# GBJS3010(LS)

## GLASS PASSIVATED BRIDGE RECTIFIER

**REVERSE VOLTAGE –1000 Volts**
**FORWARD CURRENT – 30 Amperes**

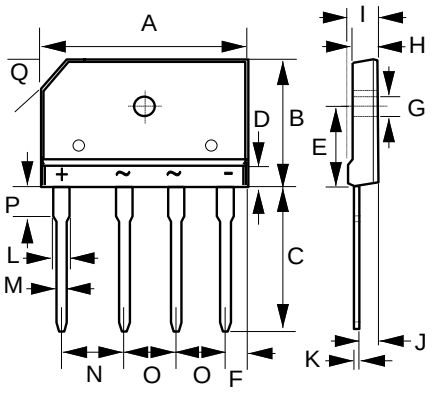
### FEATURES

- Rating to 1000V PRV
- Ideal for printed circuit board
- Low forward voltage drop, high current capability.
- Ceramic heat sink on the back
  Superior thermal conductivity
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

### MECHANICAL DATA

- Package Material: Green molding compound,
  UL flammability classification 94V-0, (No Br. Sb. Cl.)
- Polarity indicator: Symbol molded on body
- Weight: 7.2 grams (Approximate)
- Marking code: GBJS3010

### GBJS




| GBJS | | |
|---|---|---|
| DIM | MIN | MAX |
| A | 29.70 | 30.30 |
| B | 19.70 | 20.30 |
| C | 17.00 | 18.00 |
| D | 4.70 | 4.90 |
| E | 10.80 | 11.20 |
| F | 2.30 | 2.70 |
| G | 3.10Ø | 3.40Ø |
| H | 3.40 | 3.80 |
| I | 4.40 | 4.80 |
| J | 2.50 | 2.90 |
| K | 0.60 | 0.80 |
| L | 2.00 | 2.40 |
| M | 0.90 | 1.10 |
| N | 9.80 | 10.20 |
| O | 7.30 | 7.70 |
| P | 3.80 | 4.20 |
| Q | (3.0) x 45° | |
| All dimension in millimeter | | |

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

### ABSOLUTE RATINGS

| PARAMETER | | SYMBOL | VALUE | UNIT |
|---|---|---|---|---|
| Maximum repetitive peak reverse voltage | | $V_{RRM}$ | 1000 | V |
| Maximum DC blocking voltage | | $V_{DC}$ | 1000 | V |
| Average rectified output current per device @ $T_C$ = 118°C | with heatsink<br>without heatsink | $I_{(AV)}$ | 30<br>3.5 | A |
| Peak forward surge current 8.3ms single half sine-wave superimposed on rated load | @ $T_J$=25°C<br>@ $T_J$=125°C | $I_{FSM}$ | 270<br>216 | A |
| Peak forward surge current 1ms single half sine-wave superimposed on rated load | @ $T_J$=25°C<br>@ $T_J$=125°C | $I_{FSM}$ | 540<br>432 | A |
| $I^2t$ rating for fusing ( t = 8.3ms) | | $I^2t$ | 302 | $A^2S$ |
| Mounting Torque ( recommended torque: 0.5 N.m ) | | TOR | 0.8 | N.m |
| Operating and storage temperature range | | $T_J$ ,$T_{STG}$ | -55 to +150 | °C |

### STATIC ELECTRICAL CHARACTERISTICS

| PARAMETER | TEST CONDITION | | SYMBOL | VALUE | UNIT |
|---|---|---|---|---|---|
| Forward voltage | $I_F$ = 15A | $T_J$ = 25°C | $V_F$ | 1.05 | V |
| Leakage current | $V_R$ = 1000V | $T_J$ = 25°C<br>$T_J$ = 125°C | $I_R$ | 5<br>500 | uA |
| Typical junction capacitance (Note 4) | | | $C_J$ | 75 | pF |

