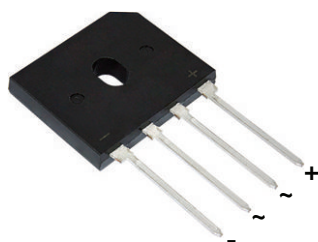
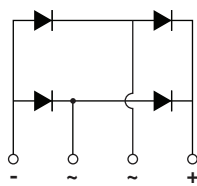


# Glass Passivated Single-Phase Bridge Rectifier



Case Style GBU



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<sub>RMS</sub>
- Solder dip 275 °C max. 10 s, per JESD 22-B106
- 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 monitor, TV, printer, switching mode power supply, adapter, audio equipment, and home appliances applications.

## MECHANICAL DATA

**Case:** GBU

Molding compound meets UL 94 V-0 flammability rating  
Base P/N-E3 - RoHS-compliant, commercial grade  
Base P/N-M3 - halogen-free, RoHS-compliant, and commercial grade

**Terminals:** matte tin plated leads, solderable per J-STD-002 and JESD 22-B102

E3 and 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

|                        |                     |
|------------------------|---------------------|
| $I_{F(AV)}$            | 6.0 A               |
| $V_{RRM}$              | 200 V, 600 V, 800 V |
| $I_{FSM}$              | 150 A               |
| $I_R$                  | 5 $\mu$ A           |
| $V_F$ at $I_F = 3.0$ V | 1.05 V              |
| $T_J$ max.             | 150 °C              |
| Package                | GBU                 |
| Circuit configuration  | In-line             |

### MAXIMUM RATINGS ( $T_A = 25$ °C unless otherwise noted)

| PARAMETER                                                                 | SYMBOL                            | G5SBA20      | G5SBA60 | G5SBA80 | UNIT             |
|---------------------------------------------------------------------------|-----------------------------------|--------------|---------|---------|------------------|
| Maximum repetitive peak reverse voltage                                   | V <sub>RRM</sub>                  | 200          | 600     | 800     | V                |
| Maximum RMS reverse voltage                                               | V <sub>RWM</sub>                  | 140          | 420     | 560     | V                |
| Maximum DC blocking voltage                                               | V <sub>DC</sub>                   | 200          | 600     | 800     | V                |
| Maximum average forward rectified<br>output current at                    | I <sub>F(AV)</sub>                | 6.0          |         |         | A                |
|                                                                           |                                   | 2.8          |         |         |                  |
| Peak forward surge current single sine-wave<br>superimposed on rated load | I <sub>FSM</sub>                  | 150          |         |         | A                |
| Rating for fusing (t < 8.3 ms)                                            | I <sup>2</sup> t                  | 93           |         |         | A <sup>2</sup> s |
| Operating junction and storage temperature range                          | T <sub>J</sub> , T <sub>STG</sub> | -55 to + 150 |         |         | °C               |

#### Notes

<sup>(1)</sup> Unit case mounted on aluminum plate heatsink

<sup>(2)</sup> Units mounted on PCB with 0.5" x 0.5" (12 mm x 12 mm) copper pads and 0.375" (9.5 mm) lead length

### ELECTRICAL CHARACTERISTICS ( $T_A = 25$ °C unless otherwise noted)

| PARAMETER                                                         | TEST CONDITIONS         | SYMBOL         | G5SBA20 | G5SBA60 | G5SBA80 | UNIT |
|-------------------------------------------------------------------|-------------------------|----------------|---------|---------|---------|------|
| Maximum instantaneous forward voltage per diode                   | 3.0 A                   | V <sub>F</sub> | 1.05    |         |         | V    |
| Maximum DC reverse current at rated DC blocking voltage per diode | T <sub>J</sub> = 25 °C  | I <sub>R</sub> | 5.0     |         |         | μA   |
|                                                                   | T <sub>J</sub> = 125 °C |                | 300     |         |         |      |

