# LTM1U THRU LTM10U

## 0.8A Surface Mount Glass Passivated Bridge Rectifier

## Features

- Glass Passivated Chip Junction
- Reverse Voltage - 100 to 1000 V
- Average Rectified Output Current- 0.8 A
- High Surge Current Capability
- Designed for Surface Mount Application
- Marking: UM1B~UM10B

## Mechanical Data

- Case: UMB
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 45mg 0.0016oz

## 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 | LTM1U | LTM2U | LTM4U | LTM6U | LTM8U | LTM10U | 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 | $I_O$ | 0.8 | | | | | | A |
| Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load | $I_{FSM}$ | 25 | | | | | | A |
| Forward Voltage per element @$I_F$= 0.4A<br>@$I_F$=0.8A | $V_F$ | 1.0<br>1.1 | | | | | | V |
| Maximum DC Reverse Current at Rated DC Blocking Voltage @$T_a$=25 °C<br>@$T_a$=125 °C | $I_R$ | 5.0<br>100 | | | | | | μA |
| Typical Junction Capacitance ( Note1 ) | $C_j$ | 13 | | | | | | pF |
| Typical Thermal Resistance ( Note2 ) | $R_{\theta JA}$ | 135 | | | | | | °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. P.C.B. mounted with 4×0.5 X 0.5"（12.7 X 12.7 $mm^2$）copper pad.

