



HBN802 THRU HBN810

Glass Passivated Single-Phase 8.0Amp 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 8.0A;
- High surge current capability;
- High heat dissipation capability;
- Low profile package;
- Low forward voltage drop;
- Plastic package has Underwrites Laboratory Flammability Classification 94V-0;

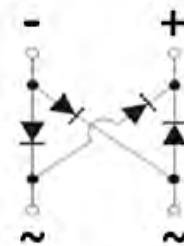
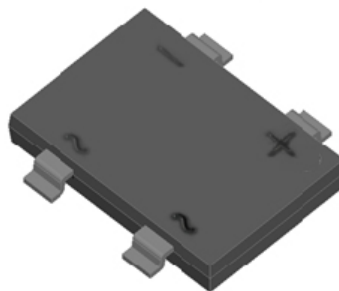
Mechanical Data

- 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

Rating 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	HBN802	HBN804	HBN806	HBN808	HBN810	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℃	I _{F(AV)}	8.0					A
Non-Repetitive Peak forward surge current 8.3 ms single sine-wave superimposed on rated load (JEDEC Method)	I _{FSM}	160					A
Rating for fusing (t<8.3ms)	I ² t	106					A ² s
Instantaneous forward voltage drop per diode @IF=4.0A @IF=8.0A	V _F	1.0 1.1					V
Reverse Current at Rated DC Blocking Voltage T _A =25℃ T _A =125℃	I _R	5 200					μA
Typical capacitance (note1)	C _j	52					pF
Typical thermal resistance	R _{θJ-A}	70.0					℃/W
	R _{θJ-C}	10.0					
	R _{θJ-L}	14.0					
Operating junction and Storage Temperature Range	T _J , T _{STG}	-55 to +150					℃

Note:

