

RHBS410

Glass Passivated Single-Phase 4.0Amp 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 4.0A;
- 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;

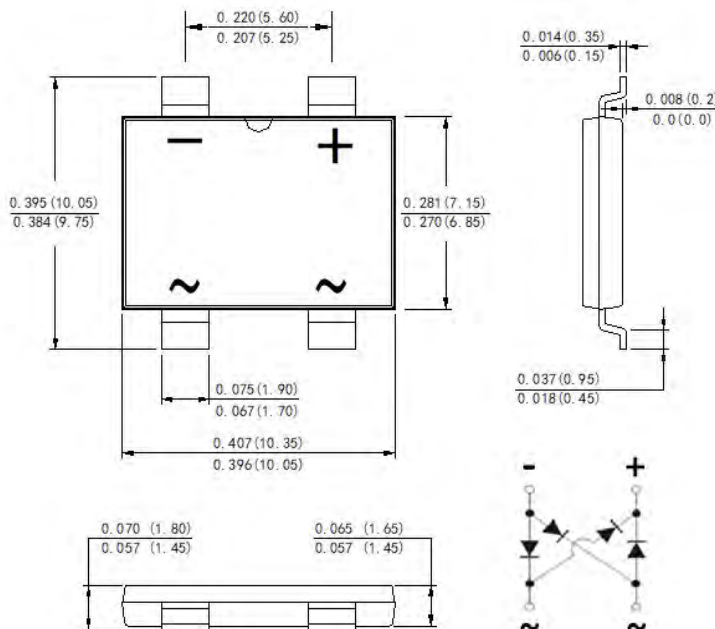
Mechanical Data

- 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 (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	RHBS410		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℃	I _{F(AV)}	4.0		Amps
Non-Repetitive Peak forward surge current 8.3 ms single sine-wave superimposed on rated load (JEDEC Method)	I _{FSM}	130		Amps
Rating for fusing (t<8.3ms)	I ² t	70		A ² sec
Instantaneous forward voltage drop per diode @IF=1.0A @IF=2.0A @IF=4.0A	V _F	0.88 Typ. 0.95 Typ. 1.02 Typ.	0.93 max. 1.0 max. 1.07 max.	Volt
Reverse Current at Rated DC Blocking Voltage T _A =25℃ T _A =125℃	I _R	0.15 Typ. 35.0 Typ.	5.0 max. 100 max.	μA
Maximum reverse recovery time (I _F =0.5A,I _R =1.0A,I _{rr} =0.25A)	T _{rr}	500		ns
Typical capacitance (note1)	C _j	30		pF
Typical thermal resistance	R _{θJ-A}	70.0		℃/W
	R _{θJ-C}	24.0		
	R _{θJ-L}	12.0		
Operating junction and Storage Temperature Range	T _J , T _{STG}	-55 to +150		℃

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

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Ratings and Characteristics Curves

