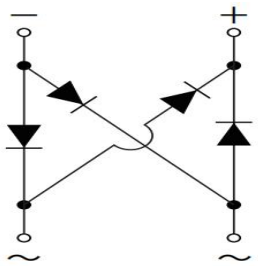
# 8.0A Glass Passivated Single-Phase Surface Mount Bridge Rectifier

## 1 General Description

### 1.1 Features

- Ideal for printed circuit board application
- Glass passivated junction
- Surface mount bridge, small package;
- The plastic material used carries Underwriters Laboratory flammability recognition 94V-0
- High surge current capability
- High heat dissipation capability;

**REVERSE VOLTAGE**
1000V
**FORWARD CURRENT**
8Ampere



### 1.2 Typical Applications

- General purpose use in AC-to-DC bridge full wave rectification for Fast Charging, Switching Power Supply, USB PD, Adapter and 3-in-1 Power Board, etc.

### 1.3 Mechanical Data

- Case:HBS,Molding compound meets UL 94 V-0 flammability rating.
- Terminals: Tin plated leads, solderable per J-STD-002 and JESD22-B102
- Polarity: Marked on body

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

| PARAMETER | SYMBOL | RHBS810 | UNIT |
|---|---|---|---|
| Maximum Repetitive Peak Reverse Voltage | $V_{RRM}$ | 1000 | V |
| Maximum RMS Bridge Input Voltage | $V_{RMS}$ | 700 | V |
| Maximum DC Blocking Voltage | $V_{DC}$ | 1000 | V |
| Maximum Average Forward Rectified Output Current at $T_A$=25℃ | $I_{F(AV)}$ | 8.0 | A |
| Non-Repetitive Peak forward surge current 8.3 ms single sine-wave superimposed on rated load (JEDEC Method) | $I_{FSM}$ | 200 | A |
| Rating for fusing t<8.3ms | $I^2t$ | 166 | $A^2sec$ |
| Operating Temperature Range | $T_J$ | -55 to +150 | ℃ |
| Storage Temperature Range | $T_{STG}$ | -55 to +150 | ℃ |
| Thermal Resistance | $R_{\theta J-A}$ | 70 | ℃/W |
| | $R_{\theta J-L}$ | 22 | |
| | $R_{\theta J-C}$ | 15 | |

Note1: Measured at 1.0MHz and applied reverse voltage of 5.0V DC;

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

| PARAMETER | SYMBOL | TEST CONDITION | RHBS810 | | UNIT |
|---|---|---|---|---|---|
| Maximum instantaneous Forward Voltage drop per diode | $V_F$ | $I_F$=1.0A | 0.95 | | V |
| | | $I_F$=4.0A | 1.1 | | |
| | | $I_F$=8.0A | 1.3 | | |
| Maximum reverse recovery time | $t_{rr}$ | $I_F$=0.5A, $I_R$=1.0A, $I_{rr}$=0.25A | 350 | | ns |
| Reverse Current at Rated DC Blocking Voltage | $I_R$ | Tj =25℃ | 0.2 Typ. | 5.0 Max. | μA |
| | | Tj =125℃ | 50 Typ. | 100 Max. | |

