MEI

Lead Free RoHS Compliant

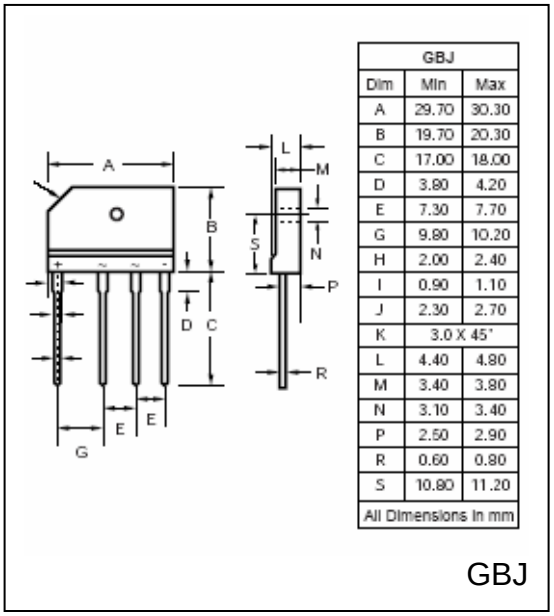
## SINGLE PHASE GLASS PSSIVATED BRIDGE RECTIFIER

# GBJ8005 THRU GBJ810

**VOLTAGE RANGE** **50 to 1000 Volts**
**CURRENT** **8.0 Ampere**

### FEATURES

- Plastic package has UL flammability Classification 94V – 0
- Glass passivated chip junction
- High case dielectric strength of 1500 $V_{RMS}$
- High surge current capability
- High temperature soldering guaranteed: 260 $^{O}$C /10 seconds, 0.375" (9.5mm) lead length




| 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 | | |

GBJ

### MECHANICAL DATA

- Case: Molded plastic body
- Terminals: Plated leads solderable per MIL-STD-750 Method 2026
- Mounting position: any, (Note 2)
- Mounting Torque: 6 in-lbs max.
- Weight: 0.26 ounce, 7.4 gram

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

- Ratings at 25$^{O}$C ambient temperature unless otherwise specified
- Single Phase, half wave, 60Hz, resistive or inductive load
- For capacitive load derate current by 20%

| | SYMBOLS | GBJ 8005 | GBJ 801 | GBJ 802 | GBJ 804 | GBJ 806 | GBJ 808 | GBJ 810 | UNIT |
|---|---|---|---|---|---|---|---|---|---|
| Maximum Repetitive Peak Reverse Voltage | $V_{RRM}$ | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | Volts |
| Maximum RMS Voltage | $V_{RMS}$ | 35 | 70 | 140 | 280 | 420 | 560 | 700 | Volts |
| Maximum DC Blocking Voltage | $V_{DC}$ | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | Volts |
| Maximum Average Forward Rectified Current, At $T_C$ = 100$^{O}$C (Note 1) | $I_{(AV)}$ | 8.0 | | | | | | | Amps |
| Peak Forward Surge Current 8.3mS single half sine wave superimposed on rated load (JEDEC method) | $I_{FSM}$ | 200 | | | | | | | Amps |
| Rating for Fusing (t<8.3mS) | $I^2t$ | 166 | | | | | | | $A^2s$ |
| Maximum Instantaneous Forward Voltage drop per Bridge element 4.0A | $V_F$ | 1.0 | | | | | | | Volts |
| Maximum DC Reverse Current at Rated $T_A$ = 25 $^{O}$C | $I_R$ | 5.0 | | | | | | | μA |
| DC Blocking Voltage per element $T_A$ = 125 $^{O}$C | | 500 | | | | | | | |
| Typical Junction Capacitance, per leg (Measured at 1.0MHz and applied reverse voltage of 4.0V) | $C_J$ | 211 | | | | 94 | | | pF |
| Typical Thermal Resistance (Note 3) | $R_{\theta JA}$ | 21 | | | | | | | $^{O}$C/W |
| Operating Junction Temperature Range | $T_J$ | (-55 to +150) | | | | | | | $^{O}$C |
| Storage Temperature Range | $T_{STG}$ | (-55 to +150) | | | | | | | $^{O}$C |

**Notes:**

1. Unit mounted on 3.2" x 3.2" x 0.12" (8.2cm x 8.2cm x 0.3cm) AL Plate heat sink
2. Recommended mounting position is bolted to heat sink with #6 screws and using silicone thermal grease for maximum heat transfer.
3. Unit mounted in free air, no heat sink on pCB, 0.5" x 0.5" (12mm x 12mm) copper pads with 0.375" (9.5mm) lead length