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

FIG.1 Derating Curve Output Rectified Current

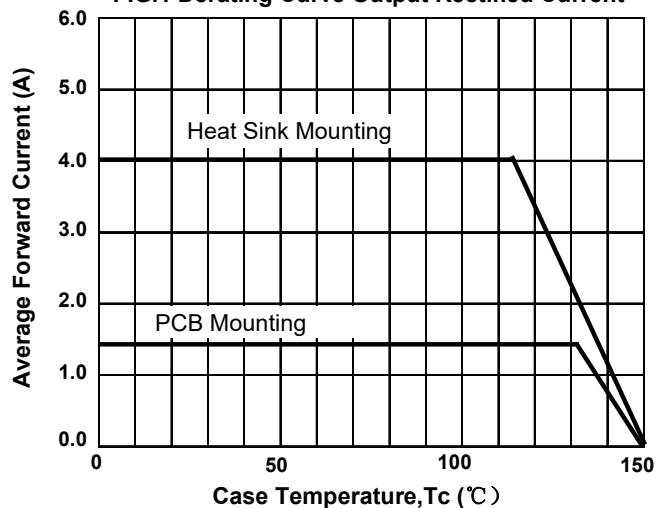


FIG.2 Typical Forward Characteristics per Diode

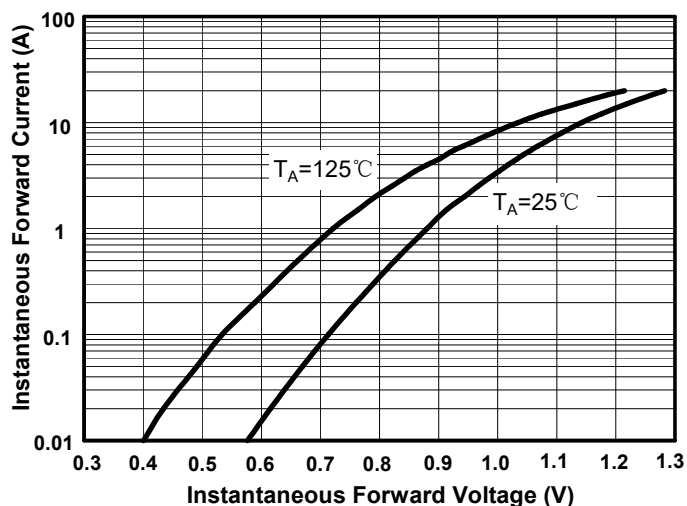


FIG.3 Maximum Non-Repetitive Peak Forward Surge Current per Diode

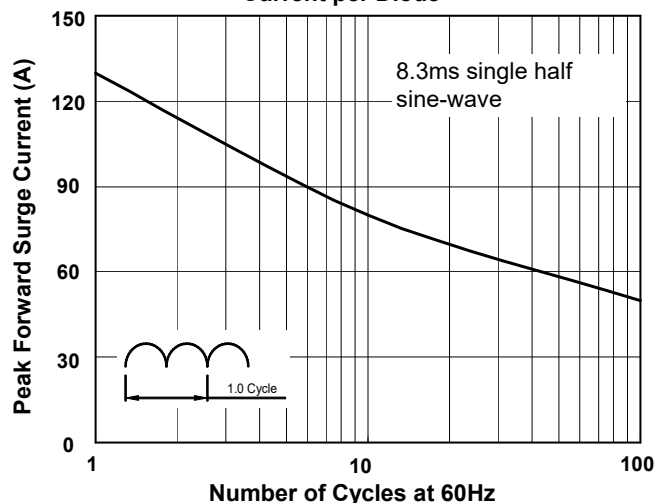


FIG.4 Typical Reverse Characteristics per Diode

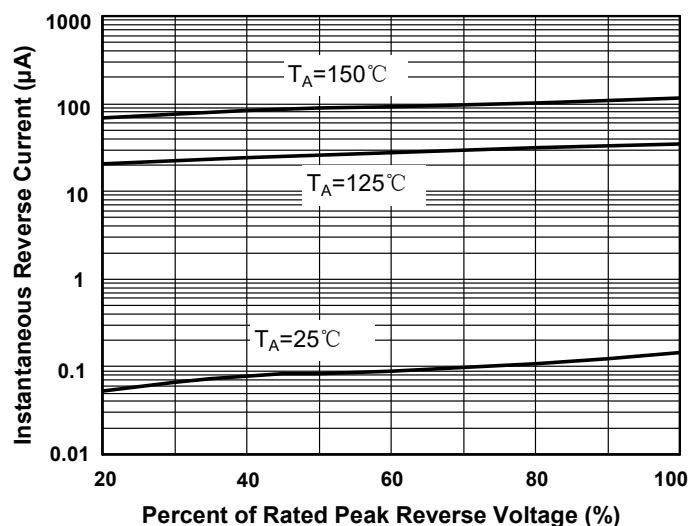
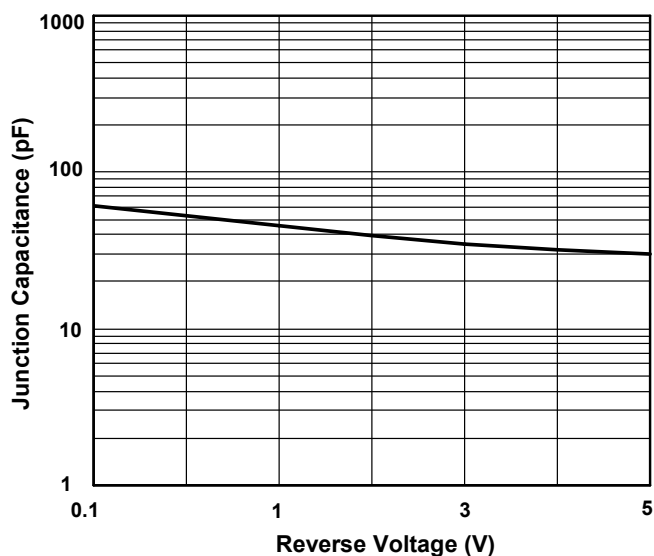


FIG.5 Typical Junction Capacitance per Diode



Suggested PCB printfoot layout

Unit: inches (mm)