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

| PARAMETER                  | SYMBOL                          | G5SBA20 | G5SBA60 | G5SBA80 | UNIT |
|----------------------------|---------------------------------|---------|---------|---------|------|
| Typical thermal resistance | R <sub>θJA</sub> <sup>(2)</sup> | 22      |         |         | °C/W |
|                            | R <sub>θJC</sub> <sup>(1)</sup> | 3.4     |         |         |      |

**Notes**

(1) Unit case mounted on aluminum plate heatsink

(2) Units mounted on PCB with 0.5" x 0.5" (12 mm x 12 mm) copper pads and 0.375" (9.5 mm) lead length

**ORDERING INFORMATION** (Example)

| PREFERRED P/N | UNIT WEIGHT (g) | PREFERRED PACKAGE CODE | BASE QUANTITY | DELIVERY MODE |
|---------------|-----------------|------------------------|---------------|---------------|
| G5SBA60-E3/45 | 3.565           | 45                     | 20            | Tube          |
| G5SBA60-E3/51 | 3.565           | 51                     | 250           | Paper tray    |
| G5SBA60-M3/45 | 3.565           | 45                     | 20            | Tube          |
| G5SBA60-M3/51 | 3.565           | 51                     | 250           | Paper tray    |

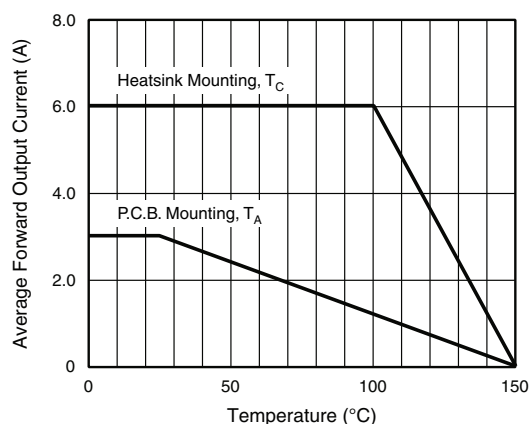
**RATINGS AND CHARACTERISTICS CURVES** ( $T_A = 25\text{ }^{\circ}\text{C}$  unless otherwise noted)

