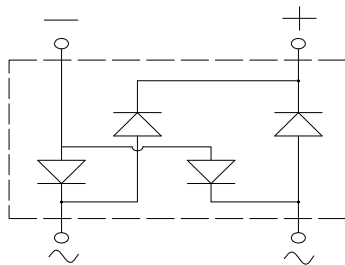
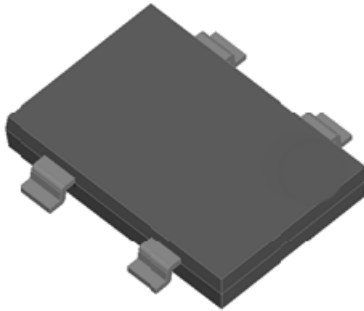


### HBS



### Features

- Improve EMI conduction characteristics;
- Ideal for printed circuit boards;
- Glass passivated chip junction;
- High surge current capability;
- High heat dissipation capability;
- Low profile package;
- Surface mount bridge, small package;
- Plastic package has Underwrites Laboratory Flammability Classification 94V-0;

### 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.

### Mechanical Data

- Case: HBS;  
Epoxy meets UL-94V-0 Flammability rating;
- Terminals: Matte tin plated leads, solderable per J-STD-002 and JESD22-B102;
- High temperature soldering guaranteed:  
Solder Reflow 260°C, 10seconds;
- Polarity: As marked on body;
- Marking: Type number;

### Maximum Ratings and Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified. Single Phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

| Parameter                                                                                                   | Symbol                            | FHBS810     |           | Unit               |
|-------------------------------------------------------------------------------------------------------------|-----------------------------------|-------------|-----------|--------------------|
| Maximum repetitive peak reverse voltage                                                                     | V <sub>RRM</sub>                  | 1000        |           | V                  |
| Maximum RMS voltage                                                                                         | V <sub>RMS</sub>                  | 700         |           | V                  |
| Maximum DC blocking voltage                                                                                 | V <sub>DC</sub>                   | 1000        |           | V                  |
| Maximum average forward rectified output current                                                            | I <sub>F(AV)</sub>                | 8.0         |           | Amps               |
| Non-Repetitive Peak forward surge current 8.3 ms single sine-wave superimposed on rated load (JEDEC Method) | I <sub>FSM</sub>                  | 175         |           | Amps               |
| Rating for fusing (t<8.3ms)                                                                                 | I <sup>2</sup> t                  | 127         |           | A <sup>2</sup> sec |
| Instantaneous forward voltage drop per diode @IF=1.0A @IF=4.0A                                              | V <sub>F</sub>                    | 0.90 Typ.   | 0.96 Max. | Volt               |
|                                                                                                             |                                   | 0.98 Typ.   | 1.30 Max. |                    |
| Reverse Current at Rated DC Blocking Voltage T <sub>A</sub> =25℃ T <sub>A</sub> =125℃                       | I <sub>R</sub>                    | 0.50 Typ.   | 5.0 Max.  | μA                 |
|                                                                                                             |                                   | 60.0 Typ.   | 300 Max.  |                    |
| Maximum Recerse Recovery Time ( Note1 )                                                                     | T <sub>rr</sub>                   | 500         |           | ns                 |
| Typical capacitance ( Note2 )                                                                               | C <sub>j</sub>                    | 68          |           | pF                 |
| Typical thermal resistance ( Note3 )                                                                        | R <sub>θJ-A</sub>                 | 55.0        |           | ℃/W                |
|                                                                                                             | R <sub>θJ-C</sub>                 | 8.0         |           |                    |
|                                                                                                             | R <sub>θJ-L</sub>                 | 14.0        |           |                    |
| Operating junction and Storage Temperature Range                                                            | T <sub>J</sub> , T <sub>STG</sub> | -55 to +150 |           | ℃                  |

