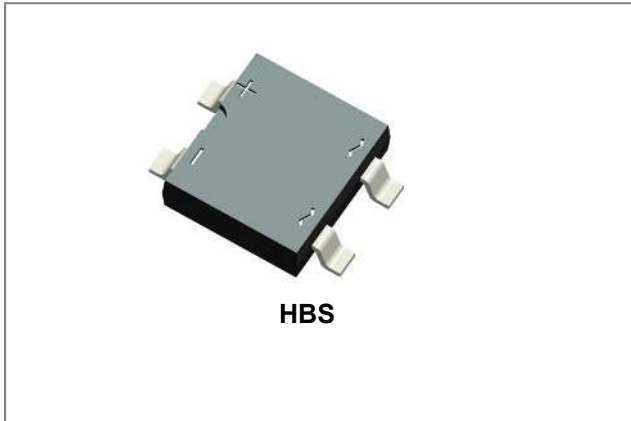


HBS502 THRU HBS510

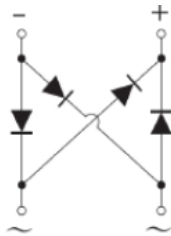
Glass Passivated Single-Phase 5.0Amp Surface Mount Bridge Rectifier



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 Underwrites 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	HBS502	HBS504	HBS506	HBS508	HBS510	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)	5						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 ² t	93						A ² sec

Electrical Characteristics@T_A=25°C unless otherwise specified

Type Number	Symbol	HBS502	HBS504	HBS506	HBS508	HBS510	Units
Maximum Forward Voltage (per element) @I _F =1.0A @I _F =2.5A @I _F =5.0A	V _F	0.83 Typ. 0.88 Max. 0.88 Typ. 0.93 Max. 0.92 Typ. 0.97 Max.					V
Maximum Peak Reverse Current @T _A = 25°C At Rated DC Blocking Voltage @T _A = 125°C	I _R	0.15 Typ. 5.0 Max. 20.0 Typ. 100 Max.					μA
Typical capacitance(Note 1)	C _j	38					pF

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

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

Type Number	Symbol	HBS502	HBS504	HBS506	HBS508	HBS510	Units
Typical Thermal Resistance	R _{θJA} R _{θJC} R _{θJL}	69.0 12.0 12.0					°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 5.0V DC.

Ratings and Characteristics Curves

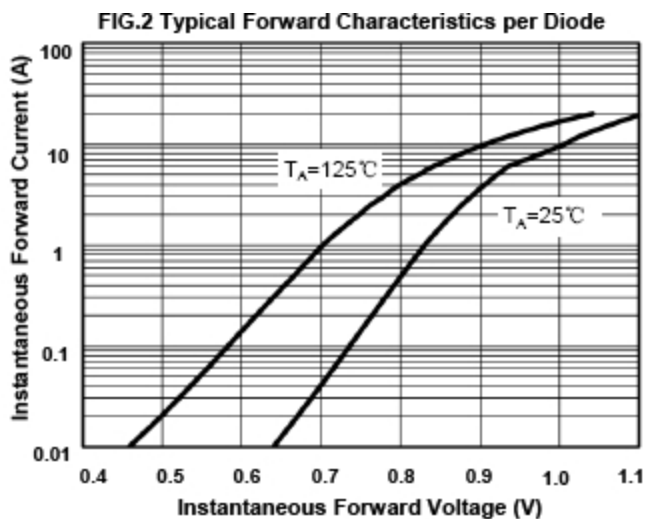
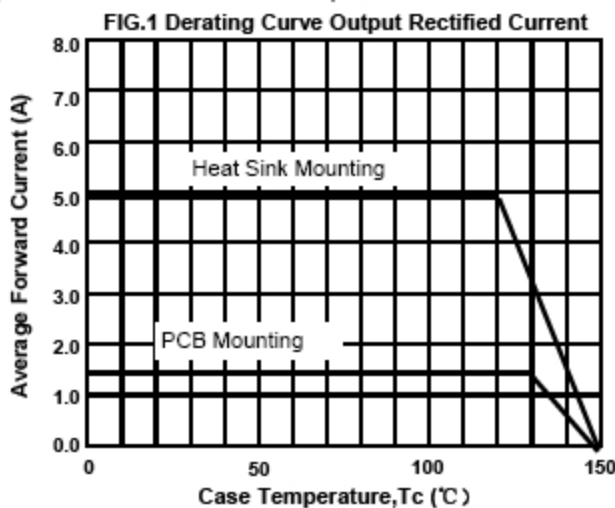


