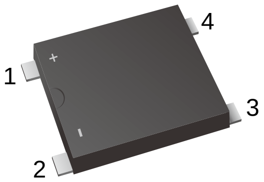
LTA1U-40 THRU LTA10U-40

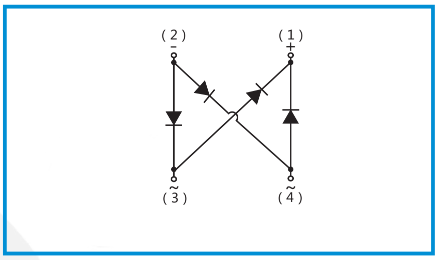
4A Surface Mount Glass Passivated Bridge Rectifier



Features

- Glass Passivated Chip Junction
- Reverse Voltage - 100 to 1000 V
- Forward Current - 4.0 A
- High Surge Current Capability
- Designed for Surface Mount Application

Functional Diagram



Mechanical Data

- Case: UMSB
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.234g / 0.00825oz

Maximum Ratings and Electrical Characteristics

Ratings at 25 C ambient temperature unless otherwise specified.
Single phase half-wave 60 Hz, resistive or inductive load, for capacitive load current derate by 20 %.

Parameter	Symbols	LTA1U-40	LTA2U-40	LTA4U-40	LTA6U-40	LTA8U-40	LTA10U-40	Units
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
Average Rectified Output Current	I_O	4.0						A
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method)	I_{FSM}	95						A
Maximum Forward Voltage at 4.0 A	V_F	1.1						V
Maximum DC Reverse Current at Rated DC Blocking Voltage @T_A=25 °C @T_A=125 °C	I_R	5 100						μA
Typical Junction Capacitance (Note1)	C_j	50						pF
Typical Thermal Resistance (Note2)	$R_{\theta JA}$ $R_{\theta JC}$ $R_{\theta JL}$	60 10 25						°C/W
Operating and Storage Temperature Range	T_j, T_{stg}	-55 ~ +150						°C

Note: 1. Measured at 1MHz and applied reverse voltage of 4 V D.C.
2. Mounted on glass epoxy PC board with 4×1.5"×1.5" (3.81×3.81 cm) copper pad.

