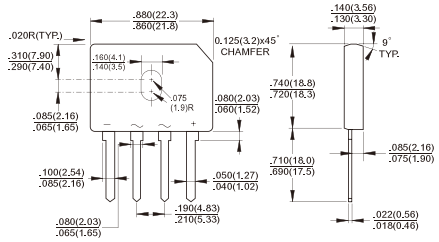
TAIWAN SEMICONDUCTOR

RoHS COMPLIANCE

# GBU801 - GBU807

## Single Phase 8.0 AMPS. Glass Passivated Bridge Rectifiers

**GBU**




Dimensions in inches and (millimeters)

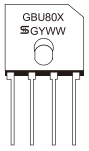
## Features

- ✧ UL Recognized File # E-326243
- ✧ Glass passivated junction
- ✧ Ideal for printed circuit board
- ✧ High case dielectric strength of 1500 Vrms
- ✧ Plastic material has Underwriters Laboratory Flammability Classification 94V-0
- ✧ Typical IR less than 0.1uA
- ✧ High surge current capability
- ✧ High temperature soldering guaranteed: 260°C / 10 seconds at 5 lbs., (2.3kg) tension
- ✧ Green compound with suffix "G" on packing code & prefix "G" on datecode.

## Mechanical Data

- ✧ Case : Molded plastic body
- ✧ Terminal : Pure tin plated , Lead free. Leads solderable per MIL-STD-202 Method 208
- ✧ Weight:4 grams
- ✧ Mounting Torque: 5 in. lb. max.

Marking Diagram




GBU80X = Specific Device Code
G = Green Compound
Y = Year
WW = Work Week

## Maximum Ratings and Electrical Characteristics

Rating at 25 °C ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%

| Type Number | Symbol | GBU 801 | GBU 802 | GBU 803 | GBU 804 | GBU 805 | GBU 806 | GBU 807 | Units |
|---|---|---|---|---|---|---|---|---|---|
| Maximum Recurrent Peak Reverse Voltage | $V_{RRM}$ | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum RMS Voltage | $V_{RMS}$ | 35 | 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 @$T_C$ = 100 °C | $I_{F(AV)}$ | 8.0 | | | | | | | A |
| Peak Forward Surge Current, 8.3 ms Single Half Sne-wave Superimposed on Rated Load (JEDEC method ) | $I_{FSM}$ | 200 | | | | | | | A |
| Rating for fusing ( t<8.3mS ) | $I^2T$ | 166.0 | | | | | | | $A^2S$ |
| Maximum Instantaneous Forward Voltage @ 4.0A<br>@ 8.0A | $V_F$ | 1.0<br>1.1 | | | | | | | V |
| Maximum DC Reverse Current @ $T_A$=25 °C<br>at Rated DC Blocking Voltage (Note 1) @ $T_A$=125 °C | $I_R$ | 5.0<br>500 | | | | | | | uA<br>uA |
| Typical Junction Capacitance Per Leg (Note 2) | Cj | 211 | | | | 94 | | | pF |
| Typical Thermal Resistance (Note 3) | $R_{\theta JA}$<br>$R_{\theta JC}$ | 21<br>2.0 | | | | | | | °C/W |
| Operating Temperature Range | $T_J$ | -55 to +150 | | | | | | | °C |
| Storage Temperature Range | $T_{STG}$ | -55 to + 150 | | | | | | | °C |

Notes: 1. Pulse Test with PW=300 usec,1% Duty Cycle
2. Measured at 1MHz and applied Reverse bias of 4.0V DC.
3. Unit case mounted on 4" x 6" x 0.25" Al plate heat sink.

Version: E10

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## RATINGS AND CHARACTERISTIC CURVES (GBU801 THRU GBU807)

FIG 1-Maximum Derating Curve for Output Current

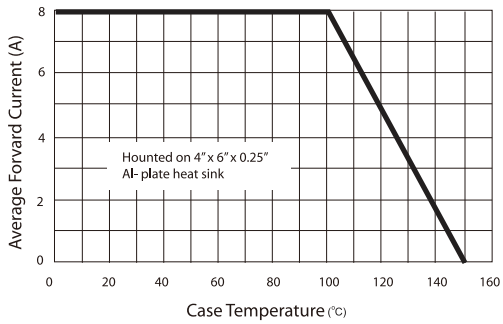



FIG 2 Maximum Forward Surge Current per Leg

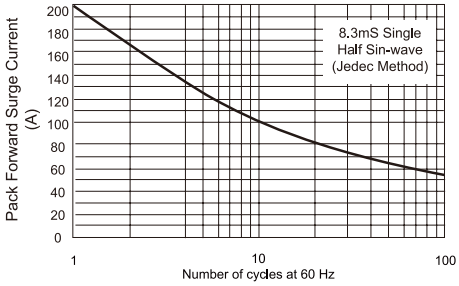



FIG 3 Typical Reverse Characteristics per Leg

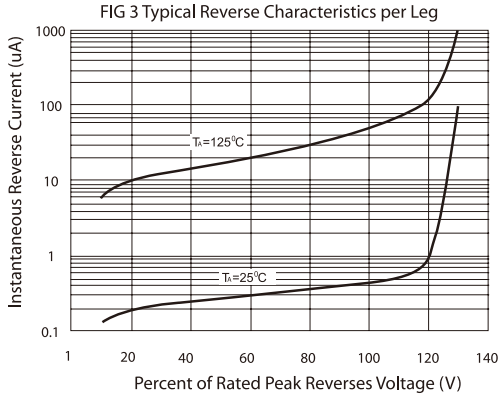



FIG 4 Typical Forward Characterisrics per Leg

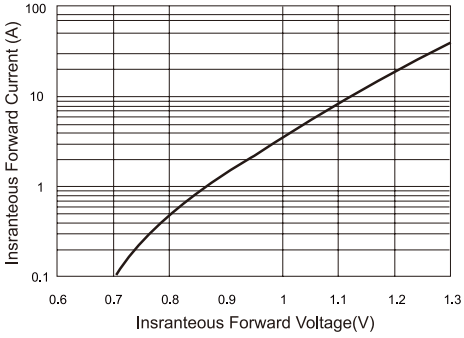
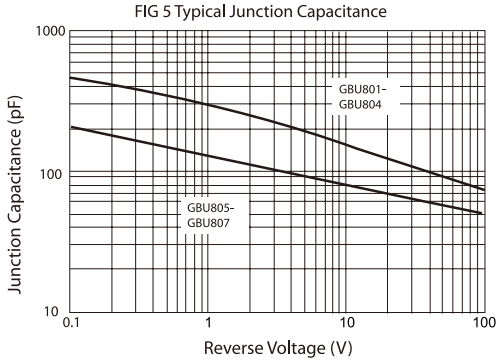



FIG 5 Typical Junction Capacitance

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