FIG.3 Maximum Non-Repetitive Peak Forward Surge Current per Diode

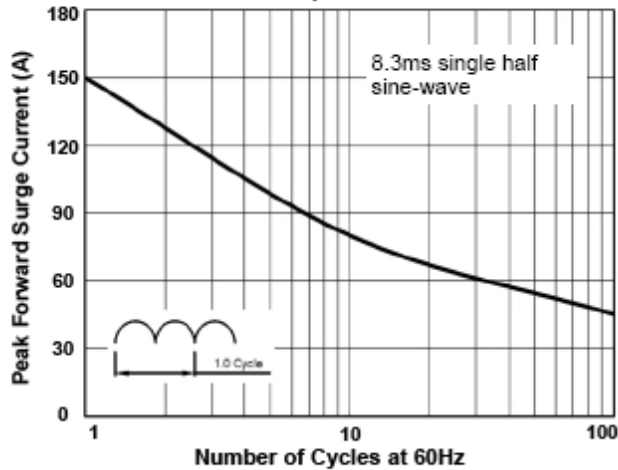


FIG.4 Typical Reverse Characteristics per Diode

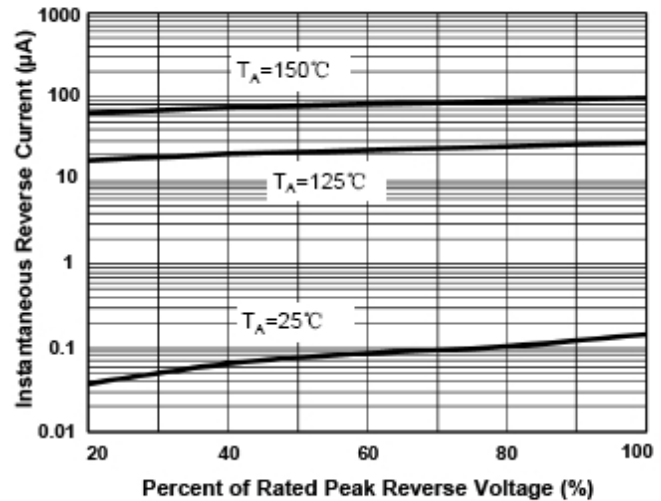
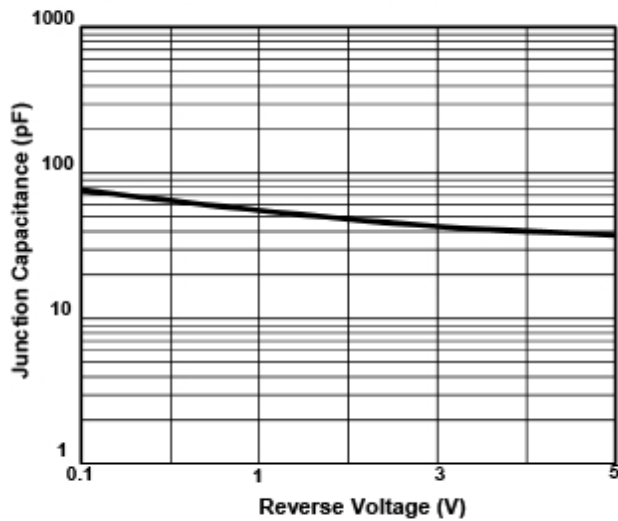
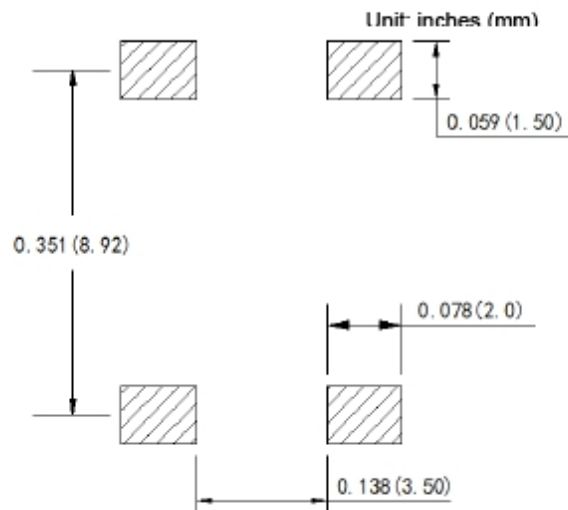


