WON-TOP ELECTRONICS

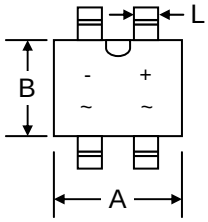
# LB1S – LB10S

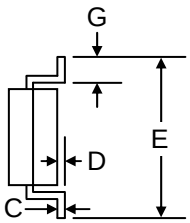
**0.8A SURFACE MOUNT GLASS PASSIVATED BRIDGE RECTIFIER**

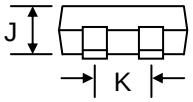
RoHS Pb

## Features

- ***Ultra-Slim 1.6mm Max. Case Height***
- Glass Passivated Die Construction
- High Reliability
- Low Forward Voltage Drop
- High Surge Current Capability
- Designed for Surface Mount Application
- Plastic Material – UL Flammability 94V-0




| MBL-S | | |
|---|---|---|
| **Dim** | **Min** | **Max** |
| **A** | 4.50 | 5.10 |
| **B** | 3.60 | 4.60 |
| **C** | 0.10 | 0.35 |
| **D** | — | 0.20 |
| **E** | 6.40 | 7.20 |
| **G** | 0.70 | 1.10 |
| **J** | 1.30 | 1.60 |
| **K** | 2.20 | 2.60 |
| **L** | 0.56 | 0.84 |
| **All Dimensions in mm** | | |

## Mechanical Data

- Case: MBL-S, Molded Plastic
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: As Marked on Case
- Weight: 0.10 grams (approx.)
- Mounting Position: Any
- Marking: Type Number
- **Lead Free: For RoHS / Lead Free Version, Add "-LF" Suffix to Part Number, See Page 4**

## Maximum Ratings and Electrical Characteristics @$T_A$=25°C unless otherwise specified

Single Phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

| Characteristic | Symbol | LB1S | LB2S | LB4S | LB6S | LB8S | LB10S | Unit |
|---|---|---|---|---|---|---|---|---|
| Peak Repetitive Reverse Voltage<br>Working Peak Reverse Voltage<br>DC Blocking Voltage | $V_{RRM}$<br>$V_{RWM}$<br>$V_R$ | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| RMS Reverse Voltage | $V_{R(RMS)}$ | 70 | 140 | 280 | 420 | 560 | 700 | V |
| Average Rectified Output Current (Note 1) @$T_A$ = 40°C<br>Average Rectified Output Current (Note 2) @$T_A$ = 40°C | $I_O$ | 0.8<br>0.5 | | | | | | A |
| Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load (JEDEC Method) | $I_{FSM}$ | 35 | | | | | | A |
| Forward Voltage per diode @$I_F$ = 0.4A<br>@$I_F$ = 0.8A | $V_{FM}$ | 1.0<br>1.1 | | | | | | V |
| Peak Reverse Current @$T_A$ = 25°C<br>At Rated DC Blocking Voltage @$T_A$ = 125°C | $I_{RM}$ | 5.0<br>500 | | | | | | μA |
| Typical Junction Capacitance per diode (Note 3) | $C_J$ | 13 | | | | | | pF |
| Thermal Resistance Junction to Ambient (Note 2)<br>Thermal Resistance Junction to Ambient (Note 1)<br>Thermal Resistance Junction to Lead (Note 2) | $R_{\theta JA}$<br>$R_{\theta JA}$<br>$R_{\theta JL}$ | 134<br>76<br>20 | | | | | | °C/W |
| Operating and Storage Temperature Range | $T_J$, $T_{STG}$ | -55 to +150 | | | | | | °C |

Note: 1. Mounted on aluminum substrate PCB with 1.3 x 1.3mm pad areas.
2. Mounted on glass epoxy PCB with 1.3 x 1.3mm pad areas.
3. Measured at 1.0 MHz and applied reverse voltage of 4.0V D.C.

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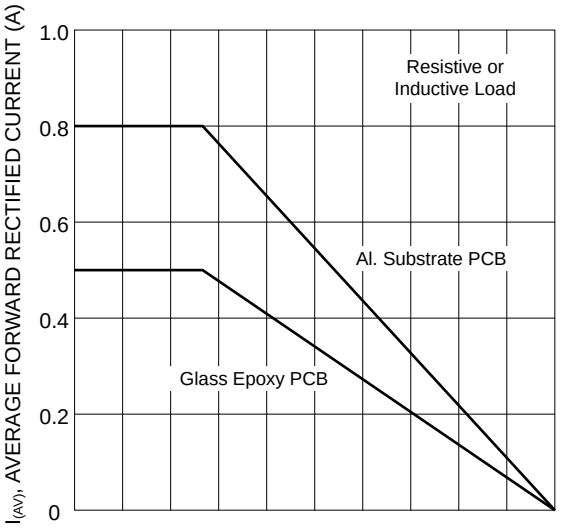


