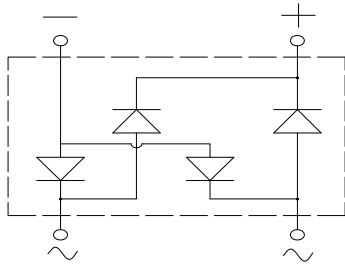
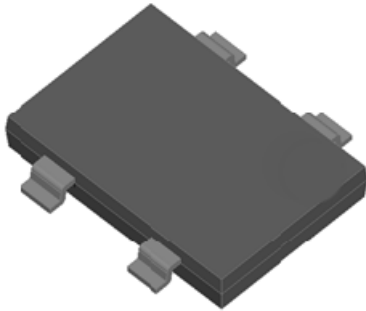


HBS



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°C, 10seconds;
- Polarity: As marked on body;
- Marking: Type number;

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	HBS510	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	$I_{F(AV)}$	5.0	Amps
Non-Repetitive Peak forward surge current 8.3 ms single sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	140	Amps
Rating for fusing ($t < 8.3ms$)	I^2t	81	A ² sec
Instantaneous forward voltage drop per diode @IF=1.0A @IF=2.5A @IF=5.0A	V_F	0.84 Typ. 0.92 Max.	Volt
		0.88 Typ. 0.95 Max.	
		0.95 Typ. 1.0 Max.	
Reverse Current at Rated DC Blocking Voltage $T_A=25^\circ C$ $T_A=125^\circ C$	I_R	0.20 Typ. 3.0 Max.	μA
		20.0 Typ. 100 Max.	
Typical capacitance (Note1)	C_j	45	pF
Typical thermal resistance (Note2)	$R_{\theta J-A}$	55.0	$^\circ C/W$
	$R_{\theta J-C}$	7.0	
	$R_{\theta J-L}$	10.0	
Operating junction and Storage Temperature Range	T_J, T_{STG}	-55 to +150	$^\circ C$

