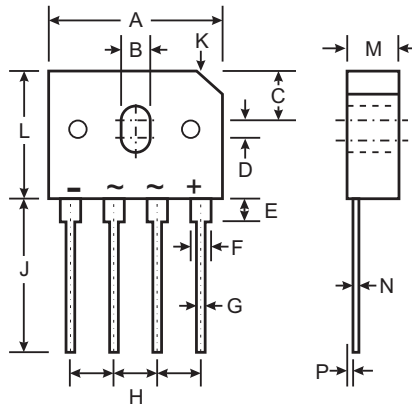


### Features

- Glass Passivated Die Construction
- High Case Dielectric Strength of 1500VRMS
- Low Reverse Leakage Current
- Surge Overload Rating to 220A Peak
- Ideal for Printed Circuit Board Applications
- UL Listed Under Recognized Component Index, File Number E94661
- **Lead Free Finish, RoHS Compliant (Note 4)**

### Mechanical Data

- Case: GBU
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Finish — Bright Tin. Solderable per MIL-STD-202, Method 208
- Polarity: Marked on Body
- Mounting: Through Hole for #6 Screw
- Mounting Torque: 5.0 Inch-pounds Maximum
- Ordering Information: See Last Page
- Marking: Date Code and Type Number
- Weight: 6.6 grams (approximate)



| 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 |
| P                    | 0.76      | 1.0  |
| All Dimensions in mm |           |      |

### Maximum Ratings and Electrical Characteristics @ T<sub>A</sub> = 25°C unless otherwise specified

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

| Characteristic  | Symbol                            | GBU 10005   | GBU 1001 | GBU 1002 | GBU 1004 | GBU 1006 | GBU 1008 | GBU 1010 | Unit |                  |
|---|-----------------------------------|-------------|----------|----------|----------|----------|----------|----------|------|------------------|
| Peak Repetitive Reverse Voltage   | V <sub>RRM</sub>                  |             |          |          |          |          |          |          |      |                  |
| Working Peak Reverse Voltage  | V <sub>RWM</sub>                  | 50          | 100      | 200      | 400      | 600      | 800      | 1000     | V    |                  |
| DC Blocking Voltage   | V <sub>R</sub>                    |             |          |          |          |          |          |          |      |                  |
| RMS Reverse Voltage   | V <sub>R(RMS)</sub>               | 35          | 70       | 140      | 280      | 420      | 560      | 700      | V    |                  |
| Average Forward Rectified Current (Note 1) @ T <sub>C</sub> = 100°C   | I <sub>(AV)</sub>                 | 10          |          |          |          |          |          |          |      | A                |
| Non-Repetitive Peak Forward Surge Current<br>8.3ms single half sine-wave superimposed on rated load<br>(JEDEC Method) | I <sub>FSM</sub>                  | 220         |          |          |          |          |          |          |      | A                |
| Forward Voltage (per element) @ I <sub>F</sub> = 5.0A   | V <sub>FM</sub>                   | 1.0         |          |          |          |          |          |          |      | V                |
| Peak Reverse Current @ T <sub>C</sub> = 25°C<br>at Rated DC Blocking Voltage @ T <sub>C</sub> = 125°C                 | I <sub>R</sub>                    | 5.0<br>500  |          |          |          |          |          |          |      | μA               |
| I <sup>2</sup> t Rating for Fusing (Note 2)   | I <sup>2</sup> t                  | 200         |          |          |          |          |          |          |      | A <sup>2</sup> s |
| Typical Total Capacitance per Element (Note 3)  | C <sub>T</sub>                    | 60          |          |          |          |          |          |          |      | pF               |
| Typical Thermal Resistance Junction to Case (Note 1)  | R <sub>θJC</sub>                  | 2.2         |          |          |          |          |          |          |      | °C/W             |
| Operating and Storage Temperature Range   | T <sub>j</sub> , T <sub>STG</sub> | -55 to +150 |          |          |          |          |          |          |      | °C               |

- Notes:
1. Unit mounted on 100 x 100 x 1.6mm copper plate heatsink.
  2. Non-repetitive, for t > 1.0ms and < 8.3ms.
  3. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
  4. RoHS revision 13.2.2003. Glass and High temperature Solder Exemptions Applied, see EU Directive Annex Notes 5 and 7.

