

## Product Summary

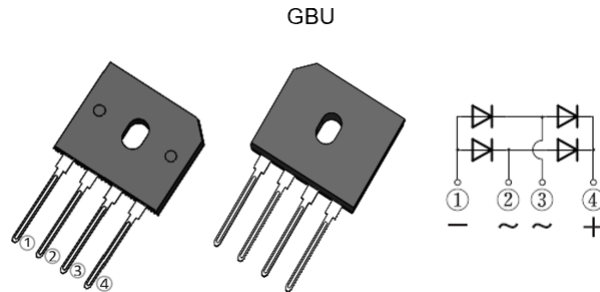
| V <sub>RRM</sub> (V)            | I <sub>F</sub> (A) | V <sub>F</sub> Max (V)<br>@ I <sub>F</sub> = 4A | I <sub>R</sub> Max (μA) |
|---------------------------------|--------------------|---|-------------------------|
| 50/100/200/<br>400/600/800/1000 | 8.0                | 1.0   | 5                       |

## Mechanical Data

- Package: GBU
- Package Material: Plastic Material, UL Flammability Classification 94V-0
- Terminals: Tin Finish. Solderable per MIL-STD-202, Method 208 (e3)
- Polarity: Marked on Body
- Mounting: Through Hole for #6 Screw
- Mounting Torque: 5.0 Inch-Pounds Maximum
- Weight: 3.7 grams (Approximate)

## Features

- Glass Passivated Die Construction
- High Case Dielectric Strength of 1500V<sub>RMS</sub>
- Low Reverse Leakage Current
- Surge Overload Rating to 200A Peak
- Ideal for Printed Circuit Board Applications
- UL Recognized File #E95060
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **For automotive applications requiring specific change control (i.e. parts qualified to AEC-Q100/101/104/200, PPAP capable, and manufactured in IATF 16949 certified facilities), please [contact us](mailto:contact@diodes.com) or your local Diodes representative. <https://www.diodes.com/quality/product-definitions/>**

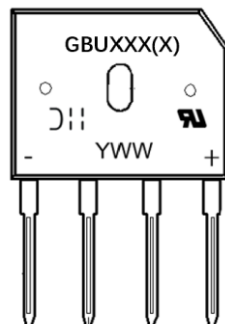


## Ordering Information (Note 3)

| Orderable Part Number | Package | Packing |         |
|-----------------------|---------|---------|---------|
|                       |         | Qty.    | Carrier |
| GBU8005               | GBU     | 20      | Tube    |
| GBU801                | GBU     | 20      | Tube    |
| GBU802                | GBU     | 20      | Tube    |
| GBU804                | GBU     | 20      | Tube    |
| GBU806                | GBU     | 20      | Tube    |
| GBU808                | GBU     | 20      | Tube    |
| GBU810                | GBU     | 20      | Tube    |

- Notes:
1. EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant. All applicable RoHS exemptions applied.
  2. See <https://www.diodes.com/quality/lead-free/> for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
  3. For packaging details, go to our website at <https://www.diodes.com/design/support/packaging/diodes-packaging/>.

## Marking Information



GBUXXX = Product Type Marking Code, ex: GBU801, GBU802, GBU804, GBU806, GBU808, GBU810  
 GBUXXX = Product Type Marking Code, ex: GBU8005  
 Ⓜ = Manufacturer's Code Marking  
 YWW = Date Code Marking  
 Y = Last Digit of Year (ex: 5 = 2025)  
 WW = Week Code (01 to 53)

**Maximum Ratings** (@ T<sub>A</sub> = +25°C, unless otherwise specified.)

Single phase, half wave, 60Hz, resistive or inductive load.  
 For capacitive load, derate current by 20%.

| Characteristic   | Symbol             | GBU8005     | GBU801 | GBU802 | GBU804 | GBU806 | GBU808 | GB810 | Unit             |
|--|--------------------|-------------|--------|--------|--------|--------|--------|-------|------------------|
| Maximum Repetitive Peak Reverse Voltage  | V <sub>RRM</sub>   | 50          | 100    | 200    | 400    | 600    | 800    | 1000  | V                |
| Average Forward Rectified Current (Note 4)<br>@ T <sub>C</sub> = +100°C                                | I <sub>F(AV)</sub> | 8.0         |        |        |        |        |        |       | A                |
| Non-Repetitive Peak Forward Surge Current<br>8.3ms Single Half Sine Wave Superimposed on<br>Rated Load | I <sub>FSM</sub>   | 200         |        |        |        |        |        |       | A                |
| I <sup>2</sup> t Rating for Fusing (t = 8.3ms)   | I <sup>2</sup> t   | 166         |        |        |        |        |        |       | A <sup>2</sup> s |
| Operating Temperature Range  | T <sub>J</sub>     | -55 to +150 |        |        |        |        |        |       | °C               |
| Storage Temperature Range  | T <sub>STG</sub>   | -55 to +150 |        |        |        |        |        |       | °C               |

