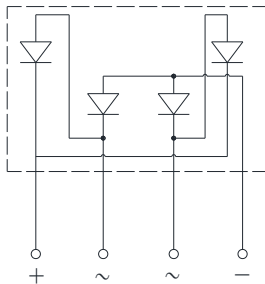
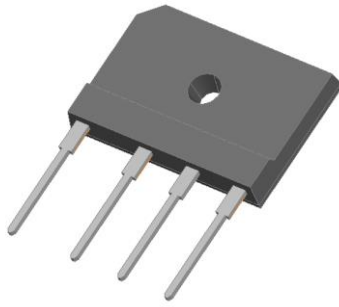


## Bridge Rectifiers



### Features

- UL recognition, file #E230084
- Glass passivated chip junction
- Thin single in-line package
- High surge current capability
- Solder dip 275 °C max. 7 s, per JESD 22-B106

### Typical Applications

General purpose use in AC/DC bridge full wave rectification for switching power supply, home appliances, office equipment, industrial automation applications.

### Mechanical Data

- **Package:** 6KBJ  
Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** As marked on body

### ■Maximum Ratings (Ta=25°C Unless otherwise specified)

| PARAMETER                                                                       |                              | SYMBOL | UNIT  | GBJ50005   | GBJ5001 | GBJ5002 | GBJ5004 | GBJ5006 | GBJ5008 | GBJ5010 |
|---------------------------------------------------------------------------------|------------------------------|--------|-------|------------|---------|---------|---------|---------|---------|---------|
| Device marking code                                                             |                              |        |       | GBJ50005   | GBJ5001 | GBJ5002 | GBJ5004 | GBJ5006 | GBJ5008 | GBJ5010 |
| Maximum Repetitive Peak Reverse Voltage                                         |                              | VRRM   | V     | 50         | 100     | 200     | 400     | 600     | 800     | 1000    |
| Maximum RMS Voltage                                                             |                              | VRMS   | V     | 35         | 70      | 140     | 280     | 420     | 560     | 700     |
| Maximum DC blocking Voltage                                                     |                              | VDC    | V     | 50         | 100     | 200     | 400     | 600     | 800     | 1000    |
| Average rectified output current @60Hz sine wave, R-load,                       | With heatsink<br>Tc =100°C   | IO     | A     | 50.0       |         |         |         |         |         |         |
|                                                                                 | Without heatsink<br>Ta =25°C |        |       | 5.2        |         |         |         |         |         |         |
| Forward Surge Current (Non-repetitive)<br>@60Hz Half-sine wave,1 cycle, Tj=25°C |                              | IFSM   | A     | 500        |         |         |         |         |         |         |
| Forward Surge Current (Non-repetitive)<br>@1ms, square wave, 1 cycle, Tj=25°C   |                              |        |       | 1000       |         |         |         |         |         |         |
| Current squared time<br>@1ms≤t≤8.3ms Tj=25°C, Rating of per diode               |                              | I²t    | A²s   | 1037.5     |         |         |         |         |         |         |
| Storage temperature                                                             |                              | Tstg   | °C    | -55 ~ +150 |         |         |         |         |         |         |
| Junction temperature                                                            |                              | Tj     | °C    | -55 ~ +150 |         |         |         |         |         |         |
| Dielectric strength<br>@ Terminals to case, AC 1 minute                         |                              | Vdis   | KV    | 2.5        |         |         |         |         |         |         |
| Mounting torque<br>@Recommend torque: 5kg·cm                                    |                              | Tor    | kg·cm | 8          |         |         |         |         |         |         |



## GBJ50005 THRU GBJ5010

### ■Electrical Characteristics (T<sub>a</sub>=25°C Unless otherwise specified)

| PARAMETER                                                         | SYMBOL         | UNIT | TEST CONDITIONS                                           | GBJ50005 | GBJ5001 | GBJ5002 | GBJ5004 | GBJ5006 | GBJ5008 | GBJ5010 |
|-------------------------------------------------------------------|----------------|------|-----------------------------------------------------------|----------|---------|---------|---------|---------|---------|---------|
| Maximum instantaneous forward voltage drop per diode              | V <sub>F</sub> | V    | I <sub>FM</sub> =25A                                      | 1.05     |         |         |         |         |         |         |
| Maximum DC reverse current at rated DC blocking voltage per diode | I <sub>R</sub> | μA   | T <sub>j</sub> =25°C                                      | 5        |         |         |         |         |         |         |
|                                                                   |                |      | T <sub>j</sub> =125°C                                     | 200      |         |         |         |         |         |         |
| Typical junction capacitance                                      | C <sub>j</sub> | pF   | Measured at 1MHz and Applied Reverse Voltage of 4.0 V.D.C | 190      |         |         |         |         |         |         |

