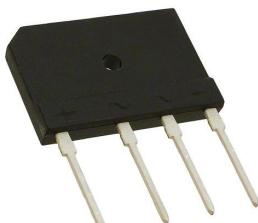


GBJ15005-GBJ1510

Single-Phase 15.0A Glass Passivated Bridge Rectifier

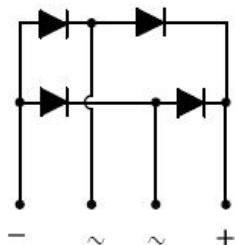


GBJ

Features

- Glass passivated die construction
- Low forward voltage drop
- High current capability
- High surge current capability
- Plastic material-UL flammability 94V-0
- This is a Pb - Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

Circuit Diagram



Mechanical Data

- Case: GBJ, Molded plastic
- Terminals: Plated leads solderable per MIL-STD-202, Method 208
- Polarity: as marked on case
- Mounting Position: Any
- Lead Free: For RoHS / Lead Free Version
- Weight: 6.8 grams(approx)

Maximum Ratings @ $T_A=25^\circ\text{C}$ unless otherwise specified

| Type Number | Symbol | GBJ 15005 | GBJ 1501 | GBJ 1502 | GBJ 1504 | GBJ 1506 | GBJ 1508 | GBJ 1510 | Units |
|---|------------------------------------|-----------|----------|----------|----------|----------|----------|----------|----------------------|
| Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage | V_{RRM} V_{RWM} V_{DC} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| RMS Reverse Voltage | V_{RMS} | 35 | 70 | 140 | 280 | 420 | 560 | 700 | V |
| Average rectified output current (with heatsink)@ $T_c = 100^\circ\text{C}$ (without heatsink)@ $T_A = 25^\circ\text{C}$ | $I_{F(AV)}$ | | | | 15 | 3.5 | | | A |
| Peak Forward Surge Current,8.3ms single half-sine-wave superimposed on rated load (JEDEC method) @ $T_j = 25^\circ\text{C}$ @ $T_j = 125^\circ\text{C}$ | I_{FSM} | | | | 300 | 240 | | | A |
| I^2t Rating for Fusing ($t < 8.3\text{ms}$) | I^2t | | | | 373.5 | | | | A^2s |

Electrical Characteristics@ $T_A=25^\circ\text{C}$ unless otherwise specified

| Type Number | Symbol | GBJ 15005 | GBJ 1501 | GBJ 1502 | GBJ 1504 | GBJ 1506 | GBJ 1508 | GBJ 1510 | Units |
|---|----------|-----------|----------|----------|----------|----------|----------|----------|---------------|
| Forward Voltage (per element) @ $I_F = 7.5\text{A}$ @ $I_F = 15\text{A}$ | V_F | | | | 1.0 | 1.1 | | | V |
| Peak Reverse Current @ $T_A = 25^\circ\text{C}$ At Rated DC Blocking Voltage @ $T_A = 125^\circ\text{C}$ | I_{RM} | | | | 5 | 200 | | | μA |
| The proposed installation torque Max torque | T_{or} | | | | Typ. 5.0 | Max 8.0 | | | Kgf.c m |
| Typical Junction Capacitance(per leg) (Note 1) | C_J | | | | 75 | | | | pF |

* Pulse width < 300 μs , duty cycle < 2%

Thermal-Mechanical Specifications:

| Type Number | Symbol | GBJ 15005 | GBJ 1501 | GBJ 1502 | GBJ 1504 | GBJ 1506 | GBJ 1508 | GBJ 1510 | Units |
|---|---|-----------|----------|----------|-------------|----------|----------|----------|---------------------------|
| Typical Thermal Resistance Junction | $R_{\theta JA}$ $R_{\theta JL}$ $R_{\theta JC}$ | | | 18 | 5 | 1.5 | | | $^\circ\text{C}/\text{W}$ |
| Operating and Storage Temperature Range | T_J, T_{STG} | | | | -55 to +150 | | | | $^\circ\text{C}$ |

Note: 1-Measured at 1 MHZ and applied reverse voltage of 4.0 VDC.

