SZCJ

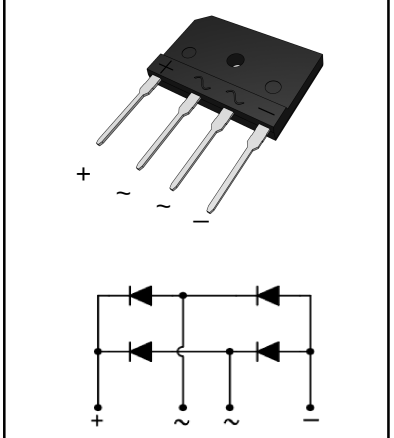
Shenzhen Changji Semiconductor Co., LTD.

# 6GBJ Plastic-Encapsulate Bridge Rectifier

## GBJ8005 THRU GBJ810 General Purpose Bridge Rectifier

| PRIMARY CHARACTERISTICS | | |
|---|---|---|
| **PARAMETER** | **VALUE** | **UNIT** |
| $I_{F(AV)}$ | 8 | A |
| $V_{RWM}$ | 50-1000 | V |
| $I_{FSM}$ | 160 | A |
| $T_j$ | 150 | ℃ |
| $V_F$ | 1.1 | V |

**6GBJ**



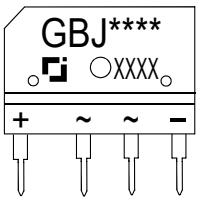

### FEATURES

- Idea for printed circuit board
- Glass passivated junction chip
- Low reverse leakage
- High forward surge current capability
- High temperature soldering guaranteed 260℃/10 seconds at terminals

### Mechanical Data

- Case: 6GBJ
- The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- Terminals: Solder plated, solderable per MIL-STD-750,Method 2026
- Polarity: Polarity symbol marking on body

### MARKING




GBJ**** = Device code，****：From 8005 to 810

XXXX = Code

## Typical Characteristics

### Limiting Values (Absolute Maximum Rating)

| Symbol | Item | Unit | GBJ8 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | 005 | 01 | 02 | 04 | 06 | 08 | 10 |
| $V_{RRM}$ | Peak Repetitive Reverse Voltage | V | 50 | 100 | 200 | 400 | 600 | 800 | 1000 |
| $V_R$ | DC Blocking Voltage | V | | | | | | | |
| $V_{RMS}$ | RMS Reverse Voltage | V | 35 | 70 | 140 | 320 | 420 | 560 | 700 |
| $I_{F(AV)}$ | Average Forward Rectified Current @60Hz sine wave, R-load | A | 8 | | | | | | |
| $I_{FSM}$ | Non-Repetitive Surge Forward Current @8.3 ms single half sine-wave,1 cycle, Tj=25℃ | A | 160 | | | | | | |
| $I^2t$ | Current squared time @1ms≤t≤8.3ms,Tj=25℃, Rating of per diode | $A^2S$ | 106 | | | | | | |
| $T_{STG}$ | Storage Temperature range | ℃ | -55 to +150 | | | | | | |
| $T_J$ | Operating junction temperature | ℃ | -55 to +150 | | | | | | |

### Electrical Characteristics(Ta=25℃ Unless otherwise specified)

| Symbol | Item | Unit | Test Conditions | | TYP. | Max. |
|---|---|---|---|---|---|---|
| $V_F$ | Maximum instantaneous forward voltage drop per diode (Note 1) | V | IF=4A | | 0.9 | 1.1 |
| IR | Peak reverse current at rated DC blocking voltage per diode(Note 2) | μA | $V_{RM}=V_{RRM}$ | $T_j$=25℃ | | 5 |
| | | | | $T_j$=125℃ | | 500 |
| $C_{tot}$ | Total capacitance per Element (Note 3) | pF | VR=4V,f=1MHz | | 56 | |
| $R_{\theta JC}$ | Thermal resistance | ℃/W | Between junction and case, With heatsink | | | 2.5 |
| $R_{\theta JA}$ | | ℃/W | Between junction and ambient, Without heatsink | | | 40 |