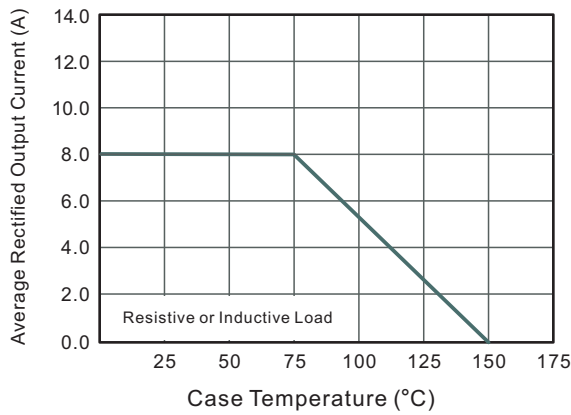
Note:1. Measured with  $I_F=0.5A, I_R=1.0A, I_{RR}=0.25A$ ;

2. Measured at 1MHz and applied reverse voltage of 4.0V D.C.;

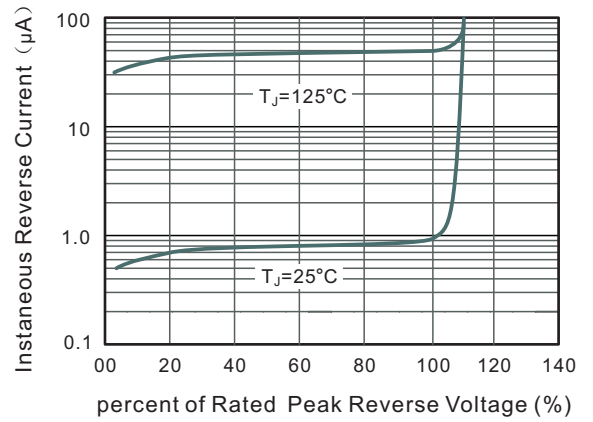
3. Mounted on glass epoxy PC board with 4 x 1.5" x 1.5" ( 3.81x3.81 cm ) copper pad.

**Ratings and Characteristics Curves** ( $T_A = 25^\circ\text{C}$  unless otherwise noted)

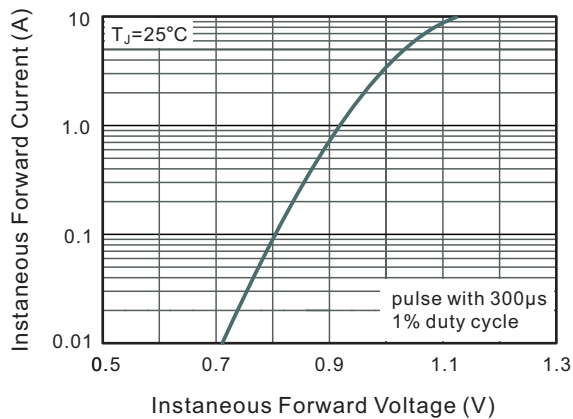
**Fig.1 Average Rectified Output Current Derating Curve**



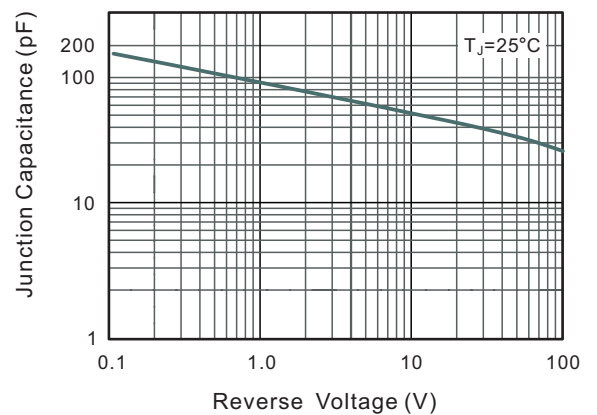
**Fig.2 Typical Reverse Characteristics**



