

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

Reverse Voltage - 200 to 1000 V

Forward Current - 6.0 A

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;
- ◆ 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;

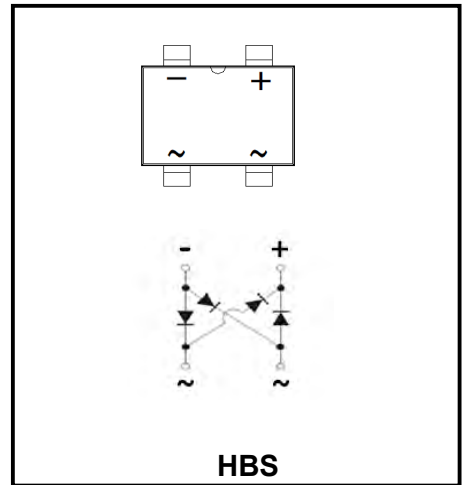
Typical Applications

- ◆ 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.

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	Symbols	RHBS602	RHBS604	RHBS606	RHBS608	RHBS610	Units
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 $T_A=25^\circ C$	$I_{F(AV)}$	6.0					A
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave, Superimposed on Rated Load (JEDEC Method)	I_{FSM}	170					A
I^2t Rating for Fusing ($t < 8.3ms$)	I^2t	120					A ² S
Instantaneous forward voltage drop per diode @ $I_F=1.0A$ @ $I_F=3.0A$ @ $I_F=6.0A$	V_F	0.86 Typ. 0.91 max. 0.95 Typ. 1.0 max. 1.02 Typ. 1.07 max.					V
Reverse Current at Rated DC Blocking Voltage $T_A=25^\circ C$ $T_A=125^\circ C$	I_R	0.16 Typ. 5.0 max. 43.0 Typ. 100 max.					μA
Maximum reverse recovery time ($I_F=0.5A, I_R=1.0A, I_{rr}=0.25A$)	T_{rr}	150		250		500	ns
Typical capacitance (note1)	C_j	41					pF
Typical thermal resistance	$R_{\theta J-A}$ $R_{\theta J-C}$ $R_{\theta J-L}$	72.0 14.0 12.0					$^\circ C/W$
Operating and Storage Temperature Range	T_j, T_{stg}	-55 to +150					$^\circ C$