### ■Thermal Characteristics (T<sub>a</sub>=25°C Unless otherwise specified)

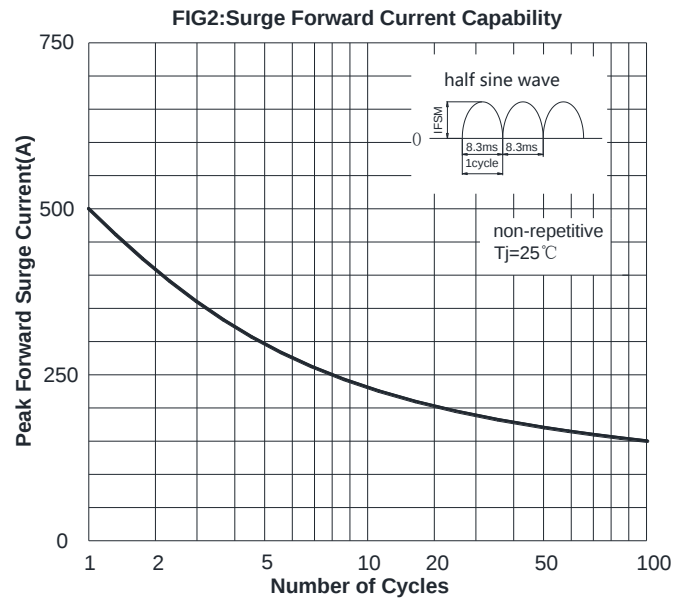
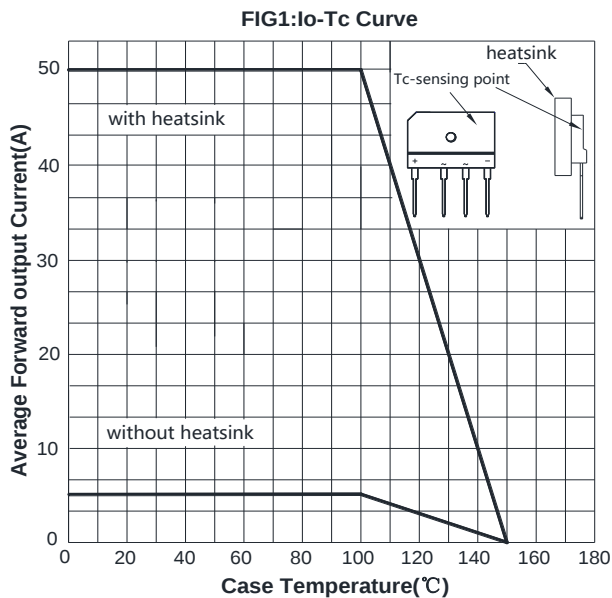
| PARAMETER          |                                                | SYMBOL            | UNIT | GBJ50005 | GBJ5001 | GBJ5002 | GBJ5004 | GBJ5006 | GBJ5008 | GBJ5010 |
|--------------------|------------------------------------------------|-------------------|------|----------|---------|---------|---------|---------|---------|---------|
| Thermal Resistance | Between junction and ambient, Without heatsink | R <sub>θJ-A</sub> | °C/W | 18       |         |         |         |         |         |         |
|                    | Between junction and case, With heatsink       | R <sub>θJ-C</sub> |      | 0.8      |         |         |         |         |         |         |

Note: Device mounted on 75mm x 45mm x 5.5mm Aluminum Plate Heatsink.

### ■Ordering Information (Example)

| PREFERED P/N       | PACKING CODE | UNIT WEIGHT(g)  | MINIIMUM PACKAGE(pcs) | INNER BOX QUANTITY(pcs) | OUTER CARTON QUANTITY(pcs) | DELIVERY MODE |
|--------------------|--------------|-----------------|-----------------------|-------------------------|----------------------------|---------------|
| GBJ50005 - GBJ5010 | B1           | Approximate 6.5 | 15                    | 750                     | 1500                       | TUBE          |

