

# GBJ50005 - GBJ5010/G

Single Phase 50Amp Glass passivated Bridge Rectifiers

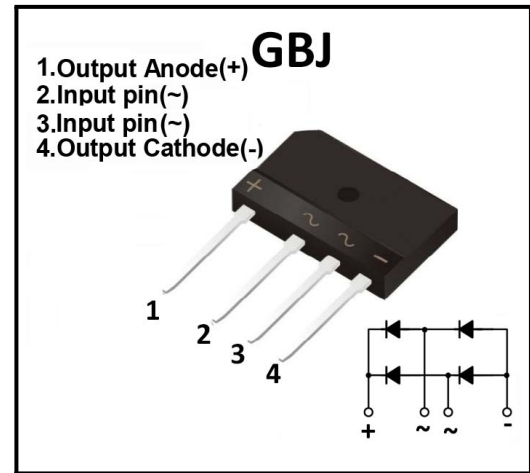
## Features

- Glass passivated die construction
- Low forward voltage drop
- High current capability
- High surge current capability
- Plastic material-UL flammability 94V-0
- The G suffix is uses for photoresist chip, otherwise it is a knife scraping chip

## MECHANICAL DATA

- Case: Molded plastic, GBJ
- Terminals: Plated Leads Solderable perMIL-STD-202, Method 208
- Polarity: As Marked on Case
- Mounting Position: Any
- Marking: Type Number
- Lead Free: For RoHS / Lead Free Version

## Mechanical Data



## Maximum Ratings And Electrical Characteristics (@T<sub>A</sub>=25°C unless otherwise noted)

| Symbol                      | Parameter   | GBJ         | GBJ  | GBJ  | GBJ  | GBJ  | GBJ  | GBJ  | Unit                        |
|-----------------------------|---|-------------|------|------|------|------|------|------|-----------------------------|
|                             |   | 50005       | 5001 | 5002 | 5004 | 5006 | 5008 | 5010 |                             |
| V <sub>RRM</sub>            | repetitive peak reverse voltage   | 50          | 100  | 200  | 400  | 600  | 800  | 1000 | V                           |
| V <sub>RWM</sub>            | Working Peak Reverse Voltage  | 50          | 100  | 200  | 400  | 600  | 800  | 1000 |                             |
| V <sub>RMS</sub>            | RMS voltage   | 35          | 70   | 140  | 280  | 420  | 560  | 700  |                             |
| V <sub>DC</sub>             | DC blocking voltage   | 50          | 100  | 200  | 400  | 600  | 800  | 1000 |                             |
| I <sub>FAV</sub>            | Average Rectified Output Current (Note 1)@T <sub>C</sub> =90°C                                | 50.0        |      |      |      |      |      |      | A                           |
| I <sub>FSM</sub>            | Peak forward surge current, 8.3ms single half sine-wave                                       | 400         |      |      |      |      |      |      | A                           |
| I <sub>t</sub> <sup>2</sup> | I <sub>t</sub> <sup>2</sup> Rating for fusing (t<8.3ms)                                       | 840.375     |      |      |      |      |      |      | A <sub>S</sub> <sup>2</sup> |
| V <sub>FM</sub>             | Forward Voltage element @IF=25A   | 1.1         |      |      |      |      |      |      | V                           |
| I <sub>R</sub>              | Peak Reverse Current@T <sub>A</sub> =25°C at rated DC blocking voltage@ T <sub>A</sub> =125°C | 5.0         |      |      |      |      |      |      | uA                          |
| C <sub>J</sub>              | Typical junction capacitance  | 75          |      |      |      |      |      |      | pF                          |
| R <sub>θJA</sub>            | Between junction and ambient, Without heatsink  | 22          |      |      |      |      |      |      | °C/W                        |
| R <sub>θJC</sub>            | Between junction and case, With heatsink  | 0.8         |      |      |      |      |      |      |                             |
| T <sub>J</sub>              | Operation Temperature Range   | -55 to +150 |      |      |      |      |      |      | °C                          |
| T <sub>STG</sub>            | Storage Temperature Range   | -55 to +150 |      |      |      |      |      |      |                             |

Note:(1)Thermal resistance from junction to case per element. Unit mounted on 75x75x1.6mm aluminum plate heat sink.