**Electrical Characteristics** (@T<sub>A</sub> = +25°C, unless otherwise specified.)

| Characteristic                        | Test Conditions                               | Symbol  | Min                             | Typ | Max      | Unit |
|---------------------------------------|---|---|---------------------------------|-----|----------|------|
| Breakdown Voltage                     | I <sub>R</sub> = 5μA, T <sub>J</sub> = +25°C  | V <sub>B</sub>                                    | 50/100/200/400<br>/600/800/1000 | —   | —        | V    |
| Forward Voltage                       | I <sub>F</sub> = 4.0A, T <sub>J</sub> = +25°C | V <sub>F</sub>                                    | —                               | —   | 1.0      | V    |
| Leakage Current                       | V <sub>R</sub> at Rated                       | T <sub>J</sub> = +25°C<br>T <sub>J</sub> = +125°C | I <sub>R</sub>                  | —   | 5<br>500 | μA   |
| Typical Junction Capacitance (Note 5) |   | C <sub>T</sub>                                    | 130                             |     |          | pF   |

**Thermal Characteristics**

| Characteristic                      | Symbol           | Typ | Unit |
|-------------------------------------|------------------|-----|------|
| Typical Thermal Resistance (Note 4) | R <sub>θJC</sub> | 2.2 | °C/W |

Notes: 4. Unit mounted on 50mm x 50mm x 1.6mm copper plate heatsink.  
 5. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.

