



THE DATASHEET OF GBJ608-F

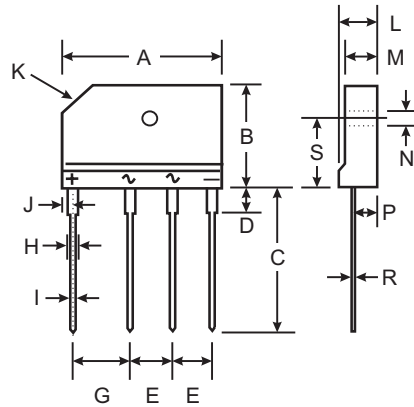


Features

- Glass Passivated Die Construction
- High Case Dielectric Strength of 1500V_{RMS}
- Low Reverse Leakage Current
- Surge Overload Rating to 170A 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
- Lead Free Plating (Tin Finish).
- Terminals: Plated Leads, Solderable per MIL-STD-202, Method 208 (e3)
- 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_A = 25°C unless otherwise specified

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

| Characteristic | Symbol | GBJ 6005 | GBJ 601 | GBJ 602 | GBJ 604 | GBJ 606 | GBJ 608 | GBJ 610 | 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 Output Current @ T _C = 110°C | I _O | 6.0 | | | | | | | A |
| Non-Repetitive Peak Forward Surge Current, 8.3 ms single half-sine-wave superimposed on rated load | I _{FSM} | 170 | | | | | | | A |
| Forward Voltage per element @ I _F = 3.0A | V _{FM} | 1.0 | | | | | | | V |
| Peak Reverse Current at Rated DC Blocking Voltage @ T _C = 25°C @ T _C = 125°C | I _R | 5.0 500 | | | | | | | μA |
| I ² t Rating for Fusing (t < 8.3ms) (Note 1) | I ² t | 120 | | | | | | | A ² s |
| Typical Total Capacitance per Element (Note 2) | C _T | 55 | | | | | | | pF |
| Typical Thermal Resistance Junction to Case (Note 3) | R _{θJC} | 1.8 | | | | | | | °C/W |
| Operating and Storage Temperature Range | T _J , T _{STG} | -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 75 x 75 x 1.6mm aluminum plate heat sink.
 4. RoHS revision 13.2.2003. Glass and High Temperature Solder Exemptions Applied, see EU Directive Annex Notes 5 and 7.

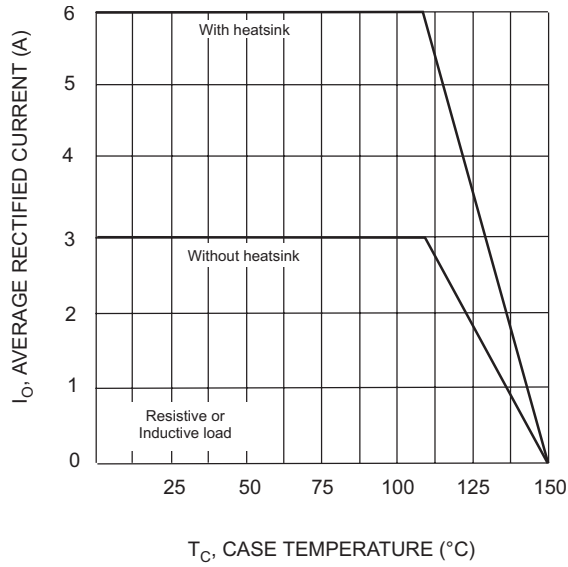


Fig. 1 Forward Current Derating Curve

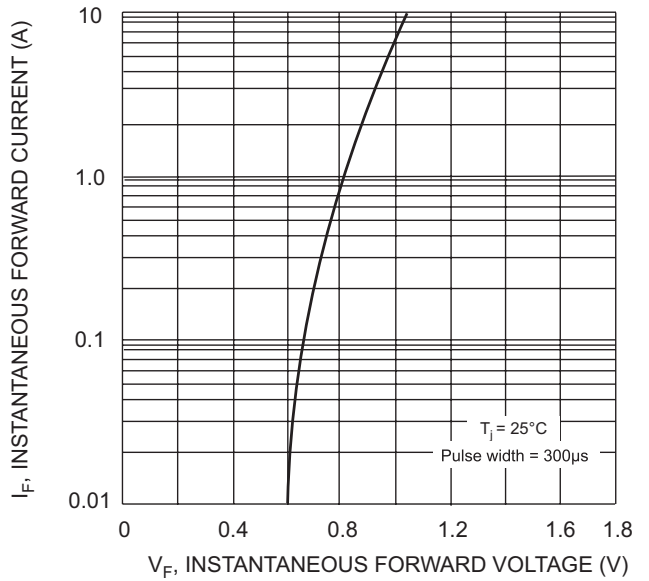


Fig. 2 Typical Forward Characteristics (per element)