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Specifications are subject to change without notice.

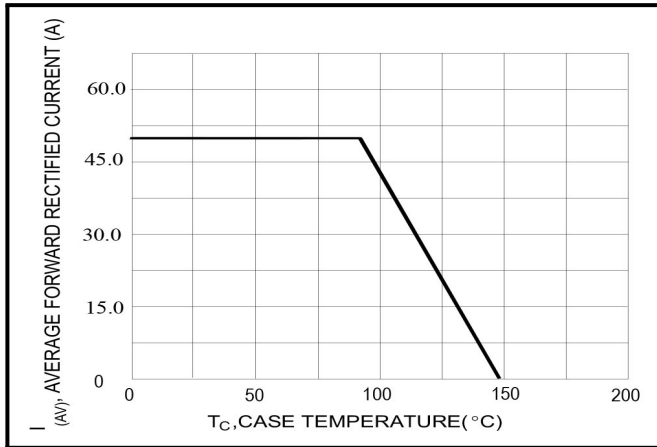
Please refer to <http://www.born-tw.com> for current information.

Revision: 2022-Jan-1

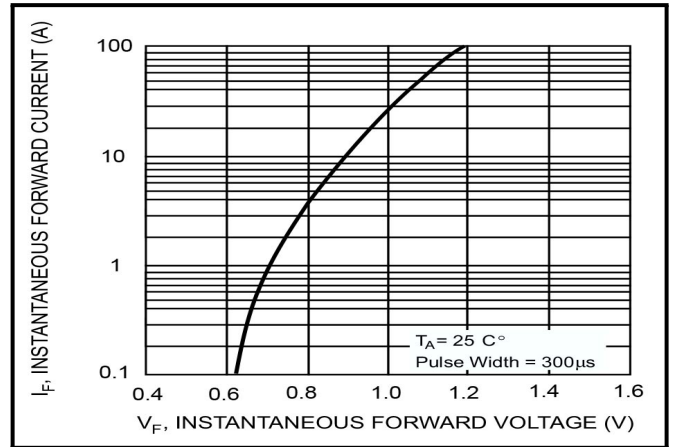


**Ratings And Characteristic Curves**

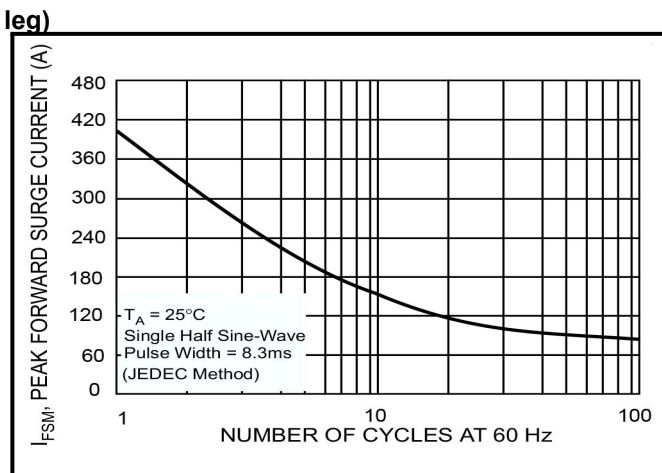
**Figure 1: Output Current Derating Curve**



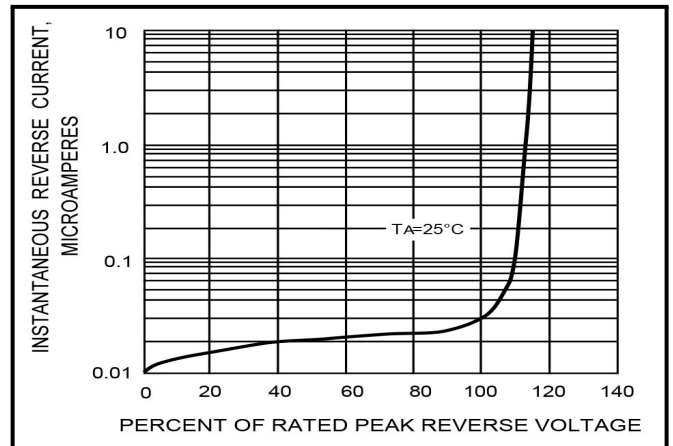
**Figure 2: Typical Forward Characteristics (per leg)**