Ratings and Characteristics Curves

Fig. 1 Output Current Derating Curve

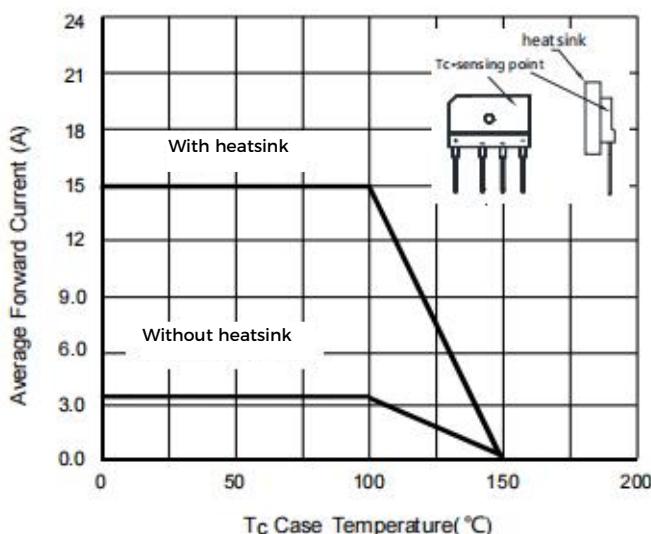


Fig. 2 Typical Forward Characteristics

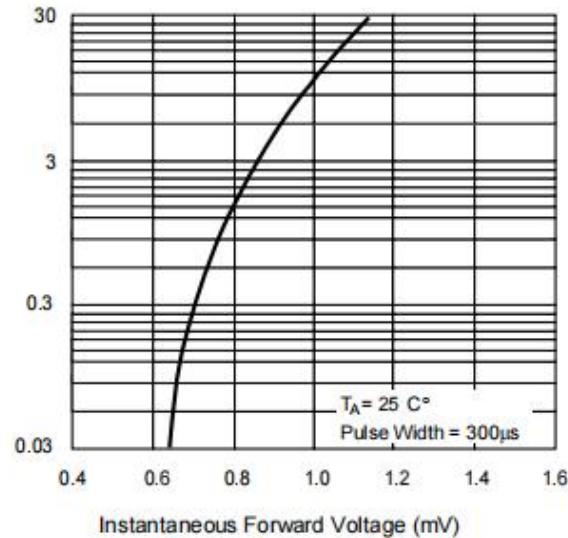


Fig. 3 Forward Surge Current Capability

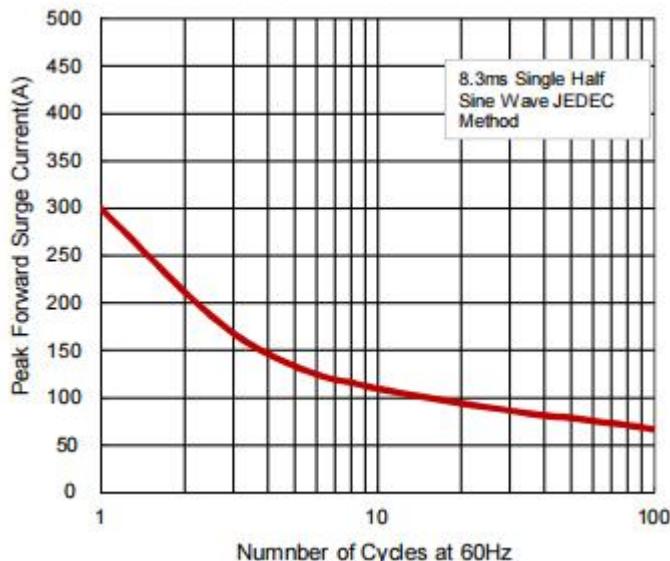
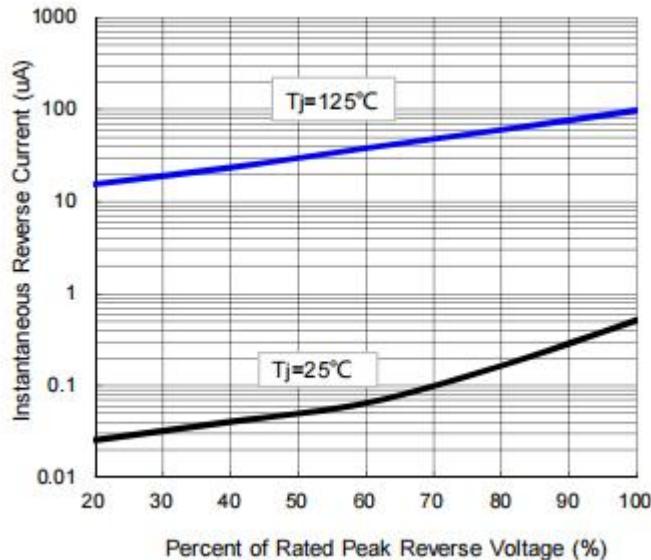