Ratings and characteristics Curves

Fig.1 Average Rectified Output Current Derating Curve

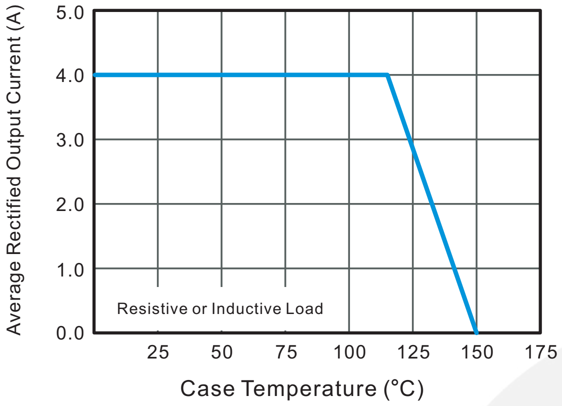


Fig.2 Typical Reverse Characteristics

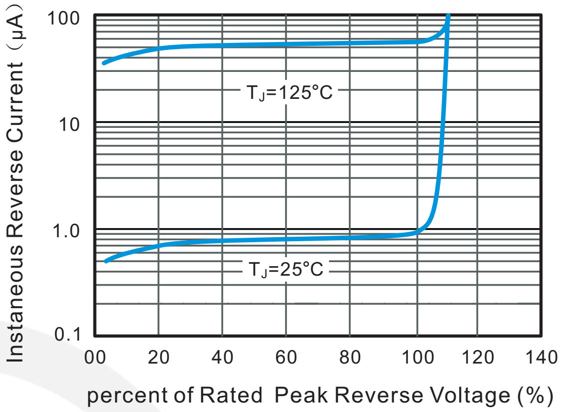


Fig.3 Typical Instaneous Forward Characteristics

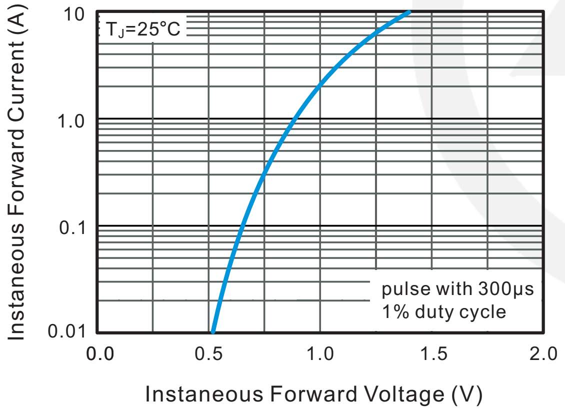


Fig.4 Typical Junction Capacitance

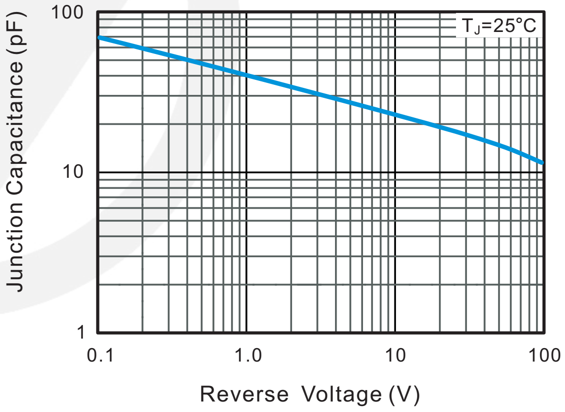


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

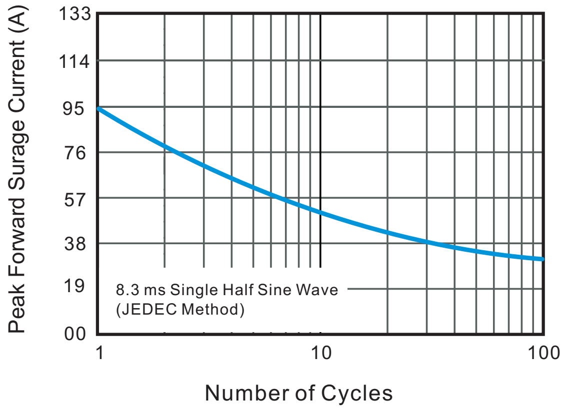
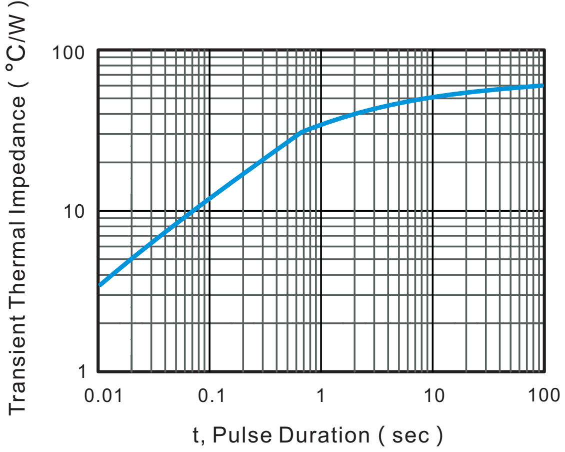
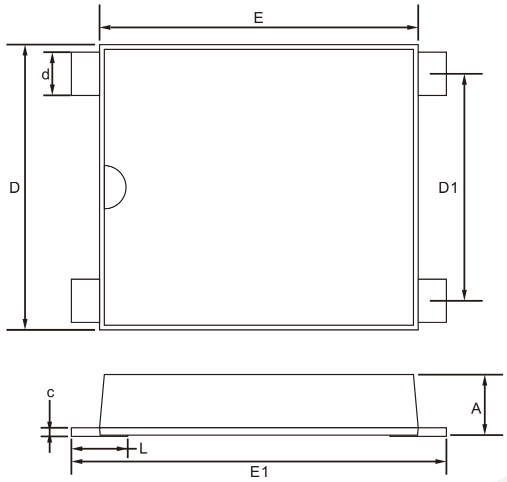


Fig.6- Typical Transient Thermal Impedance



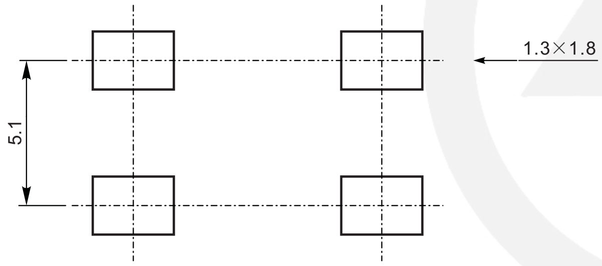
UMSB Package Outline



Unit: mm

SYMBOL	DIMENSIONS	
	MIN.	MAX.
A	1.30	1.50
D	6.20	7.00
D1	4.90	5.30
d	0.95	1.15
E	7.10	7.60
E1	8.40	8.90
c	0.17	0.29
L	1.00	1.60

