



## GBJL20JA THRU GBJL20MA

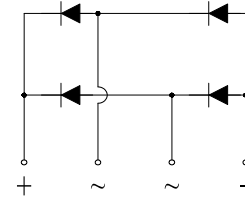
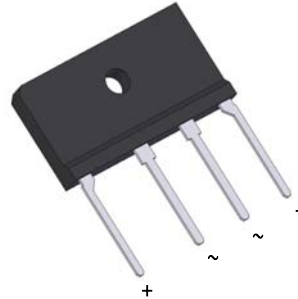
Glass Passivated Single-Phase Bridge Rectifier

Reverse Voltage - 600V to 1000V

Forward Current - 20.0 Amperes

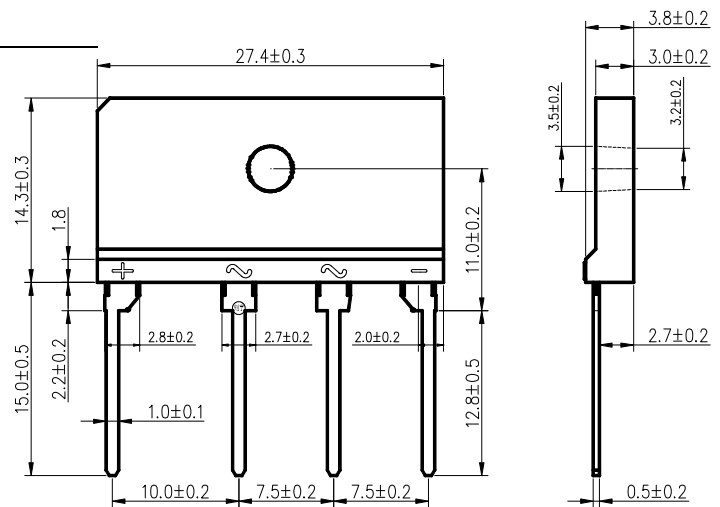
### Features

- ◆ Thin Single In-Line package;
- ◆ Ideal for printed circuit boards;
- ◆ Glass Passivated chip junction;
- ◆ Low profile package;
- ◆ High Surge current capability;
- ◆ High case dielectric strength of 2500 V<sub>RMS</sub>;
- ◆ Plastic package has Underwrites Laboratory Flammability Classification 94V-0;
- ◆ Same footprint V.S GBJ package;



### Mechanical Data

- ◆ Case: GBJL;  
Epoxy meets UL-94V-0 Flammability rating;
- ◆ Terminals: Matte tin plated leads, solderable per J-STD-002 and JESD22-B102;  
E3 suffix for customer grade, meet JESD 201;
- ◆ High temperature soldering guaranteed:  
Solder Dip 270°C, 10seconds;
- ◆ Polarity: As marked on body;
- ◆ Mounting Torque: 10cm·kg (8.8inches·lbs) max;
- ◆ Recommend Torque: Mounting Torque:  
5.7cm·kg (5inches·lbs);



### Typical Applications

General purpose use in AC-to-DC bridge full wave rectification for Switching Power Supply, Home Appliances, Office Equipment, Industrial Automation applications.

Package Dimensions in mm

### Maximum Ratings and Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

| Parameter                                                                                                         | Symbol                             | GBJL20JA                                | GBJL20KA | GBJL20MA | Unit               |
|-------------------------------------------------------------------------------------------------------------------|------------------------------------|-----------------------------------------|----------|----------|--------------------|
| Maximum repetitive peak reverse voltage                                                                           | $V_{RRM}$                          | 600                                     | 800      | 1000     | V                  |
| Maximum RMS voltage                                                                                               | $V_{RMS}$                          | 420                                     | 560      | 700      | V                  |
| Maximum DC blocking voltage                                                                                       | $V_{DC}$                           | 600                                     | 800      | 1000     | V                  |
| Maximum average forward rectified output current at $T_c=110^\circ\text{C}$<br>$T_A=25^\circ\text{C}$             | $I_{F(AV)}$                        | 20 <sup>(1)</sup><br>3.2 <sup>(2)</sup> |          |          | Amps               |
| Peak forward surge current 8.3 ms single sine-wave superimposed on rated load (JEDEC Method)                      | $I_{FSM}$                          | 240                                     |          |          | Amps               |
| Rating for fusing (t<8.3ms)                                                                                       | $I^2t$                             | 240                                     |          |          | A <sup>2</sup> sec |
| Maximum Instantaneous forward voltage drop per leg at 10A                                                         | $V_F$                              | 1.05                                    |          |          | Volt               |
| Maximum DC Reverse Current at Rated DC Blocking Voltage per leg $T_A=25^\circ\text{C}$<br>$T_A=125^\circ\text{C}$ | $I_R$                              | 5<br>150                                |          |          | μA                 |
| Typical thermal resistance per leg                                                                                | $R_{\theta JA}$<br>$R_{\theta JC}$ | 22 <sup>(2)</sup><br>2.5 <sup>(1)</sup> |          |          | °C/W               |
| Operating junction and Storage Temperature Range                                                                  | $T_J, T_{STG}$                     | -55 to +150                             |          |          | °C                 |

### Notes:

- 1). Unit case mounted on Al plate heatsink;
- 2). Units mounted on PCB without heatsink;
- 3). Recommended mounting position is to bolt down on heatsink with silicone thermal compound for maximum heat transfer with #6 screw.



