

**GLASS PASSIVATED BRIDGE RECTIFIERS**

**REVERSE VOLTAGE – 400 to 1000 Volts  
FORWARD CURRENT – 10 Amperes**

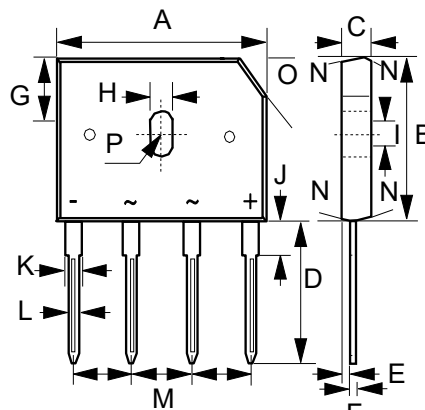
**FEATURES**

- Rating to 1000V PRV.
- Ideal for printed circuit board
- Reliable low cost construction utilizing molded plastic technique.
- UL recognition file # E95060

**MECHANICAL DATA**

- Case: GBU
- Case Material: Plastic material, UL flammability classification 94V-0
- Polarity Indicator: Symbol molded on body
- Weight: 3.72 grams ( Approximate)

**GBU**



| GBU                         |              |       |
|-----------------------------|--------------|-------|
| DIM                         | MIN          | MAX   |
| A                           | 21.80        | 22.30 |
| B                           | 18.30        | 18.80 |
| C                           | 3.30         | 3.56  |
| D                           | 17.50        | 18.00 |
| E                           | 0.76         | 1.00  |
| F                           | 0.46         | 0.56  |
| G                           | 7.40         | 7.90  |
| H                           | 3.50         | 4.10  |
| I                           | 1.65         | 2.16  |
| J                           | 2.25         | 2.75  |
| K                           | 1.95         | 2.35  |
| L                           | 1.02         | 1.27  |
| M                           | 4.83         | 5.33  |
| N                           | 7.0° TYPICAL |       |
| O                           | (3.2) x 45°  |       |
| P                           | 1.90 PADIUS  |       |
| All dimension in millimeter |              |       |

**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

Ratings at 25°C ambient temperature unless otherwise specified.

**ABSOLUTE RATINGS**

| PARAMETER  | SYMBOL         | GBU1004     | GBU1006 | GBU1008 | GBU1010 | UNIT             |
|--|----------------|-------------|---------|---------|---------|------------------|
| Maximum repetitive peak reverse voltage  | $V_{RRM}$      | 400         | 600     | 800     | 1000    | V                |
| Maximum DC blocking voltage  | $V_{DC}$       | 400         | 600     | 800     | 1000    | V                |
| Average rectified output current per device with heatsink (Note 2)<br>without heatsink @ $T_C = 100^\circ\text{C}$                             | $I_{(AV)}$     | 10<br>3.2   |         |         |         | A                |
| Peak forward surge current 8.3ms single half<br>sine-wave superimposed on rated load @ $T_A = 25^\circ\text{C}$<br>@ $T_A = 125^\circ\text{C}$ | $I_{FSM}$      | 240<br>220  |         |         |         | A                |
| Peak forward surge current 1ms single half<br>sine-wave superimposed on rated load @ $T_A = 25^\circ\text{C}$<br>@ $T_A = 125^\circ\text{C}$   | $I_{FSM}$      | 480<br>440  |         |         |         | A                |
| $I^2 t$ rating for fusing ( $t = 8.3 \text{ ms}$ ) @ $T_A = 25^\circ\text{C}$  | $I^2 t$        | 239         |         |         |         | A <sup>2</sup> S |
| Mounting Torque ( recommended torque: 0.5 N.m )  | TOR            | 0.8         |         |         |         | N.m              |
| Operating and storage temperature range  | $T_J, T_{STG}$ | -55 to +150 |         |         |         | °C               |

