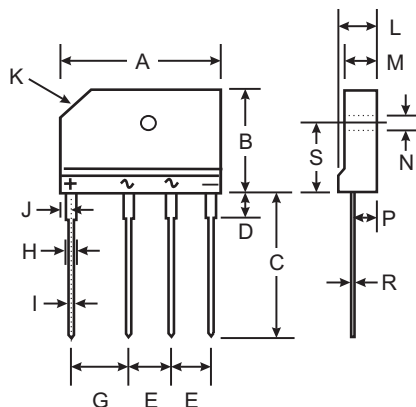


### Features

- Glass Passivated Die Construction
- High Case Dielectric Strength of 1500VRMS
- Low Reverse Leakage Current
- Surge Overload Rating to 240A 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: GBJ
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Plated Leads, Solderable per MIL-STD-202, Method 208 (e3)
- Lead Free Plating (Tin Finish).
- Polarity: Molded on Body
- Mounting: Through Hole for #6 Screw
- Mounting Torque: 5.0 in-lbs Maximum
- Marking: Type Number
- Weight: 6.6 grams (approximate)



| GBJ                  |           |       |
|----------------------|-----------|-------|
| Dim                  | Min       | Max   |
| A                    | 29.70     | 30.30 |
| B                    | 19.70     | 20.30 |
| C                    | 17.00     | 18.00 |
| D                    | 3.80      | 4.20  |
| E                    | 7.30      | 7.70  |
| G                    | 9.80      | 10.20 |
| H                    | 2.00      | 2.40  |
| I                    | 0.90      | 1.10  |
| J                    | 2.30      | 2.70  |
| K                    | 3.0 X 45° |       |
| L                    | 4.40      | 4.80  |
| M                    | 3.40      | 3.80  |
| N                    | 3.10      | 3.40  |
| P                    | 2.50      | 2.90  |
| R                    | 0.60      | 0.80  |
| S                    | 10.80     | 11.20 |
| 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                            | GBJ 15005   | GBJ 1501 | GBJ 1502 | GBJ 1504 | GBJ 1506 | GBJ 1508 | GBJ 1510 | Unit             |
|-------------------------------------------------------------------------------------------------------|-----------------------------------|-------------|----------|----------|----------|----------|----------|----------|------------------|
| Peak Repetitive Reverse Voltage<br>Working Peak Reverse Voltage<br>DC Blocking Voltage                | $V_{RRM}$<br>$V_{RWM}$<br>$V_R$   | 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 Output Current @ T <sub>C</sub> = 100°C                                     | $I_O$                             | 15          |          |          |          |          |          |          | A                |
| Non-Repetitive Peak Forward Surge Current, 8.3 ms single half-sine-wave superimposed on rated load    | $I_{FSM}$                         | 240         |          |          |          |          |          |          | A                |
| Forward Voltage (per element) @ I <sub>F</sub> = 7.5A DC                                              | $V_{FM}$                          | 1.05        |          |          |          |          |          |          | V                |
| Peak Reverse Current @ T <sub>C</sub> = 25°C<br>at Rated DC Blocking Voltage @ T <sub>C</sub> = 125°C | $I_R$                             | 10<br>500   |          |          |          |          |          |          | μA               |
| I <sup>2</sup> t Rating for Fusing (t < 8.3ms) (Note 1)                                               | $I^2t$                            | 240         |          |          |          |          |          |          | A <sup>2</sup> s |
| Typical Total Capacitance per Element (Note 2)                                                        | $C_T$                             | 60          |          |          |          |          |          |          | pF               |
| Typical Thermal Resistance, Junction to Case (Note 3)                                                 | $R_{\theta JC}$                   | 0.8         |          |          |          |          |          |          | °C/W             |
| Operating and Storage Temperature Range                                                               | T <sub>j</sub> , T <sub>STG</sub> | -65 to +150 |          |          |          |          |          |          | °C               |

- Notes:
1. Non-repetitive, for t > 1ms and < 8.3 ms.
  2. Measured at 1.0 MHz and applied reverse voltage of 4.0V DC.
  3. Thermal resistance from junction to case per element. Unit mounted on 300 x 300 x 1.6mm copper plate heat sink.
  4. RoHS revision 13.2.2003. Glass and High Temperature Solder Exemptions Applied, see EU Directive Annex Notes 5 and 7.

