

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 JEESD22-B102;
- ◆High temperature soldering guaranteed:
Solder Reflow 260°C, 10seconds;
- ◆Polarity: As marked on body;
- ◆Marking: Type number;

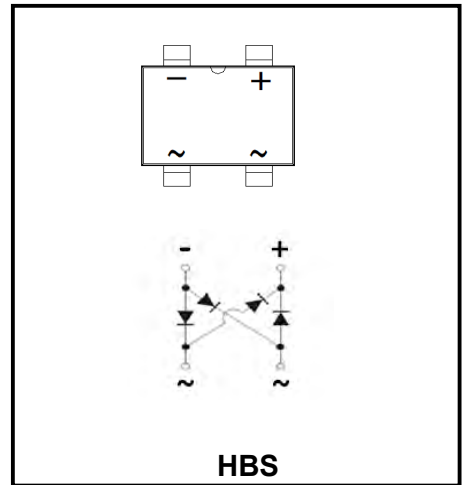
Typical Applications

- ◆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	Symbols	HBS602	HBS604	HBS606	HBS608	HBS610	Units
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					A
Peak Forward Surge Current, 8.3mS Single Half Sine-Wave, Superimposed on Rated Load (JEDEC Method)	I_{FSM}	170					A
I^2t Rating for Fusing ($t < 8.3mS$)	I^2t	120					A ² S
Instantaneous forward voltage drop per diode @ $I_F=1.0A$ @ $I_F=3.0A$ @ $I_F=6.0A$	V_F			0.83 Typ. 0.88 Typ. 0.91 Typ.	0.88 max. 0.93 max. 0.96 max.		V
Reverse Current at Rated DC Blocking Voltage $T_A=25^\circ C$ $T_A=125^\circ C$	I_R			0.15 Typ. 20.0 Typ.	5.0 max. 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 10.0 22.0			$^\circ C/W$
Operating 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

