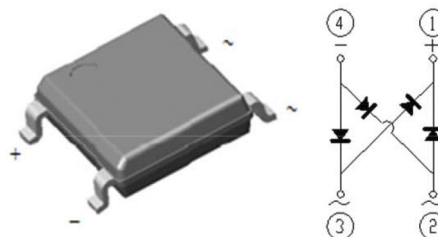


Features

- Case:ABF
- Glass passivated Fast Recovery 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
- Halogen-free according to IEC 61249-2-21 definition



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	LBR151S	LBR152S	LBR154S	LBR156S	LBR158S	LBR1510S	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	100	200	400	600	800	1000	V
Maximum RMS voltage	V_{RMS}	70	140	280	420	560	700	V
Maximum DC blocking voltage	V_{DC}	100	200	400	600	800	1000	V
Maximum average output rectified current	$I_o(AV)$	1.5						A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	50						A
Rating for fusing($t < 8.3ms$)	I^2t	10.0						A ² sec
Operating junction and storage temperature range	T_J, T_{STG}	- 55 to + 150						°C

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

Parameter	Test Conditions	Symbol	LBR151S	LBR152S	LBR154S	LBR156S	LBR158S	LBR1510S	Unit
Maximum instantaneous forward voltage	$I_F = 1.5A$ $T_A = 25^\circ C$	V_F	1.3						Volts
Maximum DC reverse current at rated DC blocking voltage	$T_A = 25^\circ C$ $T_A = 125^\circ C$	I_R	5.0 500						μA
Typical reverse recovery time	$I_F = 0.5A, I_R = 1.0A,$ $I_{rr} = 0.25A$	t_{rr}	500						nS
Typical junction capacitance	4.0 V, 1 MHz	C_J	15						pF

Thermal Characteristics

Parameter	Symbol	LBR151S	LBR152S	LBR154S	LBR156S	LBR158S	LBR1510S	Unit
Typical thermal resistance ⁽¹⁾	R _{θJA}	80						°C/W
	R _{θJC}	25						

Notes:

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

Ratings and Characteristics Curves

(TA = 25°C unless otherwise noted)

