6.0A Glass Passivated Single-Phase Surface Mount Bridge Rectifier

1 General Description

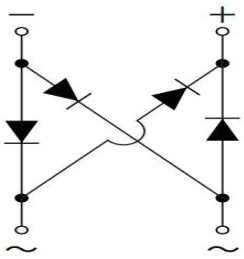
1.1 Features

- 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;

REVERSE VOLTAGE
1000V
FORWARD CURRENT
6Ampere

1.2 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.



1.3 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;

2 Maximum Ratings(TA=25℃ Unless otherwise specified)

PARAMETER	SYMBOL	RHBS610	UNIT
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	1000	V
Maximum RMS Bridge Input Voltage	V_{RMS}	700	V
Maximum DC Blocking Voltage	V_{DC}	1000	V
Maximum Average Forward Rectified Output Current at T_A=25℃	$I_{F(AV)}$	6.0	A
Non-Repetitive Peak forward surge current 8.3 ms single sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	170	A
Rating for fusing t<8.3ms	I^2t	120	A^2sec
Operating Temperature Range	T_J	-55 to +150	℃
Storage Temperature Range	T_{STG}	-55 to +150	℃
Typical Thermal Resistance	$R_{\theta J-A}$	72	℃/W
	$R_{\theta J-C}$	14	
	$R_{\theta J-L}$	12	

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

3 Electrical Characteristics(TA=25℃ Unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITION	RHBS610		UNIT
Maximum instantaneous Forward Voltage drop per diode	V_F	I_F=1.0A	0.95		V
		I_F=3.0A	1.1		
		I_F=6.0A	1.3		
Maximum reverse recovery time	t_{rr}	I_F=0.5A, I_R=1.0A, I_{rr}=0.25A	350		ns
Reverse Current at Rated DC Blocking Voltage	I_R	T_A =25℃	0.16 Typ.	5.0 Max.	μA
		T_A=125℃	43 Typ.	100 Max.	

