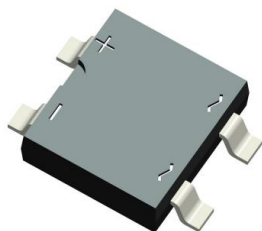


HBN602 THRU HBN610

Glass Passivated Single-Phase 6.0Amp Surface Mount Bridge Rectifier

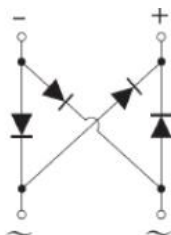


HBS

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°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°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<8.3ms) | I^2t | 93 | | | | | A ² sec |

Electrical Characteristics@T_A=25°C unless otherwise specified

| Type Number | Symbol | HBN602 | HBN604 | HBN606 | HBN608 | HBN610 | Units |
|---|----------------|--------|--------|------------|--------|--------|-------|
| Maximum Forward Voltage (per element) @I _F =3.0A @I _F =6.0A | V _F | | | 1.0 1.1 | | | V |
| Maximum Peak Reverse Current @T _A = 25°C At Rated DC Blocking Voltage @T _A = 125°C | I _R | | | 5 200 | | | μA |
| Typical capacitance(Note 1) | C _j | | | 45 | | | pF |

* Pulse width < 300 μs, duty cycle < 2%

Thermal-Mechanical Specifications@T_A=25°C unless otherwise specified

| Type Number | Symbol | HBN602 | HBN604 | HBN606 | HBN608 | HBN610 | Units |
|---|--|--------|--------|----------------------|--------|--------|-------|
| Typical Thermal Resistance | R _{θJA} R _{θJC} R _{θJL} | | | 68.0 10.0 22.0 | | | °C/W |
| Operating and Storage Temperature Range | T _J , T _{STG} | | | -55 to +150 | | | °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

