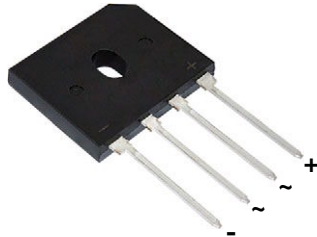


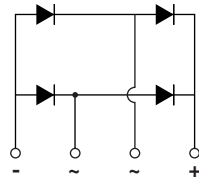
Low V_F Single-Phase Single In-Line Bridge Rectifier



RoHS
COMPLIANT
HALOGEN
FREE



Case Style GBU



Case Style GBU

FEATURES

- UL recognition file number E312394
- Oxide planar chip junction
- Low forward voltage drop
- Solder dip 275 °C max. 10 s, per JESD 22-B106
- Ideal for printed circuit boards
- High surge current capability
- High case dielectric strength of 1500 V_{RMS}
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

TYPICAL APPLICATIONS

General purpose use in AC/DC bridge full wave rectification for switching power supply, home applications, and white-goods applications specially or telecom power supply, high efficiency desktop PC and server SMPS.

MECHANICAL DATA

Case: GBU

Molding compound meets UL 94 V-0 flammability rating Base P/N-M3 - halogen-free, RoHS-compliant, and industrial grade

Terminals: matte tin plated leads, solderable per J-STD-002 and JESD22-B102

M3 suffix meets JESD 201 class 1A whisker test

Polarity: as marked on body

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

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

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	25 A
V_{RRM}	600 V
I_{FSM}	350 A
V_F at $I_F = 12.5$ A (125 °C)	0.75 V
T_J max.	175 °C
Package	GBU
Circuit configuration	In-line

MAXIMUM RATINGS ($T_A = 25$ °C unless otherwise noted)			
PARAMETER	SYMBOL	GBUE2560	UNIT
Device marking code		GBUE2560	
Maximum repetitive peak reverse voltage	V_{RRM}	600	V
Maximum RMS voltage	V_{RMS}	420	V
Maximum DC blocking voltage	V_{DC}	600	V
Maximum average forward rectified output current at	$T_C = 140$ °C	$I_O^{(1)}$	25
	$T_A = 25$ °C	$I_O^{(2)}$	4.9
Non-repetitive peak forward surge current 8.3 ms single sine-wave, $T_J = 25$ °C	I_{FSM}	350	A
Rating for fusing ($t < 8.3$ ms)	I^2t	508	A ² s
Operating junction and storage temperature range	T_J, T_{STG}	-55 to +175	°C

Notes

(1) Unit case mounted on aluminum plate heatsink

(2) Units mounted on PCB without heatsink

ELECTRICAL CHARACTERISTICS ($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)						
PARAMETER	TEST CONDITIONS	SYMBOL	TYP.	MAX.	UNIT	
Maximum instantaneous forward voltage drop per diode	$I_F = 12.5\text{ A}$	$T_A = 25\text{ }^\circ\text{C}$	$V_F^{(1)}$	0.88	0.92	V
		$T_A = 125\text{ }^\circ\text{C}$		0.75	-	
Maximum DC reverse current at rated DC blocking voltage per diode	$V_R = 600\text{ V}$	$T_A = 25\text{ }^\circ\text{C}$	$I_R^{(2)}$	0.1	10	μA
		$T_A = 125\text{ }^\circ\text{C}$		27	-	
Typical reverse recovery time	$I_F = 0.5\text{ A}, I_R = 1.0\text{ A}, I_{rr} = 0.25\text{ A}$	t_{rr}	280	-	ns	
Typical junction capacitance per diode	4.0 V, 1 MHz	C_J	240	-	pF	

Notes

- (1) Pulse test: 300 μs pulse width, 1 % duty cycle
 (2) Pulse test: Pulse width $\leq 40\text{ ms}$

THERMAL CHARACTERISTICS ($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)			
PARAMETER	SYMBOL	GBUE2560	UNIT
Typical thermal resistance	$R_{\theta JA}^{(1)}$	23	$^\circ\text{C/W}$
	$R_{\theta JC}^{(2)}$	1.2	