**Notes:**

(1) Pulse test: 300 μs pulse width, 1 % duty cycle

(2) Pulse test: pulse width ≤ 40 ms

(3) Per element, measured at 1.0MHz and applied reverse voltage of 4.0V DC

## Typical Characteristics

**Figure 1. Current Derating**

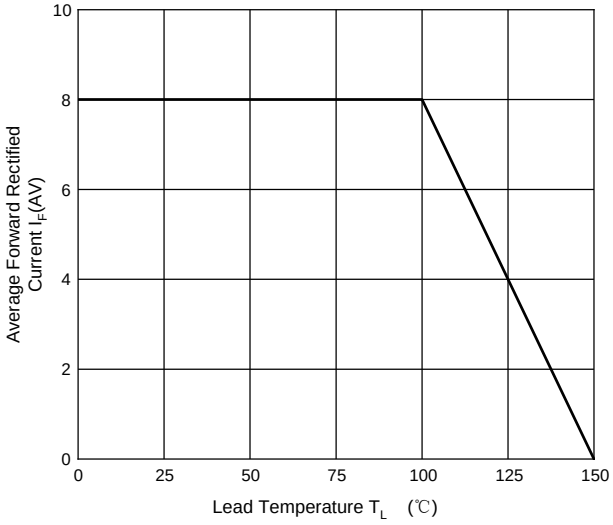



**Figure 2. Maximum Non-Repetitive Forward Surge Current**

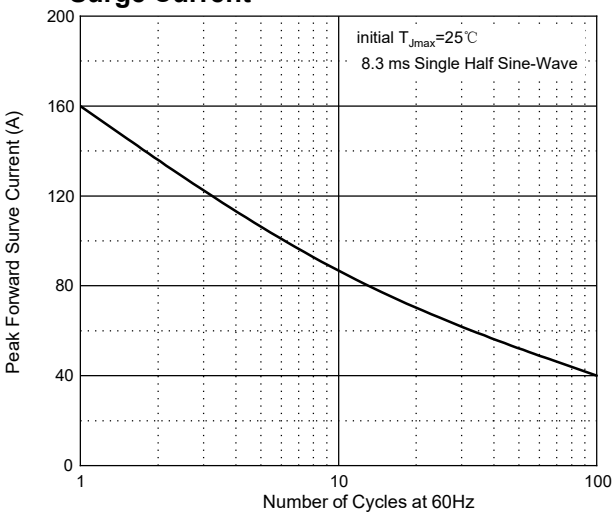



**Figure 3. Forward Characteristics**

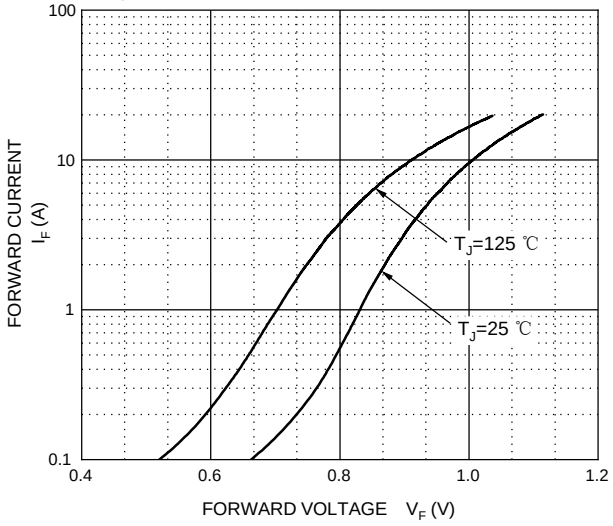
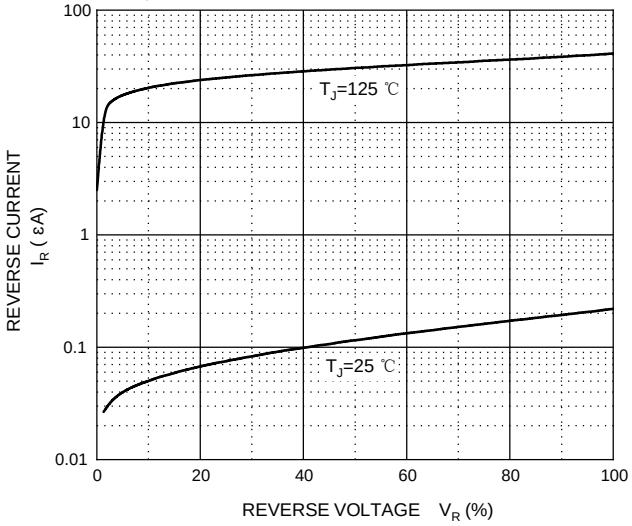
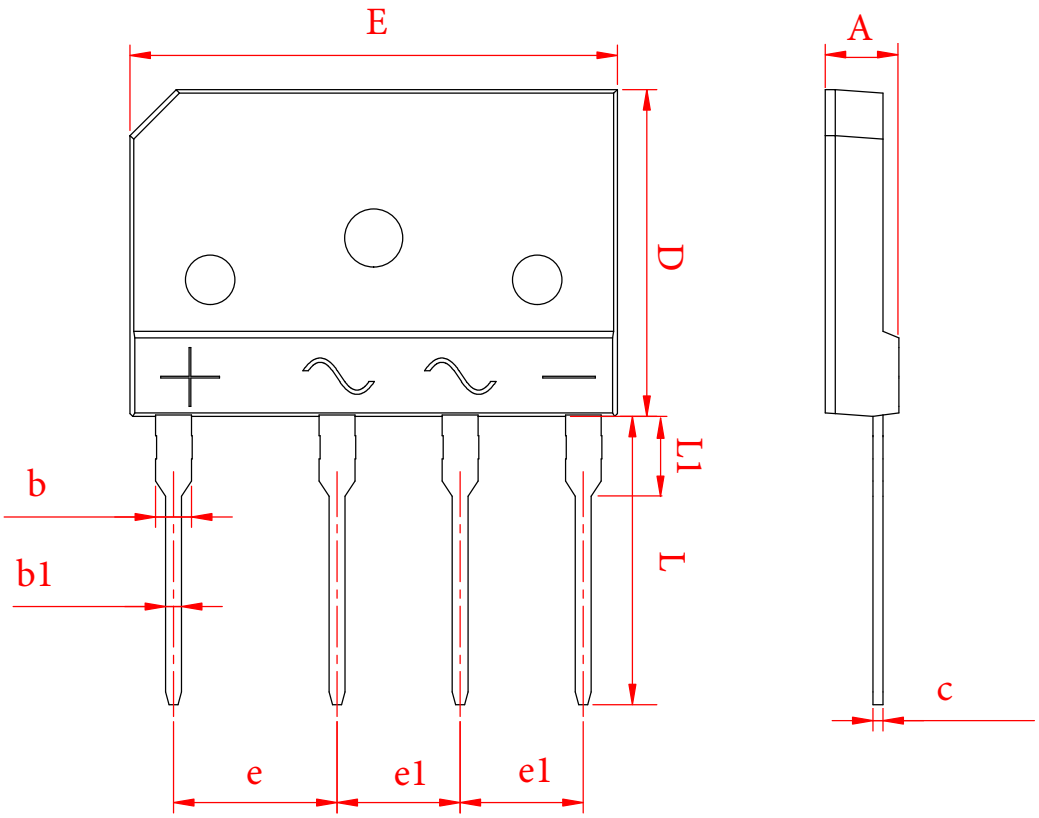



**Figure 4. Reverse Characteristics**



## 6GBJ Package Outline Dimensions




| DIM | Unit:mm | | Unit:inch | |
|---|---|---|---|---|
| | MIN | MAX | MIN | MAX |
| A | 4.4 | 4.8 | 0.173 | 0.189 |
| b | 2.0 | 2.4 | 0.079 | 0.095 |
| b1 | 0.9 | 1.1 | 0.035 | 0.043 |
| c | 0.6 | 0.8 | 0.024 | 0.032 |
| D | 19.7 | 20.3 | 0.776 | 0.799 |
| e | 9.8 | 10.2 | 0.386 | 0.402 |
| e1 | 7.3 | 7.7 | 0.287 | 0.303 |
| E | 29.7 | 30.3 | 1.169 | 1.193 |
| L | 17.0 | 18.0 | 0.669 | 0.709 |
| L1 | 3.8 | 4.2 | 0.150 | 0.165 |

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