

# RHBS610

## Glass Passivated Single-Phase 6.0Amp Fast Recovery Surface Mount Bridge Rectifier

### Features

- Surface mount bridge, small package;
- Ideal for printed circuit boards;
- Glass passivated chip junction;
- High forward current capability up to 6.0A;
- High forward surge current capability;
- Fast recovery, low switching loss;
- Low profile package;
- Low forward voltage drop, low power losses;
- Plastic package has Underwrites Laboratory Flammability Classification 94V-0;

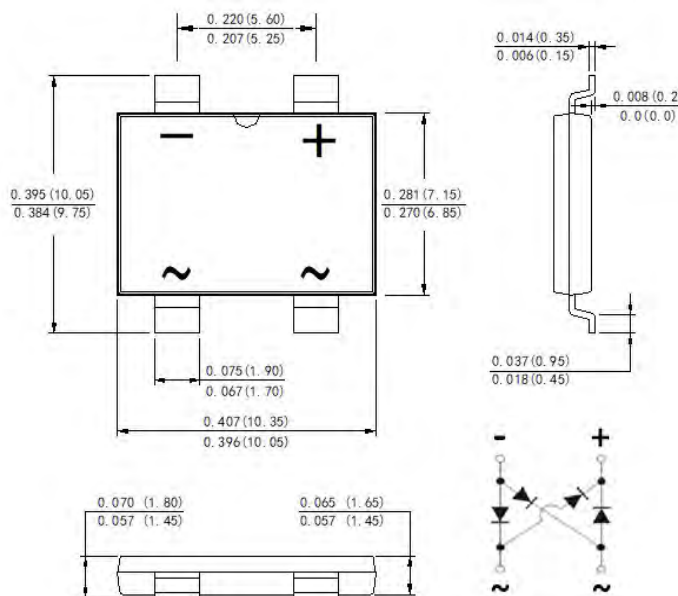
### Mechanical Data

- 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;

### 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.

Case: HBS



Dimensions in inches and (milimeters)

### 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	RHBS610		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 at T <sub>A</sub> =25℃	I <sub>F(AV)</sub>	6.0		Amps
Non-Repetitive Peak forward surge current 8.3 ms single sine-wave superimposed on rated load (JEDEC Method)	I <sub>FSM</sub>	170		Amps
Rating for fusing (t<8.3ms)	I <sup>2</sup> t	120		A <sup>2</sup> sec
Instantaneous forward voltage drop per diode @IF=1.0A @IF=3.0A @IF=6.0A	V <sub>F</sub>	0.86 Typ. 0.95 Typ. 1.02 Typ.	0.91 max. 1.0 max. 1.07 max.	Volt
Reverse Current at Rated DC Blocking Voltage T <sub>A</sub> =25℃ T <sub>A</sub> =125℃	I <sub>R</sub>	0.16 Typ. 43.0 Typ.	5.0 max. 100 max.	μA
Maximum reverse recovery time (I <sub>F</sub> =0.5A,I <sub>R</sub> =1.0A,I <sub>rr</sub> =0.25A)	T <sub>rr</sub>	500		ns
Typical capacitance (note1)	C <sub>J</sub>	41		pF
Typical thermal resistance	R <sub>θJ-A</sub>	72.0		℃/W
	R <sub>θJ-C</sub>	14.0		
	R <sub>θJ-L</sub>	12.0		
Operating junction and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150		℃

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

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## Glass Passivated Single-Phase 6.0Amp Fast Recovery Surface Mount Bridge Rectifier

### Ratings and Characteristics Curves

( $T_A = 25^\circ\text{C}$  unless otherwise noted)