Notes

- (1) Without heatsink, free air
 (2) With heatsink

ORDERING INFORMATION				
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
GBUE2560-M3/P	3.83	P	20	Tube

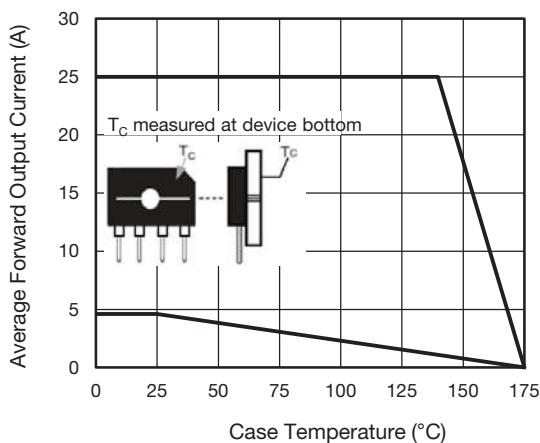
RATINGS AND CHARACTERISTICS CURVES ($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)


Fig. 1 - Derating Curve Output Rectified Current

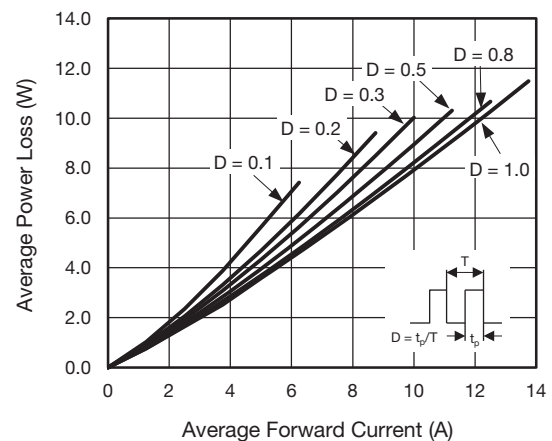


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

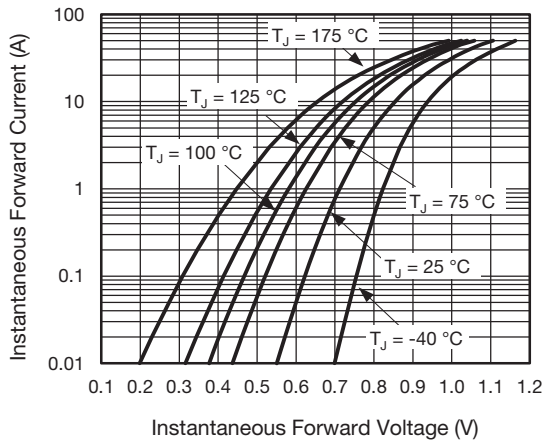


Fig. 3 - Typical Forward Characteristics Per Diode