1. Measured at 1.0 MHz and applied reverse voltage of 4.0V D.C.



5. Rating And Characteristic Curves

Fig. 1 Forward Current Derating Curve

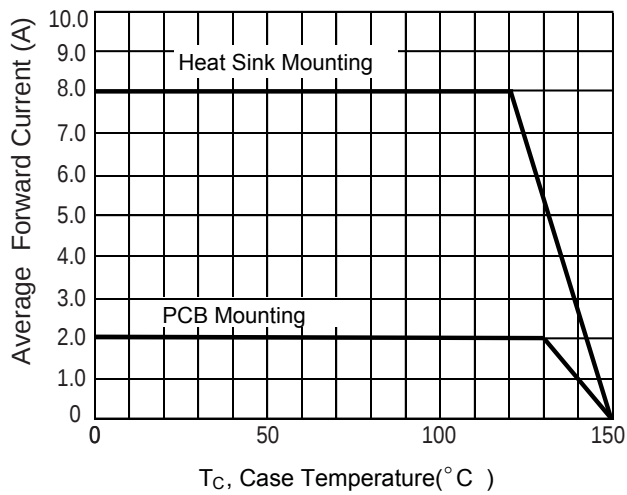


Fig. 2 Typ. Forward Characteristics

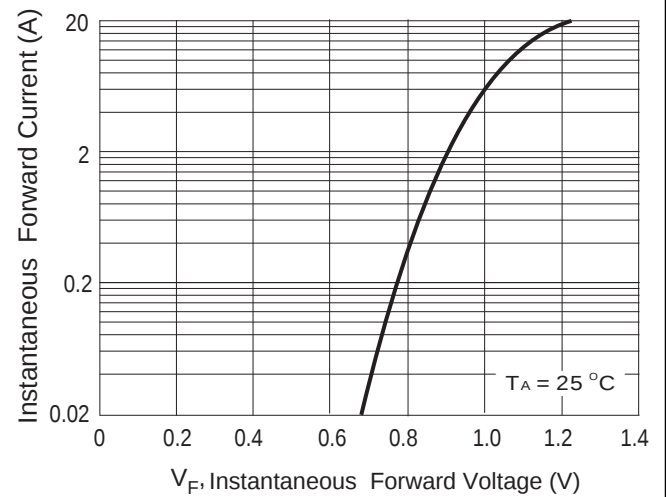


Fig. 3 Max Non-Repetitive Peak Fwd Surge Current

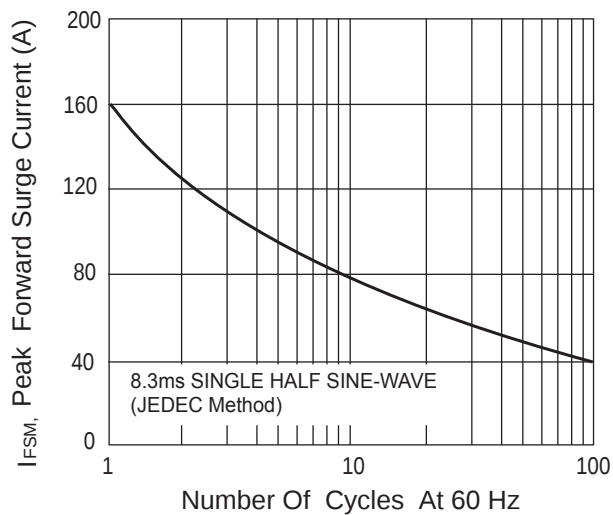
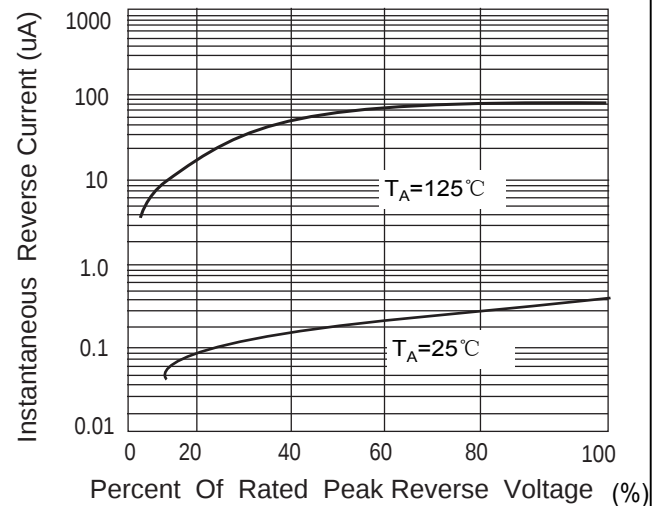


Fig.4 Typical Reverse Characteristics

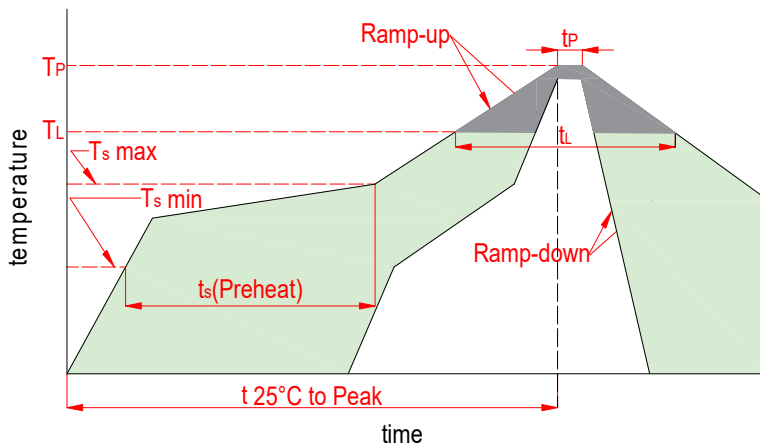




HBN802 THRU HBN810

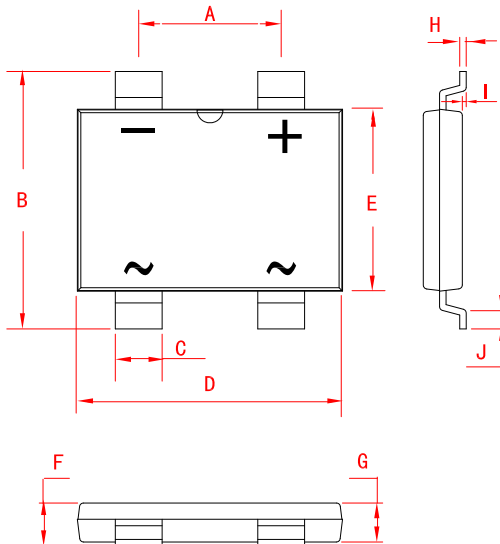
Glass Passivated Single-Phase 8.0Amp Surface Mount Bridge Rectifier

