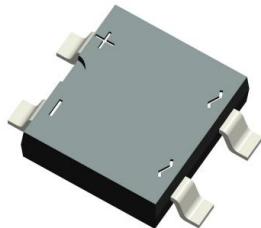


## HBN602 THRU HBN610

### Glass Passivated Single-Phase 6.0Amp Surface Mount Bridge Rectifier

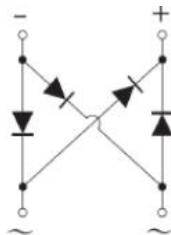


HBS

#### 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 Underwriters Laboratory Flammability Classification 94V-0
- This is a Pb - Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

#### Circuit Diagram



#### 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 @ $T_A=25^\circ\text{C}$ unless otherwise specified

Single Phase half wave 60Hz, resistive or inductive load. For capacitive load current derate by 20%.

Type Number	Symbol	HBN602	HBN604	HBN606	HBN608	HBN610	Units
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	$V_{RRM}$ $V_{RWM}$ $V_{DC}$	200	400	600	800	1000	V
RMS Reverse Voltage	$V_{RMS}$	140	280	420	560	700	V
Maximum average forward rectified output current at $@T_A=25^\circ\text{C}$	$I_{(AV)}$			6			A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$				150		A
Rating for fusing ( $t < 8.3\text{ms}$ )	$I^2t$			93			$\text{A}^2\text{sec}$

### Electrical Characteristics@ $T_A=25^\circ\text{C}$ unless otherwise specified

Type Number	Symbol	HBN602	HBN604	HBN606	HBN608	HBN610	Units
Maximum Forward Voltage (per element) @ $I_F = 3.0\text{A}$ @ $I_F = 6.0\text{A}$	$V_F$			1.0 1.1			V
Maximum Peak Reverse Current @ $T_A = 25^\circ\text{C}$ At Rated DC Blocking Voltage @ $T_A = 125^\circ\text{C}$	$I_R$			5 200			$\mu\text{A}$
Typical capacitance(Note 1)	$C_J$			45			pF

\* Pulse width < 300  $\mu\text{s}$ , duty cycle < 2%

### Thermal-Mechanical Specifications@ $T_A=25^\circ\text{C}$ unless otherwise specified

Type Number	Symbol	HBN602	HBN604	HBN606	HBN608	HBN610	Units
Typical Thermal Resistance	$R_{\theta JA}$ $R_{\theta JC}$ $R_{\theta JL}$			68.0 10.0 22.0			$^\circ\text{C}/\text{W}$
Operating and Storage Temperature Range	$T_J, T_{STC}$			-55 to +150			$^\circ\text{C}$

Note: 1. Mounted at 1.0 MHz and applied reverse voltage of 4.0V DC.