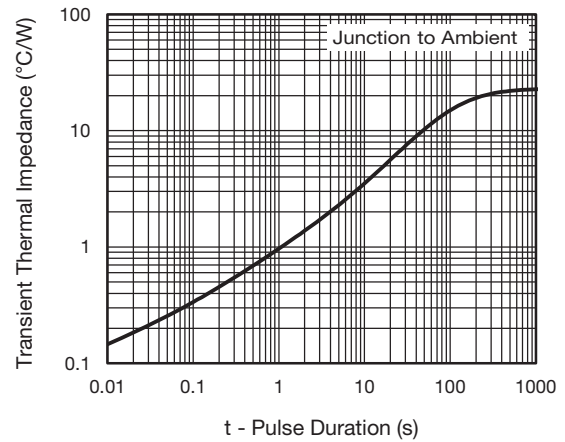


Fig. 6 - Typical Transient Thermal Impedance Per Diode

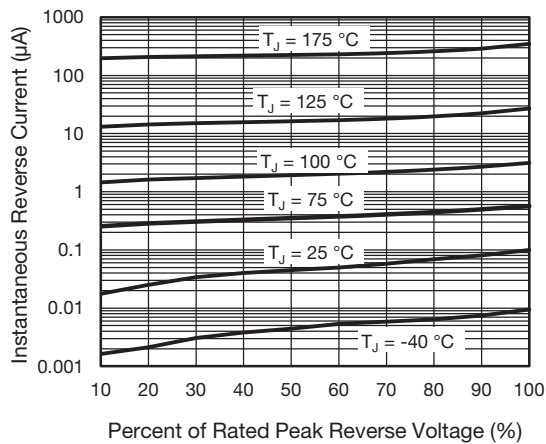


Fig. 4 - Typical Reverse Leakage Characteristics Per Diode

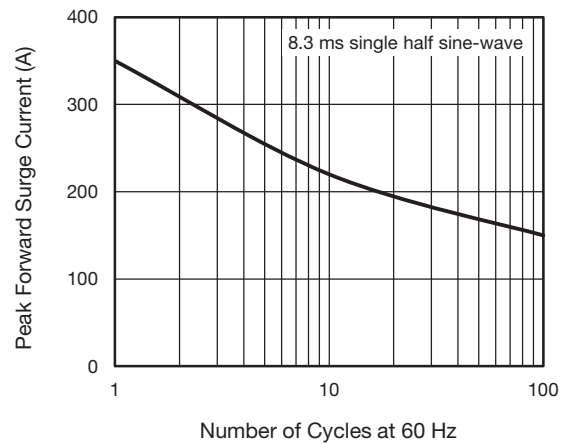


Fig. 7 - Peak Forward Surge Current

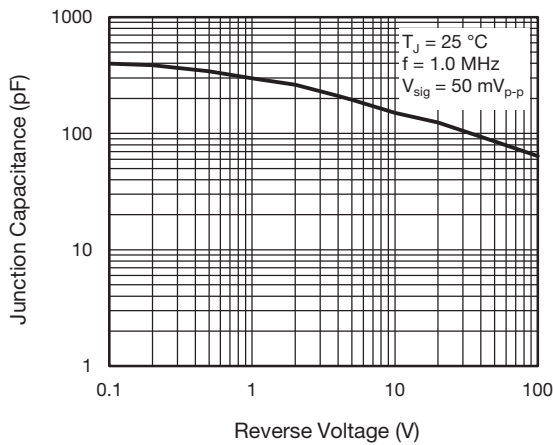
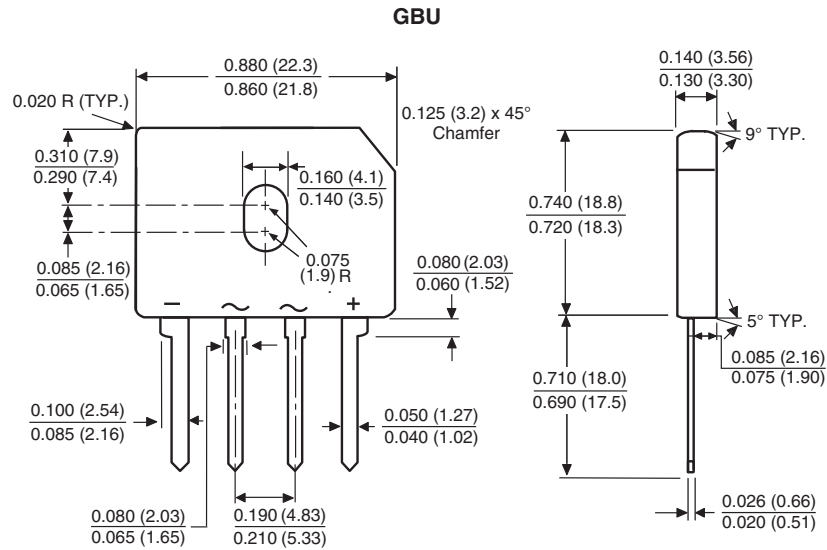


Fig. 5 - Typical Junction Capacitance Per Diode

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)



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



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