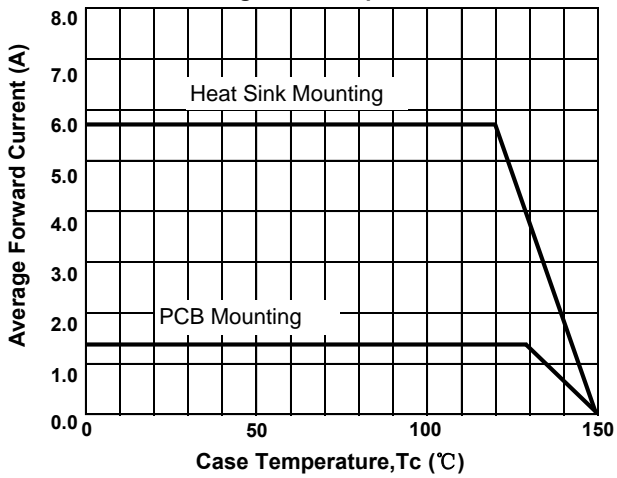


FIG.2 Typical Forward Characteristics per Diode

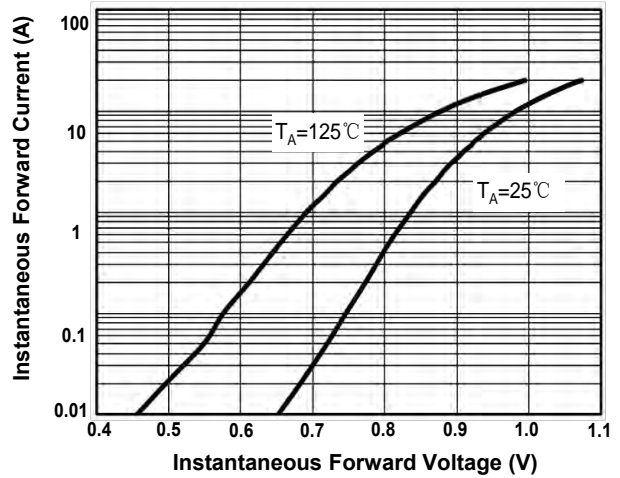


FIG.3 Maximum Non-Repetitive Peak Forward Surge Current per Diode

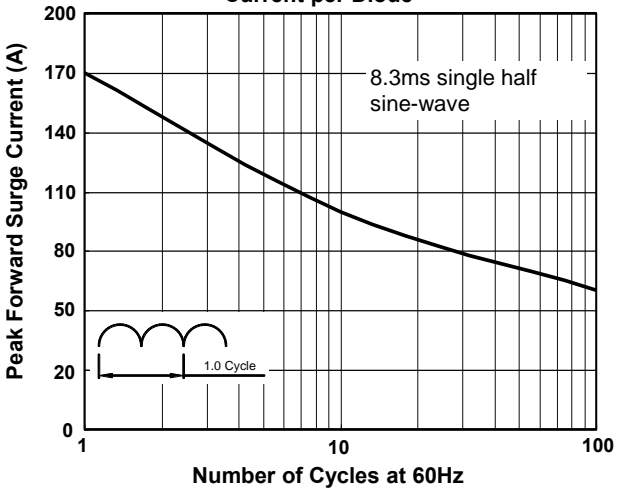


FIG.4 Typical Reverse Characteristics per Diode

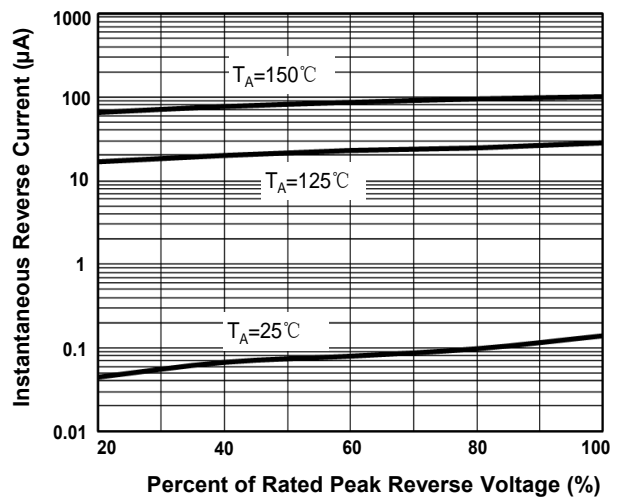
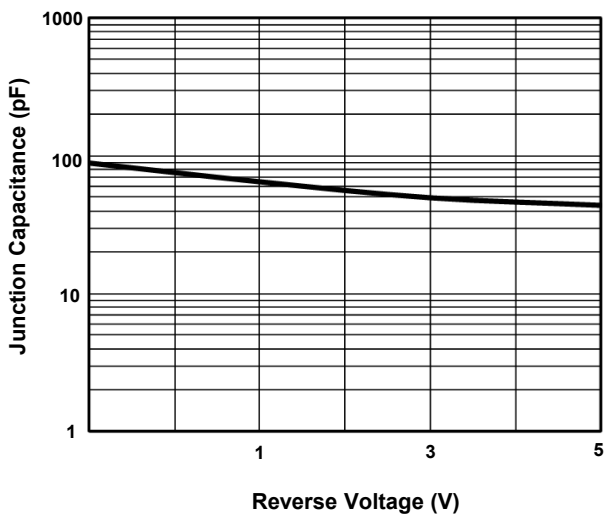
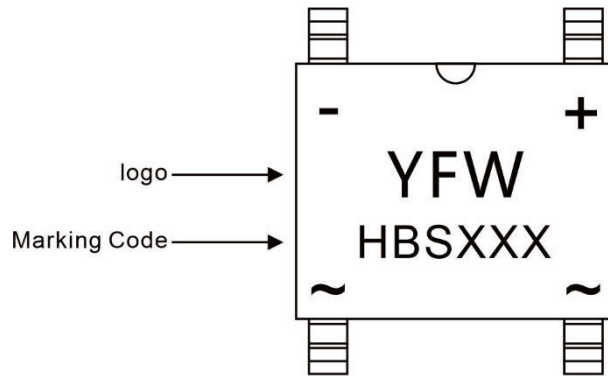


FIG.5 Typical Junction Capacitance per Diode



Marking Diagram



Ordering information

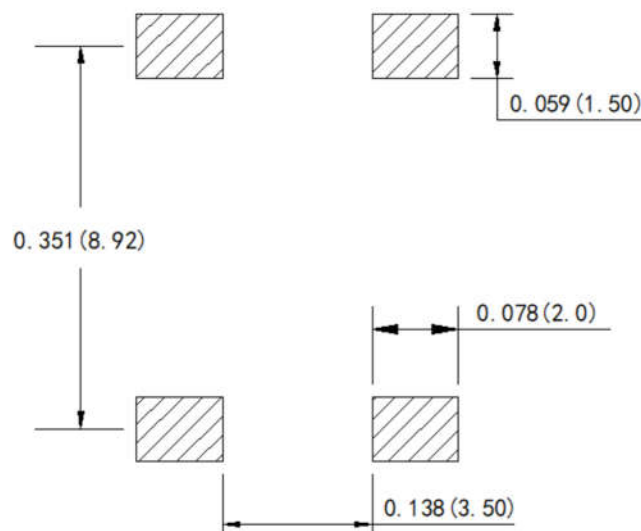
Package	Packing Description	Packing Quantity
HBS	Tape/Reel, 13" reel	2500PCS/Reel 25000PCS/Carton

Package Dimensions

HBS

Dim	Millimeter(mm)		Dimensions inInch	
	Min.	Max.	Min.	Max.
A	10.0	10.4	0.39	0.41
B	7.0	7.4	0.28	0.29
C	1.4	1.7	0.06	0.07
D	9.7	10.2	0.38	0.40
E	5.3	5.7	0.21	0.22
F	1.7	2.0	0.07	0.08

The recommended mounting pad size Unit: inches (mm)



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