

# GBU8005G-GBU810G

## SINGLE PHASE 8.0AMP GLASS PASSIVATED BRIDGE RECTIFIER

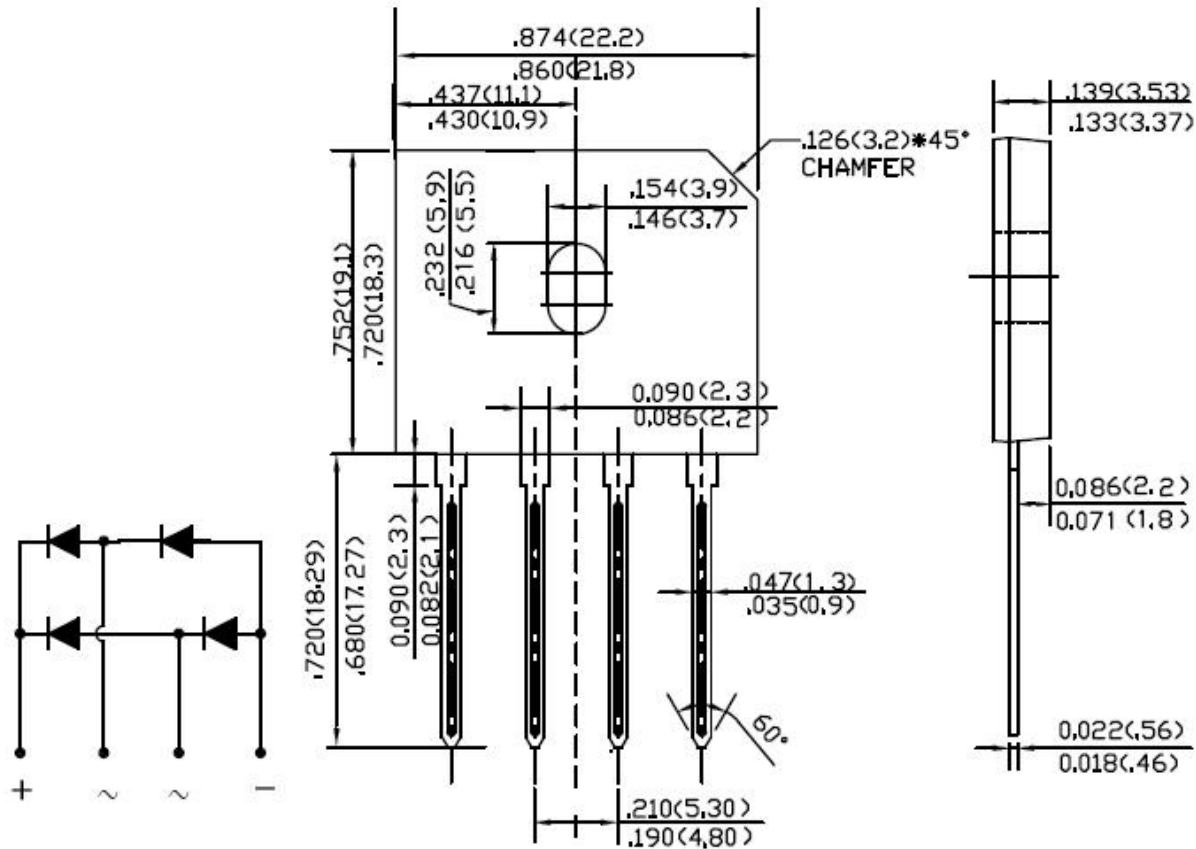
## Features:

- Glass passivated die construction
- Low forward voltage drop
- High current capability
- High surge current capability
- Plastic material-UL flammability 94V-0

### Mechanical Data:

- **Case:** GBU, Molded plastic
- **Terminals:** Plated leads solderable per MIL-STD-202, Method 208
- **Polarity:** as marked on case
- **Mounting Position:** Any
- **Marking:** Type Number
- **Lead Free:** For RoHS / Lead Free Version