## Ratings and characteristics Curves

Fig.1 Average Rectified Output Current Derating Curve

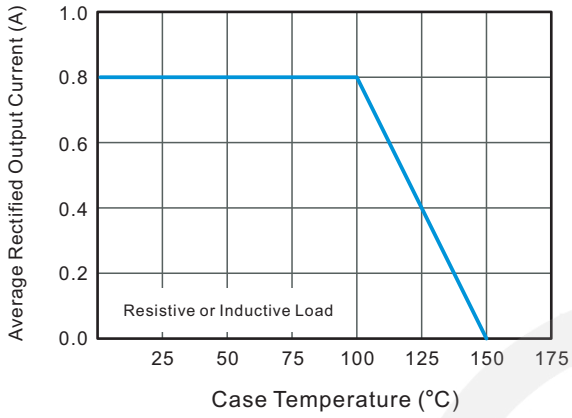



Fig.2 Typical Reverse Characteristics

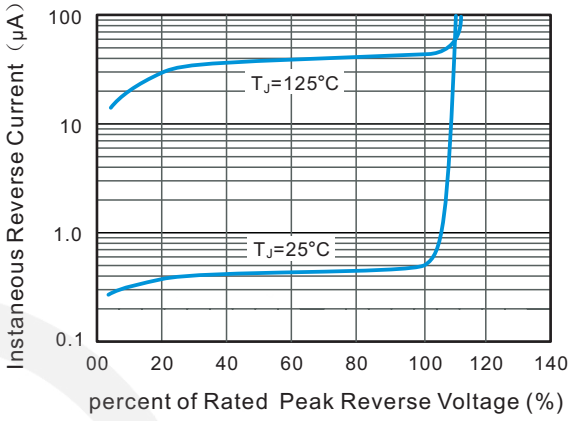



Fig.3 Typical Instaneous Forward Characteristics

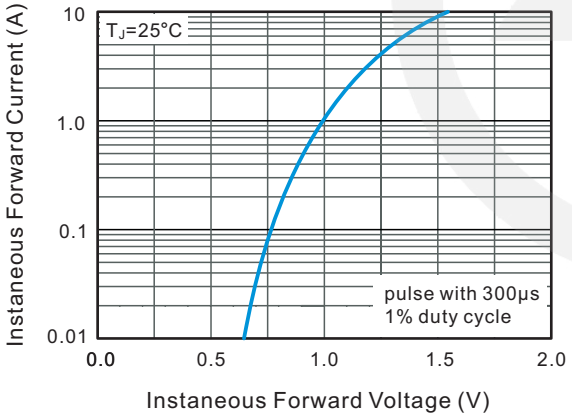



Fig.4 Typical Junction Capacitance

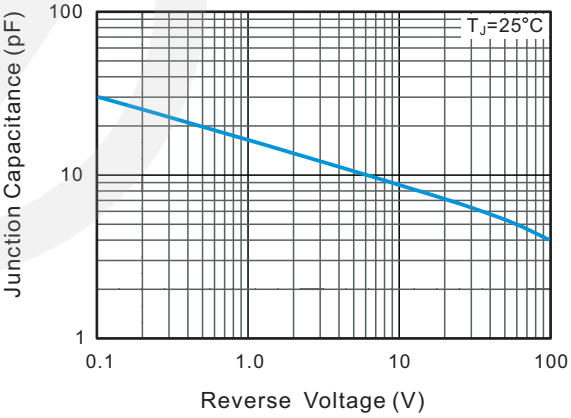
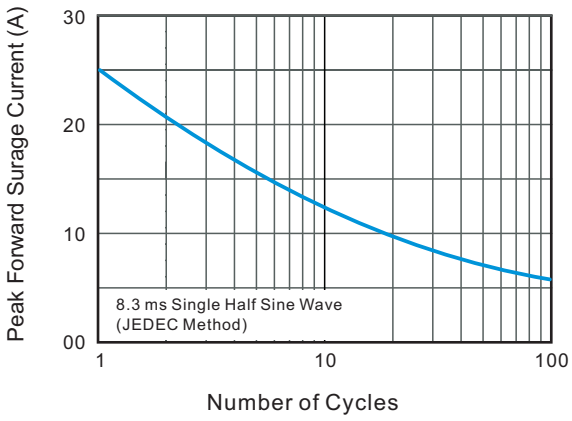
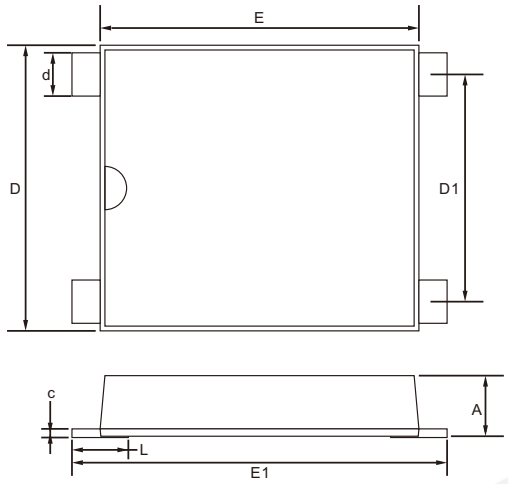



Fig.5 Maximum Non-Repetitive Peak Forward Surage Current



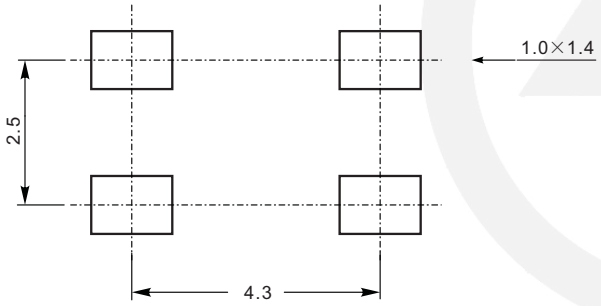
## UMB Package Outline




Unit : mm

| SYMBOL | DIMENSIONS | |
|---|---|---|
| | MIN. | MAX. |
| A | 1.00 | 1.20 |
| D | 3.40 | 3.80 |
| D1 | 2.30 | 2.70 |
| d | 0.50 | 0.70 |
| E | 3.60 | 4.00 |
| E1 | 4.60 | 5.10 |
| c | 0.12 | 0.20 |
| L | 0.50 | 0.82 |