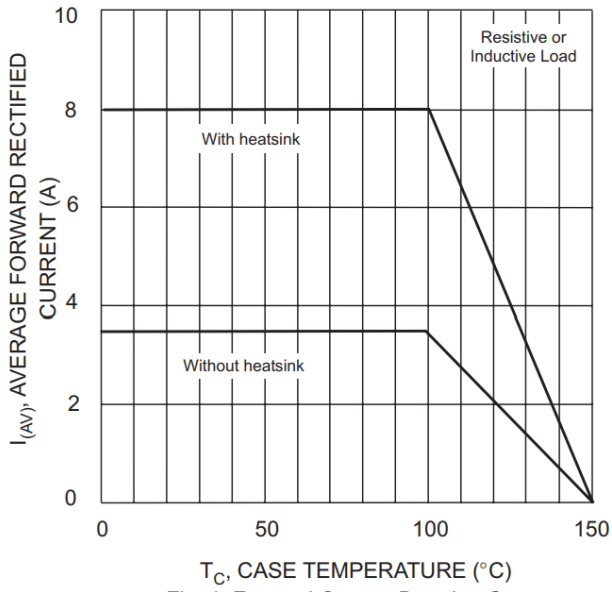


Fig. 1 Forward Current Derating Curve

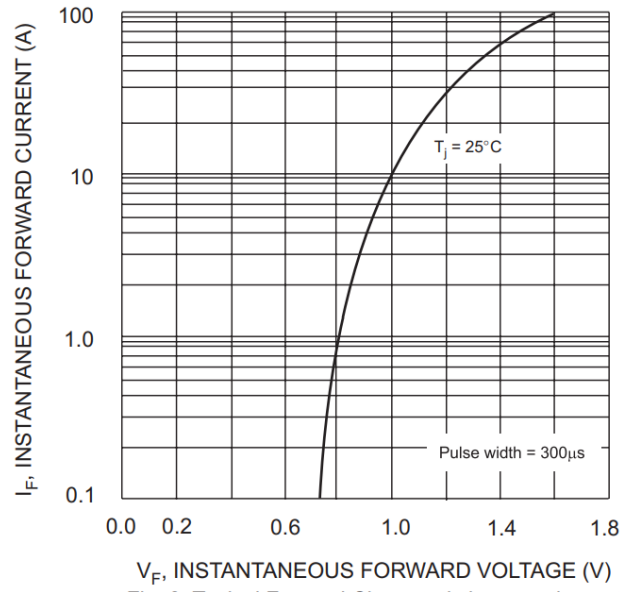


Fig. 2 Typical Forward Characteristics, per element

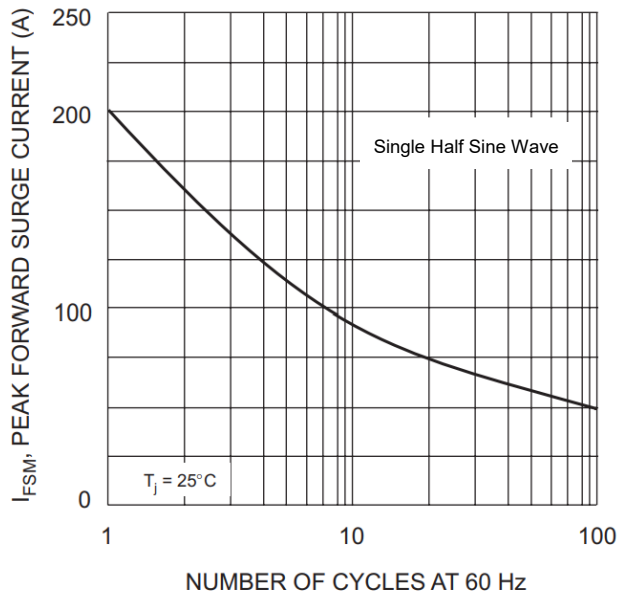


Fig. 3 Maximum Non-Repetitive Surge Current

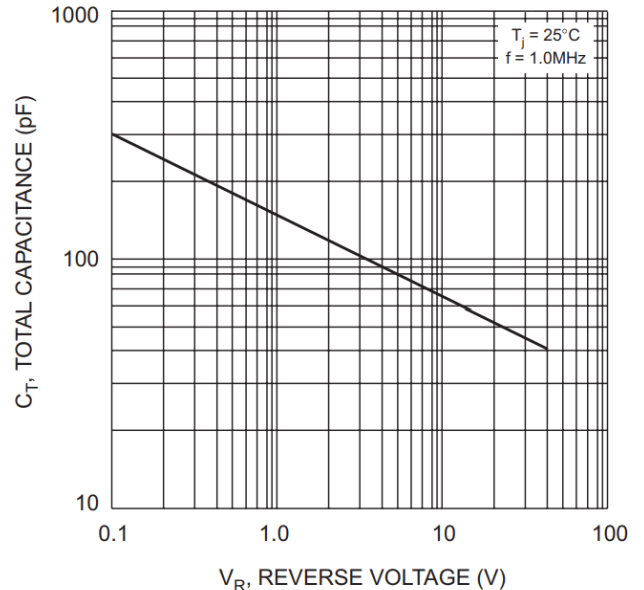
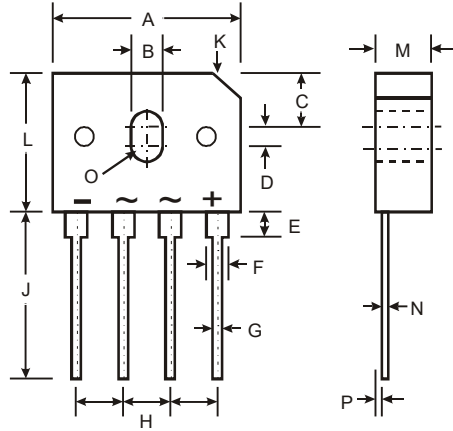


Fig. 4 Typical Total Capacitance, per element

**Package Outline Dimensions**

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

**GBU**



| GBU                         |           |      |
|-----------------------------|-----------|------|
| Dim                         | Min       | Max  |
| A                           | 21.8      | 22.3 |
| B                           | 3.5       | 4.1  |
| C                           | 7.4       | 7.9  |
| D                           | 1.65      | 2.16 |
| E                           | 2.25      | 2.75 |
| F                           | 1.95      | 2.35 |
| G                           | 1.02      | 1.27 |
| H                           | 4.83      | 5.33 |
| J                           | 17.5      | 18.0 |
| K                           | 3.2 X 45° |      |
| L                           | 18.3      | 18.8 |
| M                           | 3.30      | 3.56 |
| N                           | 0.46      | 0.56 |
| O                           | 1.90R     |      |
| P                           | 0.76      | 1.0  |
| <b>All Dimensions in mm</b> |           |      |

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