

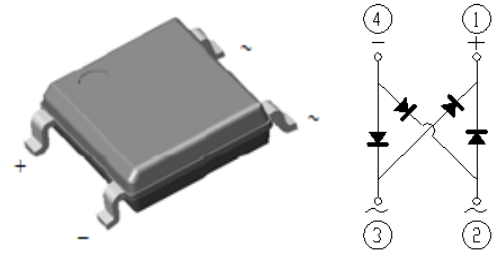


LB1S thru LB10S/LB1SL thru LB10SL

Low Profile Miniature Single Phase Surface Mount Bridge Rectifiers
Reverse Voltage 100~1000V Output Current 1.0A

Features

- Case:ABF
- Glass passivated standard bridge rectifiers
- Ideal for automated placement
- Moisture sensitivity: level 1, per J-STD-020
- Solder dip 260 °C, 10 s
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0



Typical Applications

For use of general purpose AC to DC bridge rectification in power supply, charger, office appliance, home appliance and telecom device.

Maximum Ratings (TA = 25 °C unless otherwise noted)

Parameter	Symbol	LB1S	LB2S	LB4S	LB6S	LB8S	LB10S	Unit
		LB1SL	LB2SL	LB4SL	LB6SL	LB8SL	LB10SL	
Maximum repetitive peak reverse voltage	VRRM	100	200	400	600	800	1000	V
Maximum RMS voltage	VRMS	70	140	280	420	560	700	V
Maximum DC blocking voltage	VDC	100	200	400	600	800	1000	V
Maximum average output rectified current on glass-epoxy P.C.B on aluminum substrate	Io(AV)	0.8 1.0						A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	IFSM	35						A
Peak forward surge current 1.0 ms single square wave superimposed on rated load		60						A
Rating for fusing(t<8.3ms)	I ² t	5						A ² sec
Operating junction and storage temperature range	TJ, TSTG	- 55 to + 150						°C

Electrical Characteristics (TA = 25 °C unless otherwise noted)

Parameter	Test Conditions	Symbol	LB1S	LB2S	LB4S	LB6S	LB8S	LB10S	Unit
			LB1SL	LB2SL	LB4SL	LB6SL	LB8SL	LB10SL	
Maximum instantaneous forward voltage	IF=0.4A TA=25°C	V _F	0.95						Volts
Maximum DC reverse current at rated DC blocking voltage	TA=25°C TA=125°C	I _R	5.0 200						μA
Typical junction capacitance	4.0 V, 1 MHz	C _J	13						pF

Thermal Characteristics

Parameter	Symbol	LB1S	LB2S	LB4S	LB6S	LB8S	LB10S	Unit
		LB1SL	LB2SL	LB4SL	LB6SL	LB8SL	LB10SL	
Typical thermal resistance ⁽¹⁾	R _{θJA}	80						°C/W
	R _{θJC}	35						
	R _{θJI}	25						

Notes: 1. Mounted on FR-4 P.C.B Board



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Ratings and Characteristics Curves

($T_A = 25^\circ\text{C}$ unless otherwise noted)