UMSB Suggested Pad Layout



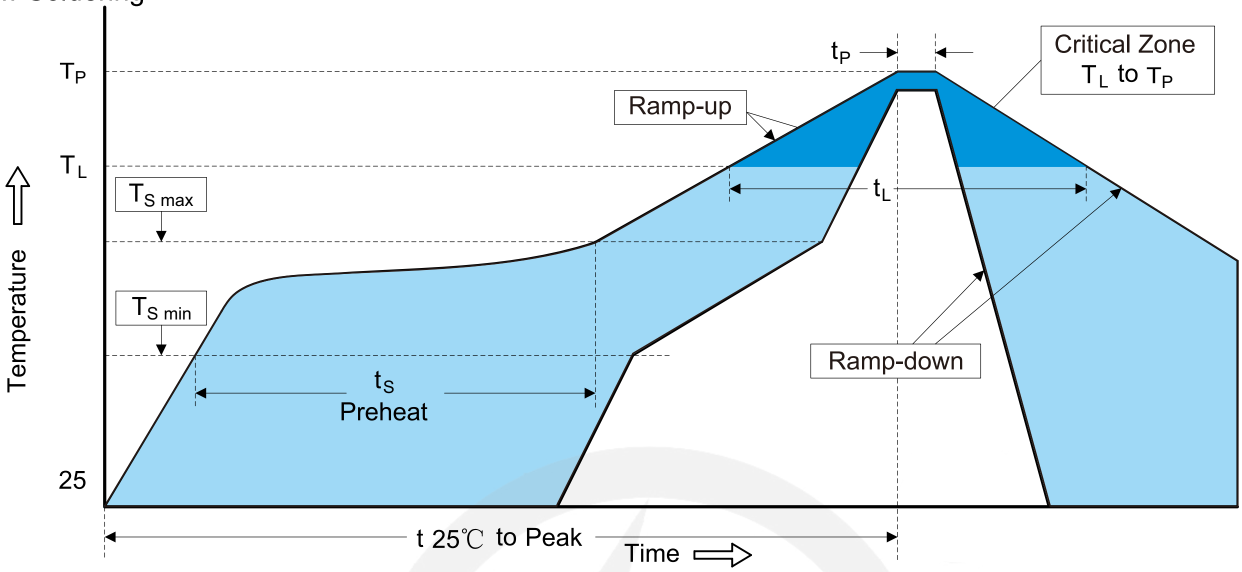
Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.05mm
3.The pad layout is for reference purpose only.

Marking

Type number	Marking code
LTA1U-40	MB40B
LTA2U-40	MB40D
LTA4U-40	MB40G
LTA6U-40	MB40J
LTA8U-40	MB40K
LTA10U-40	MB40M

Recommended Soldering Conditions

Reflow Soldering

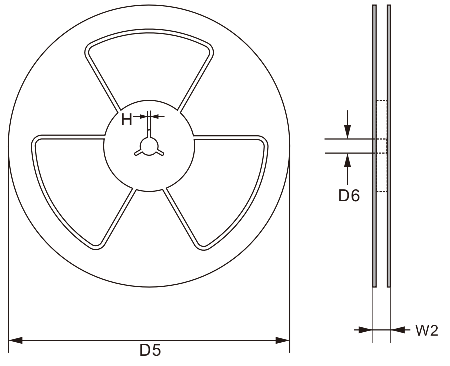


Recommended Conditions

Profile Feature	Pb-Free Assembly
Average ramp-up rate (T$_L$ to T$_P$)	3℃/second max.
Preheat -Temperature Min (T$_{S\ min}$) -Temperature Max (T$_{S\ max}$) -Time (min to max) (t$_S$)	 150℃ 200℃ 60-180 seconds
T$_{S\ max}$ to T$_L$ -Ramp-up Rate	 3℃/second max.
Time maintained above: -Temperature (T$_L$) -Time (t$_L$)	 217℃ 60-150 seconds
Peak Temperature (T$_P$)	260℃
Time within 5℃ of actual Peak Temperature (t$_P$)	20-40 seconds
Ramp-down Rate	6℃/second max.
Time 25℃ to Peak Temperature	8 minutes max.

Packaging

13” Reel



D5	Φ330.0±2.0
D6	Φ13.5±0.5
H	2.5±1.0
W2	16.0±2.0

Quantity: 3000PCS