### Mechanical Dimensions: In Inches/mm



**GBU**

## MARKING, MOLDING RESIN

Marking for Type Number, 1<sup>st</sup> row SSG YYWWL, 2<sup>nd</sup> row Type Number

Where YY is the manufacture year

WW is the manufacture week code

L is the wafer's Lot Number

- China - Germany - Korea - Singapore - United States •  
• <http://www.smc-diodes.com> - [sales@smc-diodes.com](mailto:sales@smc-diodes.com) •

## Maximum Ratings and Electrical Characteristics

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

### Maximum Ratings:

| Type Number                                                                                                           | Symbol                             | GBU 8005G | GBU 801G | GBU 802G | GBU 804G | GBU 806G | GBU 808G | GBU 810G | Unit |
|-----------------------------------------------------------------------------------------------------------------------|------------------------------------|-----------|----------|----------|----------|----------|----------|----------|------|
| Peak Repetitive Reverse Voltage<br>Working Peak Reverse Voltage<br>DC Blocking Voltage                                | $V_{RRM}$<br>$V_{RWM}$<br>$V_{DC}$ | 50        | 100      | 200      | 400      | 600      | 800      | 1000     | V    |
| RMS Reverse Voltage                                                                                                   | $V_{RMS}$                          | 35        | 70       | 140      | 280      | 420      | 560      | 700      | V    |
| Average forward rectified output current<br>(Note 1) @ $T_c = 90^\circ\text{C}$                                       | $I_o$                              | 8.0       |          |          |          |          |          |          | A    |
| Non-Repetitive Peak Forward Surge Current<br>8.3ms Single half sine-wave superimposed<br>on rated load (JEDEC Method) | $I_{FSM}$                          | 200       |          |          |          |          |          |          | A    |

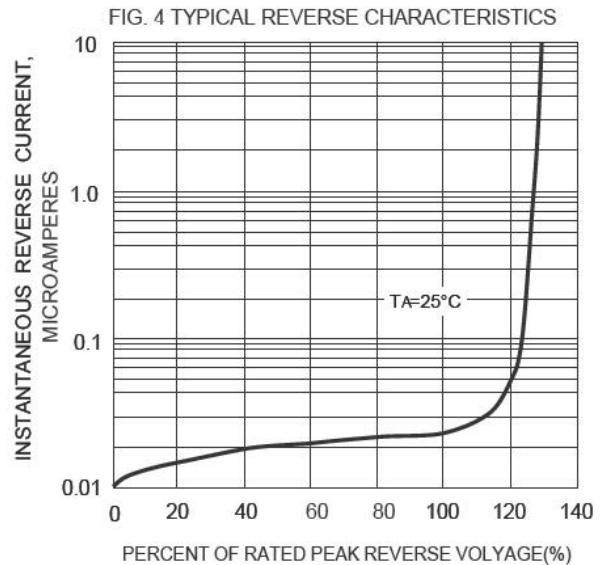
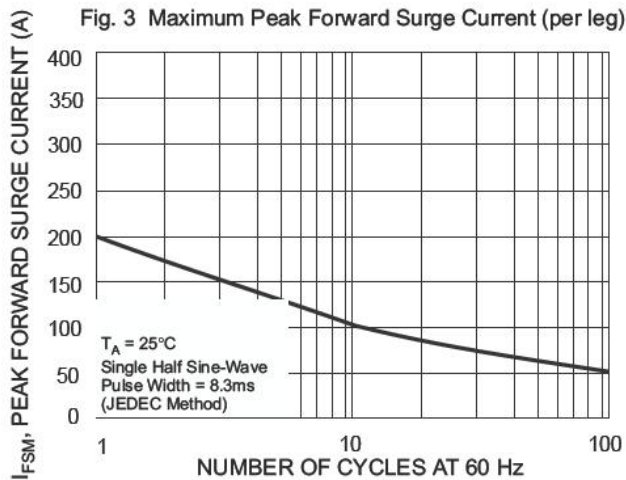
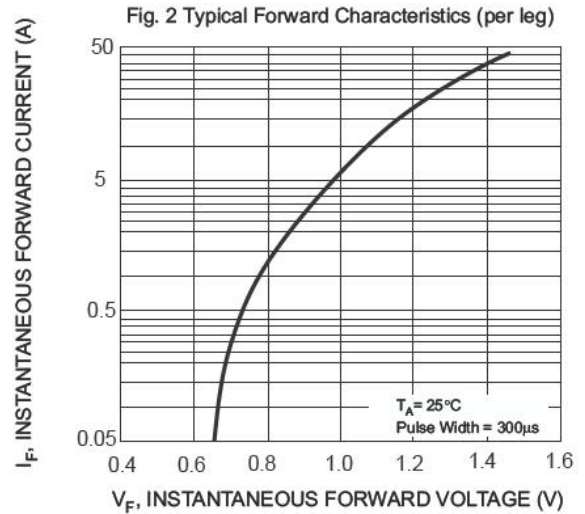
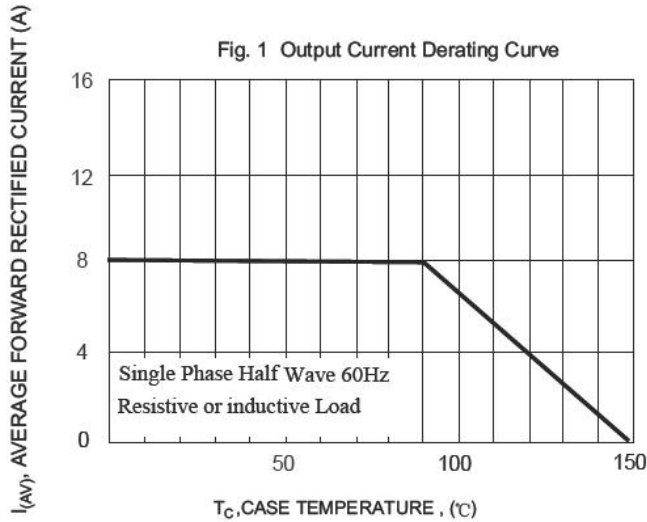
### Electrical Characteristics:

| Type Number                                                                                                                       | Symbol   | GBU 8005G  | GBU 801G | GBU 802G | GBU 804G | GBU 806G | GBU 808G | GBU 810G | Unit                 |
|-----------------------------------------------------------------------------------------------------------------------------------|----------|------------|----------|----------|----------|----------|----------|----------|----------------------|
| Forward Voltage (per element)<br>@ $I_F = 4\text{A}$ , $T_A = 25^\circ\text{C}$<br>@ $I_F = 8\text{A}$ , $T_A = 25^\circ\text{C}$ | $V_{FM}$ | 1.0<br>1.1 |          |          |          |          |          |          | V                    |
| Peak Reverse Current @ $T_A = 25^\circ\text{C}$<br>At Rated DC Blocking Voltage @ $T_A = 125^\circ\text{C}$                       | $I_{RM}$ | 5.0<br>500 |          |          |          |          |          |          | $\mu\text{A}$        |
| $I^2t$ Rating for fusing ( $t < 8.3\text{ms}$ )                                                                                   | $I^2t$   | 166        |          |          |          |          |          |          | $\text{A}^2\text{s}$ |
| Typical Junction Capacitance(per leg)<br>(Note 2)                                                                                 | $C_J$    | 70         |          |          |          |          |          |          | pF                   |

### Thermal-Mechanical Specifications:

| Type Number                                      | Symbol                             | GBU 8005G   | GBU 801G | GBU 802G | GBU 804G | GBU 806G | GBU 808G | GBU 810G | Unit               |
|--------------------------------------------------|------------------------------------|-------------|----------|----------|----------|----------|----------|----------|--------------------|
| Typical Thermal Resistance (per leg)<br>(Note 3) | $R_{\theta JA}$<br>$R_{\theta JL}$ | 30.9<br>7.3 |          |          |          |          |          |          | $^\circ\text{C/W}$ |
| Operating and Storage Temperature Range          | $T_J$ , $T_{STG}$                  | -55 to +150 |          |          |          |          |          |          | $^\circ\text{C}$   |
| Case Style                                       |                                    | GBU         |          |          |          |          |          |          |                    |

Note: 1. Mounted on glass epoxy PC board with 1.3mm<sup>2</sup> solder pad.  
2. Measured at 1.0 MHz and applied reverse voltage of 4.0V D.C.  
3. Device mounted on 50mm x 50mm x 1.6mm Cu Plate Heat sink.