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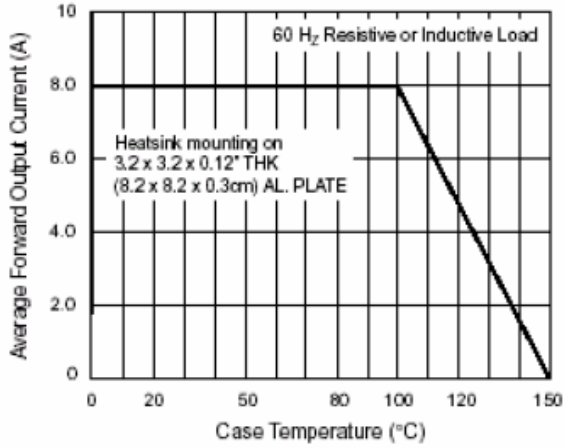
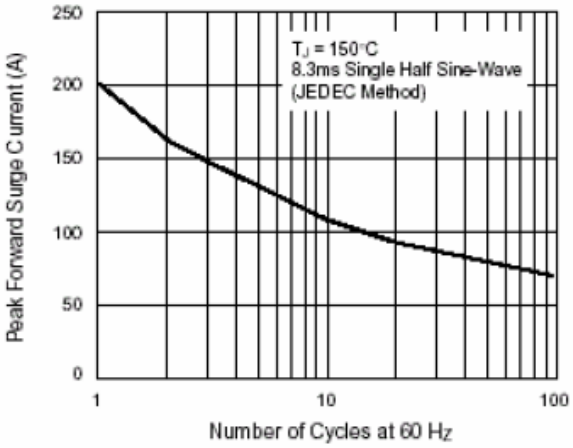
## RATINGS AND CHARACTERISTIC CURVES GBJ8005 THRU GBJ810

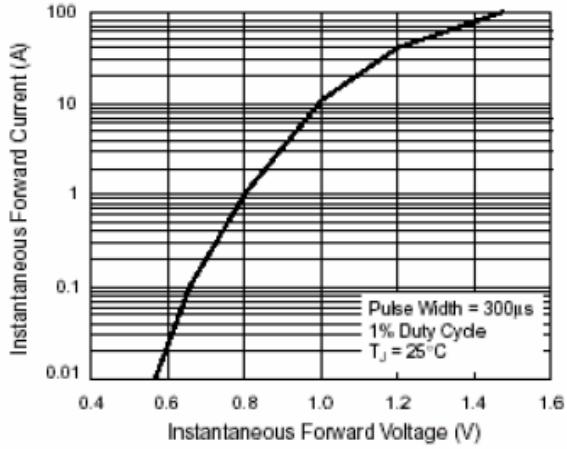
### Fig. 1 – Derating Curve Output Rectified Current



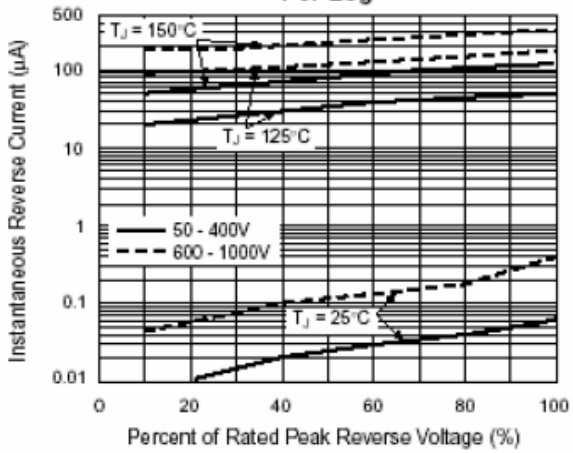

### Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current Per Leg



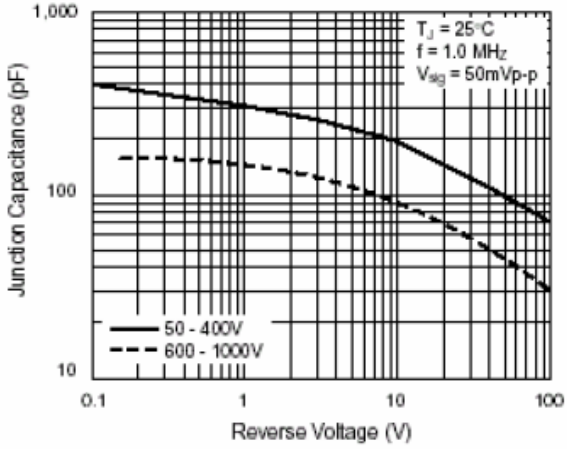

### Fig. 3 – Typical Forward Characteristics Per Leg




### Fig. 4 – Typical Reverse Characteristics Per Leg




### Fig. 5 – Typical Junction Capacitance Per Leg




### Fig. 6 – Typical Transient Thermal Impedance Per Leg