Fig.1 Forward Current Derating Curve

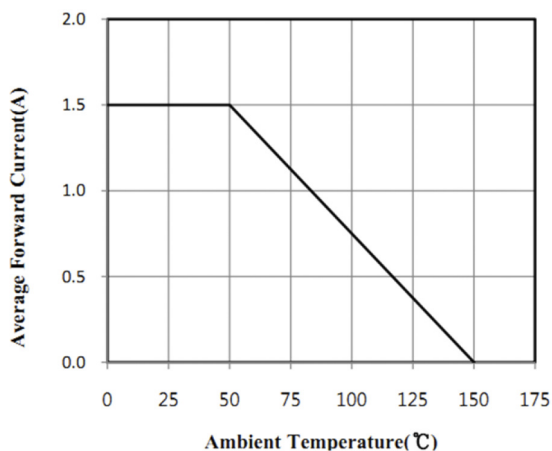


Fig.2 Maximum Non-Repetitive Peak Forward Surge Current

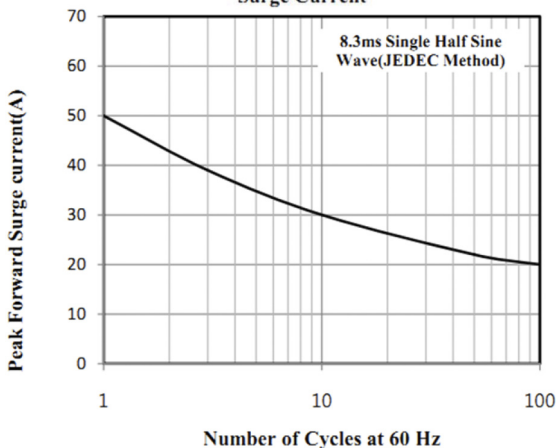


Fig.3 Typical Instantaneous Forward Characteristics

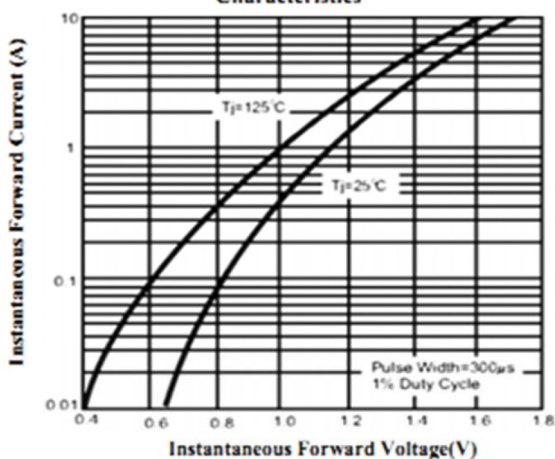


Fig.4 Typical Junction Capacitance

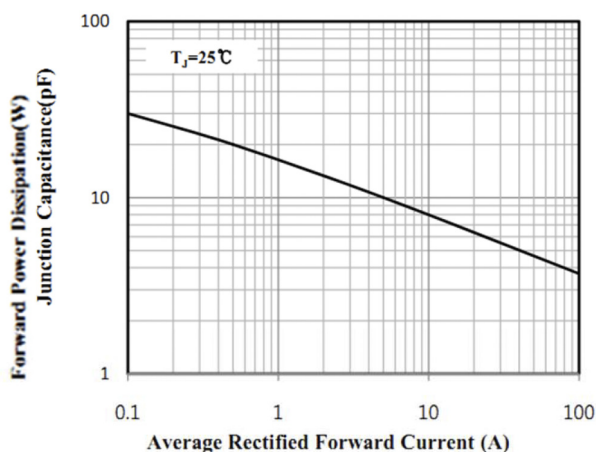
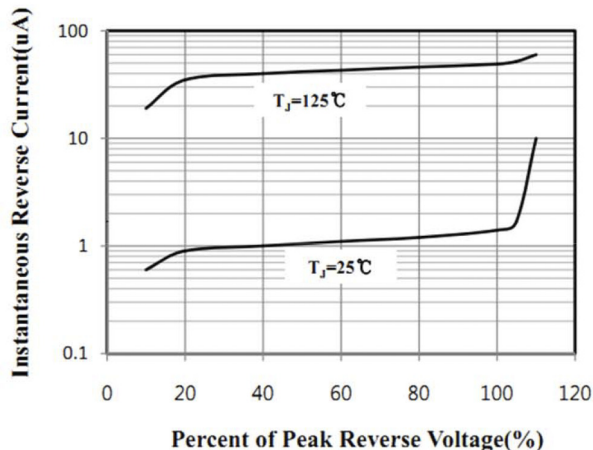
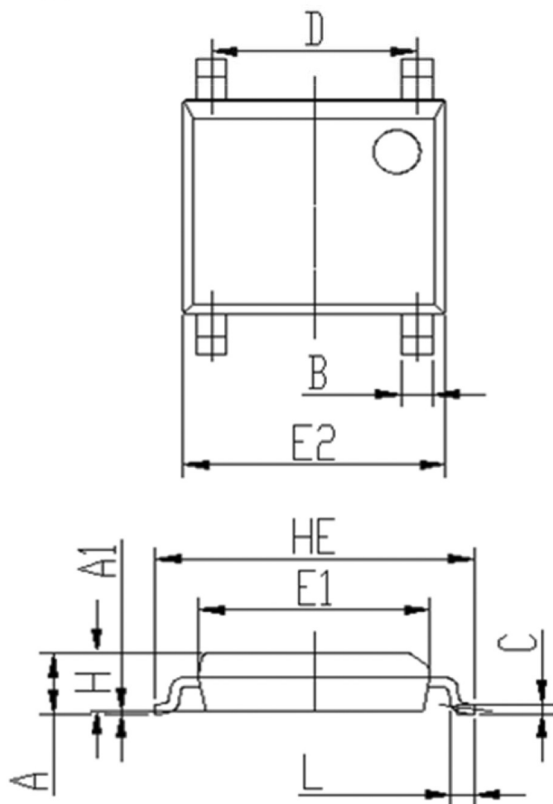


