

Glass Passivated Single-Phase 6.0Amp 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;
- ◆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;

Typical Applications

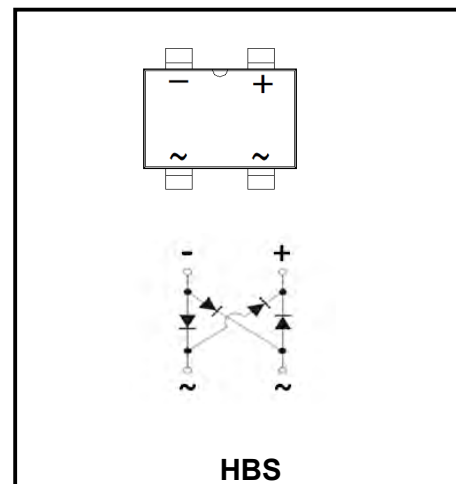
General purpose use in AC-to-DC bridge full wave rectification for Fast Charging, Switching Power Supply, USB PD, Adapter and 3-in-1 Power Board, etc.

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	HBS602	HBS604	HBS606	HBS608	HBS610	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)}	6.0					Amps
Non-Repetitive Peak forward surge current 8.3 ms single sine-wave superimposed on rated load (JEDEC Method)	I _{FSM}	170					Amps
Rating for fusing (t<8.3ms)	I ² t	120					A ² sec
Instantaneous forward voltage drop per diode @IF=1.0A @IF=3.0A @IF=6.0A	V _F	0.83 Typ.		0.88 max.			Volt
		0.88 Typ.		0.93 max.			
		0.91 Typ.		0.96 max.			
Reverse Current at Rated DC Blocking Voltage T _A =25℃ T _A =125℃	I _R	0.15 Typ.		5.0 max.			μA
		20.0 Typ.		100 max.			
Typical capacitance (note1)	C _j	43					pF
Typical thermal resistance	R _{θJ-A}	68.0					℃/W
	R _{θJ-C}	10.0					
	R _{θJ-L}	22.0					
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;



