# Zener Voltage Regulators

# 200 mW SOD-323 Surface Mount

## LUDZS7.5BT1G

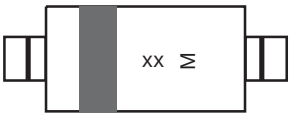
## S-LUDZS7.5BT1G

### ●APPLICATIONS

This Zener diode is packaged in a SOD–323 surface mount package that has a power dissipation of 200 mW. It is designed to provide voltage regulation protection and is especially attractive in situations where space is at a premium . It's well suited for applications such as cellular phones, hand held portables,and high density PC boards.


SOD– 323

MARKING DIAGRAM




xx=Device Marking Code
M =Date Code


CATHODE ANODE

### ●FEATURES

1)Steady State Power Rating of 200 mW
2)Small Body Outline Dimensions: 0.067" x 0.049"(1.7 mm x 1.25 mm).
Low Body Height: 0.035" (0.9 mm)
3)Package Weight: 4.507 mg/unit
4)ESD Rating of Class 3 per Human Body Model
5) S- Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q101 Qualified and PPAP Capable.
6)We declare that the material of product compliant with RoHS requirements and Halogen Free.

### ●DEVICE MARKING AND ORDERING INFORMATION

| Device | Marking | Shipping |
|---|---|---|
| LUDZS7.5BT1G | H2 | 3000/Tape&Reel |
| LUDZS7.5BT3G | H2 | 10000/Tape&Reel |

### ●MAXIMUM RATINGS(Ta = 25℃)

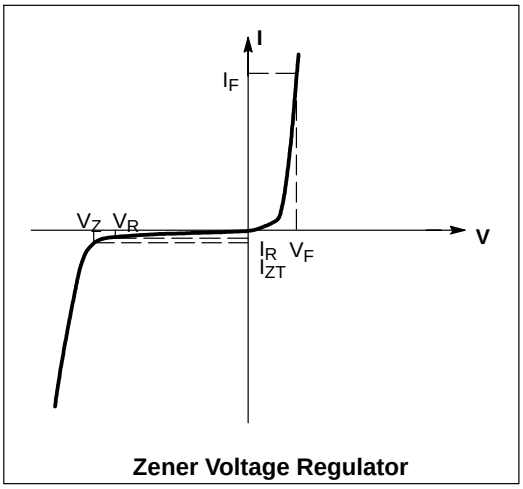
| Parameter | Symbol | Limits | Unit |
|---|---|---|---|
| Thermal Resistance – Junction-to-Ambient | $R_{\theta JA}$ | 635 | °C/W |
| Operating and Storage Temperature | $T_J$, Tstg | –55 to +150 | °C |
| Power dissipation | P | 200 | mW |

# LUDZS7.5BT1G,S-LUDZS7.5BT1G

## ●ELECTRICAL CHARACTERISTICS (Ta= 25℃)

**($T_A$ = 25°C unless otherwise noted, VF = 0.9 V Max. @ IF = 10 mA )**

| Symbol | Parameter |
|---|---|
| $V_Z$ | Reverse Zener Voltage @ $I_{ZT}$ |
| $I_{ZT}$ | Reverse Current |
| $Z_{ZT}$ | Maximum Zener Impedance @ $I_{ZT}$ |
| $I_{ZK}$ | Reverse Current |
| $Z_{ZK}$ | Maximum Zener Impedance @ $I_{ZK}$ |
| $I_R$ | Reverse Leakage Current @ $V_R$ |
| $V_R$ | Reverse Voltage |
| $I_F$ | Forward Current |
| $V_F$ | Forward Voltage @ $I_F$ |
| $\Theta V_Z$ | Maximum Temperature Coefficient of $V_Z$ |
| C | Max. Capacitance @$V_R$ = 0 and f = 1 MHz |