4 Characteristics Curves(TA=25℃ Unless otherwise specified)

FIG.1 Derating Curve Output Rectified Current

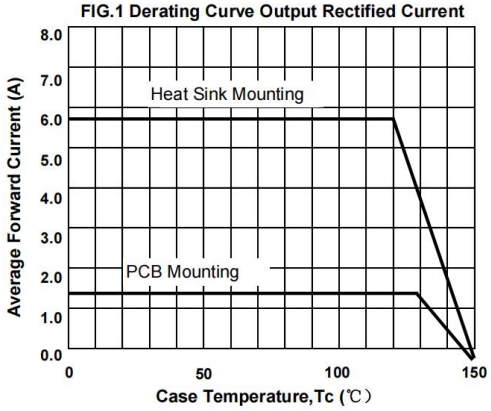


FIG.2 Typical Forward Characteristics per Diode

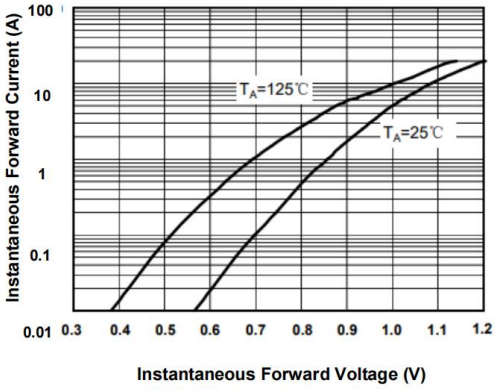


FIG.3 Maximum Non-Repetitive Peak Forward Surge Current per Diode

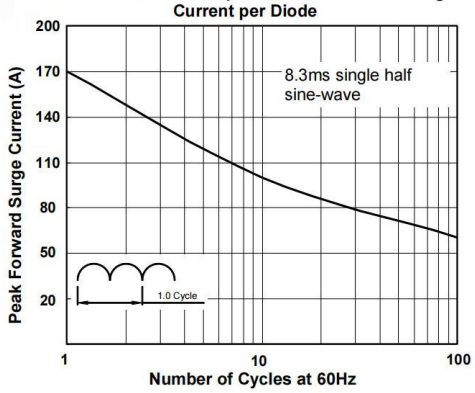


FIG.4 Typical Reverse Characteristics per Diode

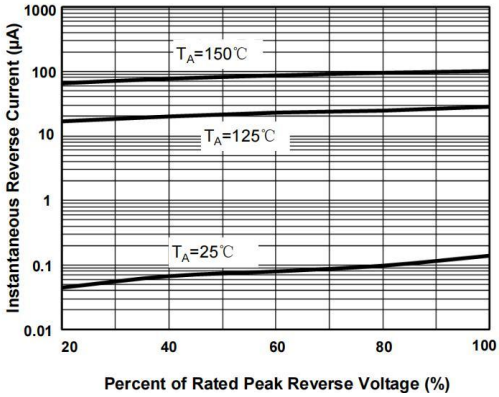
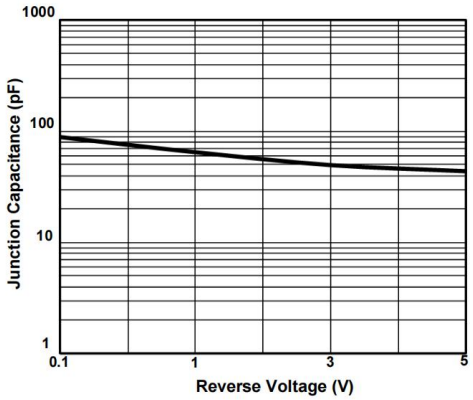
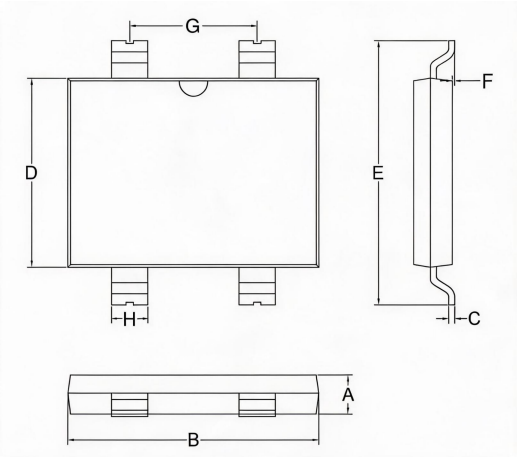


FIG.5 Typical Junction Capacitance per Diode



5 Package Outline Dimensions

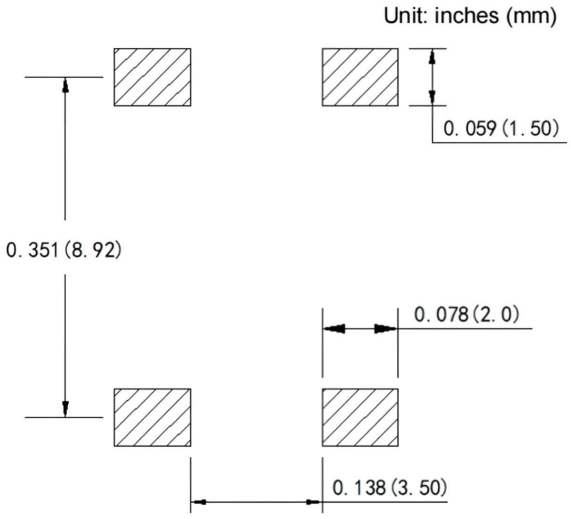


Symbol	UNIT(mm)	
	Min	Max
A	1.30	1.90
B	9.70	10.30
C	0.15	0.35
D	6.90	7.50
E	9.70	10.30
F	0	0.15
G	4.80	5.40
H	1.30	1.70

6 Ordering Information

PACKAGE	UNIT WEIGHT (g)	REEL (pcs)	BOX (pcs)	CARTON (pcs)
HBS	Approximate 0.59	2500	5000	20000

7 Suggested Pad Layout



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