Fig.5 Typical Reverse Characteristics

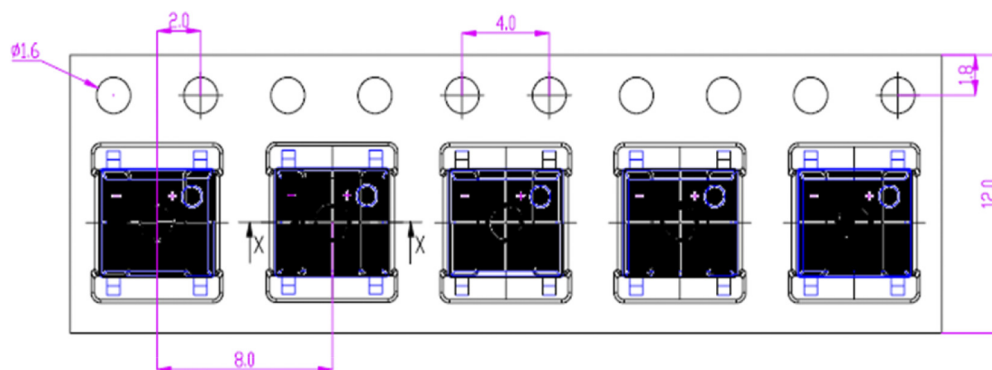


Package Outline Dimensions

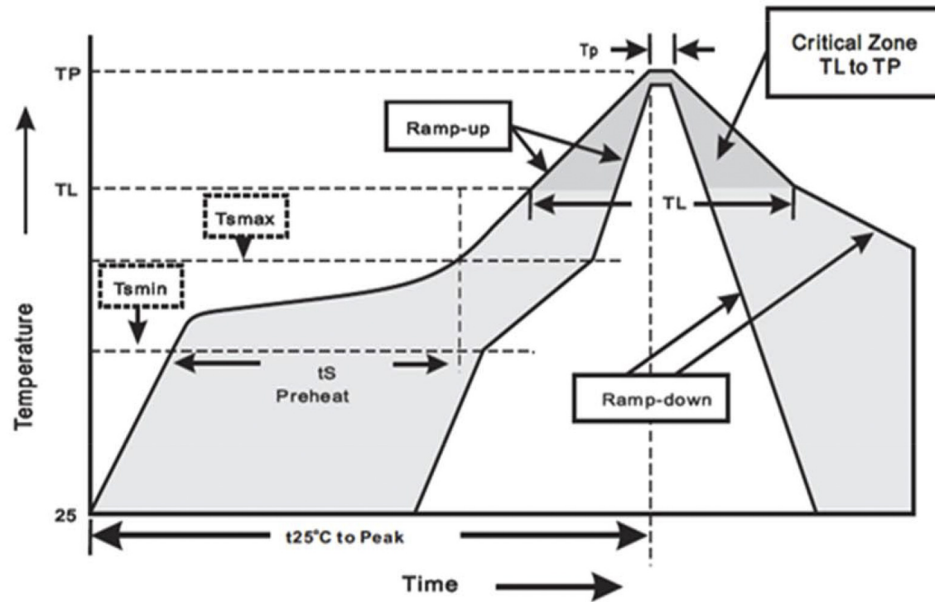


DIM	Unit: mm		Unit: inch	
	MIN	MAX	MIN	MAX
A	1.25	1.35	0.049	0.053
A1	0.00	0.15	0.000	0.006
B	0.50	0.70	0.020	0.028
C	0.15	0.30	0.006	0.012
D	3.80	4.20	0.150	0.165
E1	4.40	4.60	0.173	0.181
E2	5.00	5.20	0.197	0.205
L	0.25	0.65	0.010	0.026
HE	6.00	6.40	0.236	0.252
H	1.20	1.30	0.047	0.051

TAPING ORIENTATION



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