Fig. 1 - Derating Curve Output Rectified Current

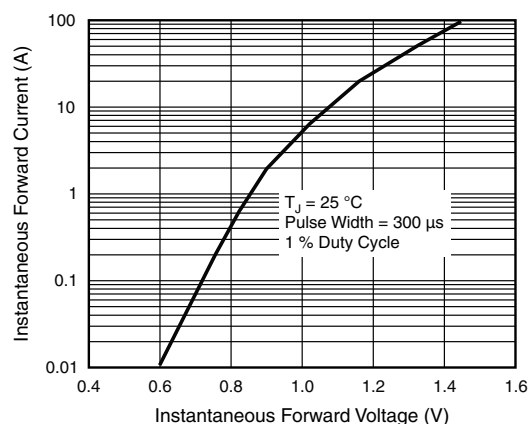


Fig. 3 - Typical Instantaneous Forward Characteristics Per Diode

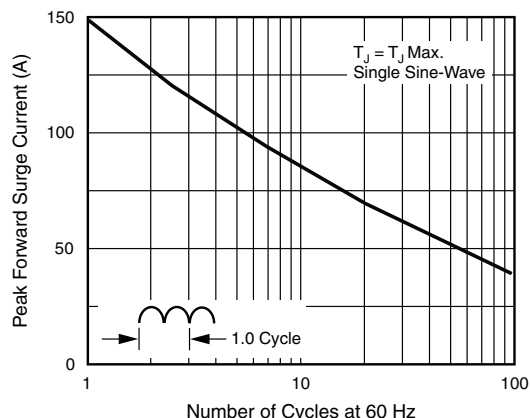


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

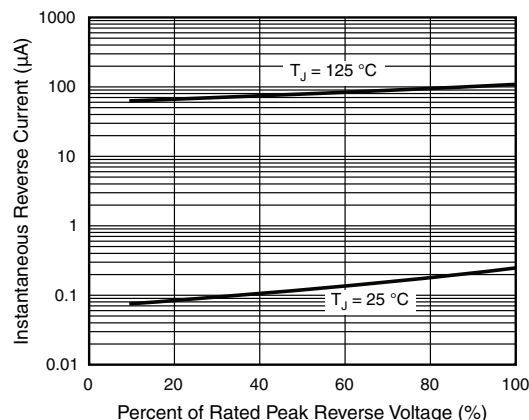


Fig. 4 - Typical Reverse Leakage Characteristics Per Diode

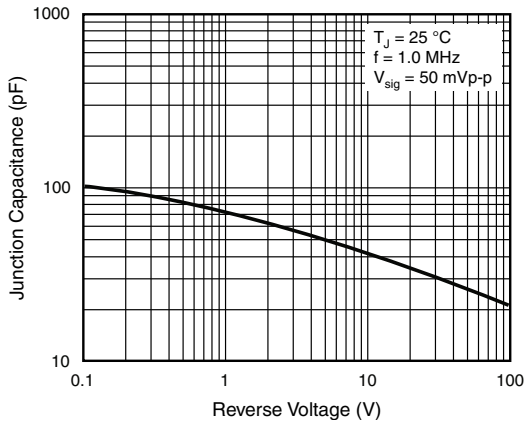


Fig. 5 - Typical Junction Capacitance Per Diode

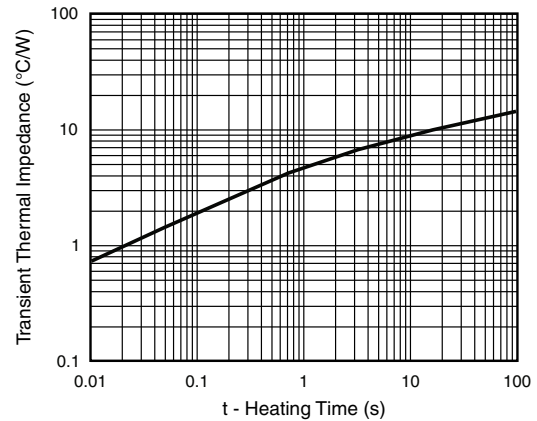
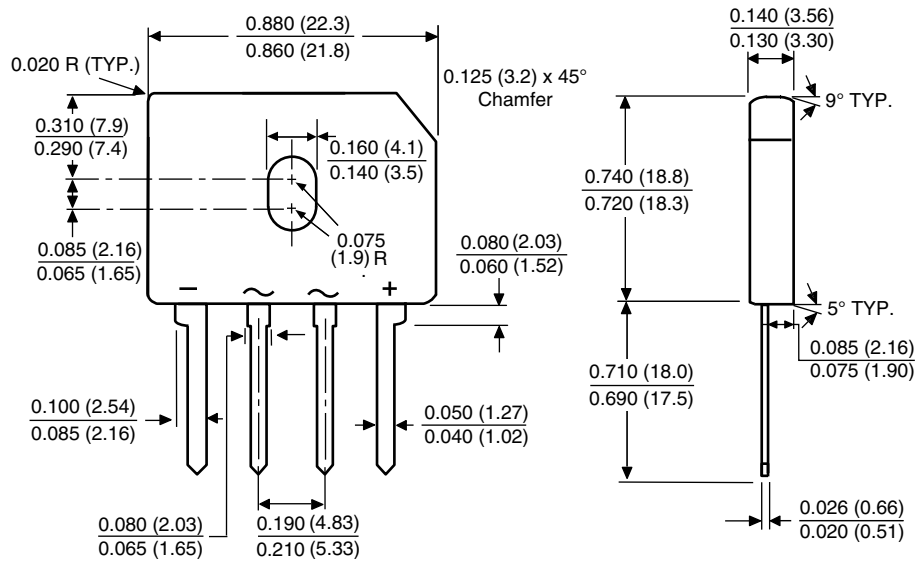


Fig. 6 - Typical Transient Thermal Impedance

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

**Case Type GBU**


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



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