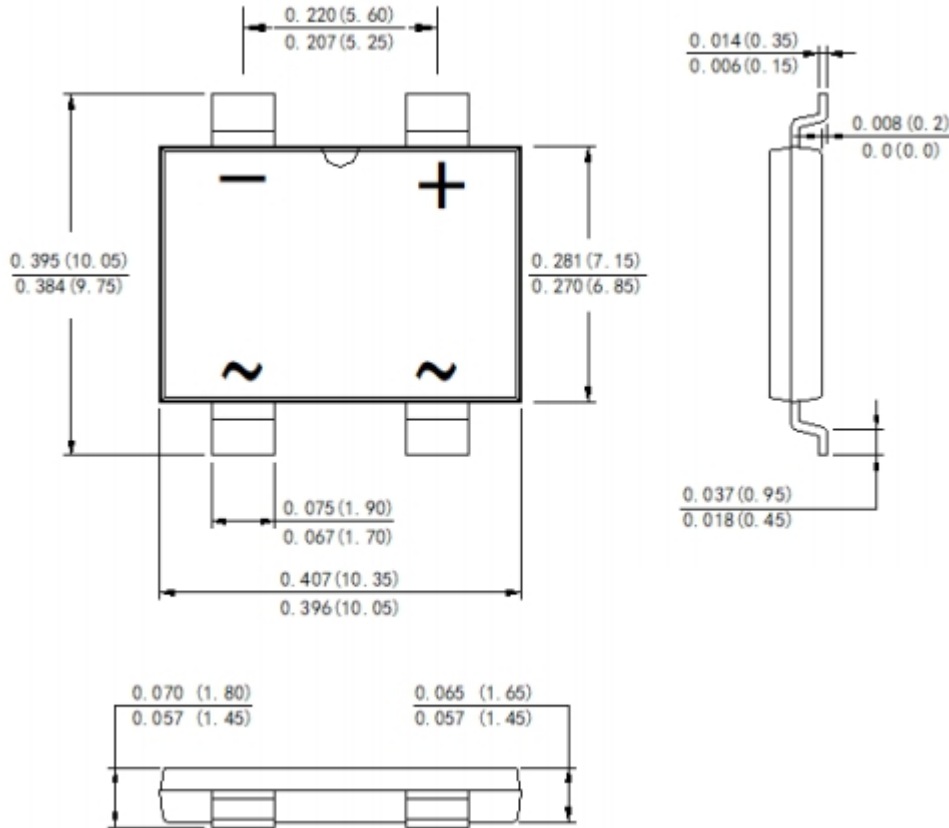
FIG.5 Typical Junction Capacitance per Diode



Suggested PCB printfoot layout



Mechanical Dimensions HBS(Inches/Millimeters)



Ordering Information

Device	Package	Plating	Shipping
HBS502 THRU HBS510	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

HBS502 = Type Number
YY = Year
WW = Week
L = Lot Number

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

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