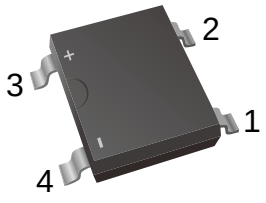
# LTA1S THRU LTA10S

## 0.8A Surface Mount Glass Passivated Bridge Rectifier

## Features

- Glass Passivated Chip Junction
- Reverse Voltage - 100 to 1000 V
- Forward Current - 0.8A
- High Surge Current Capability
- Designed for Surface Mount Application




ABS/ABF

**PINNING**

| PIN | DESCRIPTION |
|---|---|
| 1 | Input Pin ( ~ ) |
| 2 | Input Pin ( ~ ) |
| 3 | Output Anode ( + ) |
| 4 | Output Cathode ( - ) |

## Mechanical Data

- Case: ABS/LBF
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 88mg / 0.0031oz

## 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 | LTA1S | LTA2S | LTA4S | LTA6S | LTA8S | LTA10S | 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 at $T_c$ = 125 °C | $I_O$ | 0.8 | | | | | | A |
| Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method) | $I_{FSM}$ | 30 | | | | | | 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>@$T_A$=100°C<br>@$T_A$=125 °C | $I_R$ | 5<br>50<br>100 | | | | | | μA |
| Typical Junction Capacitance ( Note1 ) | $C_j$ | 13 | | | | | | pF |
| Typical Thermal Resistance ( Note2 ) | $R_{\theta JA}$<br>$R_{\theta JC}$ | 80<br>22 | | | | | | °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.

# Rating and Characteristic Curves(TA=25℃ Uniless otherwise noted)

**Fig.1 Average Rectified Output Current Derating Curve**

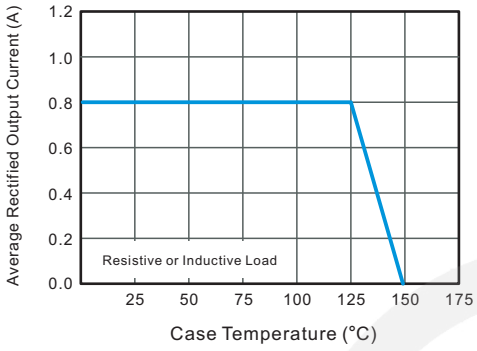



**Fig.2 Typical Reverse Characteristics**

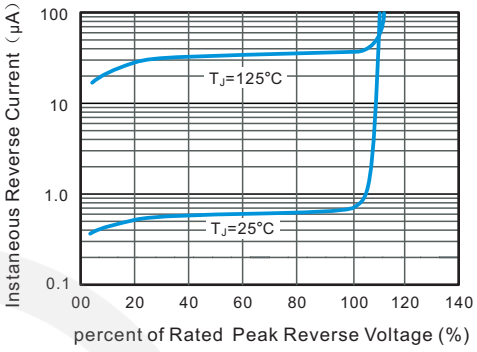



**Fig.3 Typical Instaneous Forward Characteristics**

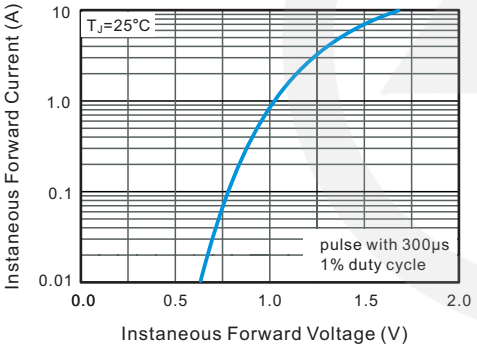



**Fig.4 Typical Junction Capacitance**

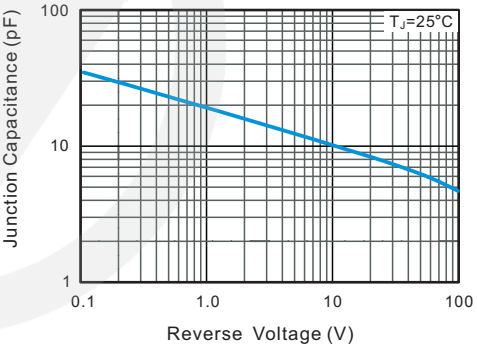
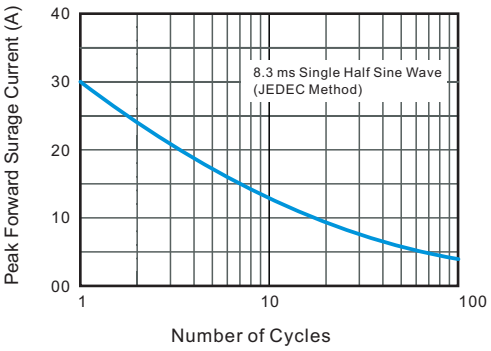
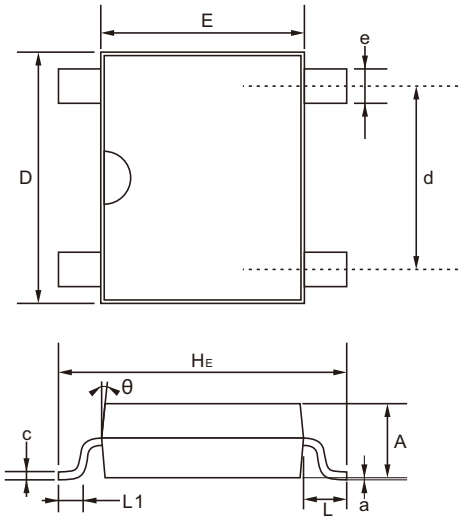



