

RHBS810

Glass Passivated Single-Phase 8.0Amp Fast Recovery Surface Mount Bridge Rectifier

Features

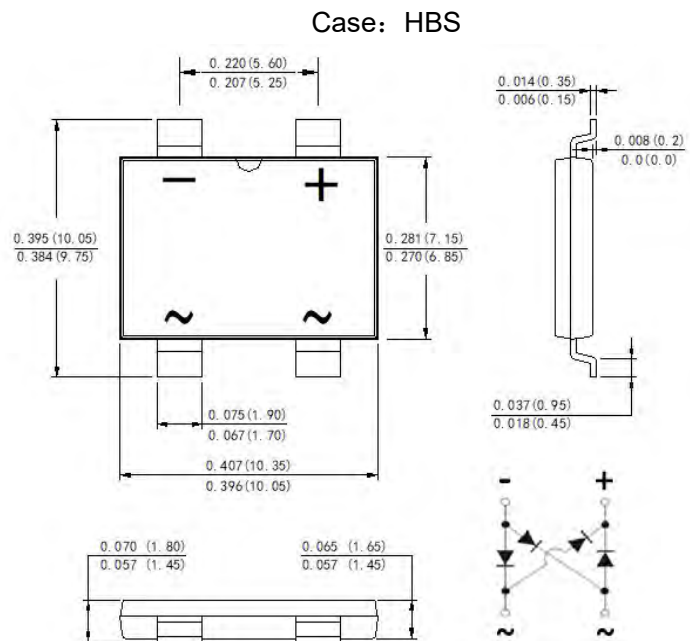
- Surface mount bridge, small package;
- Ideal for printed circuit boards;
- Glass passivated chip junction;
- High forward current capability up to 8.0A;
- High forward surge current capability;
- Fast recovery, low switching loss;
- Low profile package;
- Low forward voltage drop, low power losses;
- 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.



Dimensions in inches and (millimeters)

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	RHBS810		Unit
Maximum repetitive peak reverse voltage	V_{RRM}	1000		V
Maximum RMS voltage	V_{RMS}	700		V
Maximum DC blocking voltage	V_{DC}	1000		V
Maximum average forward rectified output current at $T_A=25^\circ\text{C}$	$I_{F(AV)}$	8.0		Amps
Non-Repetitive Peak forward surge current 8.3 ms single sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	200		Amps
Rating for fusing ($t < 8.3\text{ms}$)	I^2t	166		A ² sec
Instantaneous forward voltage drop per diode	V_F	@ $I_F=1.0\text{A}$	0.85 Typ. 0.90 max.	Volt
		@ $I_F=4.0\text{A}$	0.96 Typ. 1.01 max.	
		@ $I_F=8.0\text{A}$	1.05 Typ. 1.10max.	
Reverse Current at Rated DC Blocking Voltage	I_R	$T_A=25^\circ\text{C}$	0.20 Typ. 5.0 max.	μA
		$T_A=125^\circ\text{C}$	50.0 Typ. 100 max.	
Maximum reverse recovery time ($I_F=0.5\text{A}, I_R=1.0\text{A}, I_{rr}=0.25\text{A}$)	T_{rr}	500		ns
Typical capacitance (note1)	C_j	45		pF
Typical thermal resistance	$R_{\theta J-A}$	70.0		$^\circ\text{C}/\text{W}$
	$R_{\theta J-C}$	15.0		
	$R_{\theta J-L}$	22.0		
Operating junction and Storage Temperature Range	T_J, T_{STG}	-55 to +150		$^\circ\text{C}$

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

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Ratings and Characteristics Curves

(TA = 25°C unless otherwise noted)

