# 15.0A Single-Phase Silicon Bridge Rectifier

## 1 General Description

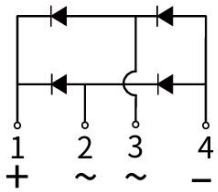
### 1.1 Features

- Ideal for printed circuit board mounting
- This series is UL listed under the Recognized Component Index, file number E484648
- The plastic material used carries Underwriters Laboratory flammability recognition 94V-0
- Built-in printed circuit board stand-offs
- High case dielectric strength
- High temperature soldering guaranteed 260 ℃ /5 seconds at 5 lbs (2.3kg) tension

**REVERSE VOLTAGE**
50-1000V
**FORWARD CURRENT**
15Ampere

### 1.2 Typical Applications

- General-purpose bridge rectifiers, suitable for SMPS, PD fast chargers and other bridge rectification applications.




### 1.3 Mechanical Data

- Case: Reliable low cost construction utilizing molded plastic technique
- Terminals: Plated leads solderable per MIL-STD-202, Method 208
- Mounting Position: Any

## 2 Maximum Ratings( TA=25℃ Unless otherwise specified)

| PARAMETER | | SYMBOL | GBJ15005 | GBJ1501 | GBJ1502 | GBJ1504 | GBJ1506 | GBJ1508 | GBJ1510 | UNIT |
|---|---|---|---|---|---|---|---|---|---|---|
| Maximum Recurrent Peak Reverse Voltage | | $V_{RRM}$ | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum RMS Voltage | | $V_{RMS}$ | 30 | 70 | 140 | 280 | 420 | 560 | 700 | V |
| Maximum DC Blocking Voltage | | $V_{DC}$ | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum Average Forward Rectified Current | (with heatsink Note 2) | $I_{(AV)}$ | 15 | | | | | | | A |
| | @ Tc=100℃ (without heatsink) | | 3.2 | | | | | | | A |
| Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed On Rated Load (JEDEC Method) | | $I_{FSM}$ | 220 | | | | | | | A |
| Operating Temperature Range | | $T_J$ | -55 to +150 | | | | | | | ℃ |
| Storage Temperature Range | | $T_{STG}$ | -55 to +150 | | | | | | | ℃ |
| Typical Thermal Resistance (Note2) | | $R_{\theta JC}$ | 1.5 | | | | | | | ℃/W |

Notes:1.Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
2.Device mounted on 300mm*300mm*1.6mm cu plate heatsink.
3.Resistive or Inductive load, 60 Hz.For Capacitive load derate by 20 %.

## 3 Electrical Characteristics(TA=25℃ Unless otherwise specified )

| PARAMETER | | SYMBOL | GBJ15005 | GBJ1501 | GBJ1502 | GBJ1504 | GBJ1506 | GBJ1508 | GBJ1510 | UNIT |
|---|---|---|---|---|---|---|---|---|---|---|
| Maximum Forward Voltage at 7.5A DC | | $V_F$ | 1.1 | | | | | | | V |
| Maximum DC Reverse Current at Rated DC Blocking Voltage | $T_J$=25℃ | $I_R$ | 10 | | | | | | | μA |
| | $T_J$=125℃ | | 500 | | | | | | | |

