



RHBS502 - RHBS510

Glass Passivated Single-Phase 5.0Amp Surface Mount Bridge Rectifier

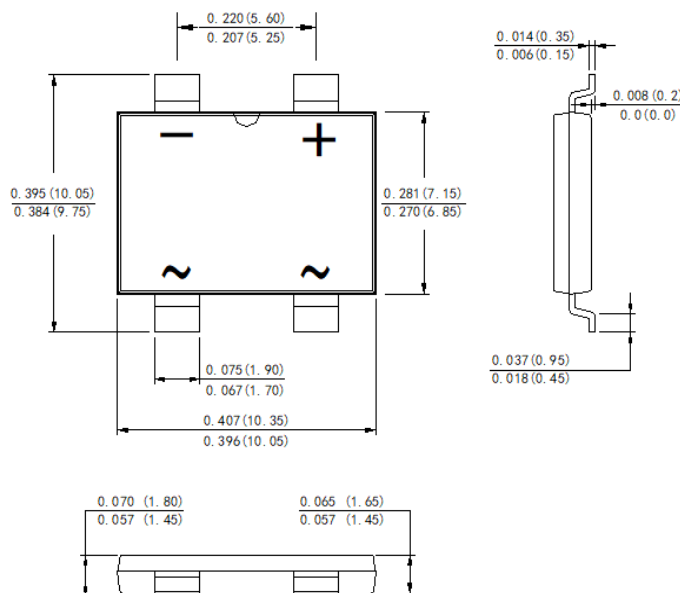
Features

- Surface mount bridge, small package;
- Ideal for printed circuit boards;
- Glass passivated chip junction;
- High forward current capability up to 6.0A;
- High surge current capability;
- High heat dissipation capability;
- Low profile package;
- Low forward voltage drop;
- 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;

Case: HBS



Dimensions in inches and (millimeters)

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.

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	RHBS502	RHBS504	RHBS506	RHBS508	RHBS510	Unit
Maximum repetitive peak reverse voltage	V _{RRM}	200	400	600	800	1000	V
Maximum RMS voltage	V _{RMS}	140	280	420	560	700	V
Maximum DC blocking voltage	V _{DC}	200	400	600	800	1000	V
Maximum average forward rectified output current at T _A =25℃	I _{F(AV)}	5.0					Amps
Non-Repetitive Peak forward surge current 8.3 ms single sine-wave superimposed on rated load (JEDEC Method)	I _{FSM}	150					Amps
Rating for fusing (t<8.3ms)	I ² t	93					A ² sec
Instantaneous forward voltage drop per diode @IF=1.0A @IF=2.5A @IF=5.0A	V _F	0.9 max. 1.0 max. 1.3 max.					Volt
Reverse Current at Rated DC Blocking Voltage T _A =25℃ T _A =125℃	I _R	0.16 Typ. 5.0 max 43.0 Typ. 100 max					μA
Maximum reverse recovery time (IF=0.5A,IR=1.0A,Irr=0.25A)	T _{rr}	150		250	500		nS
Typical thermal resistance	R _{θJ-A} R _{θJ-C} R _{θJ-L}	69.0 12.0 12.0					℃/W
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;