Fig. 1 Forward Current Derating Curve

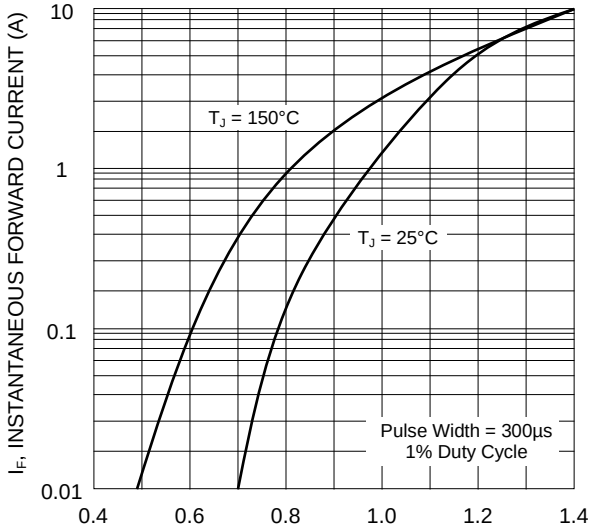


Fig. 2 Typical Forward Characteristics

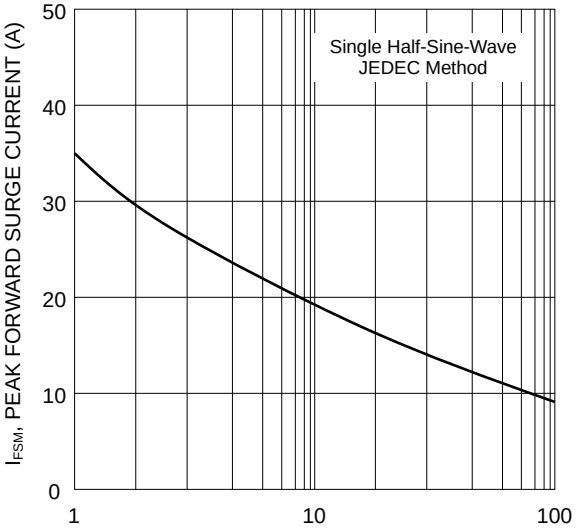


Fig. 3 Forward Surge Current Derating Curve

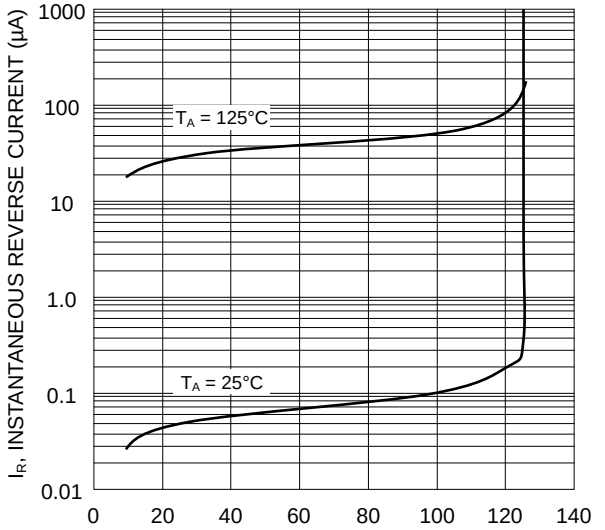


Fig. 4 Typical Reverse Characteristics

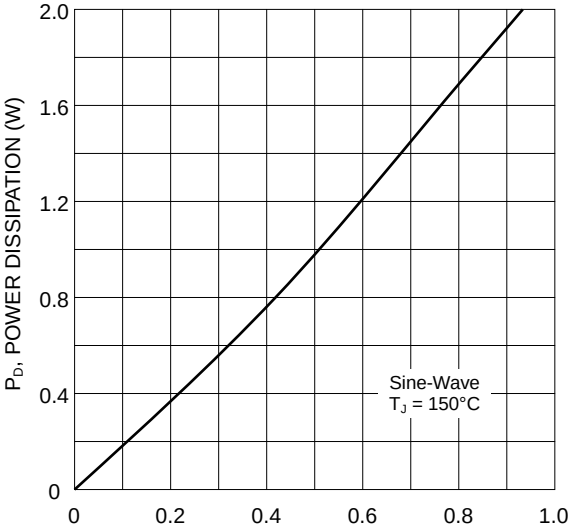


Fig. 5 Forward Power Dissipation

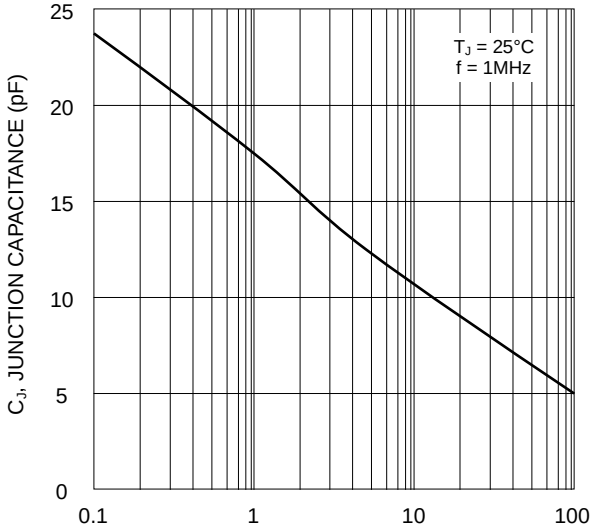


Fig. 6 Typical Junction Capacitance


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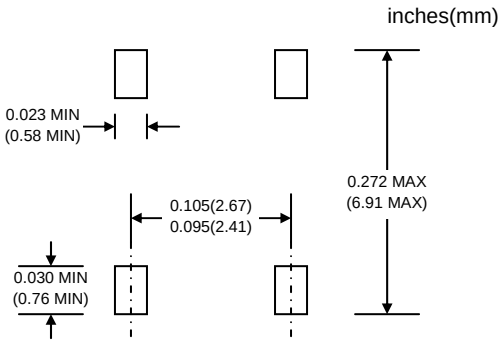
## MARKING INFORMATION

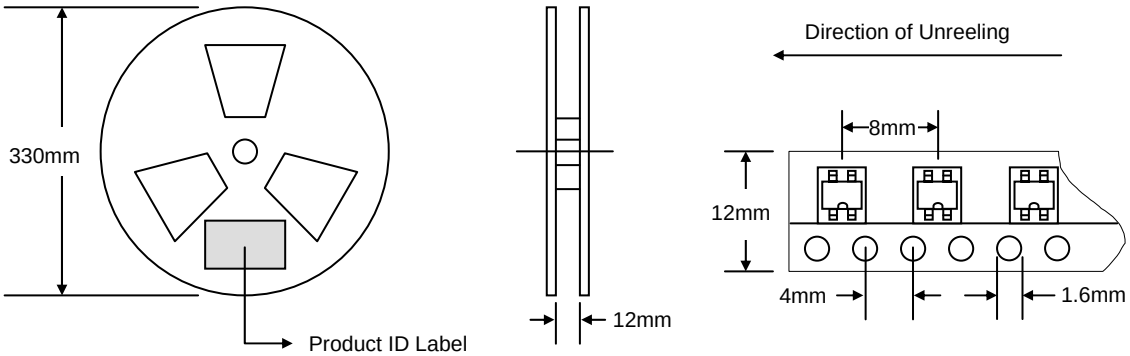

| | |
|---|---|
| LBxS | = Device Number |
| x | = 1, 2, 4, 6, 8 or 10 |
| Polarity | = As Marked on Body |

## RECOMMENDED FOOTPRINT




## PACKAGING INFORMATION

### TAPE & REEL




| Reel Diameter (mm) | Quantity (PCS) | Inner Box Size L x W x H (mm) | Quantity (PCS) | Carton Size L x W x H (mm) | Quantity (PCS) | Approx. Gross Weight (KG) |
|---|---|---|---|---|---|---|
| 330 | 4,000 | 340 x 337 x 45 | 8,000 | 370 x 370 x 420 | 64,000 | 14.0 |

**Note:** 1. Paper reel, white or gray color.
2. Components are packed in accordance with EIA standard 481-1 and 481-2.

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## ORDERING INFORMATION

| Product No. | Package Type | Shipping Quantity |
|---|---|---|
| LB1S-T3 | MBL-S | 4000/Tape & Reel |
| LB2S-T3 | MBL-S | 4000/Tape & Reel |
| LB4S-T3 | MBL-S | 4000/Tape & Reel |
| LB6S-T3 | MBL-S | 4000/Tape & Reel |
| LB8S-T3 | MBL-S | 4000/Tape & Reel |
| LB10S-T3 | MBL-S | 4000/Tape & Reel |

1. Shipping quantity given is for minimum packing quantity only. For minimum order quantity, please consult the Sales Department.
2. **To order RoHS / Lead Free version (with Lead Free finish), add "-LF" suffix to part number above. For example, LB1S-T3-LF**.

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**WARNING**: DO NOT USE IN LIFE SUPPORT EQUIPMENT. WTE power semiconductor products are not authorized for use as critical components in life support devices or systems without the express written approval.

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