**STATIC ELECTRICAL CHARACTERISTICS**

| PARAMETER                             | TEST CONDITION   | SYMBOL | MAX      | UNIT          |
|---------------------------------------|--|--------|----------|---------------|
| Forward voltage                       | $I_F = 5.0\text{A}$ $T_J = 25^\circ\text{C}$                         | $V_F$  | 1.0      | V             |
|                                       | $I_F = 10\text{A}$ $T_J = 25^\circ\text{C}$                          |        | 1.2      |               |
| Leakage current                       | $V_R$ at rated $T_J = 25^\circ\text{C}$<br>$T_J = 125^\circ\text{C}$ | $I_R$  | 5<br>500 | $\mu\text{A}$ |
| Typical junction capacitance (Note 1) |  | $C_J$  | 60       | pF            |

**THERMAL CHARACTERISTICS**

| PARAMETER                  | SYMBOL                        | TYP. | UNIT |
|----------------------------|-------------------------------|------|------|
| Typical thermal resistance | $R_{thJC}$ (Note 2)           | 2.0  | °C/W |
|                            | $R_{thJC}$ (without heatsink) | 5.6  |      |
|                            | $R_{thJA}$ (without heatsink) | 22   |      |

**Note :**

- (1) Measured at 1.0MHz and applied reverse voltage of 4.0V DC
- (2) Thermal resistance junction to case and ambient in accordance with JESD-51.  
Device mounted on 150mm \* 150mm \* 1.6mm Cu plate heatsink.

