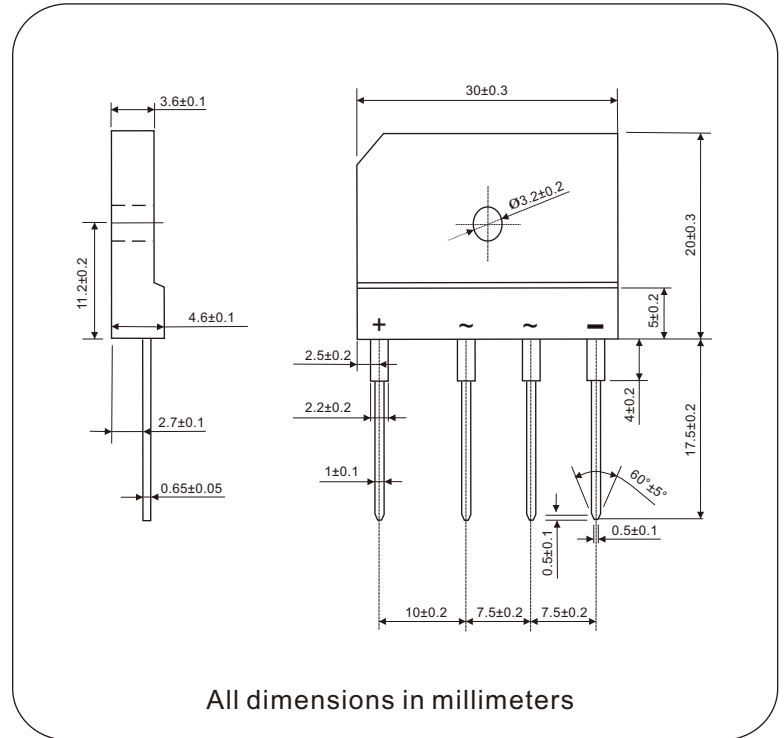
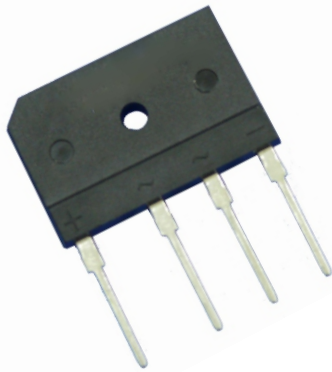




## Glass Passivated Single-Phase Bridge Rectifier, 10A

### GBJ1004 Thru GBJ1012

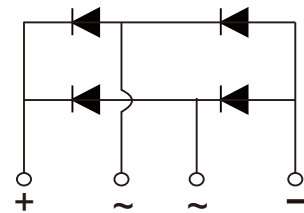


#### FEATURES

- UL recognition file number E320098 
- Typical IR less than 2.0  $\mu$ A
- High surge current capability
- Low thermal resistance
- Compliant to RoHS 
- Isolation voltage up to 2500V

#### TYPICAL APPLICATIONS

General purpose use in AC/DC bridge full wave rectification for big power supply, field supply for DC motor, industrial automation applications.



#### ADVANTAGE

- International standard package  
Epoxy meets UL 94 V-O flammability rating
- Small volume, light weight
- Small thermal resistance
- High heat-conduction rate
- Low temperature rise
- High temperature soldering guaranteed :  
260°C/10 second, 2.3kg tension force
- Weight: 6.5g (0.23 ozs)

#### PRIMARY CHARACTERISTICS

| PRIMARY CHARACTERISTICS |               |
|-------------------------|---------------|
| $I_{F(AV)}$             | 10A           |
| $V_{RRM}$               | 400V to 1200V |
| $I_{FSM}$               | 200A          |
| $I_R$                   | 5 $\mu$ A     |
| $V_F$                   | 1.10V         |
| $T_{J\ max.}$           | 150°C         |

| MAJOR RATINGS AND CHARACTERISTICS ( $T_A = 25^\circ\text{C}$ unless otherwise noted) |             |            |     |     |      |      |                      |
|--|-------------|------------|-----|-----|------|------|----------------------|
| PARAMETER  | SYMBOL      | GBJ10      |     |     |      |      | UNIT                 |
|  |             | 04         | 06  | 08  | 10   | 12   |                      |
| Maximum repetitive peak reverse voltage  | $V_{RRM}$   | 400        | 600 | 800 | 1000 | 1200 | V                    |
| Peak reverse non-repetitive voltage  | $V_{RSM}$   | 500        | 700 | 900 | 1100 | 1300 | V                    |
| Maximum DC blocking voltage  | $V_{DC}$    | 400        | 600 | 800 | 1000 | 1200 | V                    |
| Maximum average forward rectified output current, $T_c = 85^\circ\text{C}$           | $I_{F(AV)}$ | 10         |     |     |      |      | A                    |
| Peak forward surge current single sine-wave superimposed on rated load               | $I_{FSM}$   | 200        |     |     |      |      | A                    |
| Rating (non-repetitive, for t greater than 1 ms and less than 8.3 ms) for fusing     | $I^2t$      | 166        |     |     |      |      | $\text{A}^2\text{s}$ |
| RMS isolation voltage from case to leads   | $V_{ISO}$   | 2550       |     |     |      |      | V                    |
| Operating junction storage temperature range   | $T_J$       | -40 to 150 |     |     |      |      | $^\circ\text{C}$     |
| Storage temperature range  | $T_{STG}$   | -40 to 150 |     |     |      |      | $^\circ\text{C}$     |