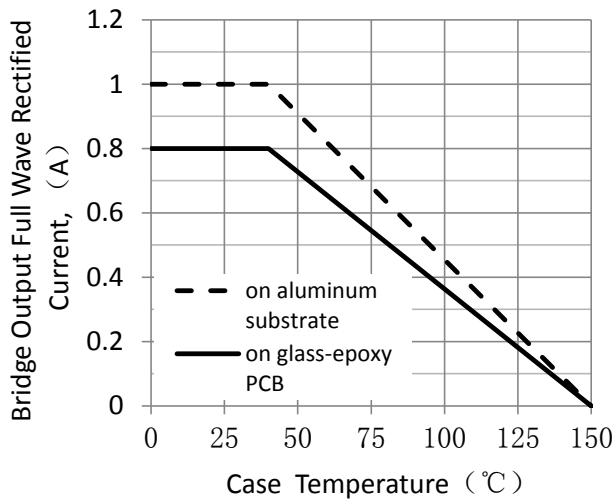


Figure 1. Output Rectifier Current Derating Curve

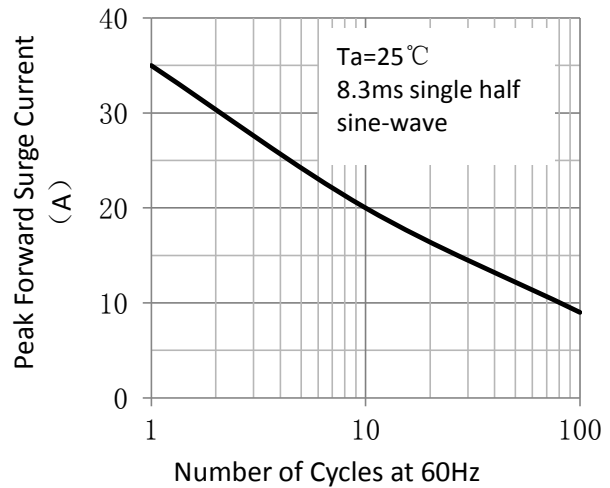


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

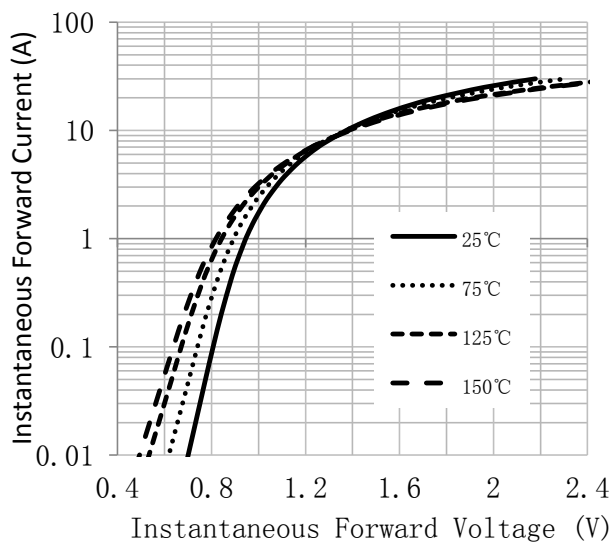


Figure 3. Typical Forward Characteristics

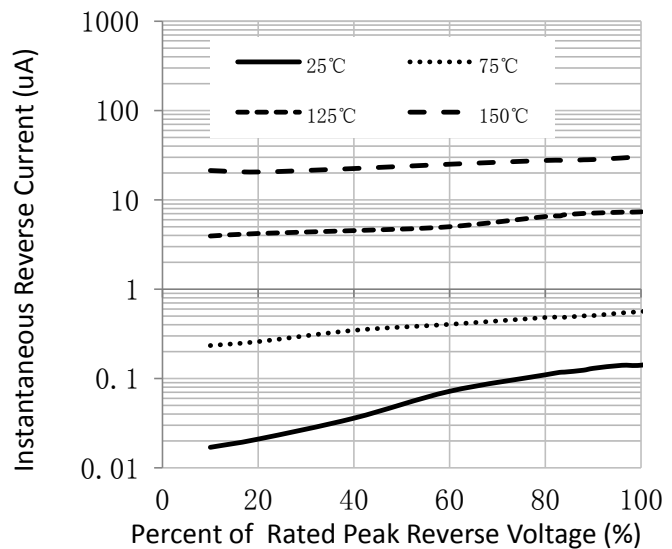


Figure 4. Typical Reverse Characteristics

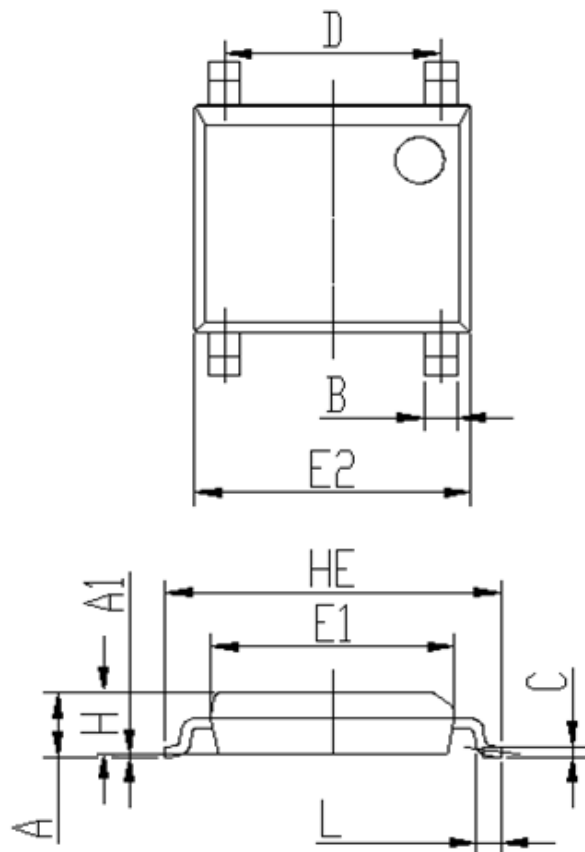


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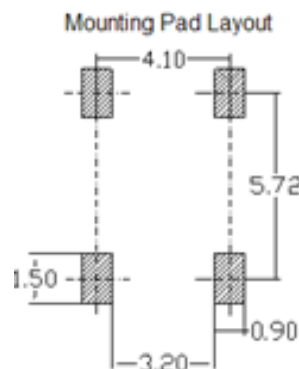
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Package Outline Dimensions