6. Soldering Parameters



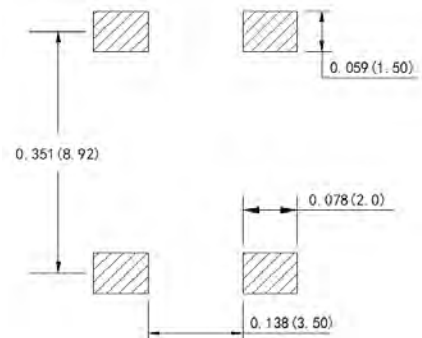
Reflow Condition		Lead-free
Pre Heat	Temp. min(T_s (min))	150°C
	Temp. max(T_s (min))	200°C
	Time(min to max)(t_s)	60~120s
Aver. ramp up rate(Liquidus Temp.)(T_L)to peak		3°C/s max
T_s (max) to T_L -Ramp-up Rate		3°C/s max
Reflow	Temp.(T_L)(Liquidus)	217°C
	Temp.(t_L)(Liquidus)	60~150s
Peak Temp.(T_P)		260 ^{+0/-5} °C
Time within actual peak Temp.(t_p)		30s max
Ramp-down Rate		6°C/s max
Time 25°C to peak Tempe.(T_P)		8 minutes max
Do not exceed		260°C

7. Dimensions



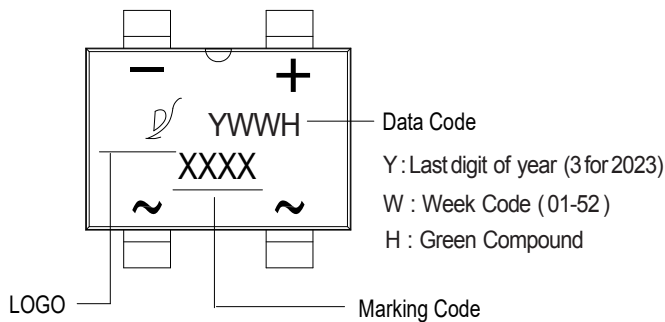
Dimensions	Inches		Millimeters	
	Min	Max	Min	Max
A	0.207	0.220	5.25	5.60
B	0.384	0.395	9.75	10.05
C	0.067	0.075	1.70	1.90
D	0.396	0.407	10.05	10.35
E	0.270	0.281	6.85	7.15
F	0.057	0.070	1.45	1.80
G	0.057	0.065	1.45	1.65
H	0.006	0.014	0.15	0.35
I	0.0	0.008	0.0	0.2
J	0.018	0.037	0.45	0.95

Suggested PCB pinfoot layout



Unit: inches (mm)

8.Part Marking System



9. Package Information

Package	Tape Width (mm)	Reel Size		Quantity(pcs)	AEC-Q101	LOGO
		mm	inch			
HBS	24.3	330	13	2500	No	



Important Notice and Disclaimer

- Reproducing and modifying information of the document is prohibited without from XINNUO.
- XINNUO reserves the right to make changes to this document and its products and specifications.
- XINNUO disclaims any and all liability arising out of the application or use of any product including damages incidentally and consequentially occurred.
- XINNUO does not assume any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.
- Applications shown on the here in document are examples of standard use and operation. Customers are responsible in comprehending the suitable use in particular applications. XINNUO makes no representation or warranty that such applications will be suitable for the specified use without further testing or modification.
- The products shown her are not designed and authorized for equipments requiring high level of reliability or relating to human life and for any applications concerning life-saving or life-sustaining, such as medical instruments, transportation equipment, aerospace machinery et cetera. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify XINNUO for any damages resulting from such improper use or sale.
- Since XINNUO uses lot number as the tracking base, please provide the lot number for tracking when complaining.