

# GBJ10005 - GBJ1010

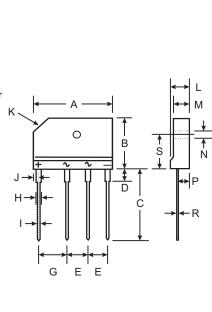
## **10A GLASS PASSIVATED BRIDGE RECTIFIER**

## **Features**

- Glass Passivated Die Construction
- High Case Dielectric Strength of 1500V<sub>RMS</sub>
- 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
- Terminals: Plated Leads, Solderable per MIL-STD-202, Method 208 (3)
- 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       | Мах   |  |  |  |  |  |
| Α                    | 29.70     | 30.30 |  |  |  |  |  |
| В                    | 19.70     | 20.30 |  |  |  |  |  |
| С                    | 17.00     | 18.00 |  |  |  |  |  |
| D                    | 3.80      | 4.20  |  |  |  |  |  |
| Е                    | 7.30      | 7.70  |  |  |  |  |  |
| G                    | 9.80      | 10.20 |  |  |  |  |  |
| Н                    | 2.00      | 2.40  |  |  |  |  |  |
| Ι                    | 0.90      | 1.10  |  |  |  |  |  |
| J                    | 2.30      | 2.70  |  |  |  |  |  |
| Κ                    | 3.0 X 45° |       |  |  |  |  |  |
| L                    | 4.40      | 4.80  |  |  |  |  |  |
| М                    | 3.40      | 3.80  |  |  |  |  |  |
| Ν                    | 3.10      | 3.40  |  |  |  |  |  |
| Р                    | 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, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

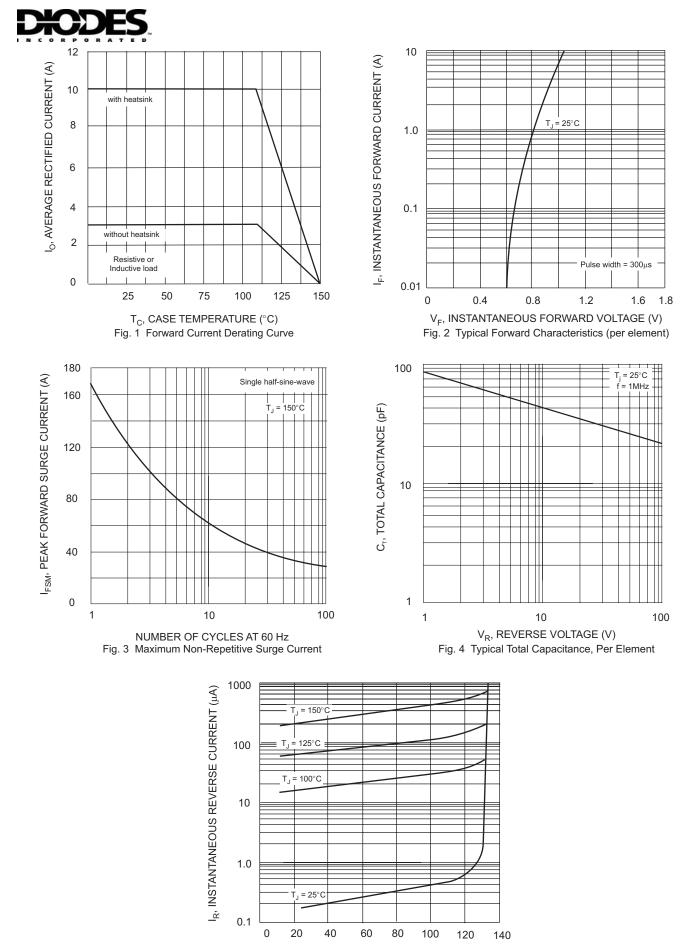
| Characteristic   | Symbol   | GBJ<br>10005 | GBJ<br>1001 | GBJ<br>1002 | GBJ<br>1004 | GBJ<br>1006 | GBJ<br>1008      | GBJ<br>1010 | Unit |
|--|--|--------------|-------------|-------------|-------------|-------------|------------------|-------------|------|
| Peak Repetitive Reverse Voltage<br>Working Peak Reverse Voltage<br>DC Blocking Voltage             | V <sub>RRM</sub><br>V <sub>RWM</sub><br>V <sub>R</sub> | 50           | 100         | 200         | 400         | 600         | 800              | 1000        | V    |
| RMS Reverse Voltage  | V <sub>R(RMS)</sub>                                    | 35           | 70          | 140         | 280         | 420         | 560              | 700         | V    |
| Average Forward Rectified Output Current<br>@ $T_C = 110^{\circ}C$                                 | Io   |              |             |             | 10          |             |                  |             | А    |
| Non-Repetitive Peak Forward Surge Current, 8.3 ms single half-sine-wave superimposed on rated load |  | 170          |             |             |             |             | А                |             |      |
| Forward Voltage per element $@$ I <sub>F</sub> = 5.0A  | V <sub>FM</sub>  | 1.05         |             |             |             | V           |                  |             |      |
| Peak Reverse Current $@T_C = 25^{\circ}C$ at Rated DC Blocking Voltage $@T_C = 125^{\circ}C$       |  | 10<br>500    |             |             |             |             | μA               |             |      |
| I <sup>2</sup> t Rating for Fusing (t < 8.3ms) (Note 1)  |  | 120          |             |             |             |             | A <sup>2</sup> s |             |      |
| Typical Total Capacitance per Element (Note 2)   |  | 55           |             |             |             |             | pF               |             |      |
| Typical Thermal Resistance, Junction to Case (Note 3)  |  | 1.4          |             |             |             |             | °C/W             |             |      |
| Operating and Storage Temperature Range  |  | -65 to +150  |             |             |             |             | °C               |             |      |

Notes: 1. Non-repetitive, for t > 1.0ms and < 8.3ms.

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 150 x 150 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.



PERCENT OF RATED PEAK REVERSE VOLTAGE (%) Fig. 5 Typical Reverse Characteristics



# Ordering Information (Note 5)

| Device     | Packaging | Shipping |
|------------|-----------|----------|
| GBJ10005-F | GBJ       | 15/Tube  |
| GBJ1001-F  | GBJ       | 15/Tube  |
| GBJ1002-F  | GBJ       | 15/Tube  |
| GBJ1004-F  | GBJ       | 15/Tube  |
| GBJ1006-F  | GBJ       | 15/Tube  |
| GBJ1008-F  | GBJ       | 15/Tube  |
| GBJ1010-F  | GBJ       | 15/Tube  |

Notes: 5. For packaging details, visit our website at http://www.diodes.com/datasheets/ap2008.pdf.

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