

## 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

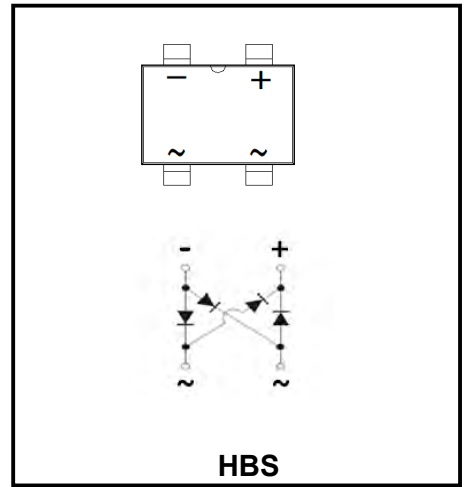
- ◆Case: HBS;
- ◆Epoxy meets UL-94V-0 Flammability rating;
- ◆Terminals:Matte tin plated leads, solderable per J-STD-002 and JESD22-B102;
- ◆High temperature soldering guaranteed:  
Solder Reflow 260°C,10seconds;
- ◆Polarity: As marked on body;
- ◆Marking: Type number;

### 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 $T_A=25^\circ C$	$I_{F(AV)}$	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 ( $t<8.3ms$ )	$I^2t$	120					$A^2sec$
Instantaneous forward voltage drop per diode	$V_F$	@ $I_F=1.0A$	0.83 Typ.		0.88 max.		Volt
		@ $I_F=3.0A$	0.88 Typ.		0.93 max.		
		@ $I_F=6.0A$	0.91 Typ.		0.96 max.		
Reverse Current at Rated DC Blocking Voltage	$I_R$	$T_A=25^\circ C$	0.15 Typ.		5.0 max.		$\mu A$
		$T_A=125^\circ C$	20.0 Typ.		100 max.		
Typical capacitance (note1)	$C_j$	43					pF
Typical thermal resistance	$R_{\theta J-A}$	68.0					$^\circ C/W$
	$R_{\theta J-C}$	10.0					
	$R_{\theta J-L}$	22.0					
Operating junction 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

(TA = 25°C unless otherwise noted)

