RHBS402 - RHBS410

Glass Passivated Single-Phase 4.0Amp Surface Mount Bridge Rectifier

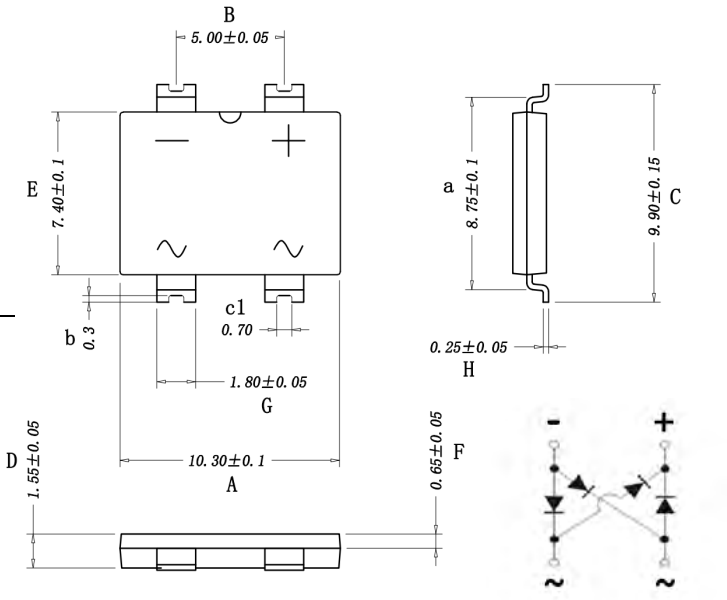
Features

- Surface mount bridge, small package;
- Ideal for printed circuit boards;
- Glass passivated chip junction;
- High forward current capability up to 4.0A;
- 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℃,10seconds;
- Polarity: As marked on body;
- Marking: Type number;

Case：HBS



Dimensions in inches and (milimeters)

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℃ ambient temperature unless otherwise specified. Single Phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

Parameter	Symbol	RHBS402	RHBS404	RHBS406	RHBS408	RHBS410	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℃	$I_{F(AV)}$	4.0					Amps
Non-Repetitive Peak forward surge current 8.3 ms single sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	100					Amps
Rating for fusing (t<8.3ms)	I^2t	41.5					A^2sec
Instantaneous forward voltage drop per diode @IF=2.0A	V_F	1.3 max.					Volt
Reverse Current at Rated DC Blocking Voltage T_A=25℃ T_A=125℃	I_R	5.0 max 100 max					μA
Maxumum reverse recovery time (IF=0.5A,IR=1.0A,Irr=0.25A)	Trr	150		250	500		nS
Typical thermal resistance	$R_{\theta J-A}$ $R_{\theta J-C}$ $R_{\theta J-L}$	40.0 14.0 20.0					℃/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;

Glass Passivated Single-Phase 4.0Amp Surface Mount Bridge Rectifier

Ratings and Characteristics Curves

(TA = 25℃ unless otherwise noted)