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## RATINGS AND CHARACTERISTICS CURVES

( $T_A=25^\circ\text{C}$  unless otherwise noted)

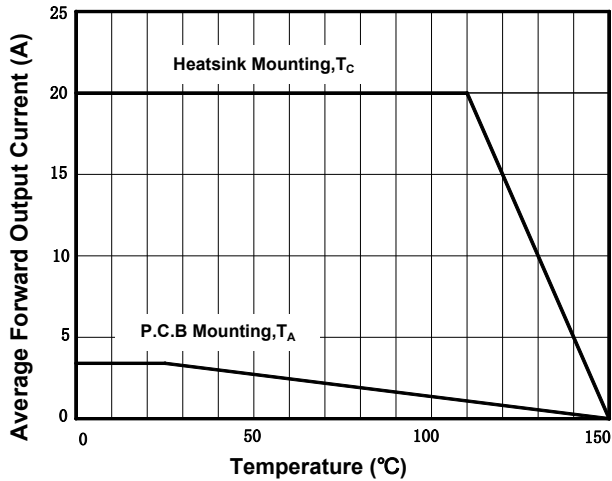


Figure 1. Derating Curve Output Rectified Current

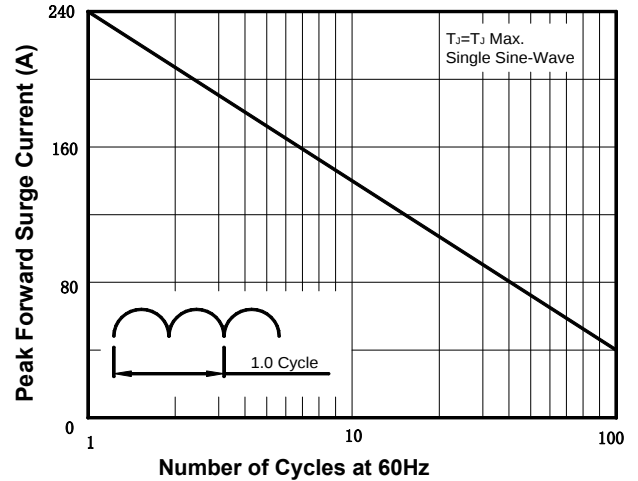


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current per Diode

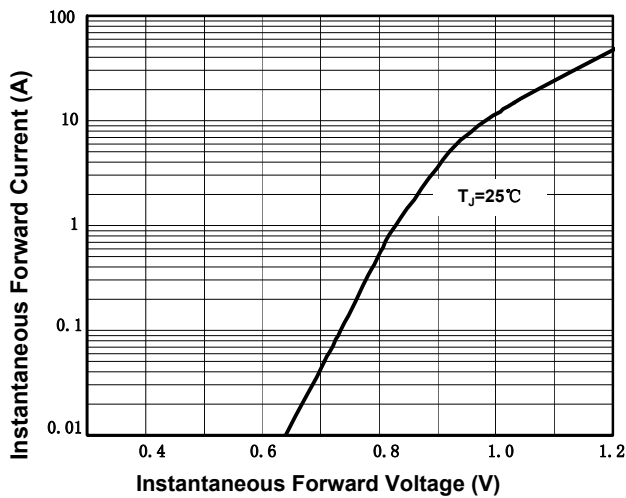


Figure 3. Typical Forward Characteristics Per Diode

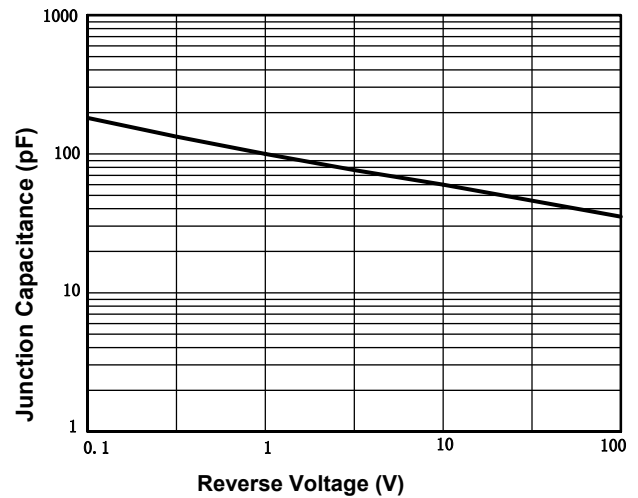


Figure 4. Typical Junction Capacitance Per Diode

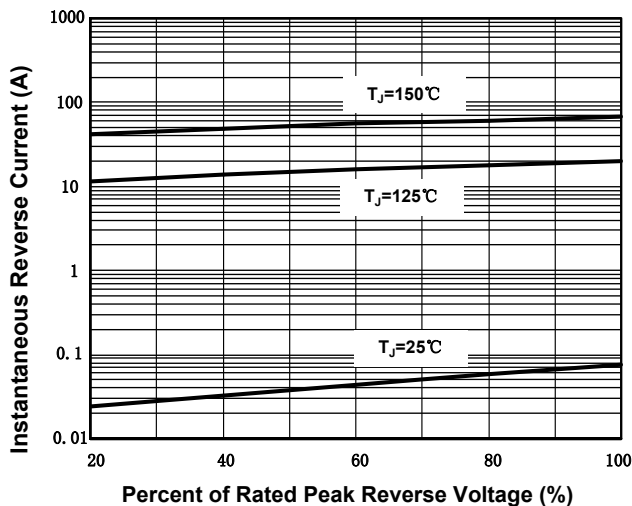


Figure 5. Typical Reverse Characteristics Per Diode