### ■ Characteristics (Typical)





## GBJ50005 THRU GBJ5010

FIG3: Typical Forward Voltage

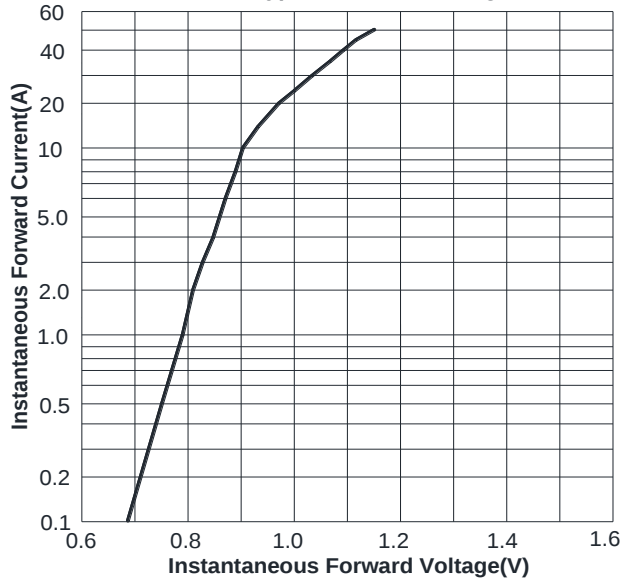
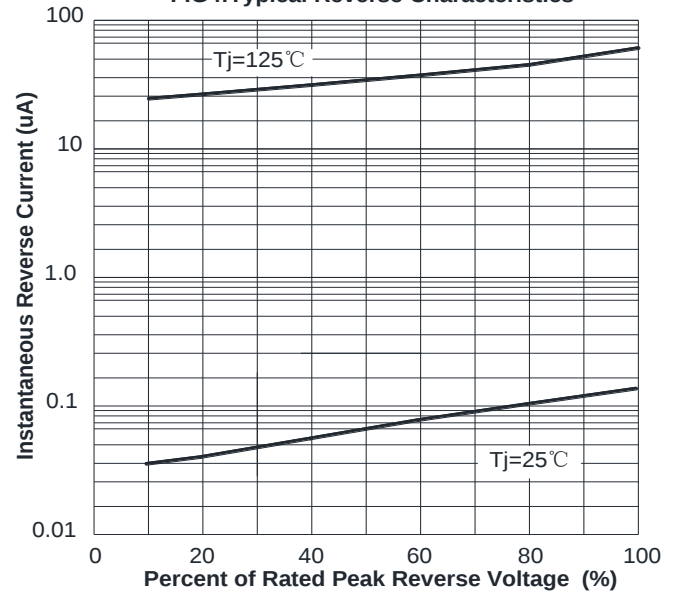
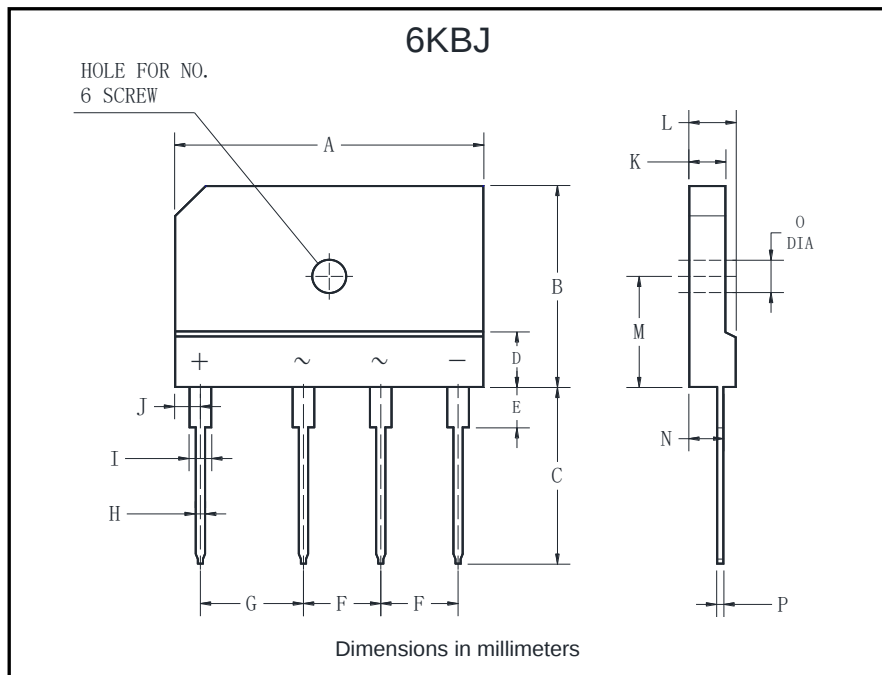


FIG4: Typical Reverse Characteristics



### ■ Outline Dimensions



| 6KBJ |      |      |
|------|------|------|
| Dim  | Min  | Max  |
| A    | 29.7 | 30.3 |
| B    | 19.7 | 20.3 |
| C    | 17.0 | 18.0 |
| D    | 4.8  | 5.8  |
| E    | 3.8  | 4.2  |
| F    | 7.3  | 7.7  |
| G    | 9.8  | 10.2 |
| H    | 0.9  | 1.1  |
| I    | 2.0  | 2.4  |
| J    | 2.3  | 2.7  |
| K    | 3.4  | 3.8  |
| L    | 4.4  | 4.8  |
| M    | 10.8 | 11.2 |
| N    | 3.1  | 3.7  |
| O    | 3.1  | 3.4  |
| P    | 0.6  | 0.8  |



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