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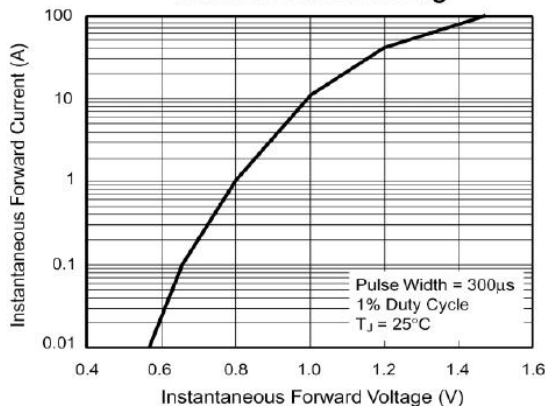
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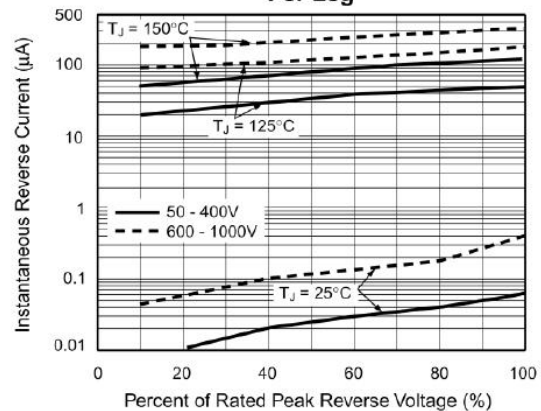
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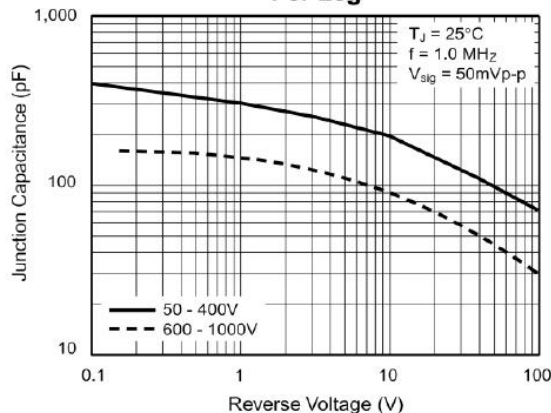
**Fig. 3 – Typical Forward Characteristics Per Leg**



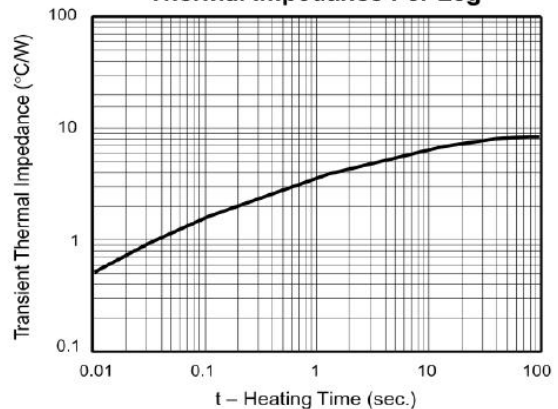
**Fig. 4 – Typical Reverse Characteristics Per Leg**



**Fig. 5 – Typical Junction Capacitance Per Leg**



**Fig. 6 – Typical Transient Thermal Impedance Per Leg**





**GBU8005G  
THRU  
GBU810G**

**Technical Data  
Data Sheet N1919, Rev. -**

***Green Products***