FIG.1 Derating Curve Output Rectified Current

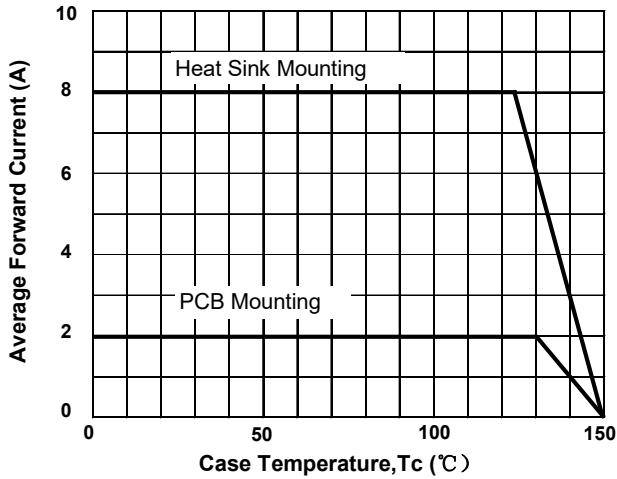


FIG.2 Typical Forward Characteristics per Diode

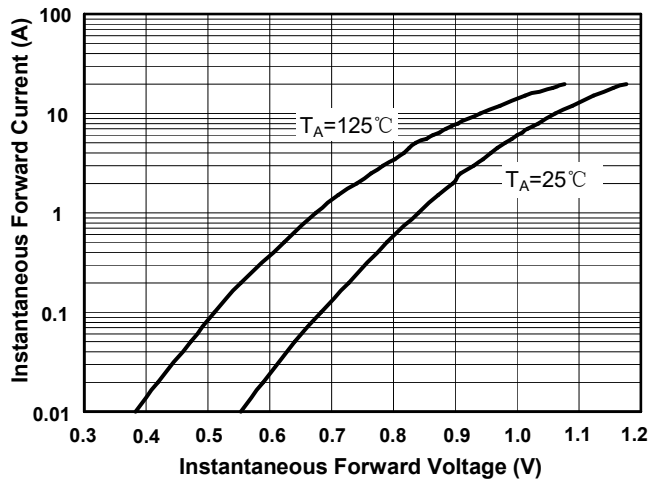


FIG.3 Maximum Non-Repetitive Peak Forward Surge Current per Diode

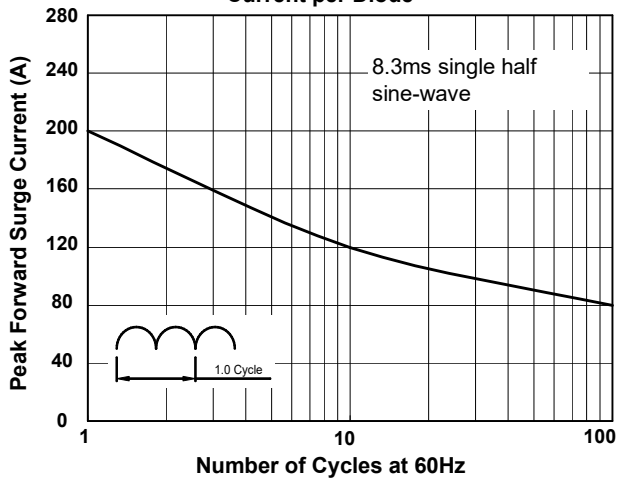


FIG.4 Typical Reverse Characteristics per Diode

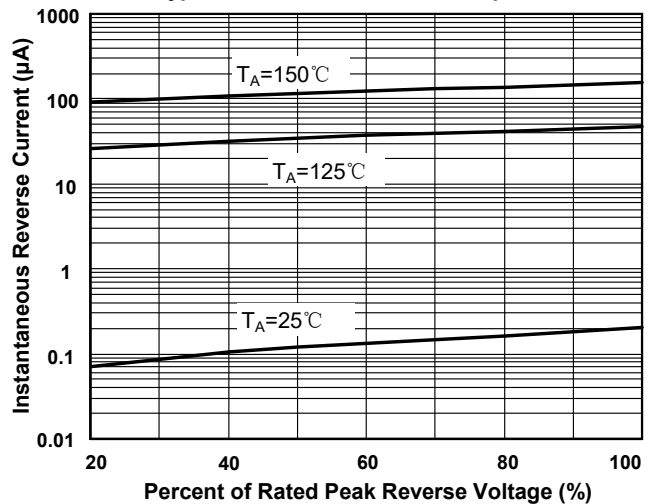
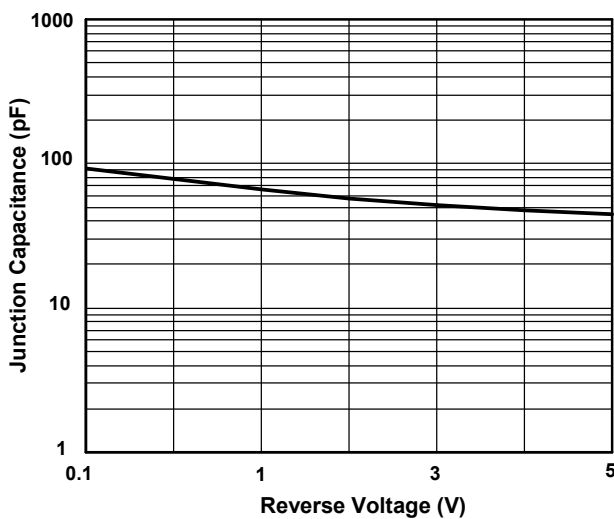


FIG.5 Typical Junction Capacitance per Diode



Suggested PCB printfoot layout

