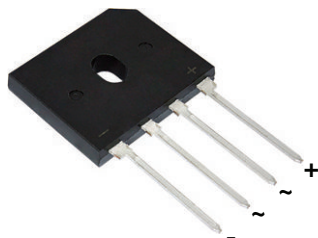
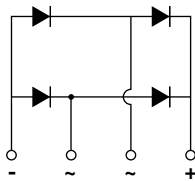


## Single In-Line Bridge Rectifier



Case Style GBU



Case Style GBU

### FEATURES

- UL recognition file number E312394
- Glass passivated chip junction
- 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 2000 V<sub>RMS</sub>, 1 minute
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



**RoHS**  
COMPLIANT  
HALOGEN  
**FREE**

### 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, game PC

### 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 meet 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)

### LINKS TO ADDITIONAL RESOURCES



3D Models

| PRIMARY CHARACTERISTICS          |         |
|----------------------------------|---------|
| $I_F(AV)$                        | 25 A    |
| $V_{RRM}$                        | 800 V   |
| $I_{FSM}$                        | 350 A   |
| $V_F$ at $I_F = 12.5$ A (125 °C) | 0.86 V  |
| $T_J$ max.                       | 175 °C  |
| Package                          | GBU     |
| Circuit configuration            | In-line |

| MAXIMUM RATINGS ( $T_A = 25$ °C unless otherwise noted)                             |                |             |                  |
|-------------------------------------------------------------------------------------|----------------|-------------|------------------|
| PARAMETER                                                                           | SYMBOL         | GBU25H08    | UNIT             |
| Device marking code                                                                 |                | GBU25H08    |                  |
| Maximum repetitive peak reverse voltage                                             | $V_{RRM}$      | 800         | V                |
| Maximum RMS voltage                                                                 | $V_{RMS}$      | 560         | V                |
| Maximum DC blocking voltage                                                         | $V_{DC}$       | 800         | V                |
| Maximum average forward rectified output current at                                 | $T_C = 120$ °C | $I_O^{(1)}$ | A                |
|                                                                                     | $T_A = 25$ °C  | $I_O^{(2)}$ |                  |
| Non-repetitive peak forward surge current<br>8.3 ms single sine-wave, $T_J = 25$ °C | $I_{FSM}$      | 350         | A                |
| Non-repetitive peak forward surge current<br>1.0 ms single sine-wave, $T_J = 25$ °C | $I_{FSM}$      | 700         | A                |
| Rating for fusing ( $t < 8.3$ ms)                                                   | $I^2t$         | 508         | A <sup>2</sup> 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 <sub>J</sub> = 25 °C unless otherwise noted) |                                                                          |                         |                               |      |      |      |
|----------------------------------------------------------------------------|--------------------------------------------------------------------------|-------------------------|-------------------------------|------|------|------|
| PARAMETER                                                                  | TEST CONDITIONS                                                          |                         | SYMBOL                        | TYP. | MAX. | UNIT |
| Maximum instantaneous forward voltage drop per diode                       | I <sub>F</sub> = 12.5 A                                                  | T <sub>J</sub> = 25 °C  | V <sub>F</sub> <sup>(1)</sup> | 0.97 | 1.05 | V    |
|                                                                            |                                                                          | T <sub>J</sub> = 125 °C |                               | 0.86 | -    |      |
| Maximum DC reverse current at rated DC blocking voltage per diode          | V <sub>R</sub> = 800 V                                                   | T <sub>J</sub> = 25 °C  | I <sub>R</sub> <sup>(2)</sup> | -    | 10   | μA   |
|                                                                            |                                                                          | T <sub>J</sub> = 125 °C |                               | 45   | -    |      |
| Typical reverse recovery time                                              | I <sub>F</sub> = 0.5 A, I <sub>R</sub> = 1.0 A, I <sub>rr</sub> = 0.25 A |                         | t <sub>rr</sub>               | 3500 | -    | ns   |
| Typical junction capacitance per diode                                     | 4.0 V, 1 MHz                                                             |                         | C <sub>J</sub>                | 100  | -    | pF   |