**Fig.5 Maximum Non-Repetitive Peak Forward Surage Current**



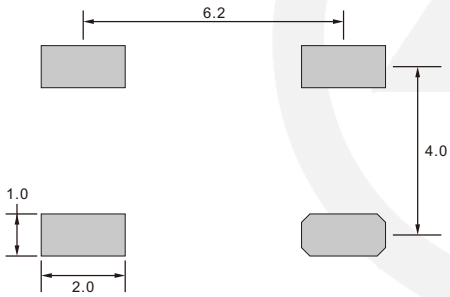
## ABS/LBF Package Outline




Unit: mm

| SYMBOL | DIMENSIONS | |
|---|---|---|
| | MIN. | MAX. |
| A | 1.300 | 1.500 |
| C | 0.150 | 0.220 |
| D | 4.900 | 5.200 |
| E | 4.200 | 4.500 |
| HE | 6.000 | 6.400 |
| d | 3.800 | 4.200 |
| e | 0.500 | 0.700 |
| L | 0.950 TYP. | |
| L1 | 0.600 TYP. | |
| a | 0.200 TYP. | |
| θ | 7° | |

## ABS/LBF Suggested Pad Layout



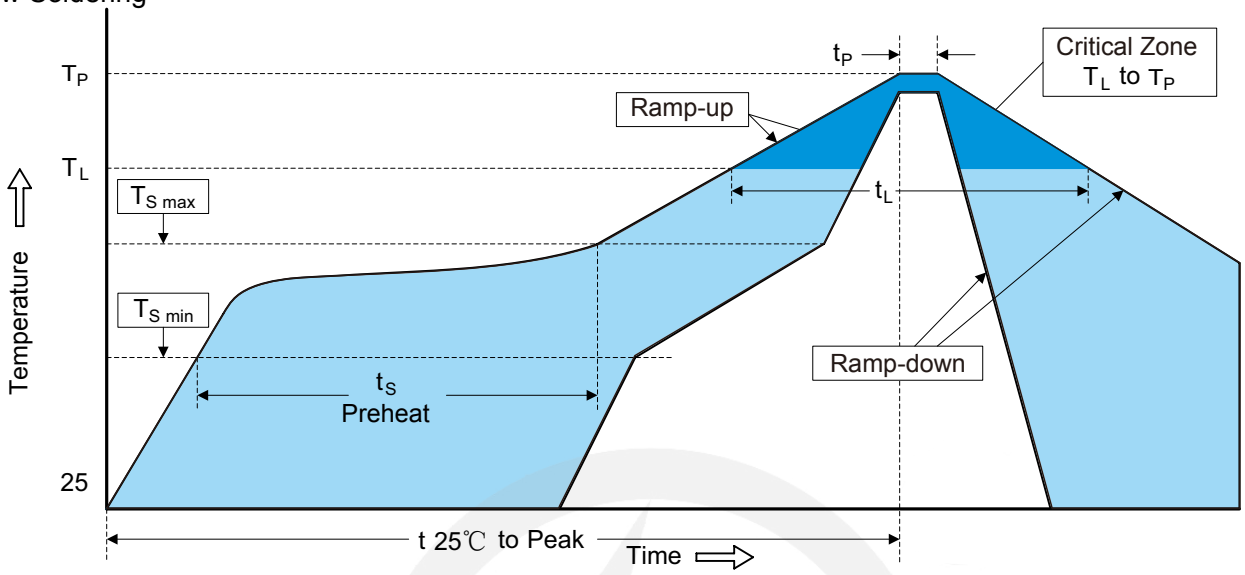

Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.05mm
3.The pad layout is for reference purpose only.

### Marking

| Type number | Marking code |
|---|---|
| LTA1S | ABS1 |
| LTA2S | ABS2 |
| LTA4S | ABS4 |
| LTA6S | ABS6 |
| LTA8S | ABS8 |
| LTA10S | ABS10 |

## Recommended Soldering Conditions

Reflow Soldering

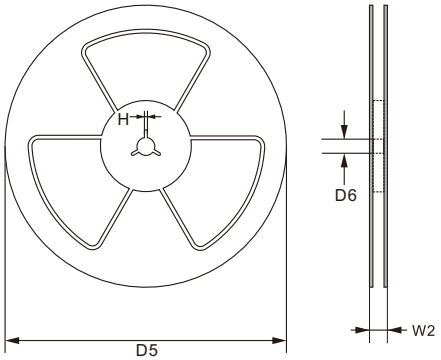



Recommended Conditions

| 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: 3000PCS | |