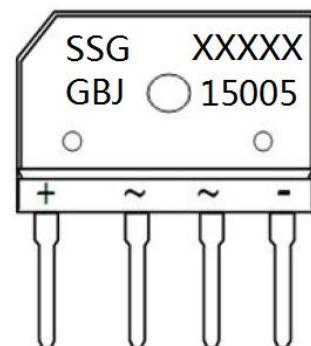
Fig. 4 Typical Reverse Characteristics



Ordering Information

| Device | Package | Plating | Shipping |
|----------|--------------|---------|--------------|
| GBJ15005 | | | |
| THRU | | | |
| GBJ1510 | GBJ(Pb-Free) | Pure Sn | 15pcs / tube |

Marking Diagram

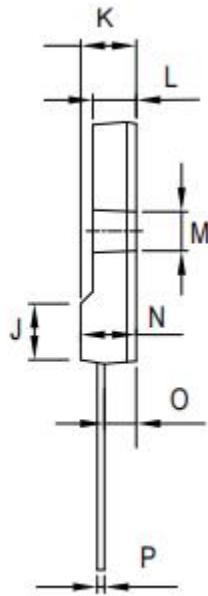
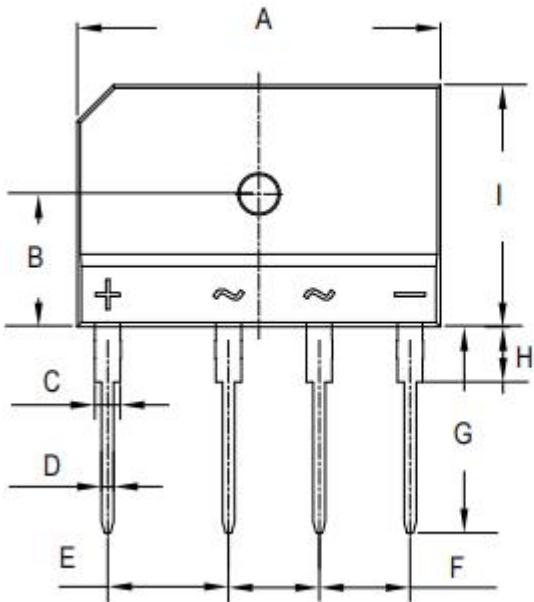


Where XXXXX is YYWWL

| | |
|----------|---------------|
| SSG | = SSG |
| YY | = Year |
| WW | = Week |
| L | = Lot Number |
| GBJ15005 | = Type Number |

Cautions: Molding resin
Epoxy resin UL:94V-0

Mechanical Dimensions GBJ (Inches/Millimeters)



| Dimensions | Millimeters | | Inches | |
|------------|-------------|------|--------|-------|
| | Min | Max | Min | Max |
| A | 29.7 | 30.3 | 1.169 | 1.193 |
| B | 10.8 | 11.2 | 0.425 | 0.441 |
| C | 1.9 | 2.3 | 0.075 | 0.091 |
| D | 0.9 | 1.1 | 0.035 | 0.043 |
| E | 9.8 | 10.2 | 0.386 | 0.402 |
| F | 7.3 | 7.7 | 0.287 | 0.303 |
| G | 17.0 | 18.0 | 0.699 | 0.709 |
| H | 3.8 | 4.2 | 0.150 | 0.165 |
| I | 19.7 | 20.3 | 0.776 | 0.799 |
| J | 4.8 | 5.2 | 0.189 | 0.205 |
| K | 4.4 | 4.8 | 0.173 | 0.189 |
| L | 3.4 | 3.8 | 0.134 | 0.150 |
| M | 3.1 | 3.4 | 0.122 | 0.134 |
| N | 4.4 | 4.8 | 0.173 | 0.189 |
| O | 2.4 | 2.8 | 0.094 | 0.110 |
| P | 0.5 | 0.7 | 0.020 | 0.028 |

Technical Data
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