**Notes**

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

| <b>THERMAL CHARACTERISTICS</b> ( $T_A = 25\text{ }^{\circ}\text{C}$ unless otherwise noted) |                       |          |                      |
|---------------------------------------------------------------------------------------------|-----------------------|----------|----------------------|
| PARAMETER                                                                                   | SYMBOL                | GBU25H08 | UNIT                 |
| Typical thermal resistance                                                                  | $R_{\theta JA}^{(1)}$ | 24       | $^{\circ}\text{C/W}$ |
|                                                                                             | $R_{\theta JC}^{(2)}$ | 4        |                      |

**Notes**

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

| <b>ORDERING INFORMATION</b> |                 |                        |               |               |
|-----------------------------|-----------------|------------------------|---------------|---------------|
| PREFERRED P/N               | UNIT WEIGHT (g) | PREFERRED PACKAGE CODE | BASE QUANTITY | DELIVERY MODE |
| GBU25H08-M3/P               | 3.87            | P                      | 20            | Tube          |

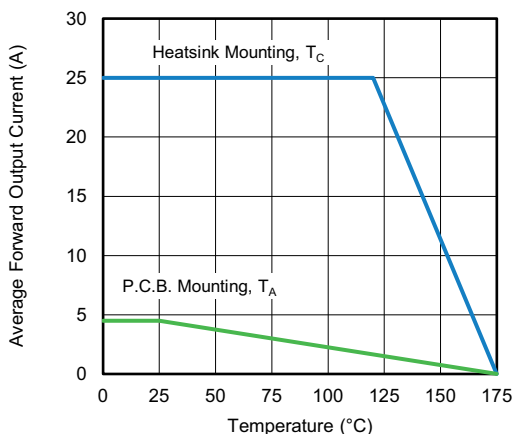
**RATINGS AND CHARACTERISTICS CURVES** ( $T_A = 25\text{ }^{\circ}\text{C}$  unless otherwise noted)