### Ratings and Characteristics Curves

Fig. 1 Forward Current Derating Curve

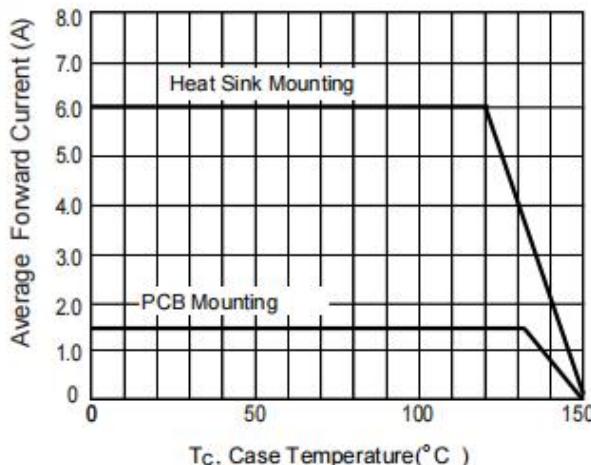


Fig. 2 Typ. Forward Characteristics

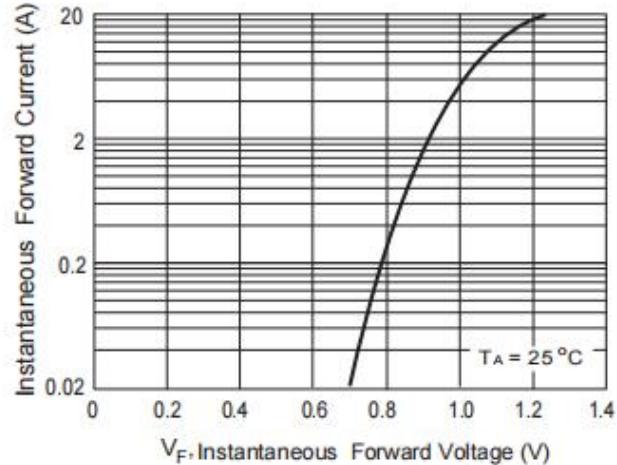


Fig. 3 Max Non-Repetitive Peak Fwd Surge Current

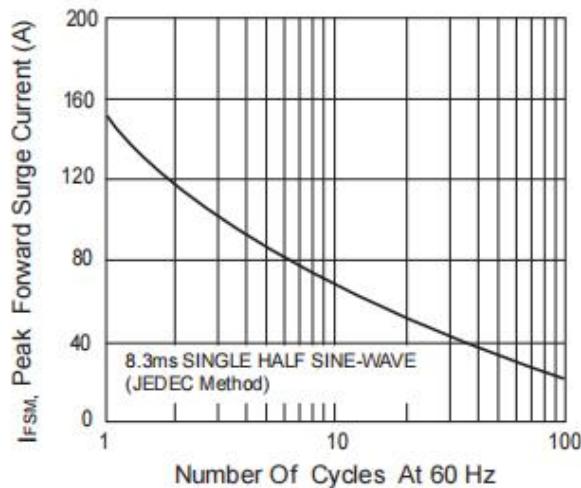
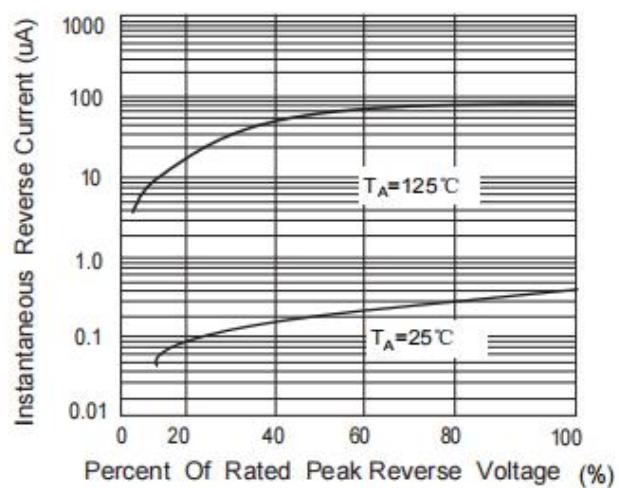
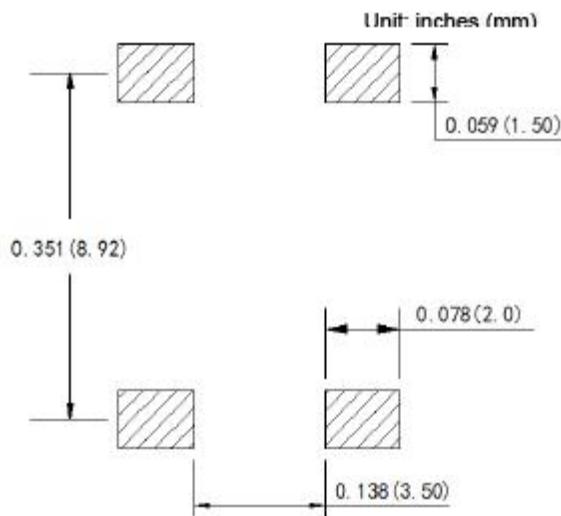


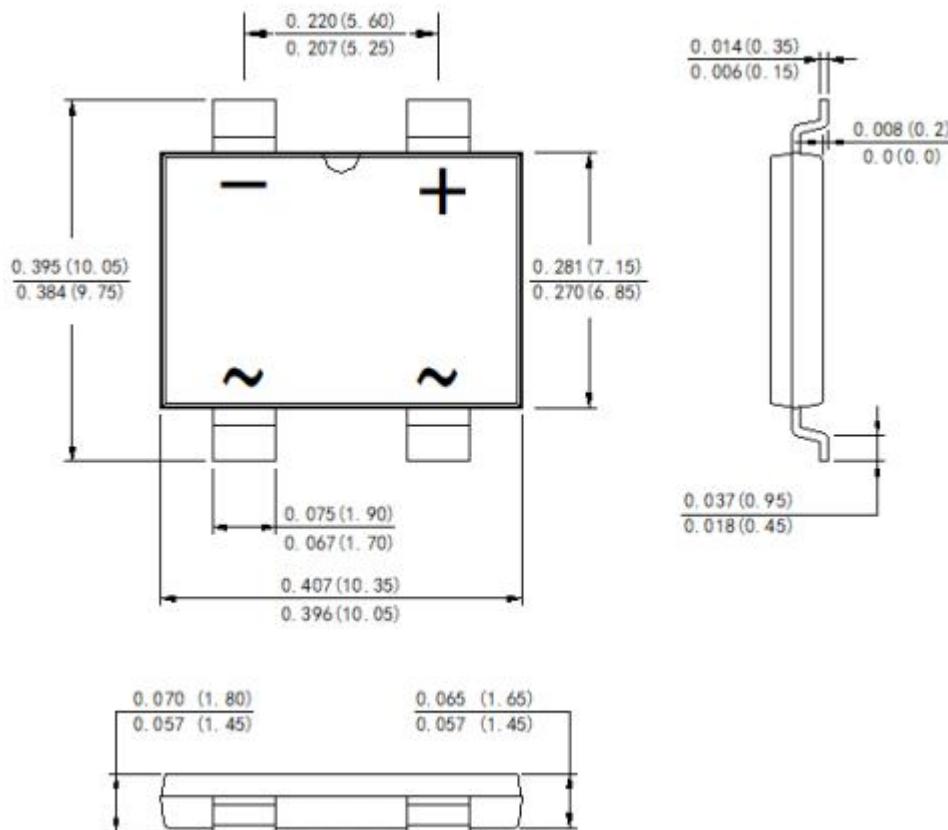
Fig.4 Typical Reverse Characteristics



Suggested PCB printfoot layout



## Mechanical Dimensions HBS(Inches/Millimeters)



## Ordering Information

Device	Package	Plating	Shipping
HBN602 THRU HBN610	HBS (Pb-Free)	Pure Sn	2500pcs / reel

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our tape and reel packaging specification.

## Marking Diagram



Where XXXXX is YYWWL

HBN602 = Type Number  
 YY = Year  
 WW = Week  
 L = Lot Number

**Cautions:** Molding resin  
 Epoxy resin UL:94V-0

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