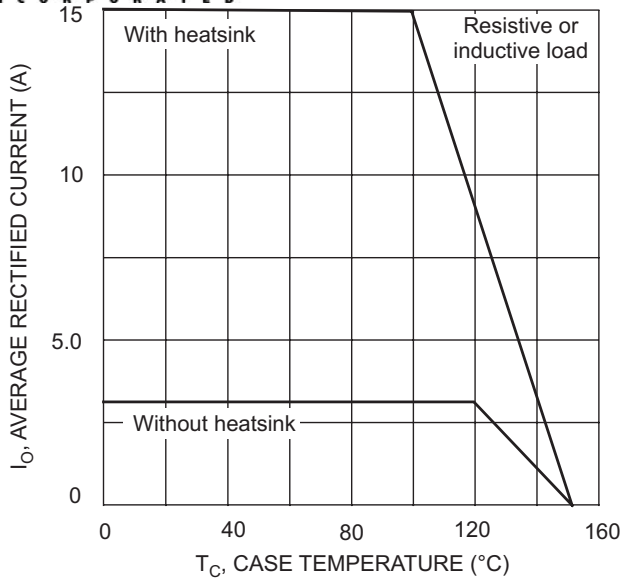


Fig. 1 Forward Current Derating Curve

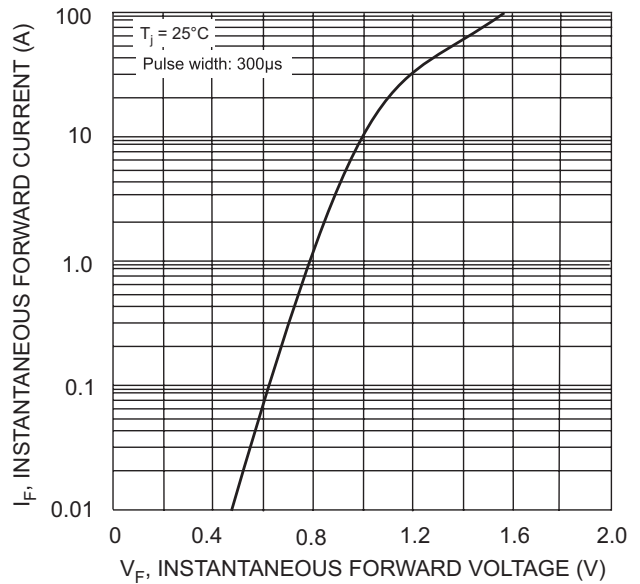


Fig. 2 Typical Forward Characteristics

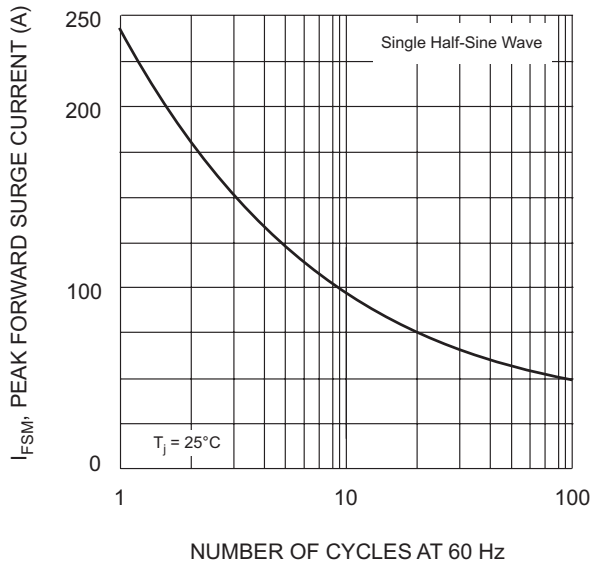


Fig. 3 Maximum Non-Repetitive Surge Current

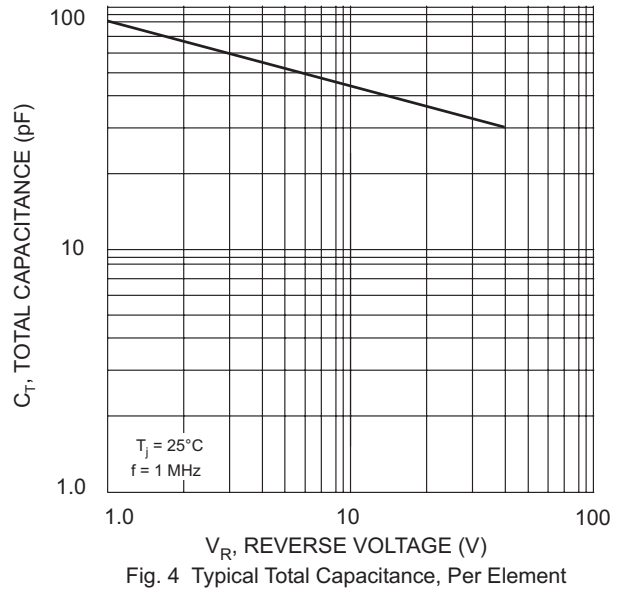


Fig. 4 Typical Total Capacitance, Per Element

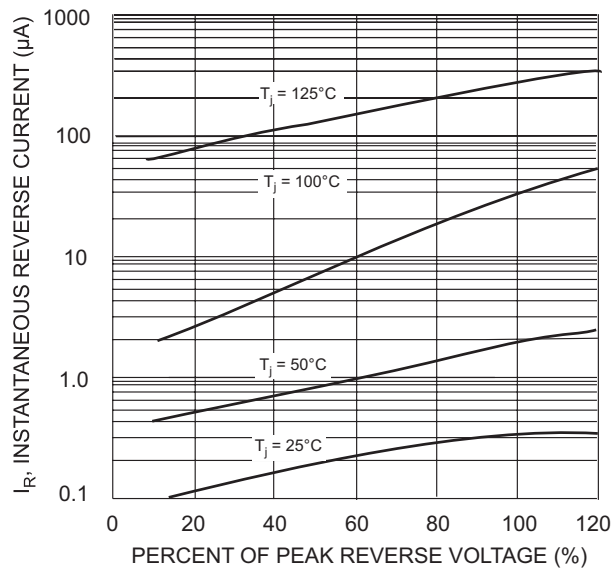


Fig. 5 Typical Reverse Characteristics

**Ordering Information** (Note 5)

| Device     | Packaging | Shipping |
|------------|-----------|----------|
| GBJ15005-F | GBJ       | 15/Tube  |
| GBJ1501-F  | GBJ       | 15/Tube  |
| GBJ1502-F  | GBJ       | 15/Tube  |
| GBJ1504-F  | GBJ       | 15/Tube  |
| GBJ1506-F  | GBJ       | 15/Tube  |
| GBJ1508-F  | GBJ       | 15/Tube  |
| GBJ1510-F  | GBJ       | 15/Tube  |

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

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