



HBS802 THRU HBS810

Glass Passivated Single-Phase 8.0Amp 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 8.0A;
- 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

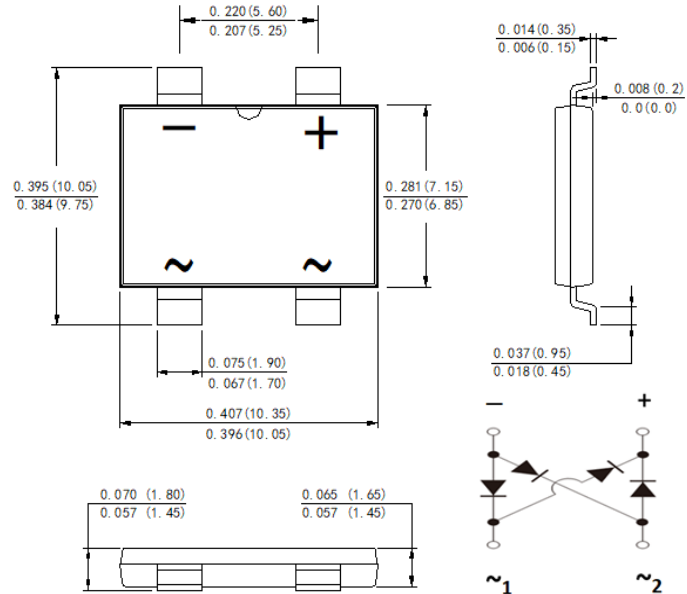
- Case: HBS;
- Epoxy meets UL-94V-0 Flammability rating;
- Terminals: Matte tin plated leads, solderable per J-STD-002 and JESD22-B102;
- High temperature soldering guaranteed:
Solder Reflow 260°C, 10seconds;
- Polarity: As marked on body;
- Marking: Type number;

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.



Case: HBS



Dimensions in inches and

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	HBS802	HBS804	HBS806	HBS808	HBS810	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 $T_A=25^\circ\text{C}$	$I_{F(AV)}$	8.0					Amps
Non-Repetitive Peak forward surge current 8.3 ms single sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	200					Amps
Rating for fusing ($t < 8.3\text{ms}$)	I^2t	166					A ² sec
Instantaneous forward voltage drop per diode	V_F	@ $I_F=1.0\text{A}$	0.82 Typ.		0.87 max.		Volt
		@ $I_F=4.0\text{A}$	0.89 Typ.		0.94 max.		
		@ $I_F=8.0\text{A}$	0.94 Typ.		1.0max.		
Reverse Current at Rated DC Blocking Voltage	I_R	$T_A=25^\circ\text{C}$	0.15 Typ.		5.0 max.		μA
		$T_A=125^\circ\text{C}$	20.0 Typ.		100 max.		
Typical capacitance (note1)	C_j	49					pF
Typical thermal resistance	$R_{\theta J-A}$	70.0					$^\circ\text{C/W}$
	$R_{\theta J-C}$	11.0					
	$R_{\theta J-L}$	14.0					
Operating junction and Storage Temperature Range	T_J, T_{STG}	-55 to +150					$^\circ\text{C}$

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



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Ratings and Characteristics Curves

(TA = 25°C unless otherwise noted)