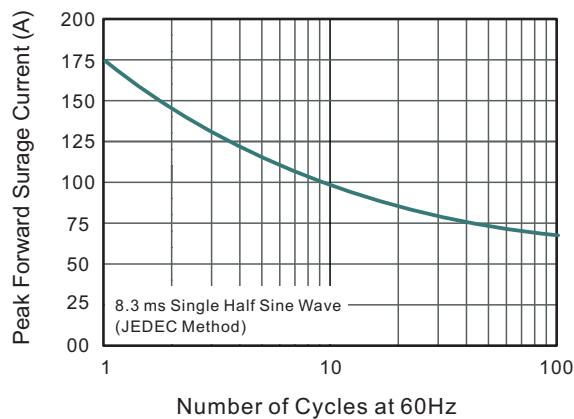
**Fig.3 Typical Instantaneous Forward Characteristics**



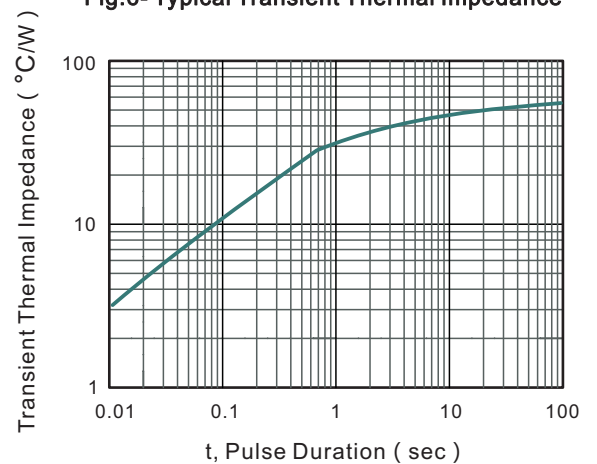
**Fig.4 Typical Junction Capacitance**



**Fig.5 Maximum Non-Repetitive Peak Forward Surge Current**

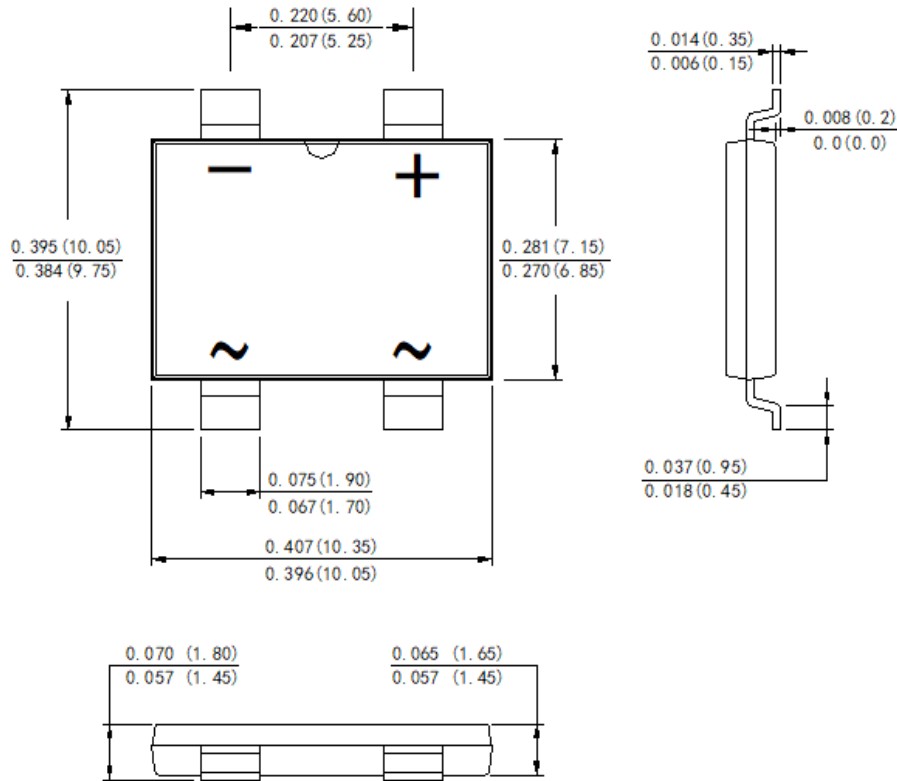


**Fig.6 Typical Transient Thermal Impedance**



## Outline Dimensions

Case: HBS Unit: inches (mm)



## Suggested PCB printfoot layout

Unit: inches (mm)

