

Features

- Glass Passivated Die Construction
- High Case Dielectric Strength of 1500VRMS
- Low Reverse Leakage Current
- Surge Overload Rating to 200A 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 — Tin. 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
- 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_A = 25°C unless otherwise specified

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

| Characteristic | Symbol | GBU 8005 | GBU 801 | GBU 802 | GBU 804 | GBU 806 | GBU 808 | GBU 810 | Unit |
|---|--|----------|---------|---------|-------------|---------|---------|---------|------------------|
| Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage | V _{RRM} V _{RWM} V _R | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| RMS Reverse Voltage | V _{R(RMS)} | 35 | 70 | 140 | 280 | 420 | 560 | 700 | V |
| Average Forward Rectified Current (Note 1) @ T _C = 100°C | I _(AV) | | | | 8.0 | | | | A |
| Non-Repetitive Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load | I _{FSM} | | | | 200 | | | | A |
| Forward Voltage (per element) @ I _F = 4.0A | V _{FM} | | | | 1.0 | | | | V |
| Peak Reverse Current @ T _C = 25°C at Rated DC Blocking Voltage @ T _C = 125°C | I _R | | | | 5.0 500 | | | | μA |
| I ² t Rating for Fusing (t < 8.3ms) (Note 2) | I ² t | | | | 166 | | | | A ² s |
| Typical Total Capacitance per Element (Note 3) | C _T | | | | 130 | | | | pF |
| Typical Thermal Resistance Junction to Case (Note 1) | R _{θJC} | | | | 2.2 | | | | °C/W |
| Operating and Storage Temperature Range | T _j , T _{STG} | | | | -55 to +150 | | | | °C |

- Notes:
1. Unit mounted on 50 x 50 x 1.6mm copper plate heatsink.
 2. Non-repetitive, for t > 1.0ms and < 8.3ms.
 3. Per element, 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

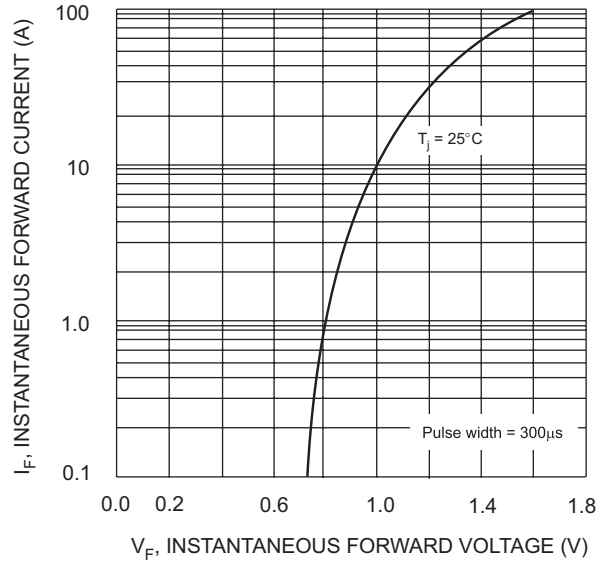


Fig. 2 Typical Forward Characteristics, per element



Fig. 3 Maximum Non-Repetitive Surge Current

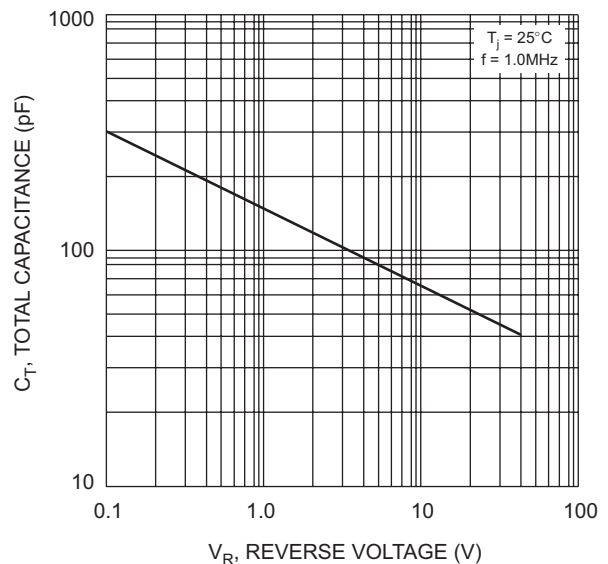


Fig. 4 Typical Total Capacitance, per element

Ordering Information (Note 5)

| Device | Packaging | Shipping |
|---------|-----------|----------|
| 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: 5. For packaging details, visit our website at <http://www.diodes.com/datasheets/ap02008.pdf>.