### THERMAL CHARACTERISTICS

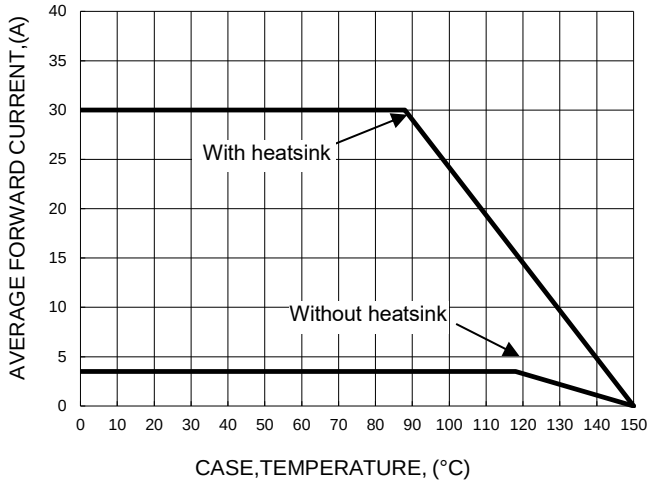
| PARAMETER | SYMBOL | TYP. | UNIT |
|---|---|---|---|
| Typical thermal resistance (Note 5) | $RthJ_A$<br>$RthJ_C$<br>$RthJ_L$ | 2<br>0.5<br>1 | °C/W |

**Note**

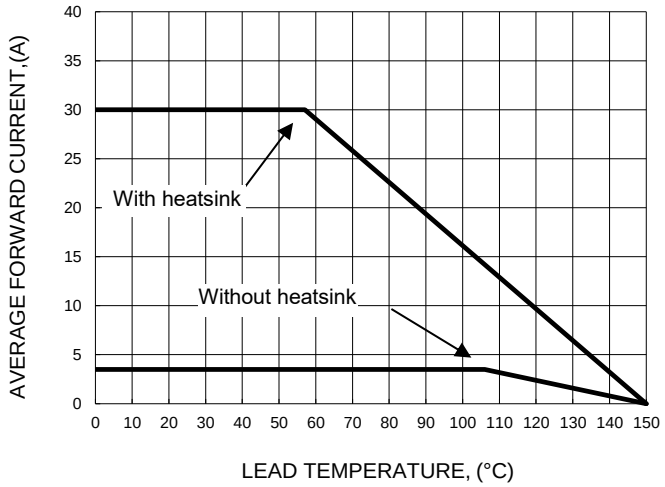
1. EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant. All applicable RoHS exemptions applied.
2. See https://www.diodes.com/quality/lead-free/ for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
4. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
5. Thermal resistance junction to Lead, device mounted on 250mm x 250mm x 10mm Cu Plate Heatsink.

## RATING AND CHARACTERISTIC CURVES
## GBJS3010

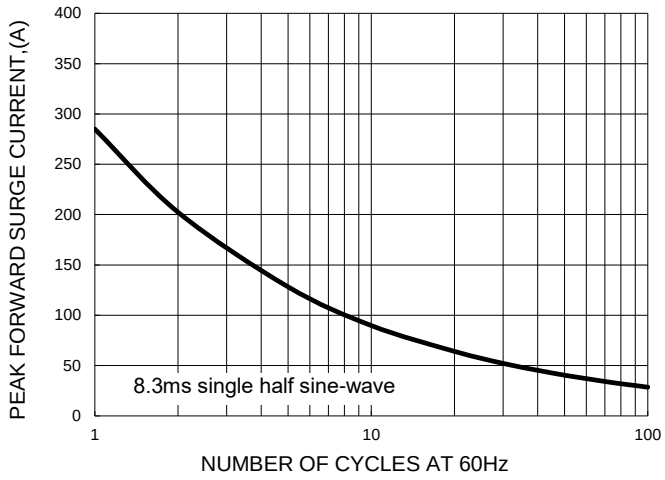
### FIG.1- FORWARD CURRENT DERATING CURVE