## UMB Suggested Pad Layout



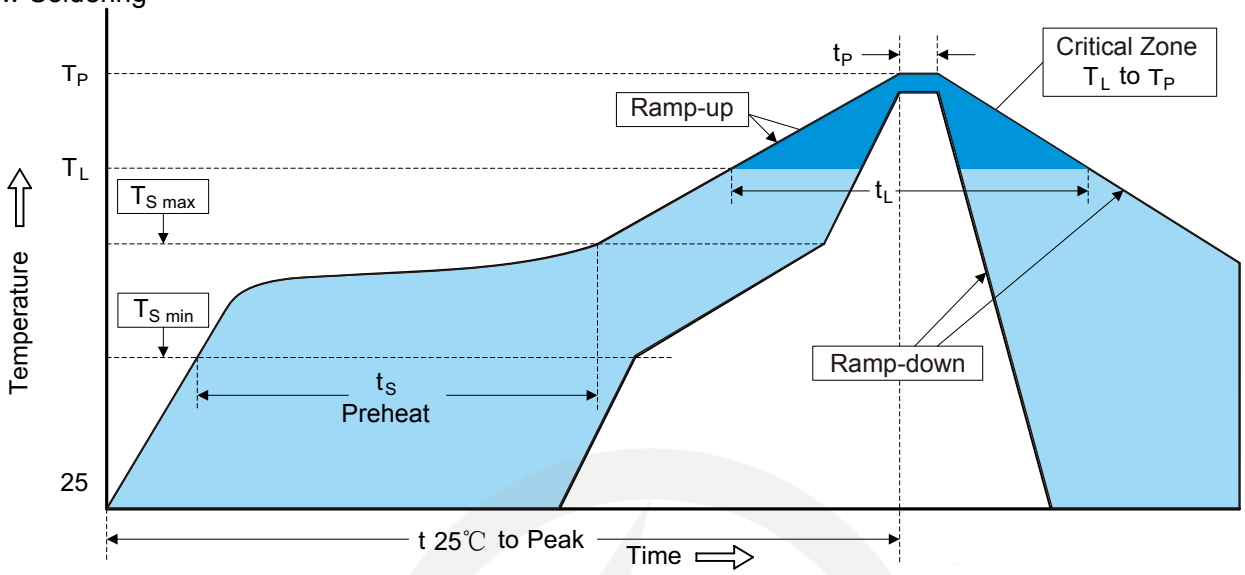

Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.05mm
3.The pad layout is for reference purpose only.

### Marking

| Type number | Marking code |
|---|---|
| LTM1U | UM1B |
| LTM2U | UM2B |
| LTM4U | UM4B |
| LTM6U | UM6B |
| LTM8U | UM8B |
| LTM10U | UM10B |

## Recommended Soldering Conditions

Reflow Soldering

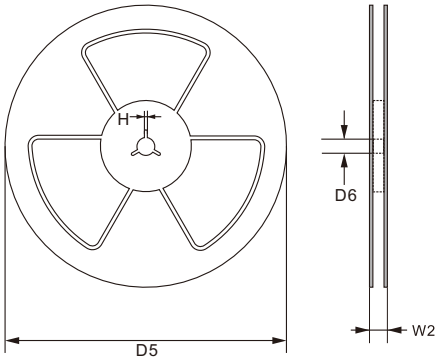



Recommended Conditions

| Profile Feature | Pb-Free Assembly |
|---|---|
| Average ramp-up rate ($T_L$ to $T_P$) | 3℃/second max. |
| Preheat<br>-Temperature Min ($T_{S\ min}$)<br>-Temperature Max ($T_{S\ max}$)<br>-Time (min to max) ( $t_S$) | <br>150℃<br>200℃<br>60-180 seconds |
| $T_{S\ max}$ to $T_L$<br>-Ramp-up Rate | <br>3℃/second max. |
| Time maintained above:<br>-Temperature ($T_L$)<br>-Time ($t_L$) | <br>217℃<br>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: 5000PCS | |