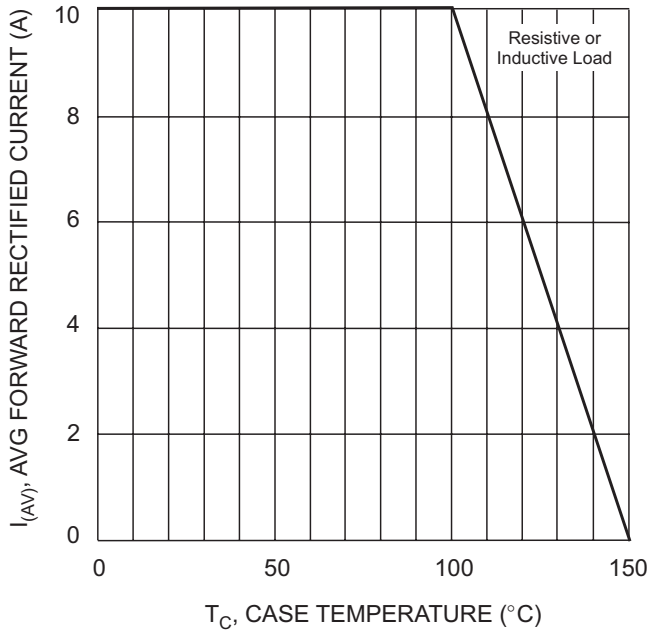


Fig. 1 Forward Current Derating Curve

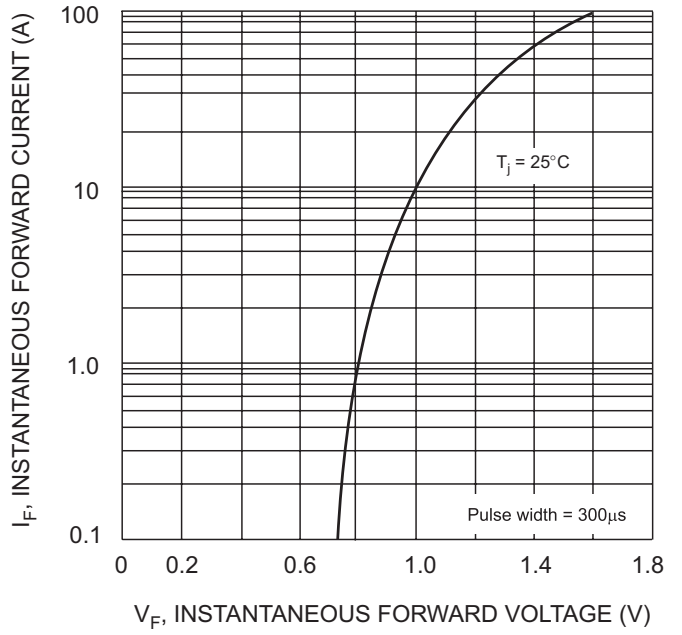


Fig. 2 Typical Forward Characteristics, per element

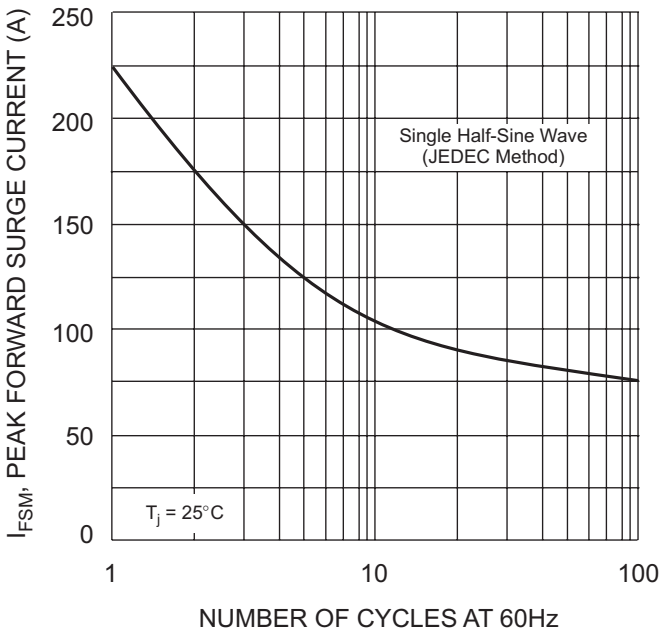


Fig. 3 Maximum Non-Repetitive Surge Current

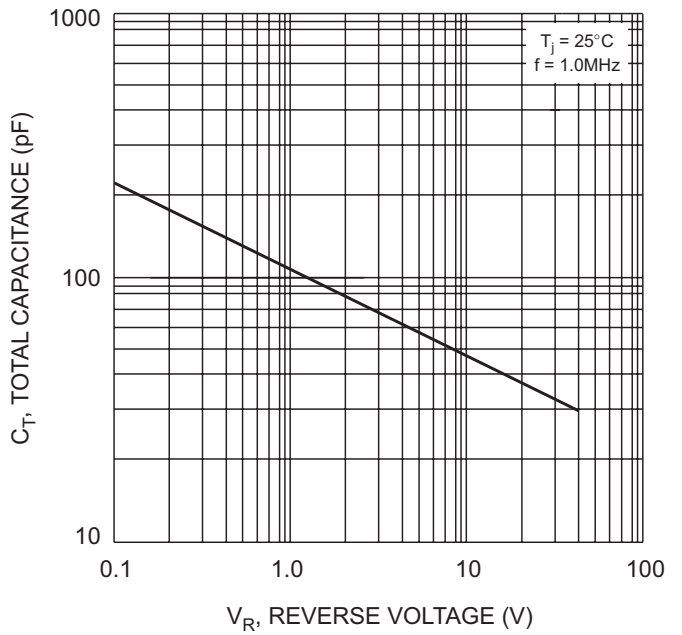


Fig. 4 Typical Total Capacitance, per element

**Ordering Information** (Note 5)

| Device           | Packaging | Shipping |
|------------------|-----------|----------|
| GBU10005-GBU1010 | GBU       | 20/Tube  |

Notes: 5. For packaging details, visit our website at <http://www.diodes.com/datasheets/ap02008.pdf>.