

GBJ Plastic-Encapsulate Bridge Rectifier

● Features

- Ideal for printed circuit board
- Small size, simple installation
- High surge current capability
- Reliable low cost construction utilizing molded plastic technique
- High temperature soldering guaranteed: 260/10 seconds at 5lbs., (2.3kg) tension

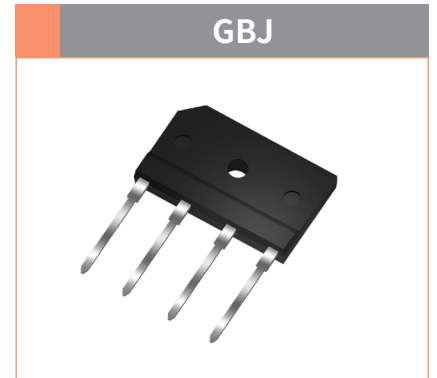
Reverse Voltage
50-1000 V
Forward Current
50 Ampere

● Applications

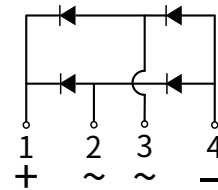
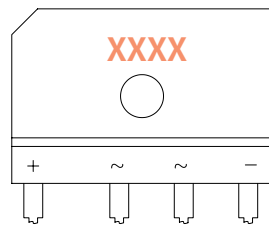
General purpose 1 phase Bridgerectifier applications

● Mechanical Data

- Case: GBJ
Molding compound meets UL 94V-0 flammability rating, RoHS-compliant, halogen-free
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Cathode line denotes the cathode end



● Function Diagram



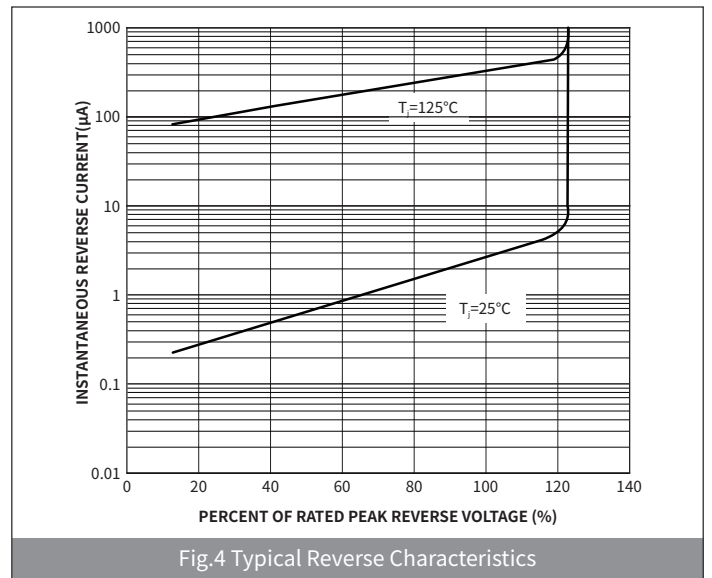
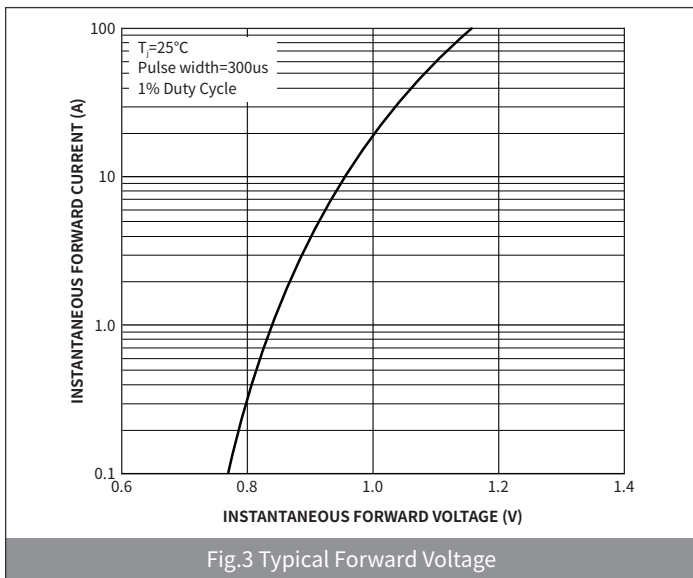
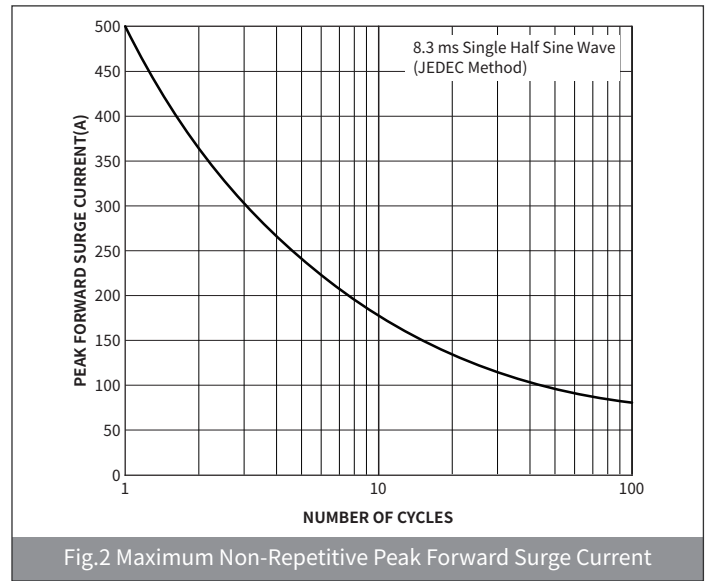
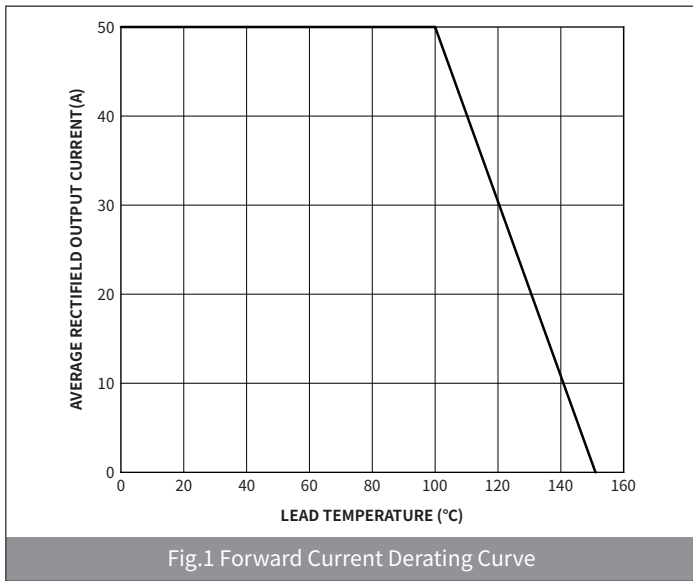
● Maximum Ratings (Ta=25°C Unless otherwise specified)