FIG.1 Derating Curve Output Rectified Current

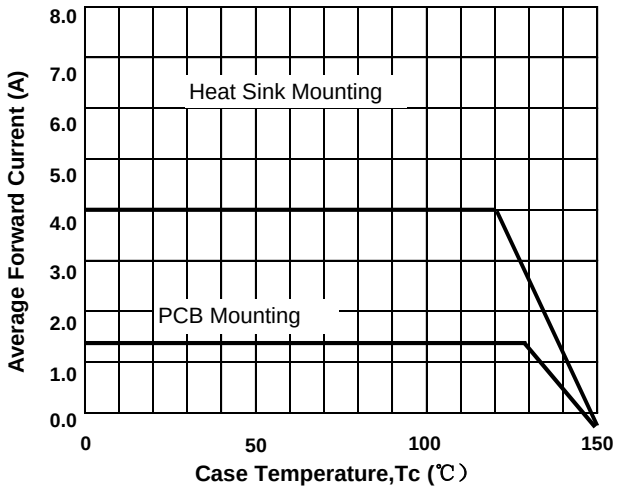


FIG.2 Typical Forward Characteristics per Diode

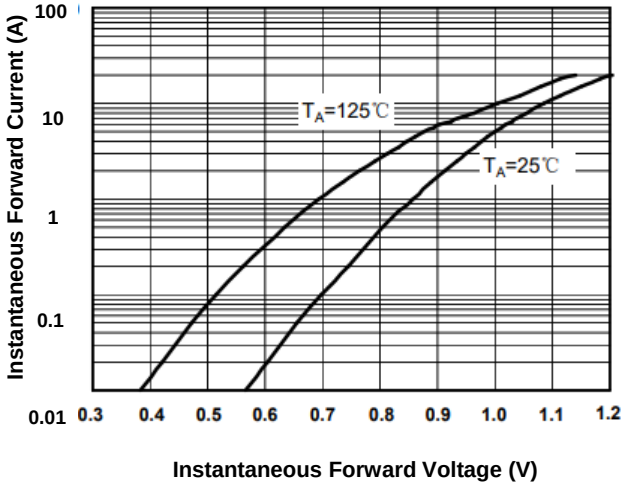


FIG.3 Maximum Non-Repetitive Peak Forward Surge Current per Diode

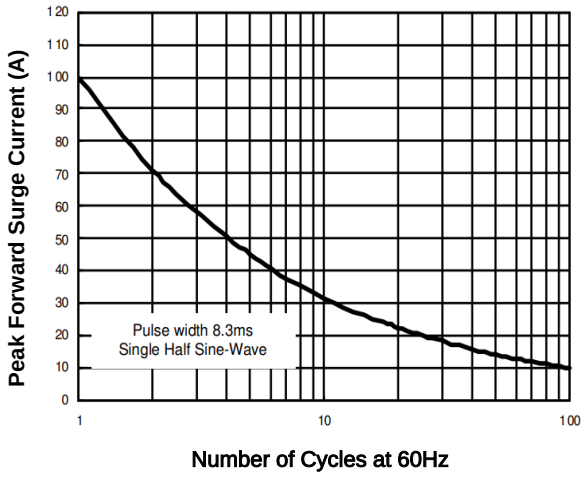


FIG.4 Typical Reverse Characteristics per Diode

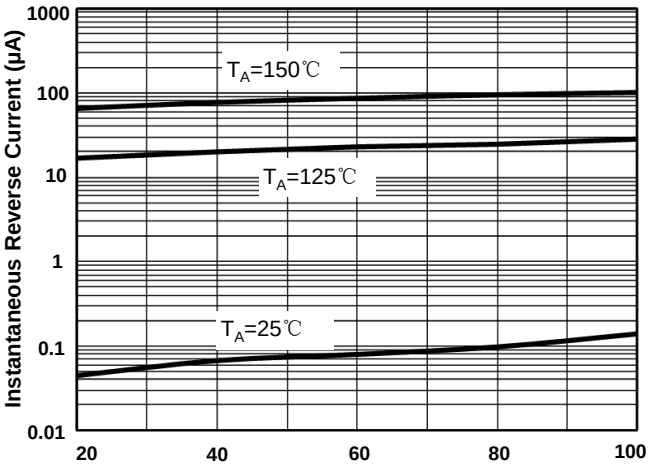
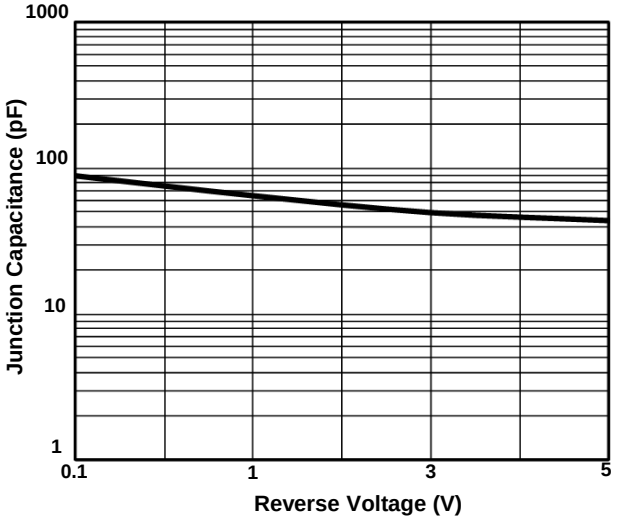


FIG.5 Typical Junction Capacitance per Diode



Suggested PCB printfoot layout