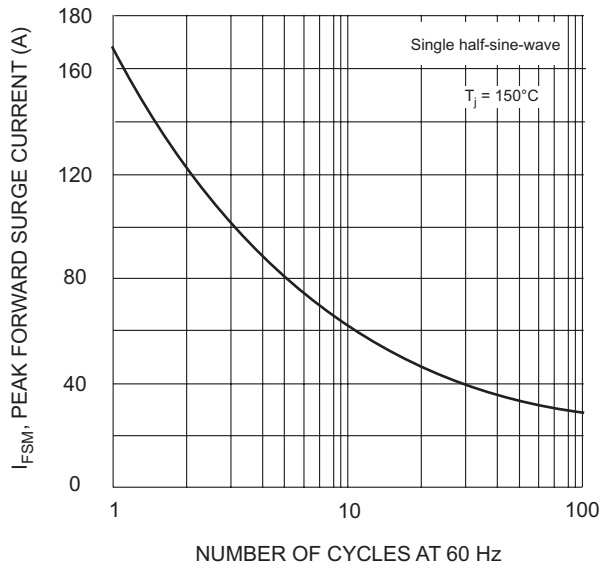


Fig. 3 Maximum Non-Repetitive Surge Current

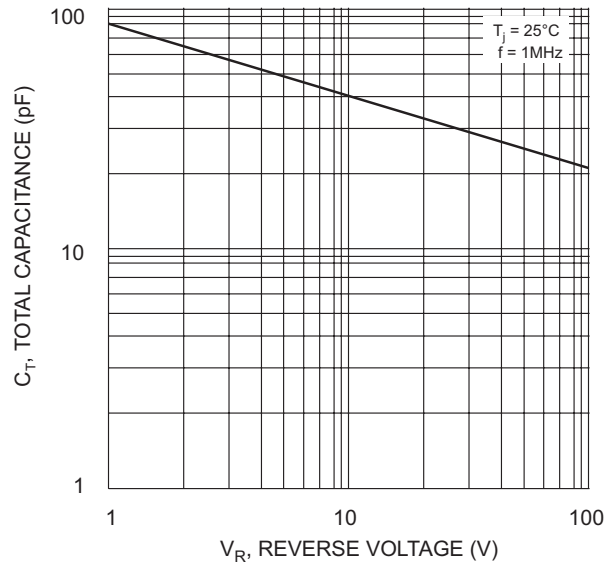


Fig. 4 Typical Total Capacitance, Per Element

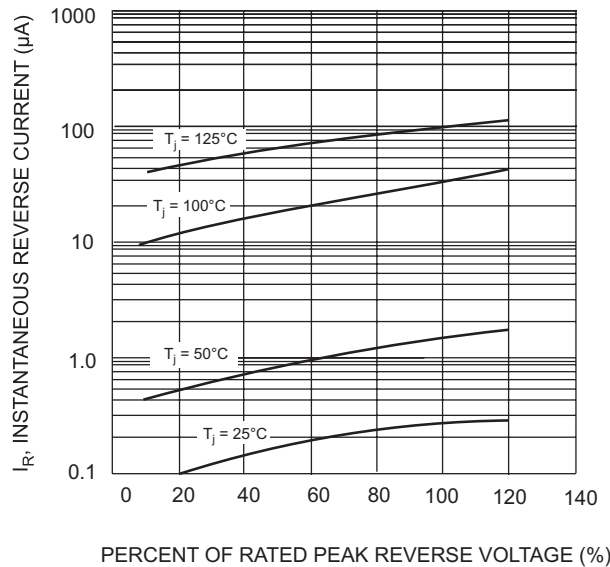


Fig. 5 Typical Reverse Characteristics

Ordering Information (Note 5)

| Device | Packaging | Shipping |
|---------------|------------------|-----------------|
| GBJ6005-F | GBJ | 15/Tube |
| GBJ601-F | GBJ | 15/Tube |
| GBJ602-F | GBJ | 15/Tube |
| GBJ604-F | GBJ | 15/Tube |
| GBJ606-F | GBJ | 15/Tube |
| GBJ608-F | GBJ | 15/Tube |
| GBJ610-F | GBJ | 15/Tube |

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

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