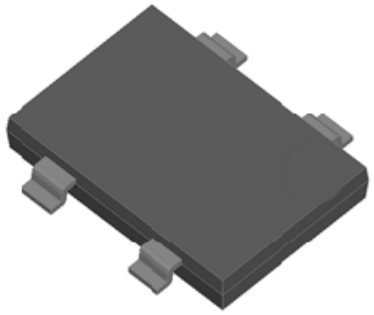
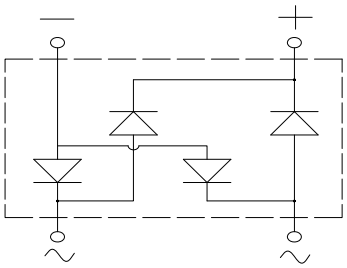
GROUP
SEMICONDUCTOR

HBS810

Glass Passivated Single-Phase 8.0Amp Surface Mount Bridge Rectifier

HBS





Features

- Surface mount bridge, small package;
- Ideal for printed circuit boards;
- Glass passivated chip junction;
- High surge current capability;
- High heat dissipation capability;
- Low profile package;
- Low forward voltage drop;
- Plastic package has Underwrites Laboratory Flammability Classification 94V-0;

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.

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;

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	HBS810	Unit
Maximum repetitive peak reverse voltage		V_{RRM}	1000	V
Maximum RMS voltage		V_{RMS}	700	V
Maximum DC blocking voltage		V_{DC}	1000	V
Maximum average forward rectified output current		$I_{F(AV)}$	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<8.3ms)		I^2t	166	A^2sec
Instantaneous forward voltage drop per diode	@IF=1.0A	V_F	0.82 Typ. 0.87 Max.	Volt
	@IF=4.0A		0.89 Typ. 0.94 Max.	
	@IF=8.0A		0.94 Typ. 1.0 Max.	
Reverse Current at Rated DC Blocking Voltage	T_A=25℃	I_R	0.20 Typ. 5.0 Max.	μA
	T_A=125℃		20.0 Typ. 100 Max.	
Typical capacitance (Note1)		C_j	55	pF
Typical thermal resistance (Note2)		$R_{\Theta J-A}$	60.0	℃/W
		$R_{\Theta J-C}$	6.0	
		$R_{\Theta J-L}$	11.0	
Operating junction and Storage Temperature Range		T_J,T_{STG}	-55 to +150	℃

Note: 1. Measured at 1MHz and applied reverse voltage of 4 V D.C.
2. Mounted on glass epoxy PC board with 4×1.5"×1.5" (3.81×3.81 cm) copper pad.

Ratings and Characteristics Curves (TA = 25℃ unless otherwise noted)