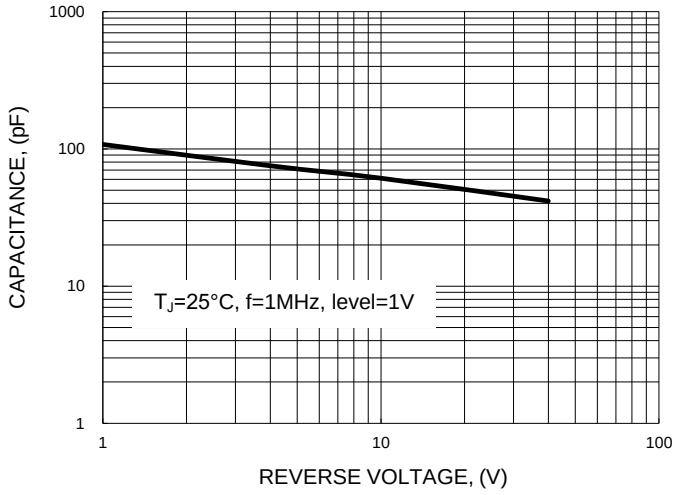

### FIG.2- FORWARD CURRENT DERATING CURVE



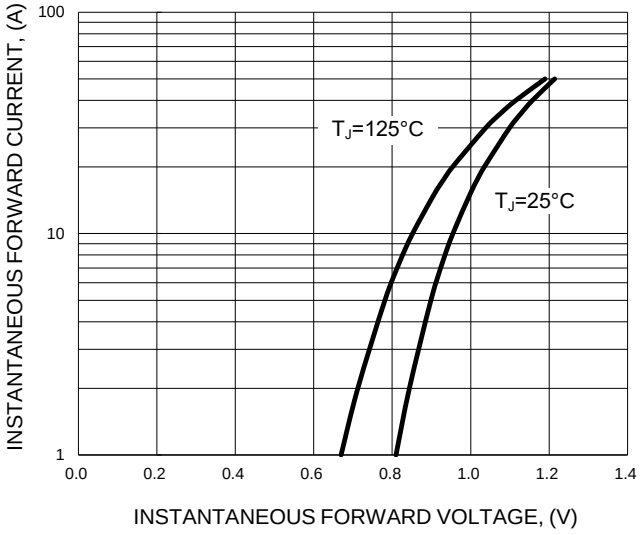

### FIG.3- MAXIMUM NON-REPETITIVE SURGE CURRENT



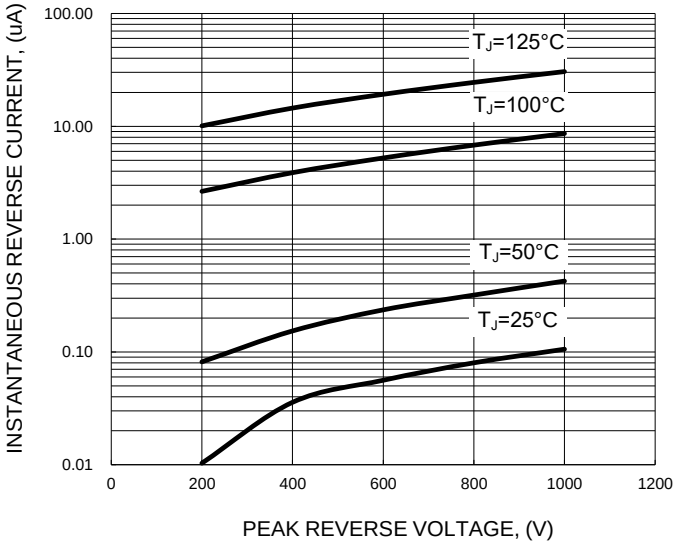

### FIG.4- TYPICAL JUNCTION CAPACITANCE




### FIG.5- TYPICAL FORWARD CHARACTERISTICS



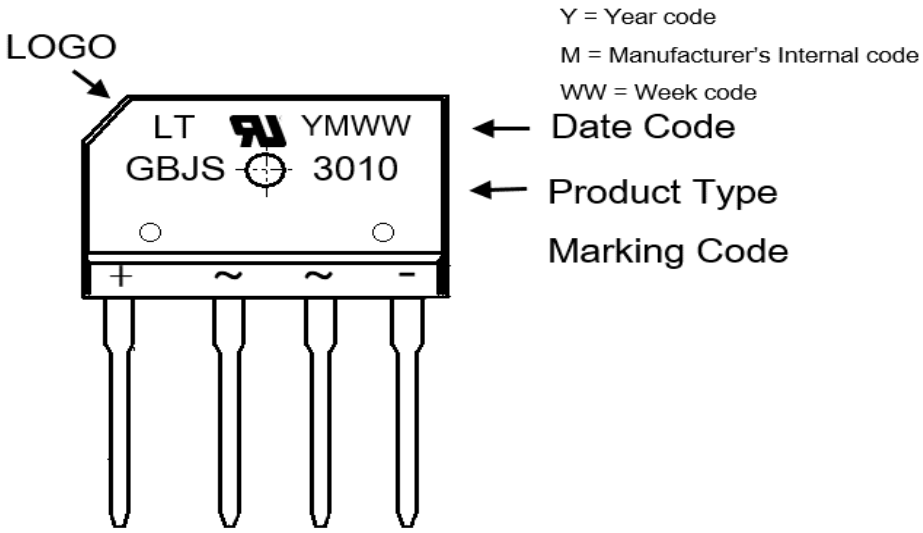

### FIG.6- TYPICAL REVERSE CHARACTERISTICS



## Ordering Information :

| Part Number | Package | Packing | |
|---|---|---|---|
| | | Qty. | Carrier |
| GBJS3010_HF | GBJS | 15 | Tube |

## Marking Information :



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