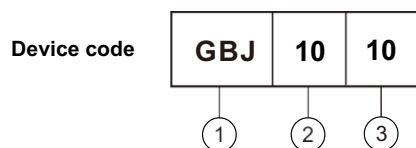
| ELECTRICAL CHARACTERISTICS ( $T_A = 25^\circ\text{C}$ unless otherwise noted) |                           |        |       |    |    |    |    |               |
|---|---------------------------|--------|-------|----|----|----|----|---------------|
| PARAMETER   | TEST CONDITIONS           | SYMBOL | GBJ10 |    |    |    |    | UNIT          |
|   |                           |        | 04    | 06 | 08 | 10 | 12 |               |
| Maximum instantaneous forward drop per diode                                  | $I_F = 5\text{A}$         | $V_F$  | 1.10  |    |    |    |    | V             |
| Maximum reverse DC current at rated DC blocking voltage per diod              | $T_A = 25^\circ\text{C}$  | $I_R$  | 5     |    |    |    |    | $\mu\text{A}$ |
|   | $T_A = 150^\circ\text{C}$ |        | 500   |    |    |    |    |               |

| THERMAL AND MECHANICAL ( $T_A = 25^\circ\text{C}$ unless otherwise noted) |  |                       |       |    |    |    |    |                    |
|---|--|-----------------------|-------|----|----|----|----|--------------------|
| PARAMETER   | TEST CONDITIONS  | SYMBOL                | GBJ10 |    |    |    |    | UNIT               |
|   |  |                       | 04    | 06 | 08 | 10 | 12 |                    |
| Typical thermal resistance junction to case                               | Single-side heat dissipation, sine half wave   | $R_{\theta JC}^{(1)}$ | 1.0   |    |    |    |    | $^\circ\text{C/W}$ |
| Mounting torque $\pm 10\%$ to heatsink M3                                 | A mounting compound is recommended and the torque should be rechecked after a period of 3 hours to allow for the spread of the compound. |                       | 0.8   |    |    |    |    | N-m                |
| Approximate weight  |  |                       | 6.5   |    |    |    |    | g                  |

Notes

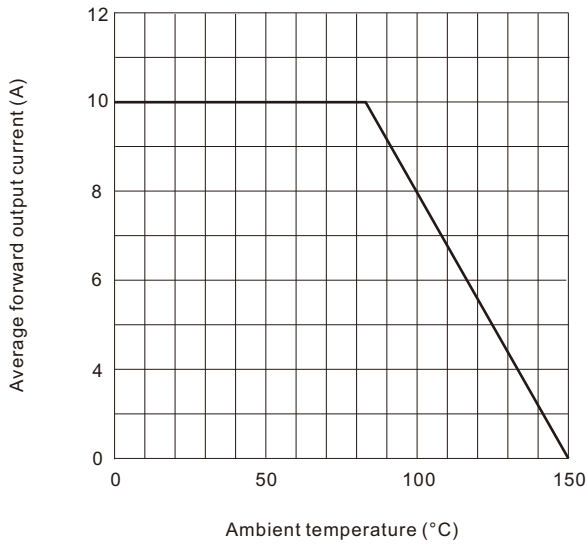
(1) With heatsink, single side heat dissipation, half sine wave.

## Ordering Information Tabel

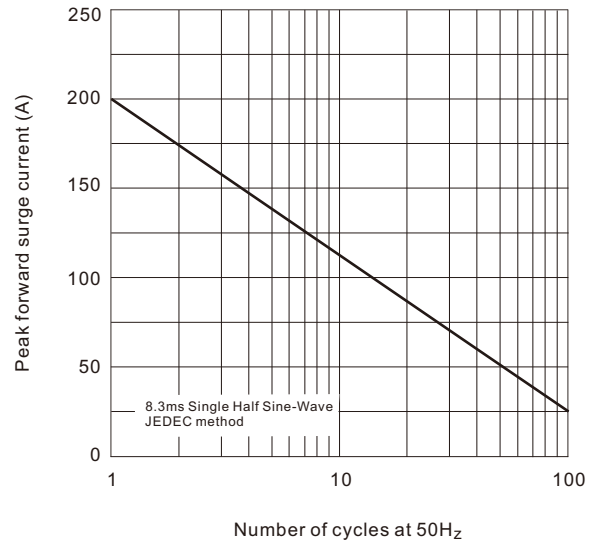


- 1 - Product type : "GBJ" Package, 1 $\emptyset$  Bridge
- 2 -  $I_{F(AV)}$  rating : "10" for 10A
- 3 - Voltage code : code x 100 =  $V_{RRM}$

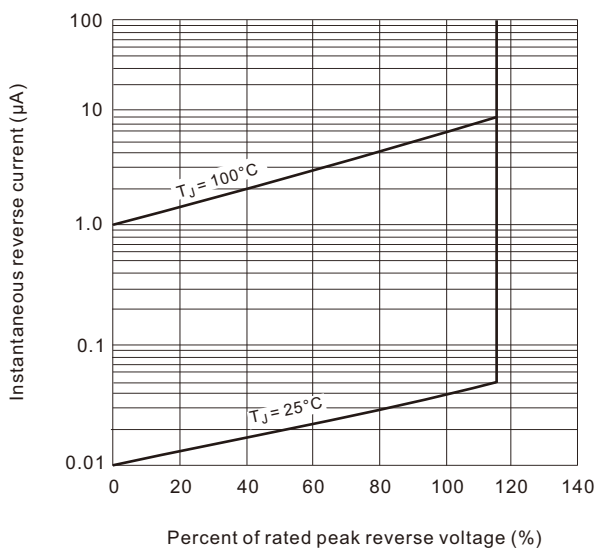
**Fig.1 Derating curve for output rectified current**



**Fig.2 Maximum non-repetitive peak forward surge current per bridge element**



**Fig.3 Typical reverse characteristics per bridge element**



**Fig.4 Typical forward characteristics per bridge element**