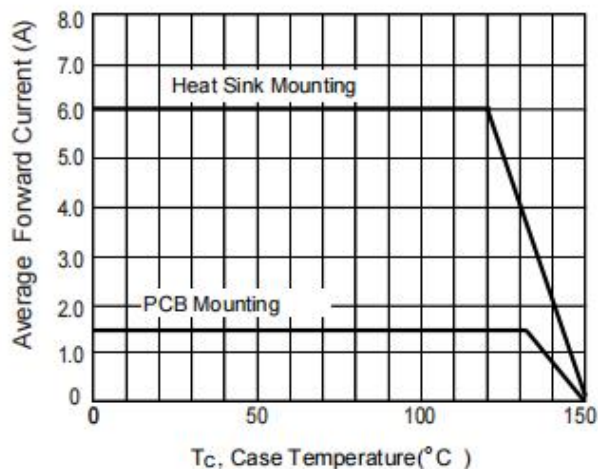


Fig. 2 Typ. Forward Characteristics

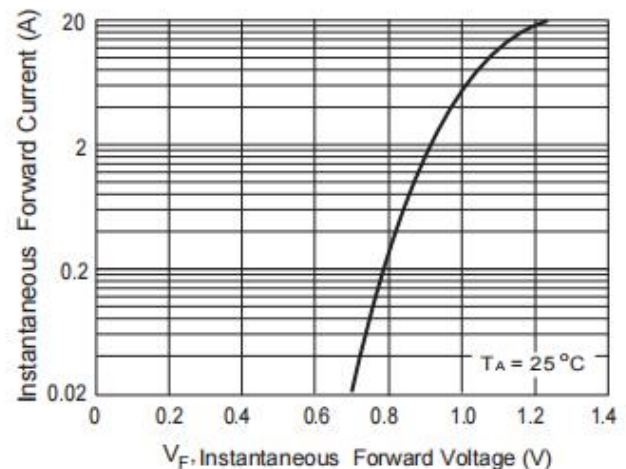


Fig. 3 Max Non-Repetitive Peak Fwd Surge Current

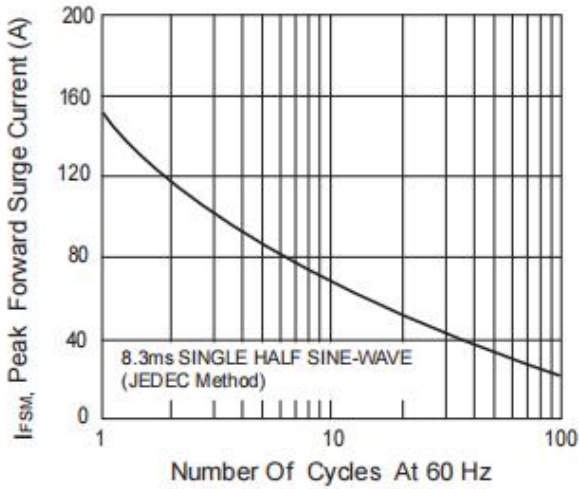
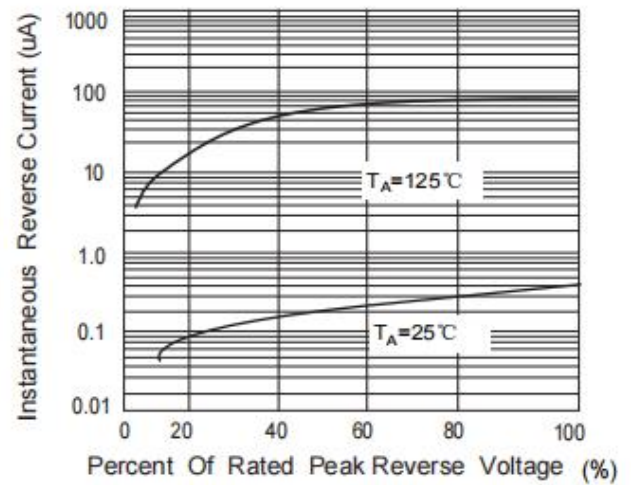
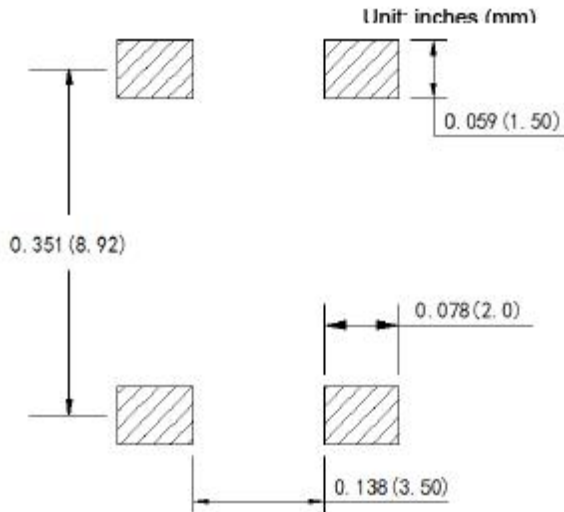


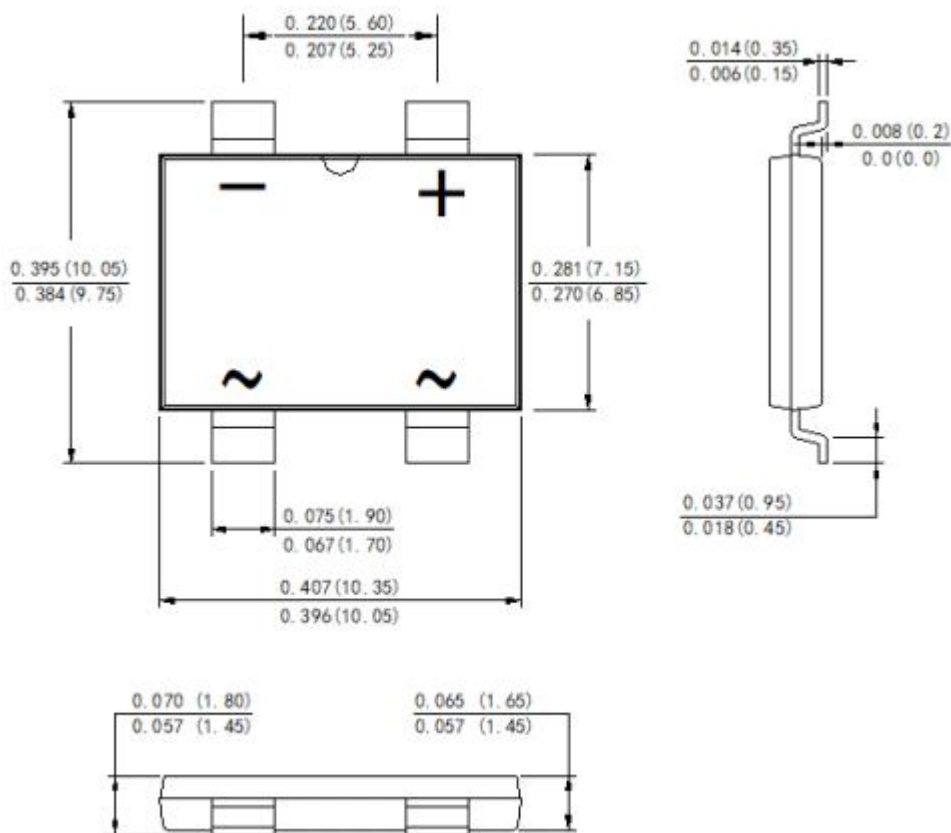
Fig.4 Typical Reverse Characteristics



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 UL94V-0

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