



HBS602 - HBS610

Glass Passivated Single-Phase 6.0Amp 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 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;

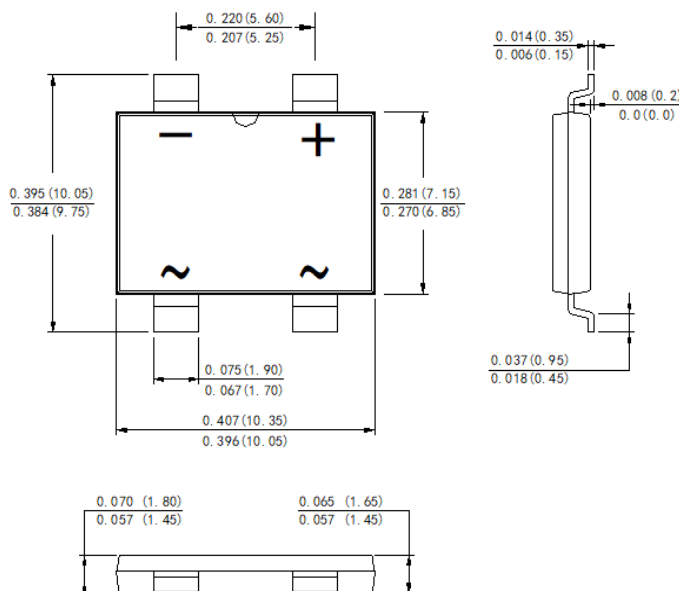
Mechanical Data

- 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.

Case: HBS



Dimensions in inches and (millimeters)

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

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

180

FIG.1 Derating Curve Output Rectified Current

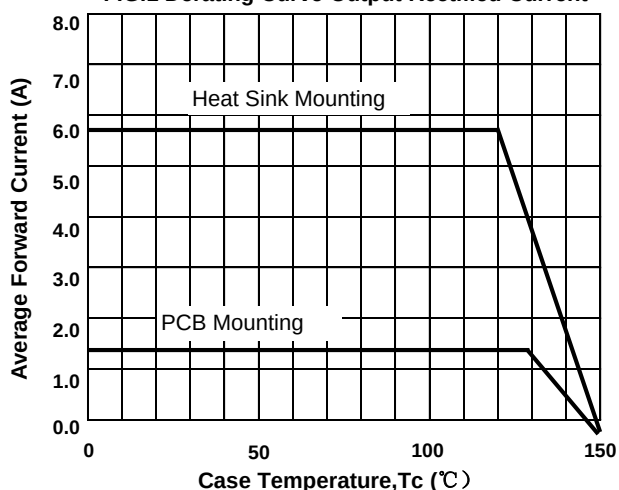


FIG.2 Typical Forward Characteristics per Diode

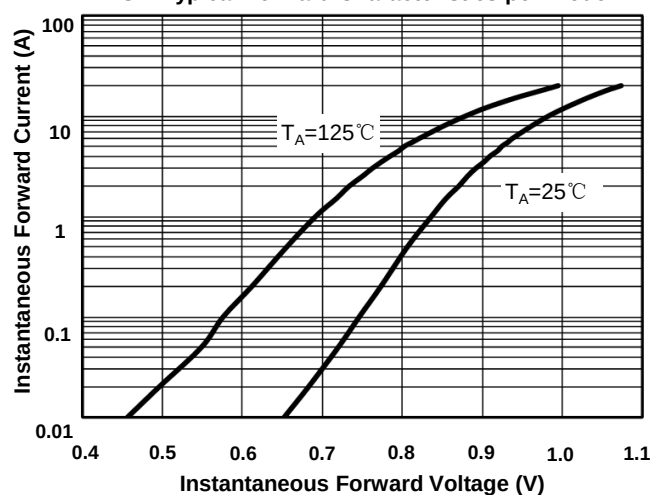


FIG.3 Maximum Non-Repetitive Peak Forward Surge Current per Diode

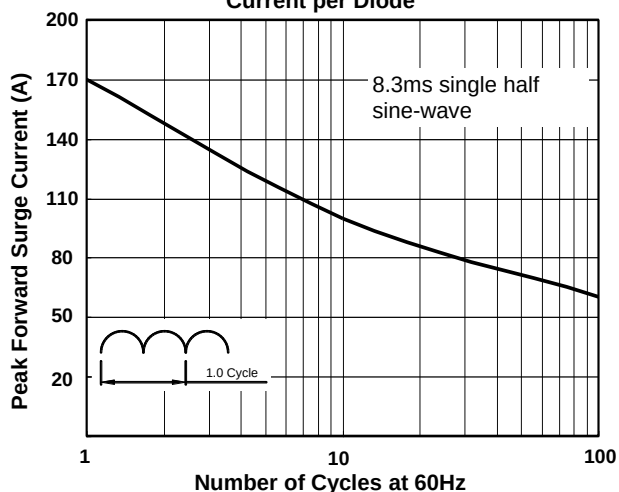


FIG.4 Typical Reverse Characteristics per Diode

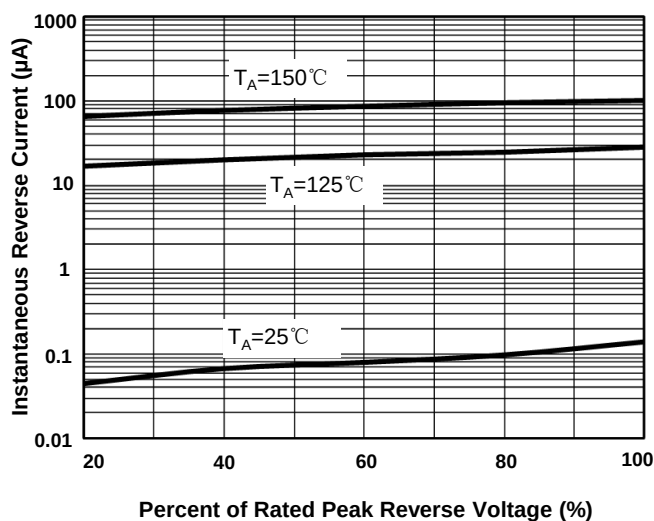
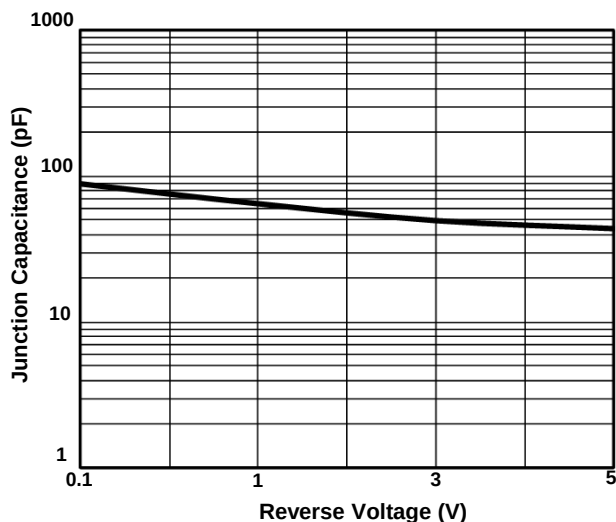


FIG.5 Typical Junction Capacitance per Diode



Suggested PCB printfoot layout