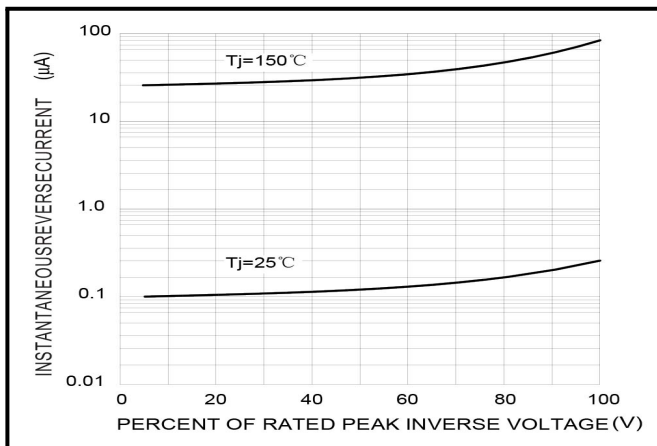
**Figure 3: Maximum Peak Forward Surge Current (per leg)**



**Figure 4: Typical Junction Capacitance**



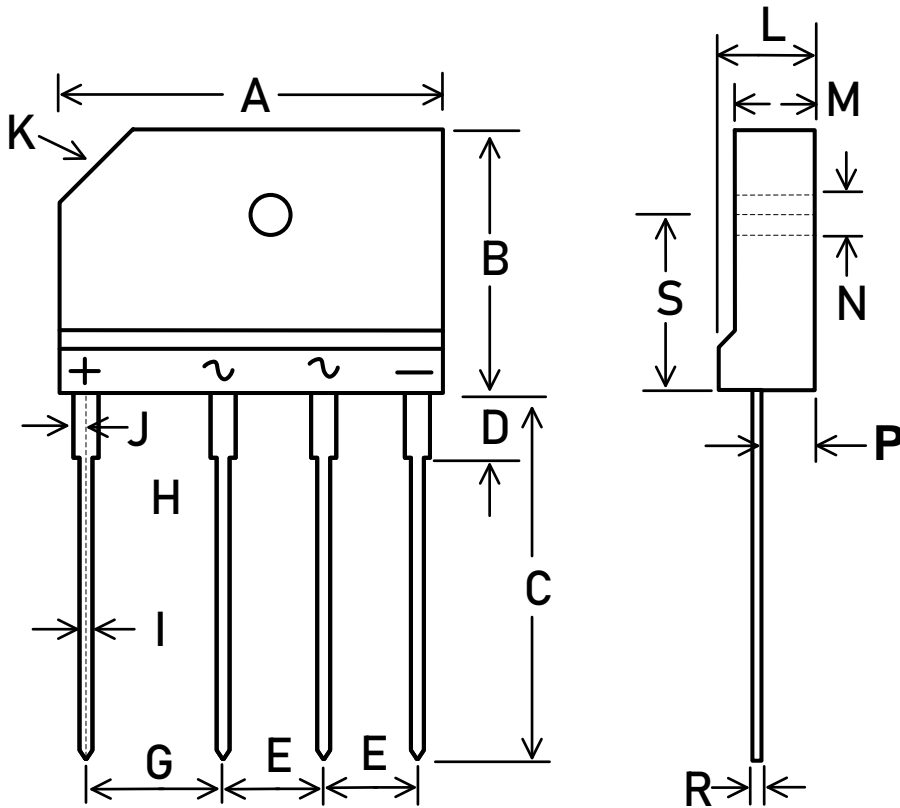
**Figure 5: TYPICAL REVERSE CHARACTERISTICS**



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Outline Drawing -GBJ



| SYMBOL | MILLIMETER |       |
|--------|------------|-------|
|        | MIN.       | MAX.  |
| A      | 29.70      | 30.3  |
| B      | 19.70      | 20.3  |
| 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      | 3.0x45°    |       |
| 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 |