FIG.1 Derating Curve Output Rectified Current

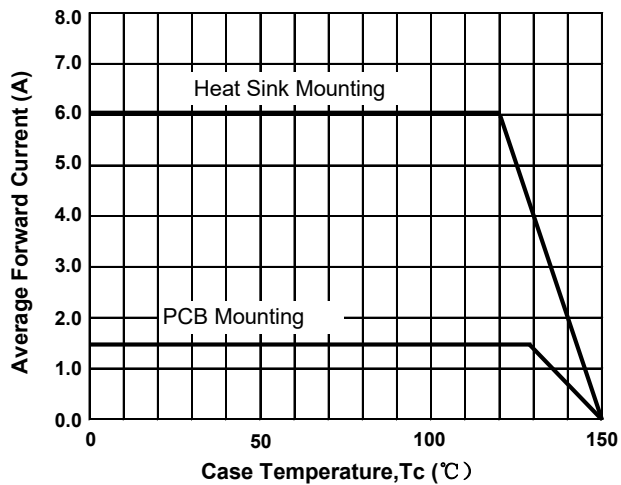


FIG.2 Typical Forward Characteristics per Diode

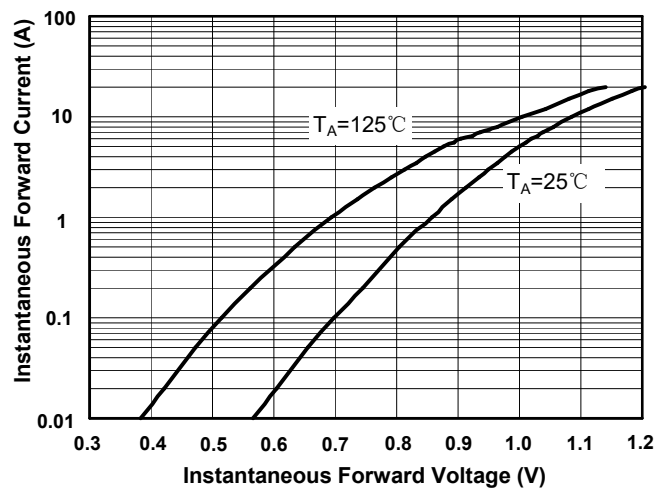


FIG.3 Maximum Non-Repetitive Peak Forward Surge Current per Diode

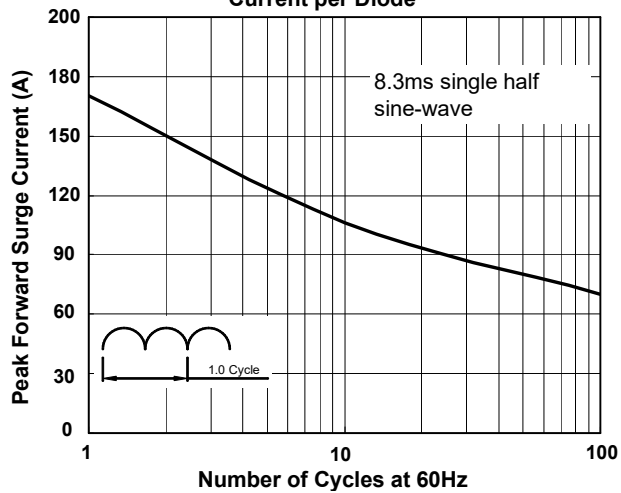


FIG.4 Typical Reverse Characteristics per Diode

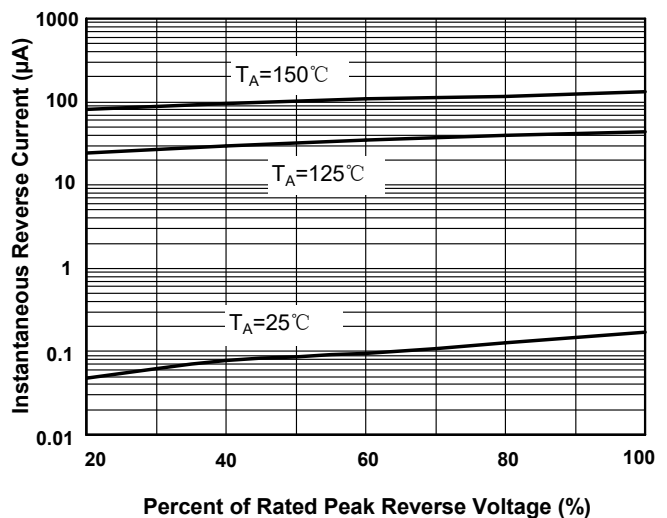
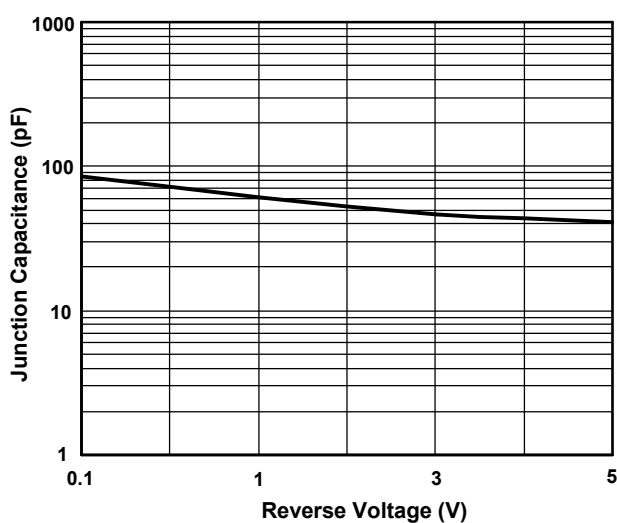


FIG.5 Typical Junction Capacitance per Diode



### Suggested PCB printfoot layout