REV.10, Mar-2019, KBDJ04

# RATING AND CHARACTERISTIC CURVES GBU1004 thru GBU1010



FIG.1- FORWARD CURRENT DERATING CURVE

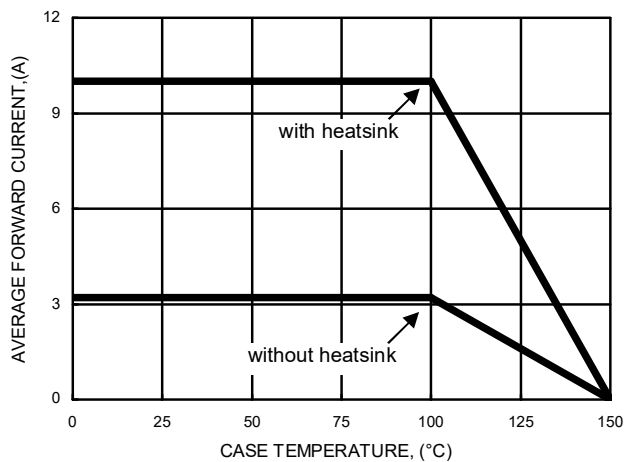


FIG.2- MAXIMUM NON-REPETITIVE SURGE CURRENT

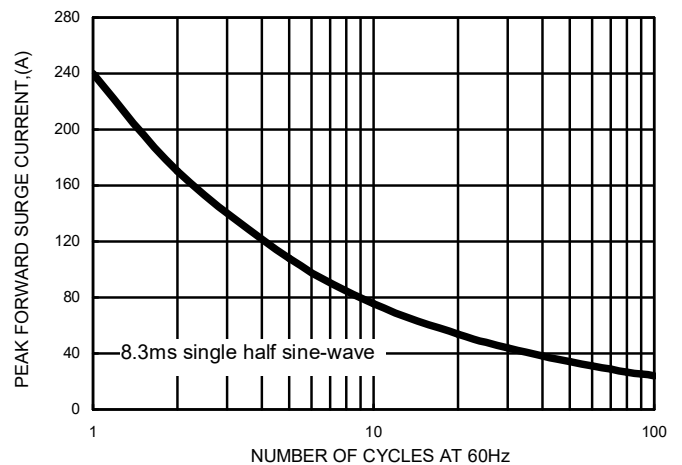


FIG.3- TYPICAL FORWARD CHARACTERISTICS

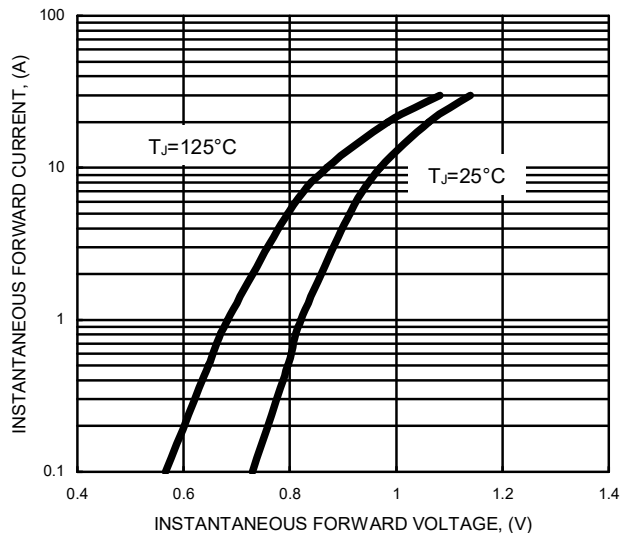


FIG.4- TYPICAL JUNCTION CAPACITANCE

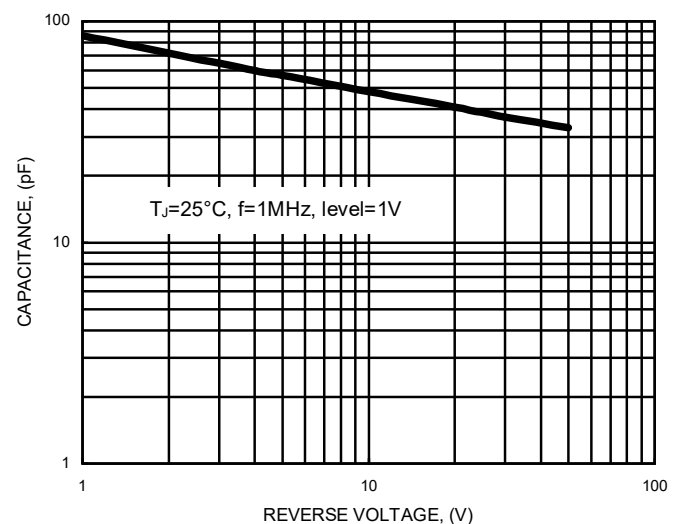


FIG.5- TYPICAL REVERSE CHARACTERISTICS

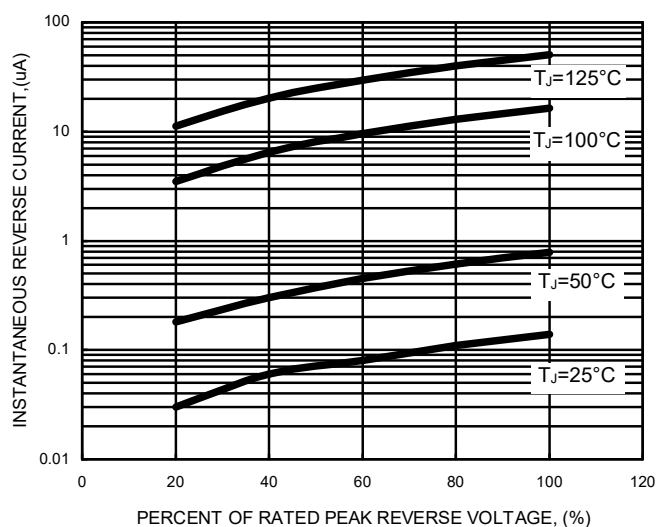
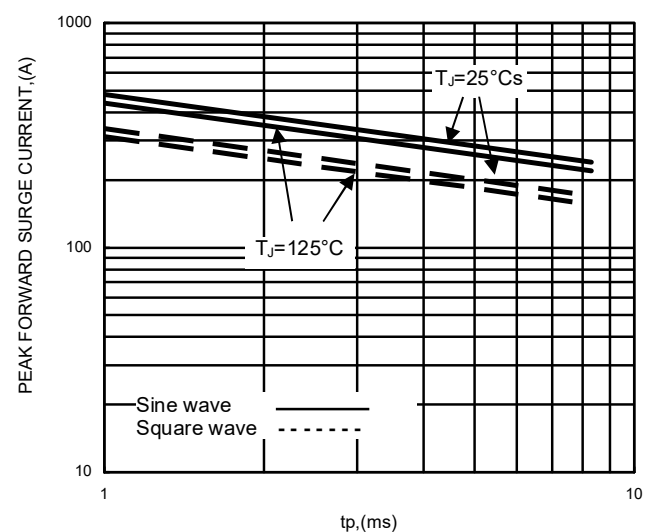


FIG.6- NON-REPETITIVE SURGE CURRENT



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