FIG.1 Derating Curve Output Rectified Current

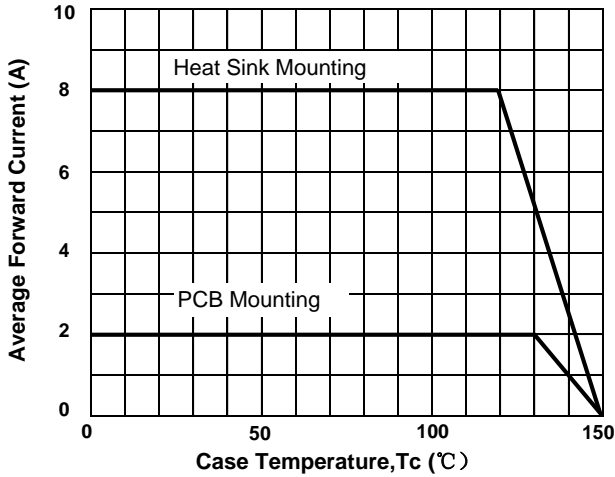


FIG.2 Typical Forward Characteristics per Diode

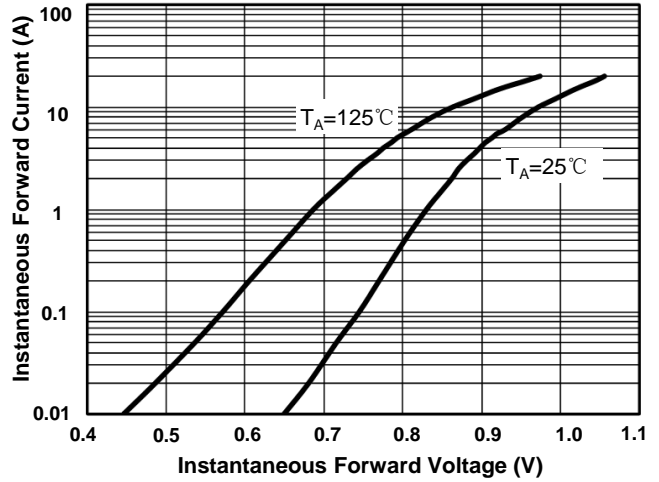


FIG.3 Maximum Non-Repetitive Peak Forward Surge Current per Diode

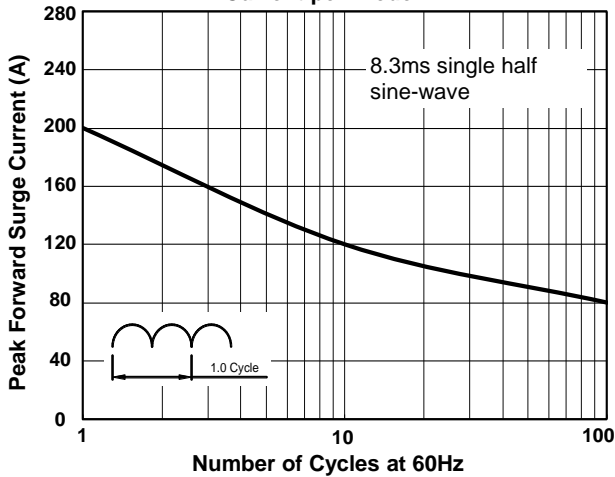


FIG.4 Typical Reverse Characteristics per Diode

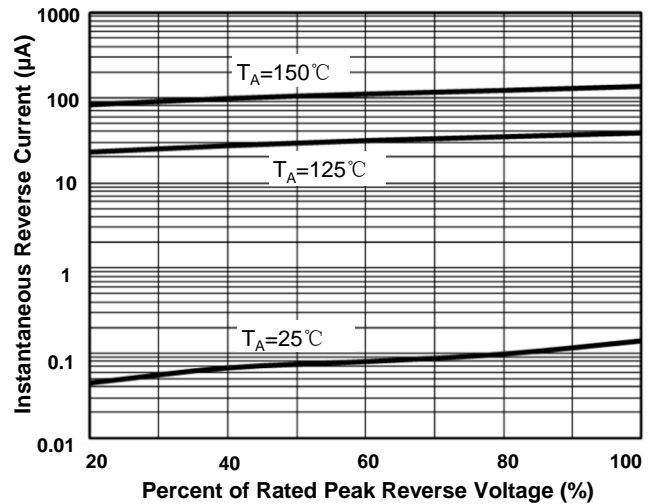
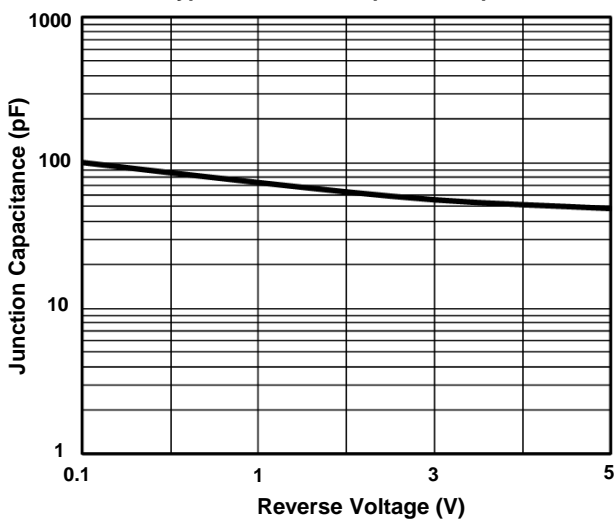
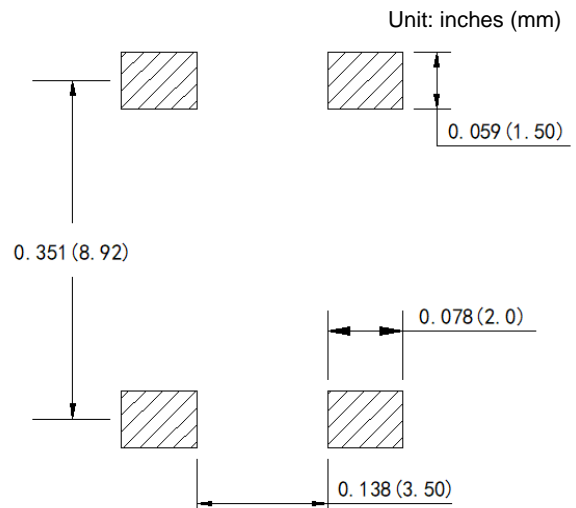


FIG.5 Typical Junction Capacitance per Diode



Suggested PCB printfoot layout





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