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

Ratings and Characteristics Curves

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

FIG.1 Derating Curve Output Rectified Current

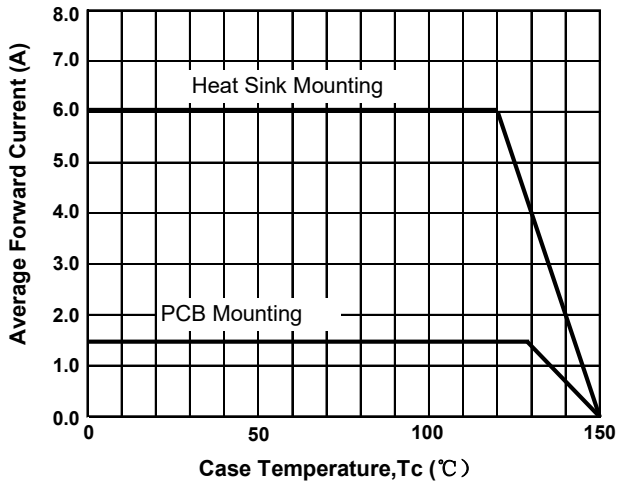


FIG.2 Typical Forward Characteristics per Diode

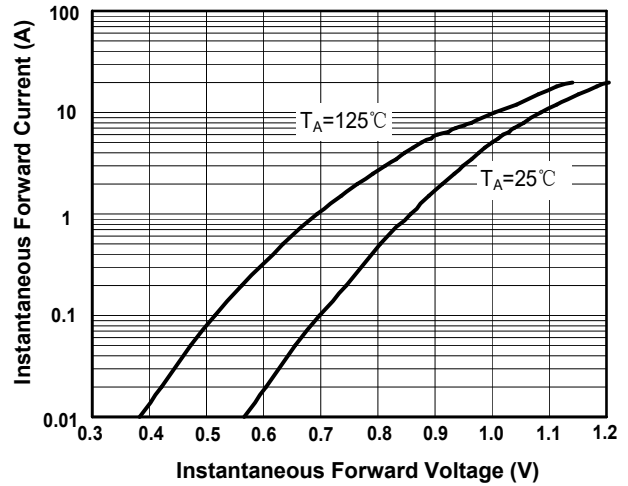


FIG.3 Maximum Non-Repetitive Peak Forward Surge Current per Diode

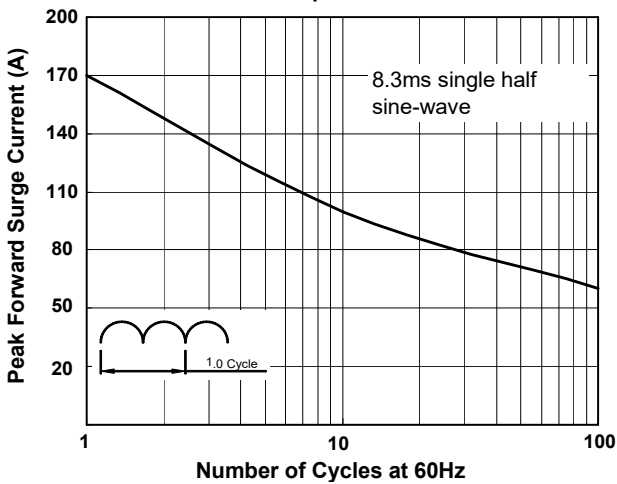


FIG.4 Typical Reverse Characteristics per Diode

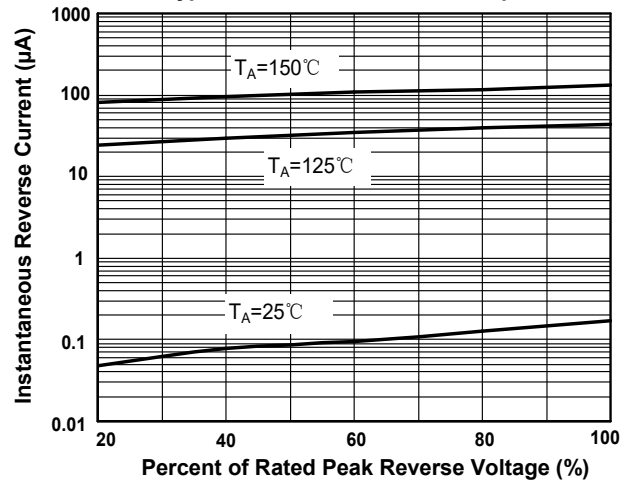
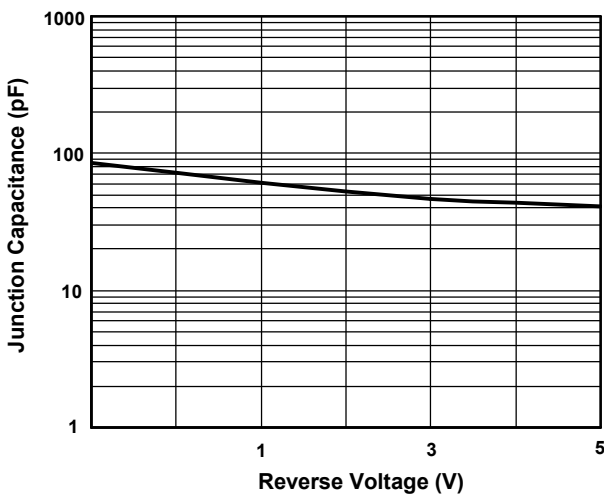
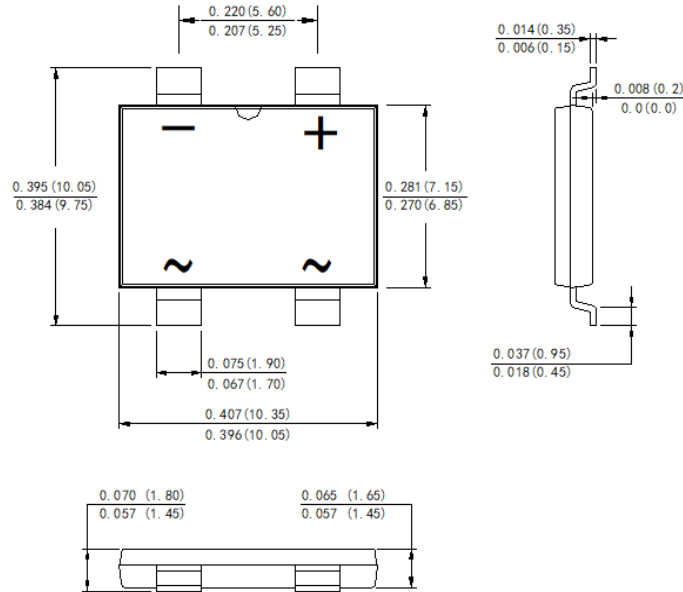


FIG.5 Typical Junction Capacitance per Diode



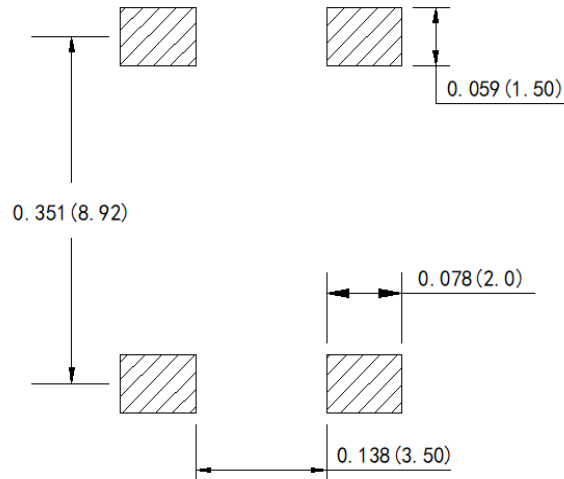
Package Outline

HBS



Suggested PCB printfoot layout

Unit: inches (mm)



Summary of Packing Options

Package	Packing Description	Packing Quantity	Industry Standard
HBS	Tape/Reel,13"reel	2500	EIA-481-1