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

Fig.1 Average Rectified Output Current Derating Curve

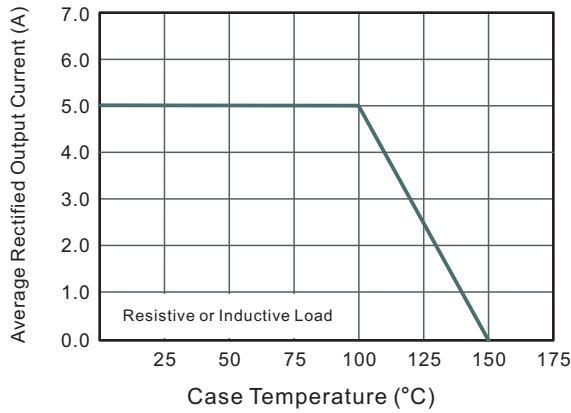


Fig.2 Typical Reverse Characteristics

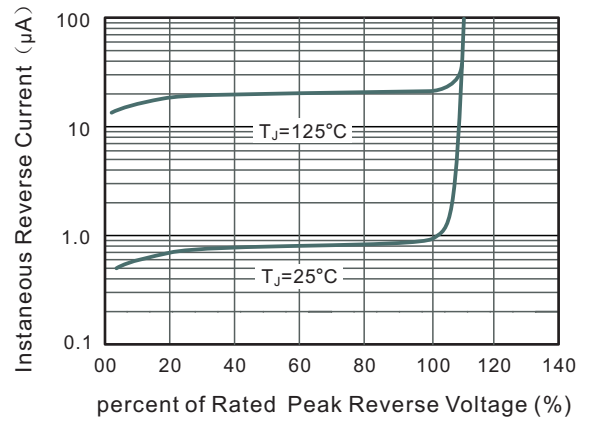


Fig.3 Typical Instantaneous Forward Characteristics

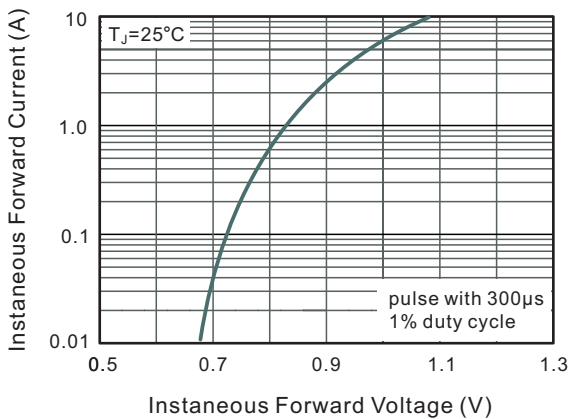


Fig.4 Typical Junction Capacitance

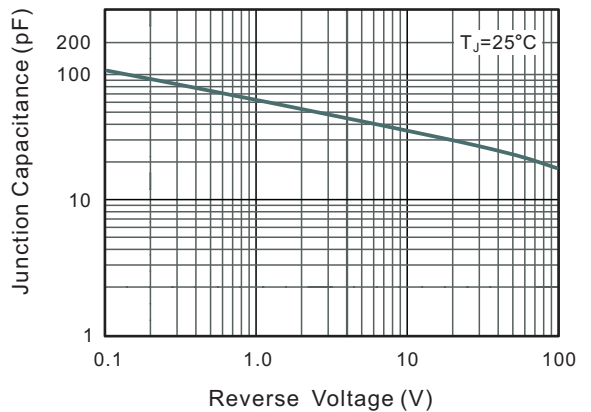


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

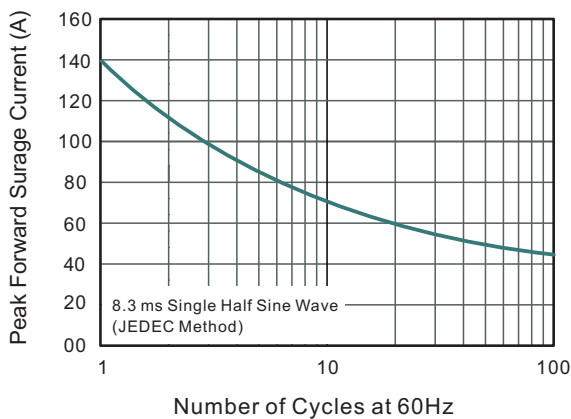
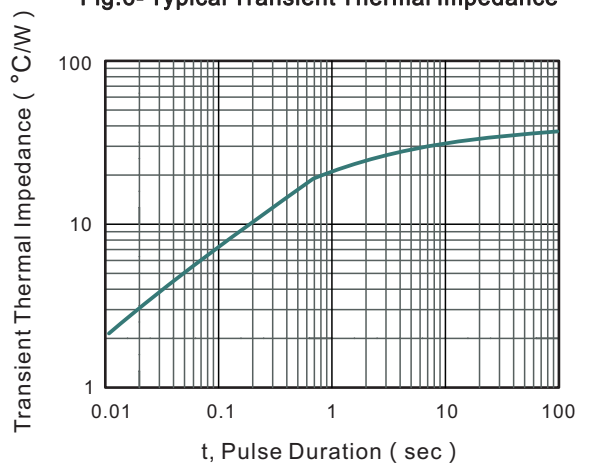
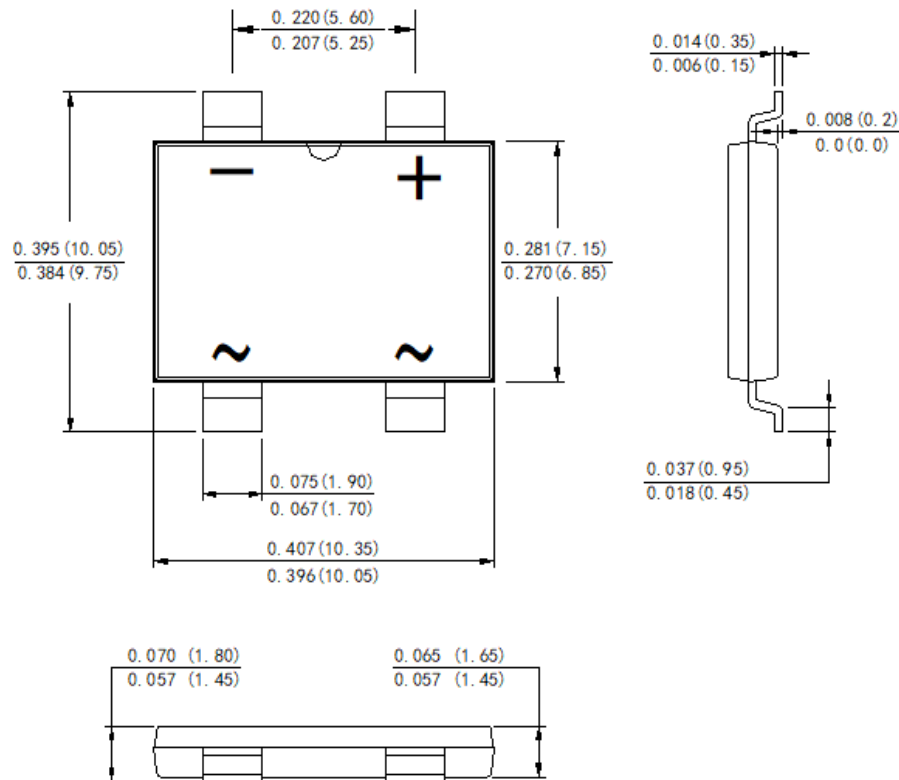


Fig.6- Typical Transient Thermal Impedance



Outline Dimensions

Case: HBS Unit: inches (mm)



Suggested PCB printfoot layout

Unit: inches (mm)