RHBS502 - RHBS510

Glass Passivated Single-Phase 5.0Amp Surface Mount Bridge Rectifier

Ratings and Characteristics Curves

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

FIG.1 Derating Curve Output Rectified Current

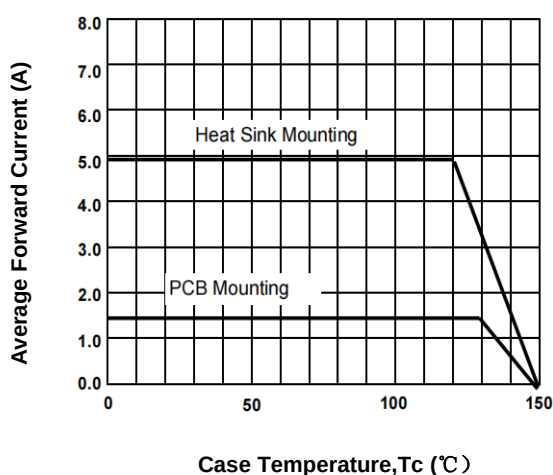


FIG.2 Typical Forward Characteristics per Diode

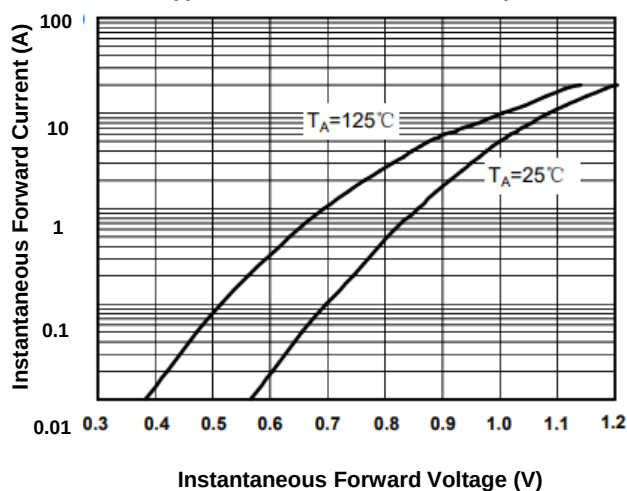


FIG.3 Maximum Non-Repetitive Peak Forward Surge Current per Diode

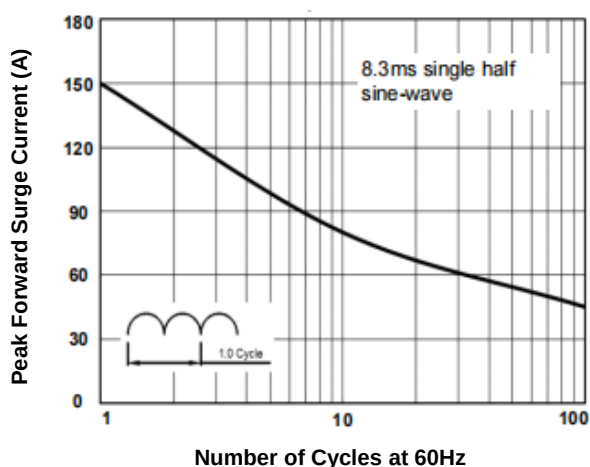


FIG.4 Typical Reverse Characteristics per Diode

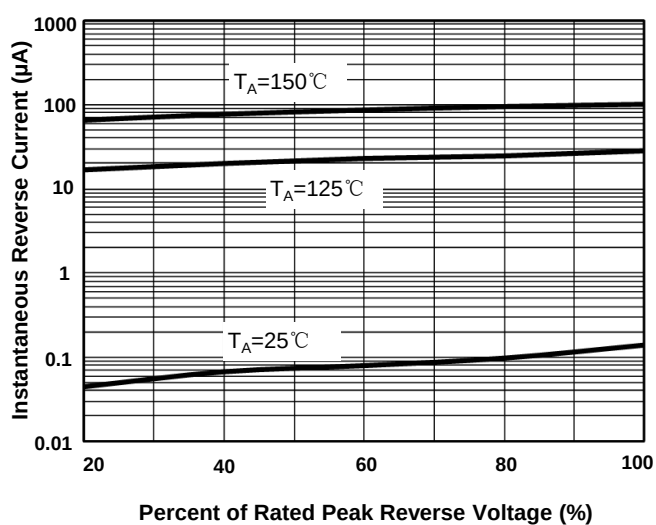
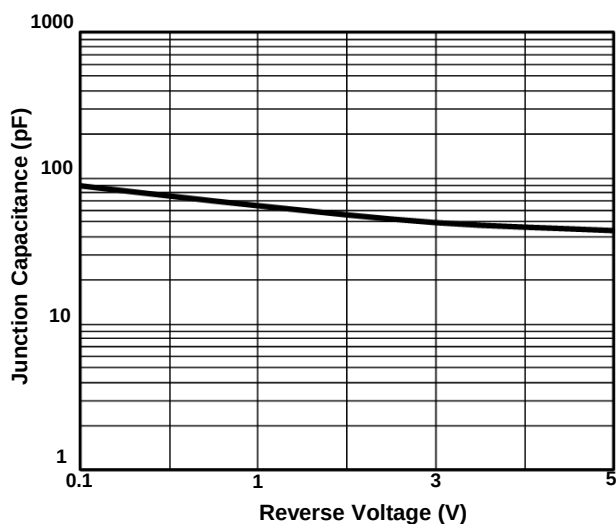


FIG.5 Typical Junction Capacitance per Diode



Suggested PCB printfoot layout