Fig.1 Average Rectified Output Current Derating Curve

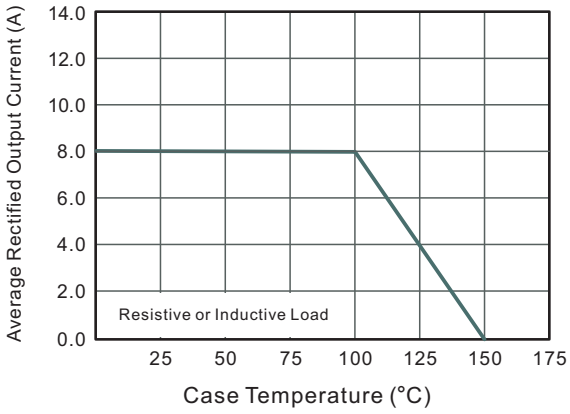


Fig.2 Typical Reverse Characteristics

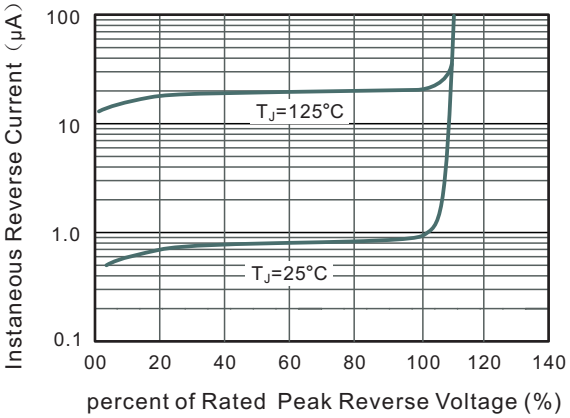


Fig.3 Typical Instaneous Forward Characteristics

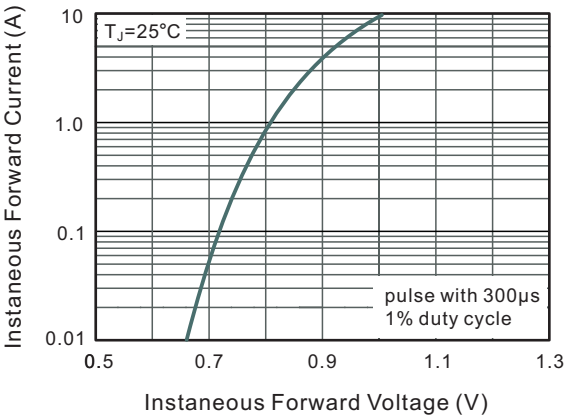


Fig.4 Typical Junction Capacitance

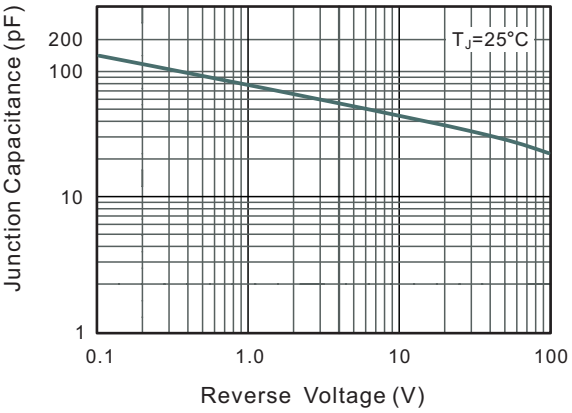


Fig.5 Maximum Non-Repetitive Peak Forward Surage Current

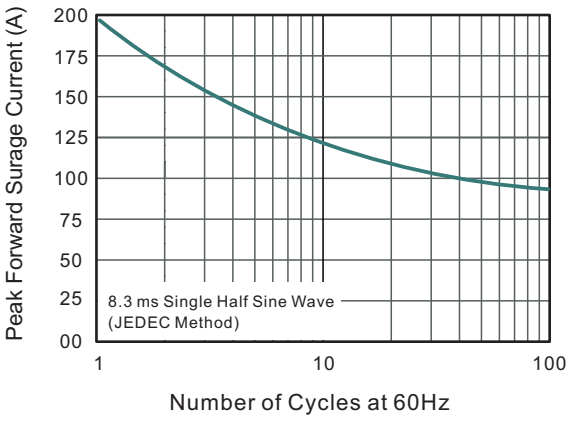
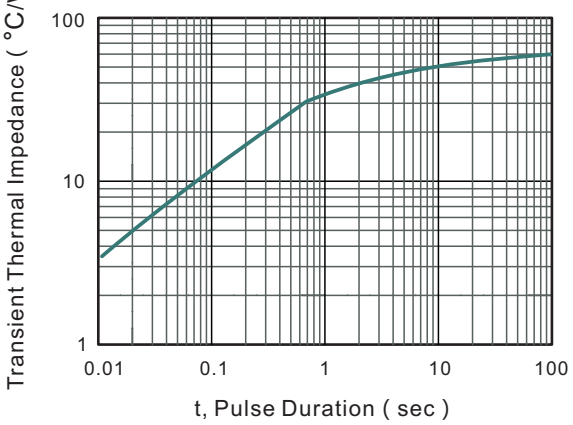
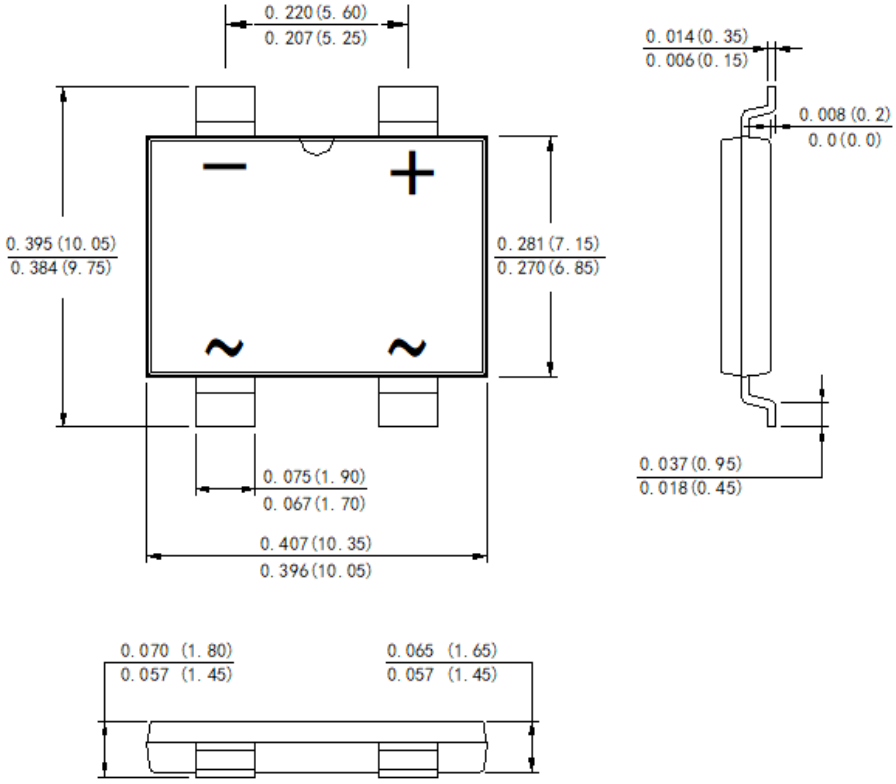


Fig.6- Typical Transient Thermal Impedance



Outline Dimensions

Case：HBS Unit: inches (mm)



Suggested PCB printfoot layout

Unit: inches (mm)