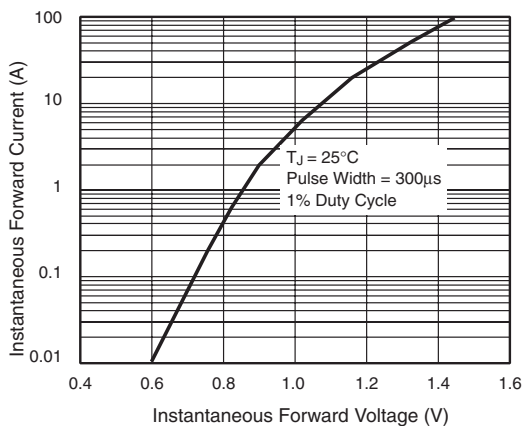


Figure 3. Typical Forward Characteristics Per Leg

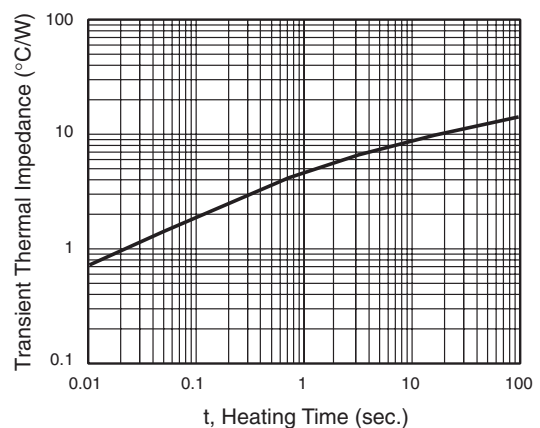


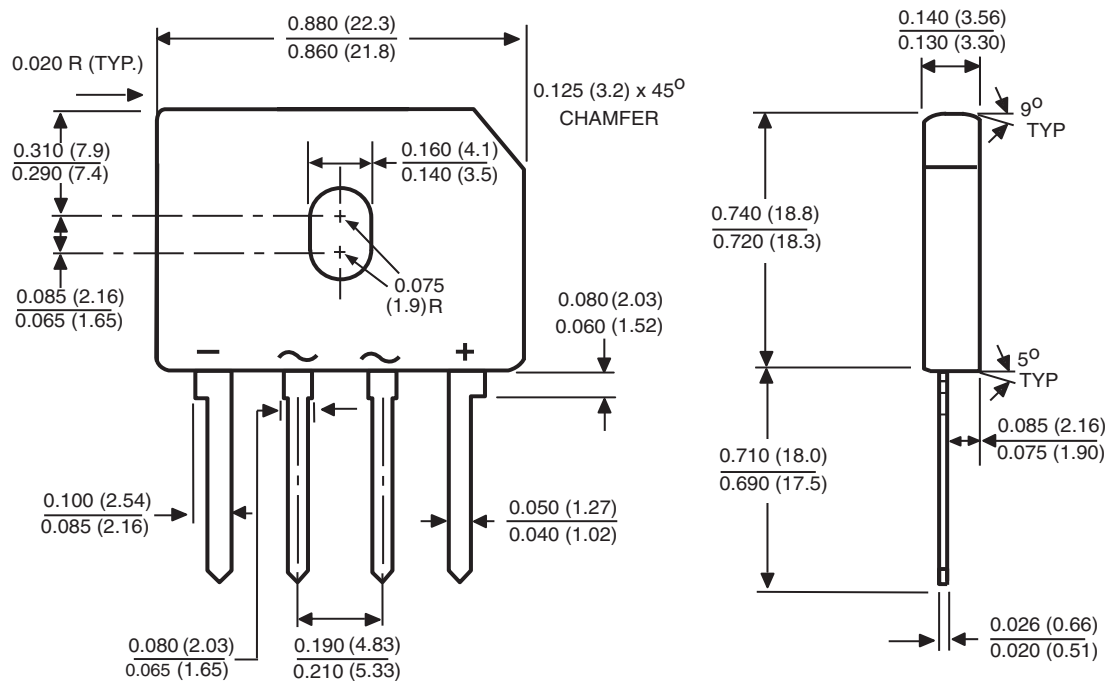
Figure 6. Typical Transient Thermal Impedance

GBU4A thru GBU4M



Vishay Semiconductors

Package Dimensions in Inches (millimeters)



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