| 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 | V_{RRM} | V | 50 | 100 | 200 | 400 | 600 | 800 | 1000 |
| Maximum RMS Voltage | V_{RMS} | V | 35 | 70 | 140 | 280 | 420 | 560 | 700 |
| Maximum DC blocking Voltage | V_{DC} | V | 50 | 100 | 200 | 400 | 600 | 800 | 1000 |
| Maximum Average Forward Rectified Current @60Hz sinewave, Resistance load, TL (Fig.1) | $I_{F(AV)}$ | A | 50 | | | | | | |
| Non-repetitive Peak Forward Surge Current @ t=8.3ms Half-sine wave | I_{FSM} | A | 500 | | | | | | |
| Rating for fusing (t=8.3ms, Ta=25 °C) | I^2t | A ² S | 1037.5 | | | | | | |
| Storage temperature | T_{stg} | °C | -55 ~ +150 | | | | | | |
| Junction temperature | T_j | °C | -55 ~ +150 | | | | | | |
| Typical Thermal Resistance | $R_{\theta J-A}$ | °C /W | 22 | | | | | | |
| | $R_{\theta J-C}$ | °C /W | 1.5 | | | | | | |

● **Electrical Characteristics** (Ta=25°C Unless otherwise noted)

| PARAMETER | TEST CONDITIONS | SYMBOL | UNIT | GBJ50005 | GBJ5001 | GBJ5002 | GBJ5004 | GBJ5006 | GBJ5008 | GBJ5010 |
|---------------------------------------------------------|-------------------------------|----------|---------|----------|---------|---------|---------|---------|---------|---------|
| Maximum instantaneous forward voltage | $I_F=25A$ | V_F | V | | | | 1.1 | | | |
| Maximum DC reverse current at rated DC blocking voltage | $V_R=V_{DC}, T_A=25^\circ C$ | I_{R1} | μA | | | | 10 | | | |
| | $V_R=V_{DC}, T_A=100^\circ C$ | I_{R2} | | | | | 500 | | | |
| Typical junction capacitance | 4.0V DC, 1MHz | C_J | pF | | | | 75 | | | |

● **Ratings And Characteristics Curves** (Ta=25°C Unless otherwise specified)



GBJ50005 THRU GBJ5010

GBJ 50.0 AMP Plastic-Encapsulate Bridge Rectifier

● Ordering Information

| PACKAGE | UNIT WEIGHT(g) | BOX(pcs) | CARTON(pcs) |
|---------|----------------|----------|-------------|
| GBJ | 6.38 | 250 | 2000 |

● Package Outline Dimensions (GBJ)

| Symbol | Dimensions | | | |
|--------|-------------|-------|--------|--------|
| | Millimeters | | Inches | |
| | Min. | Max. | Min. | Max. |
| A | 29.70 | 30.30 | 1.170 | 1.190 |
| B | 19.70 | 20.30 | 0.780 | 0.800 |
| C | 17.00 | 18.00 | 0.670 | 0.710 |
| D | 4.80 | 6.10 | 0.190 | 0.240 |
| E | 3.80 | 4.20 | 0.150 | 0.165 |
| F | 7.30 | 7.70 | 2.87 | 0.303 |
| G | 9.80 | 10.20 | 0.386 | 0.402 |
| H | 0.90 | 1.10 | 0.035 | 0.043 |
| I | 1.95 | 2.4 | 0.077 | 0.094 |
| J | 2.30 | 2.70 | 0.090 | 0.106 |
| K | 3.40 | 3.80 | 0.134 | 0.150 |
| L | 4.40 | 4.80 | 0.173 | 1.89 |
| M | 10.80 | 11.20 | 0.425 | 0.441 |
| N | 3.10 | 3.70 | 0.122 | 0.145 |
| O | 2.50 | 2.70 | 0.098 | 0.106 |
| P | 0.55 | 0.80 | 0.022 | 0.0315 |