Fig. 1 - Derating Curve Output Rectified Current

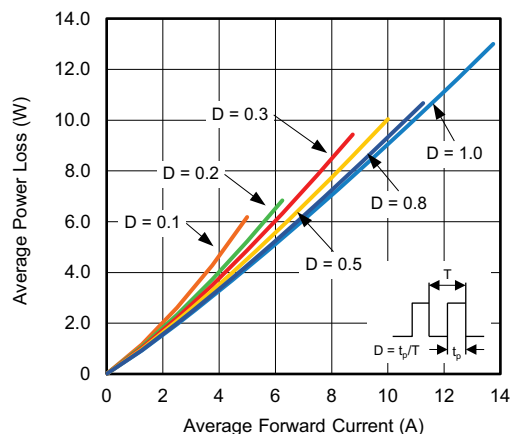


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

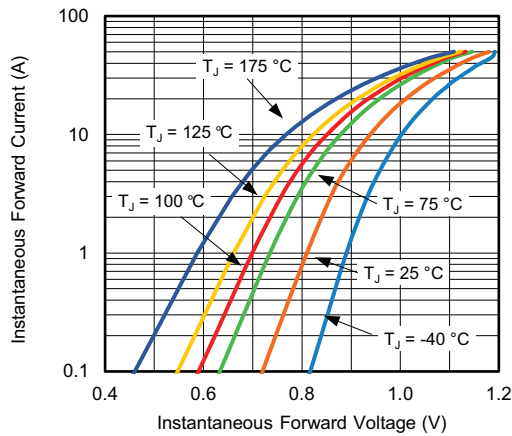


Fig. 3 - Typical Forward Characteristics Per Diode

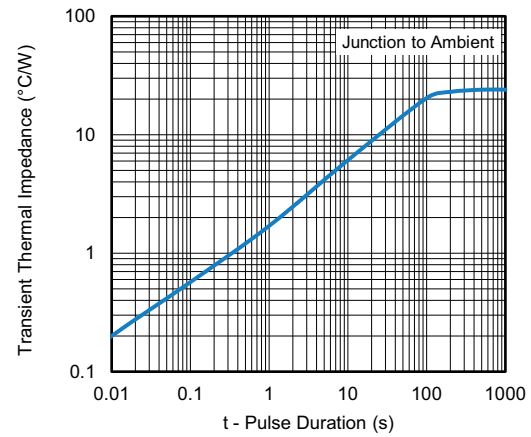


Fig. 6 - Typical Transient Thermal Impedance Per Diode

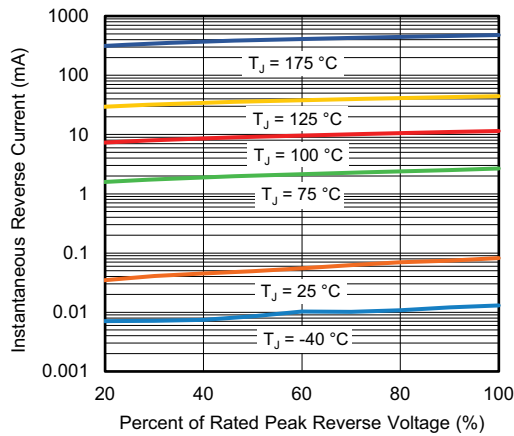


Fig. 4 - Typical Reverse Leakage Characteristics Per Diode

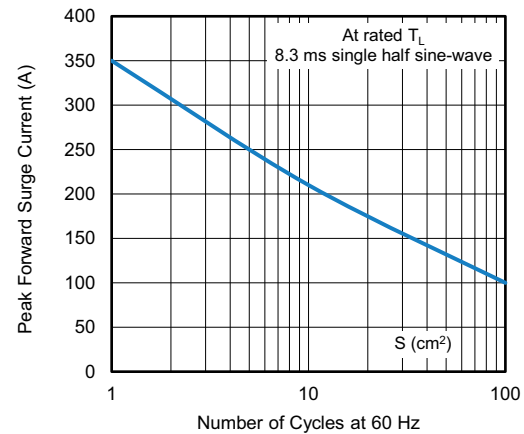


Fig. 7 - Peak Forward Surge Current

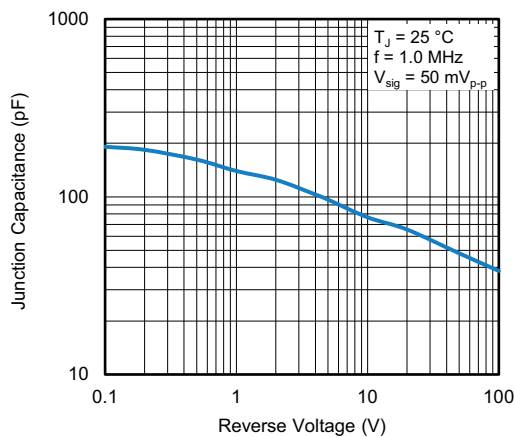
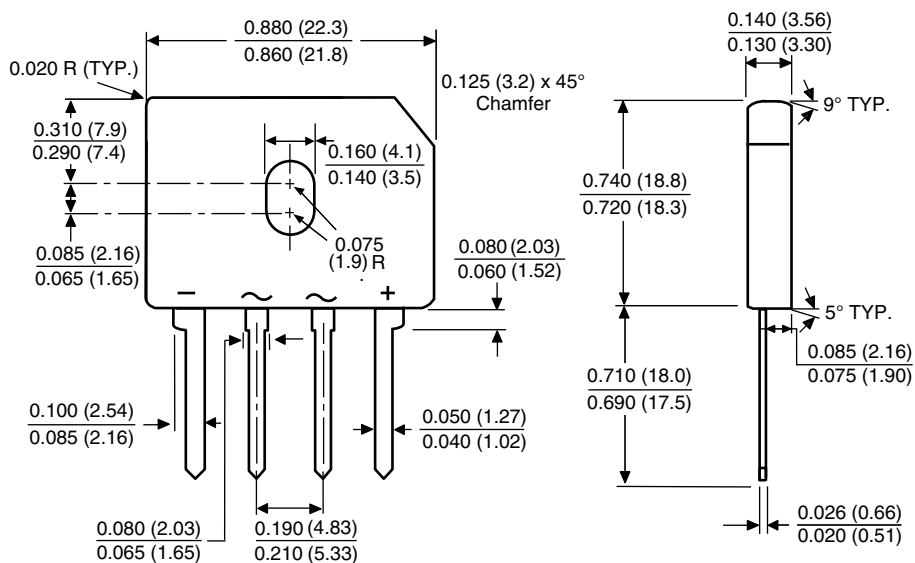


Fig. 5 - Typical Junction Capacitance Per Diode

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

**GBU**


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



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