FIG.1 Derating Curve Output Rectified Current

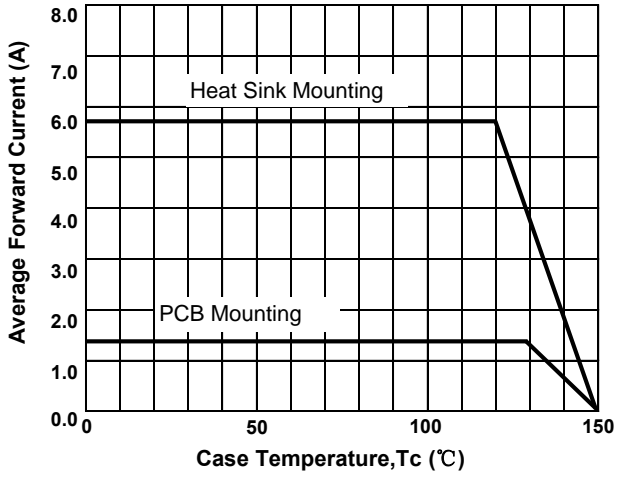


FIG.2 Typical Forward Characteristics per Diode

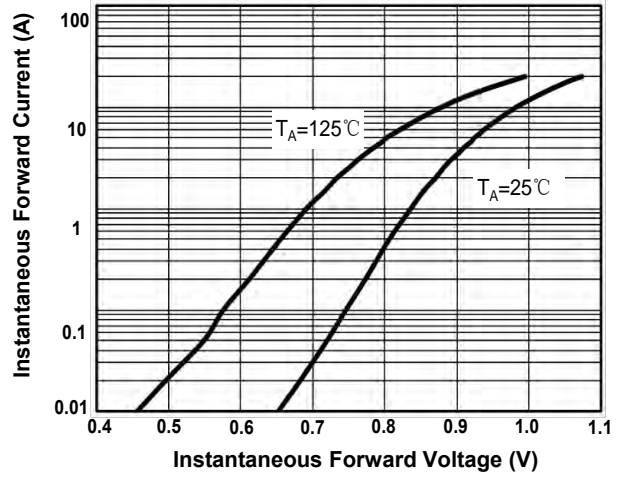


FIG.3 Maximum Non-Repetitive Peak Forward Surge Current per Diode

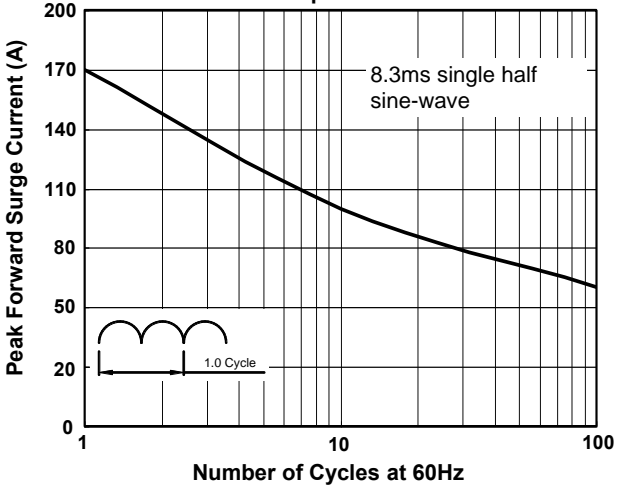


FIG.4 Typical Reverse Characteristics per Diode

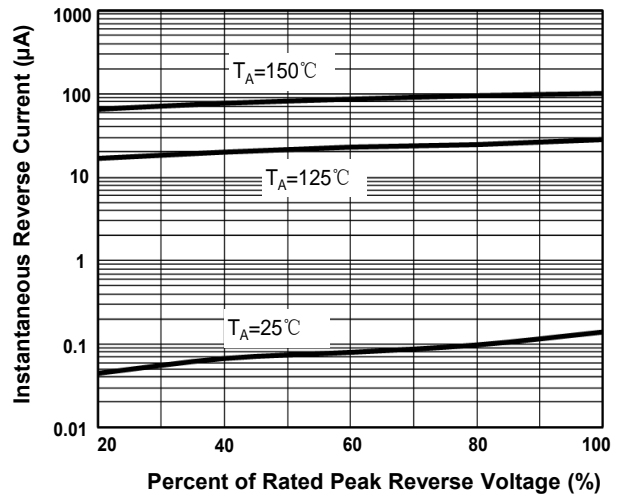
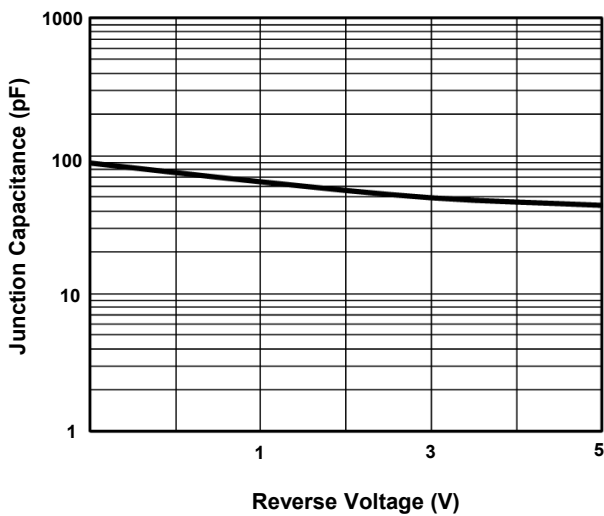
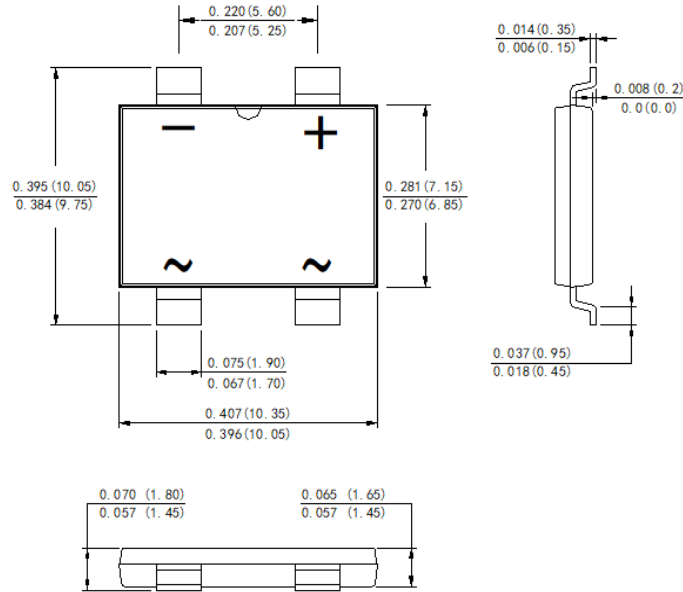


FIG.5 Typical Junction Capacitance per Diode



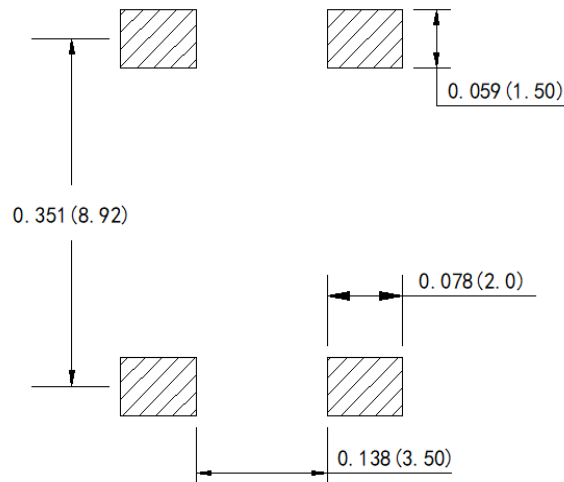
**Package Outline**

**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

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