Ratings and Characteristics Curves

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

FIG.1 Derating Curve Output Rectified Current

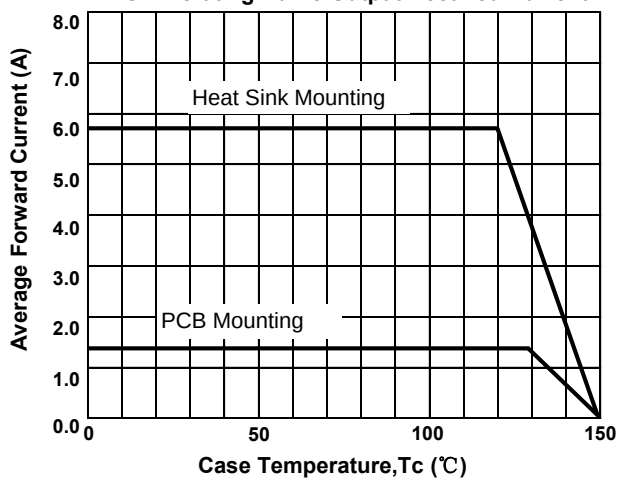


FIG.2 Typical Forward Characteristics per Diode

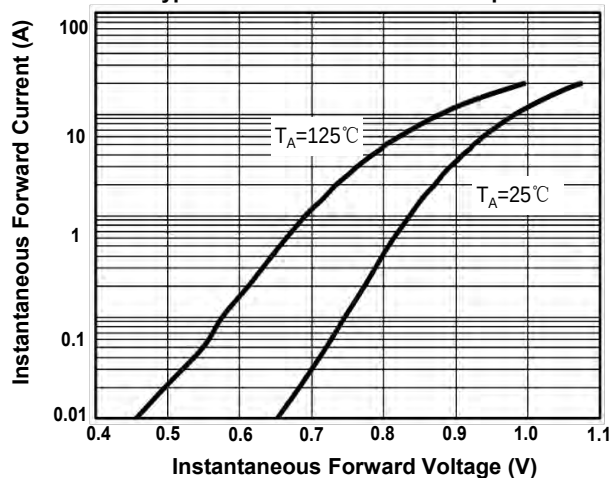


FIG.3 Maximum Non-Repetitive Peak Forward Surge Current per Diode

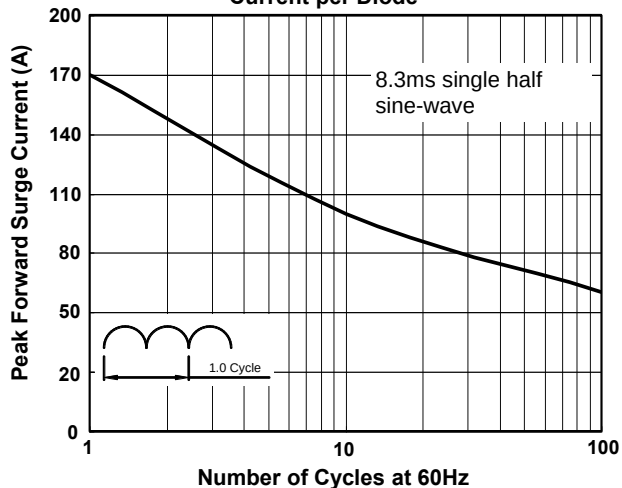


FIG.4 Typical Reverse Characteristics per Diode

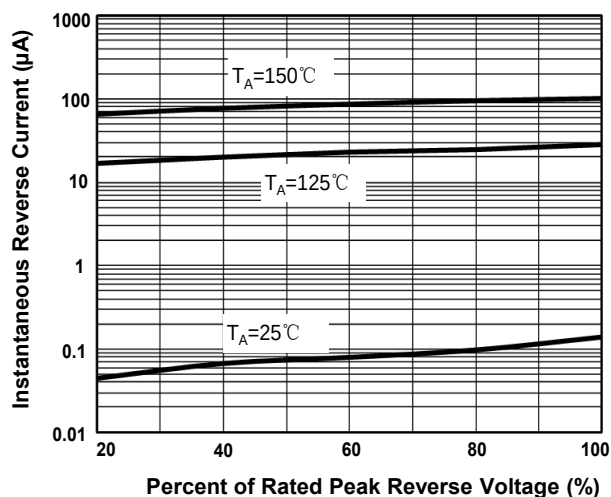
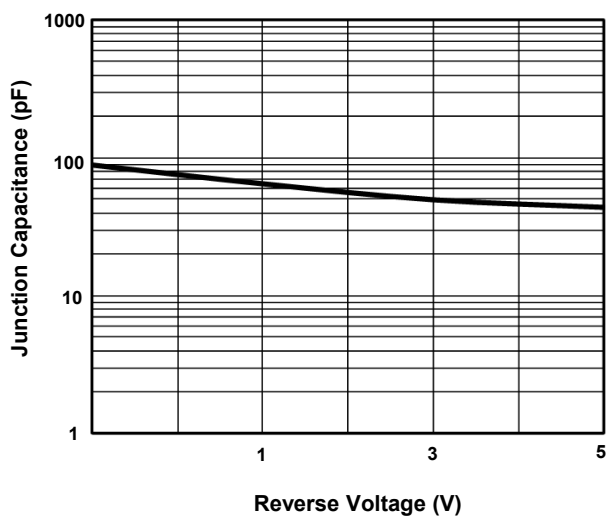
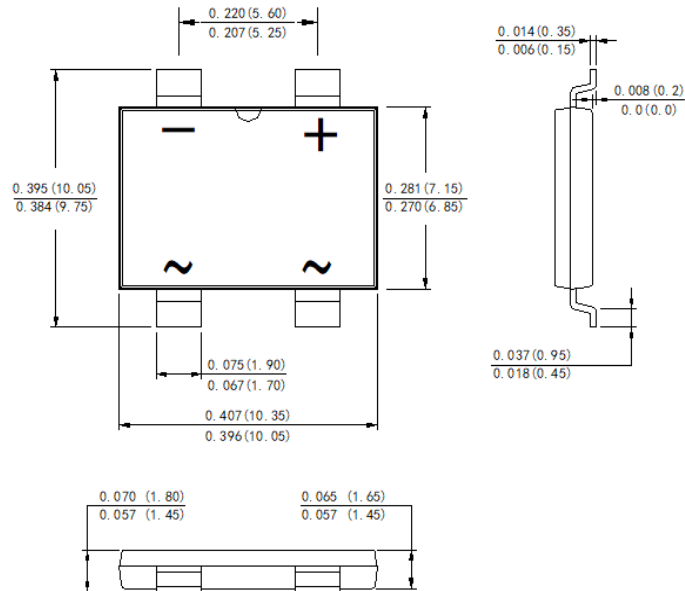


FIG.5 Typical Junction Capacitance per Diode



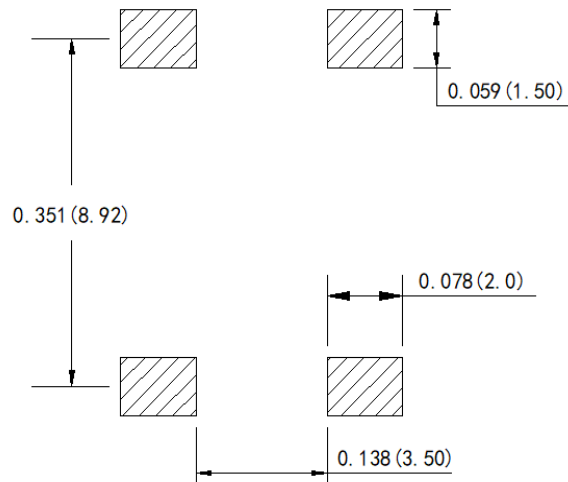
Package Outline

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