## 4 Characteristics Curves(TA=25℃ Unless otherwise specified)

FIG.1-FORWARD CURRENT DERATING CURVE

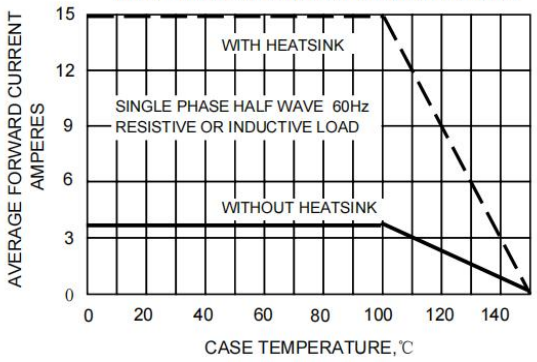



FIG.2-MAXMUN NON-REPETITIVE SURGE CURRENT

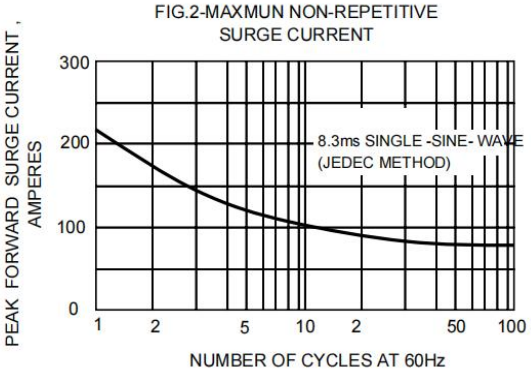



FIG.3-TYPICAL JUNCTION CAPACITANCE

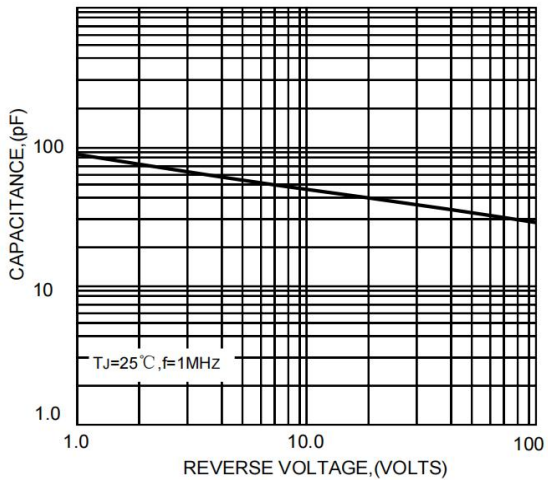



FIG.4-TYPICAL FORWARD CHARACTERISTICS

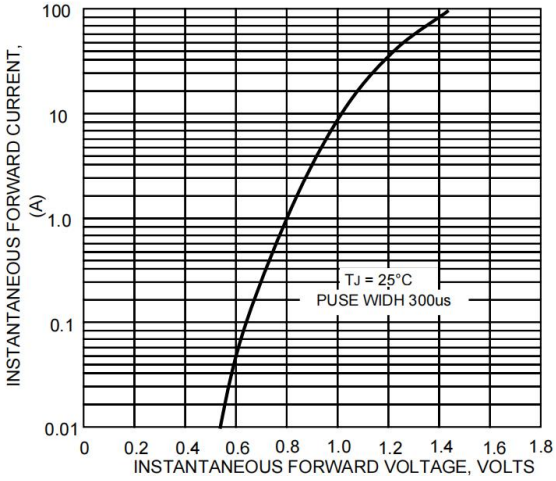
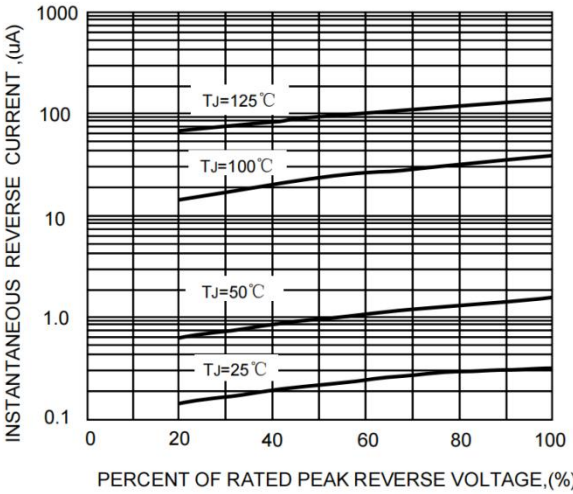
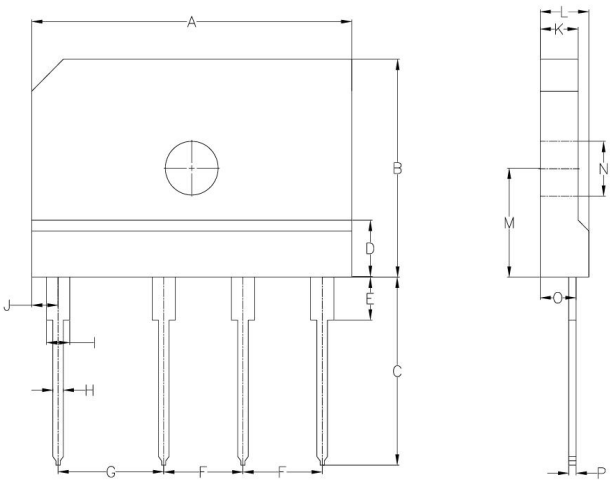



FIG.5 TYPICAL REVERSE CHARACTERISTICS



## 5 Package Outline Dimensions




| Symbol | UNIT(mm) | | UNIT(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 |

## 6 Ordering Information

| PACKAGE | UNIT WEIGHT (g) | BOX (pcs) | CARTON (pcs) |
|---|---|---|---|
| GBJ | Approximate 6.7 | 250 | 2000 |

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