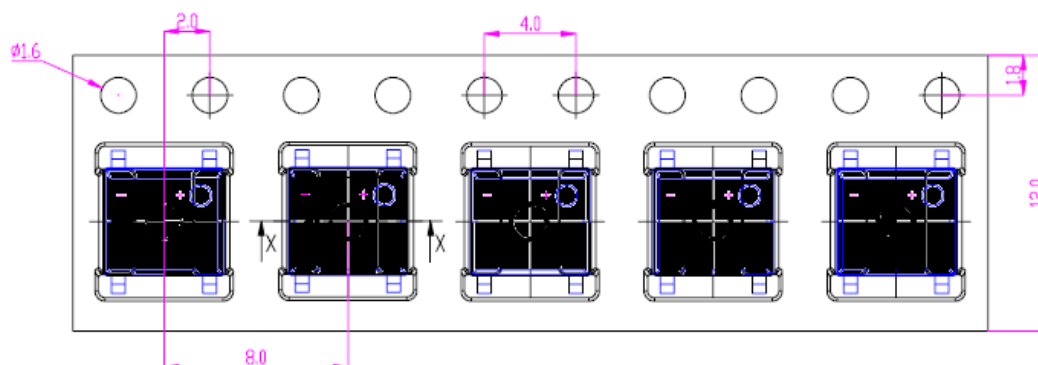


DIM	Unit: mm		Unit: inch	
	MIN	MAX	MIN	MAX
A	1.25	1.35	0.049	0.053
A1	0.00	0.15	0.000	0.006
B	0.50	0.70	0.020	0.028
C	0.15	0.30	0.006	0.012
D	3.80	4.20	0.150	0.165
E1	4.40	4.60	0.173	0.181
E2	5.00	5.20	0.197	0.205
L	0.25	0.65	0.010	0.026
HE	6.00	6.40	0.236	0.252
H	1.20	1.30	0.047	0.051

Unit: mm



TAPING ORIENTATION



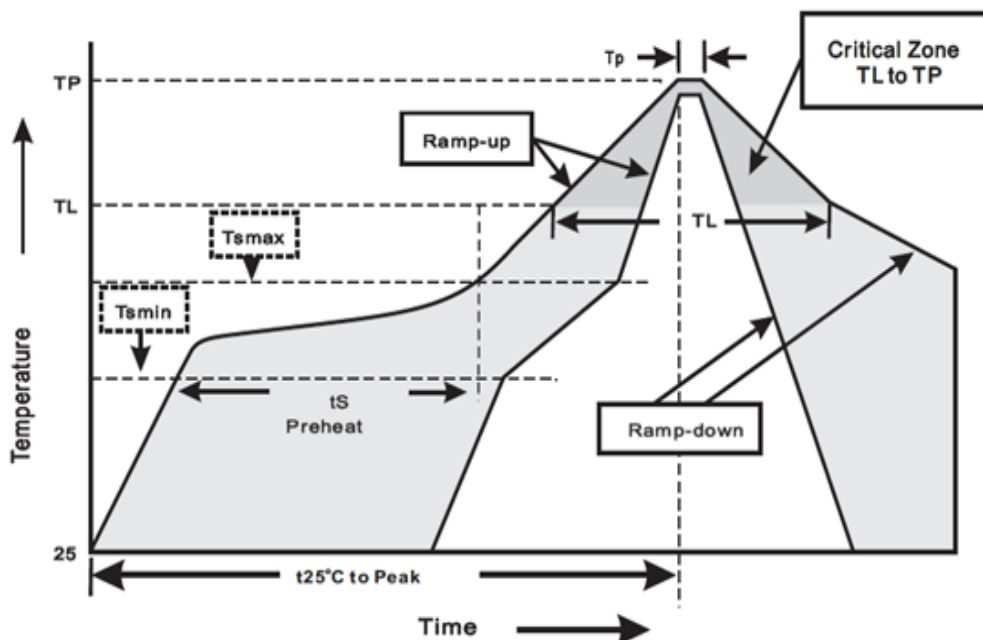


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Soldering Parameters



Reflow Soldering		Sn-Pb Eutectic Assembly	Pb-Free assembly
Pre Heat	- Temperature Min (Ts(min))	100 °C	150 °C
	- Temperature Max (Ts(max))	150 °C	200 °C
	- Time (min to max) (ts)	60 – 120 secs	60 – 180 secs
Average ramp up rate (Liquidus Temp (TL) to peak)		3 °C/second max	3 °C/second max
TS(max) to TL - Ramp-up Rate		3 °C/second max	3 °C/second max
Reflow	- Temperature (TL) (Liquidus)	183 °C	217 °C
	- Time (min to max) (ts)	60 – 150 seconds	60 – 150 seconds
Peak Temperature (TP)		240+0/-5 °C	240+0/-5 °C
Time within 5 °C of actual peak Temperature (tp)		10 – 30 seconds	20 – 40 seconds
Ramp-down Rate		6 °C/second max	6 °C/second max
Time 25 °C to peak Temperature (TP)		6 minutes Max.	8 minutes Max.
Do not exceed		260 °C	260 °C

Wave Soldering	
Peak Temperature :	260+0/-5 °C
Dipping Time :	10 seconds
Soldering :	1 time



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