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

FIG.1 Derating Curve Output Rectified Current

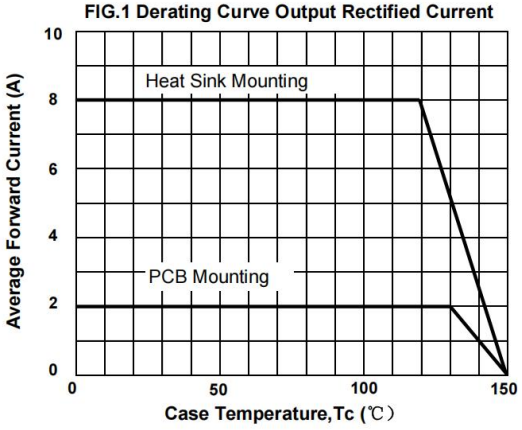



FIG.2 Typical Forward Characteristics per Diode

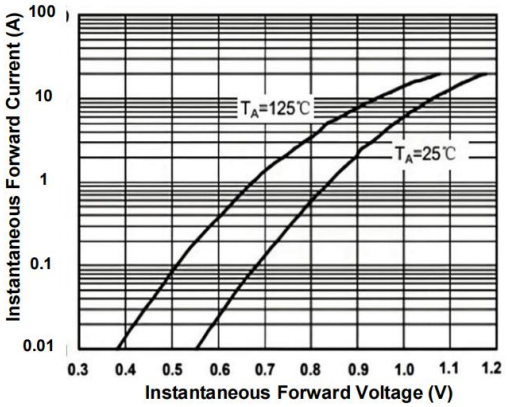



FIG.3 Maximum Non-Repetitive Peak Forward Surge Current per Diode

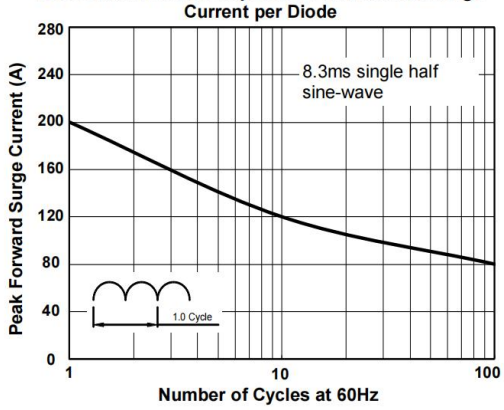



FIG.4 Typical Reverse Characteristics per Diode

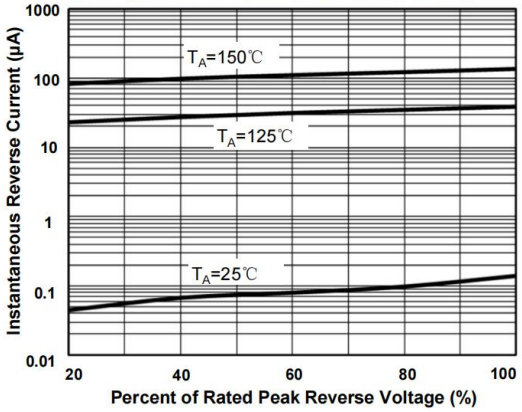
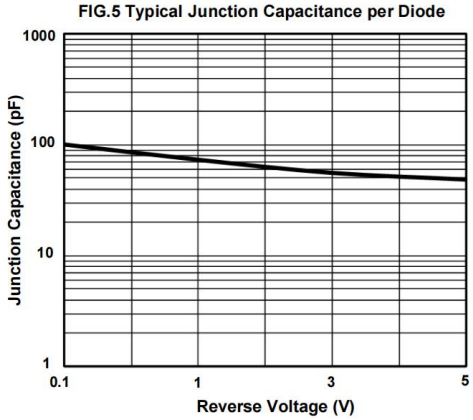
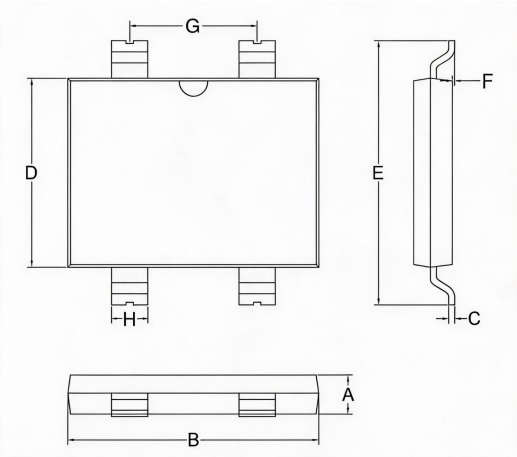



FIG.5 Typical Junction Capacitance per Diode



## 5 Package Outline Dimensions

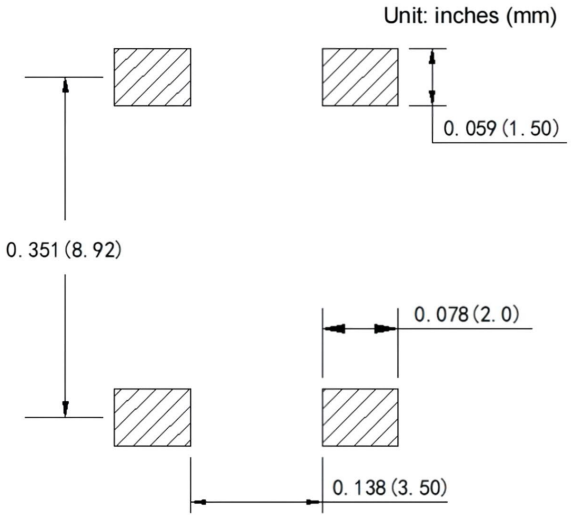



| Symbol | UNIT(mm) | |
|---|---|---|
| | Min | Max |
| A | 1.30 | 1.90 |
| B | 9.70 | 10.30 |
| C | 0.15 | 0.35 |
| D | 6.90 | 7.50 |
| E | 9.70 | 10.30 |
| F | 0 | 0.15 |
| G | 4.80 | 5.40 |
| H | 1.30 | 1.70 |

## 6 Ordering Information

| PACKAGE | UNIT WEIGHT (g) | REEL (pcs) | BOX (pcs) | CARTON (pcs) |
|---|---|---|---|---|
| HBS | Approximate 0.59 | 2500 | 5000 | 20000 |

## 7 Suggested Pad Layout



## Disclaimer

1. All information contained in this document is for reference only. Shandong Baocheng Electronics Co.,Ltd reserves the right to revise this document, product specifications and related data at any time without prior notice. Customers shall obtain and confirm the latest product documents and specifications before purchasing or using the products.

2. Under no circumstances shall the Company be liable for any failure or damage caused by the operation of semiconductor devices beyond the maximum rated values.

3. Shandong Baocheng Electronics Co.,Ltd does not warrant the suitability of its products for any specific application and assumes no responsibility for customer's complete machine design or application debugging. Without written approval, products are prohibited from being used as key components of life support equipment. The Company shall not be liable for any consequences arising from unauthorized use.

4. No intellectual property license of Shandong Baocheng Electronics Co.,Ltd is granted, explicitly or implicitly, through this document.