**Zener Voltage Regulator**

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Conditions |
|---|---|---|---|---|---|---|
| Zener voltage | Vz | 7.28 | 7.6 | 6 | V | IZT=5mA |
| Operating resistance | ZZT | – | – | 30 | Ω | IZT=5mA |
| Rising operating resistance | Zzk | – | – | 60 | Ω | IZK=0.5mA |
| Reverse current | IR | – | – | 0.5 | μA | VR=4.0V |

# LUDZS7.5BT1G,S-LUDZS7.5BT1G

## ELECTRICAL CHARACTERISTIC CURVES

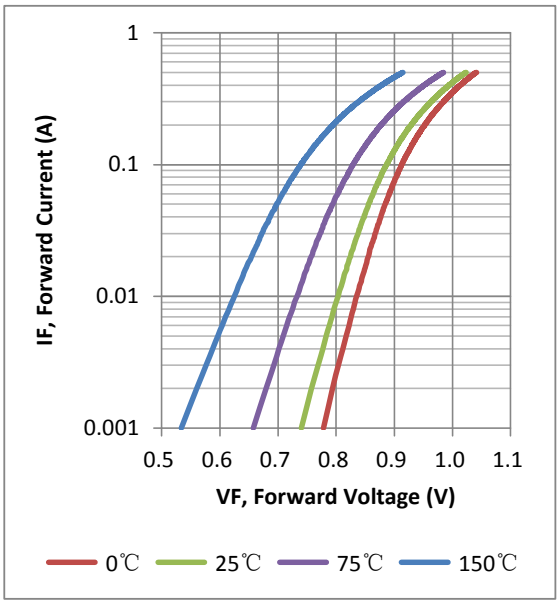



FIG.1 IF VS.VF

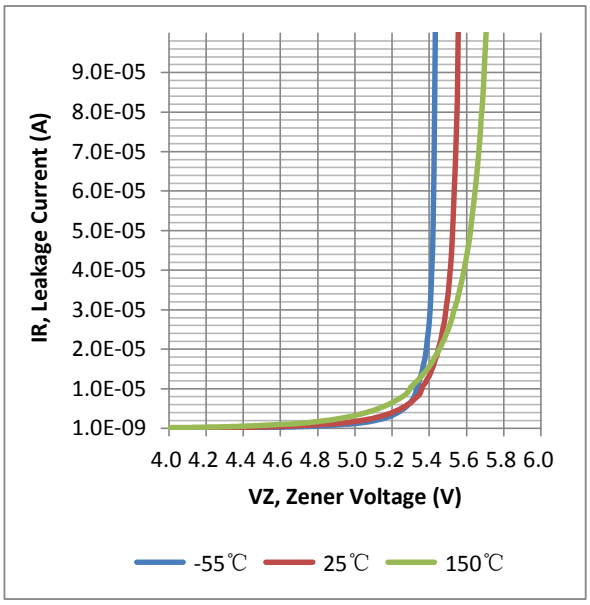



FIG.2 IR VS.VZ

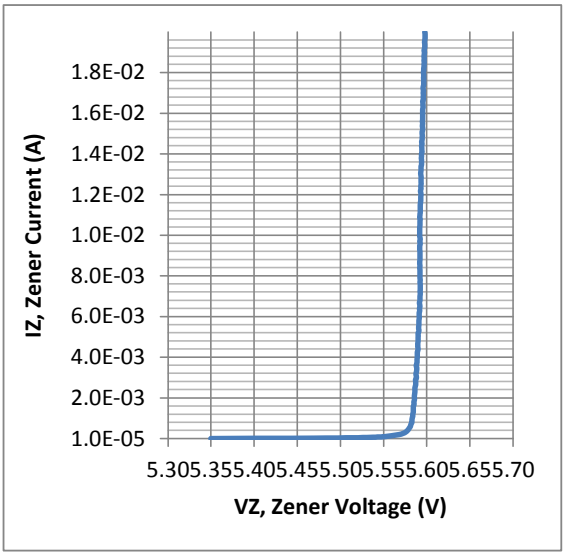
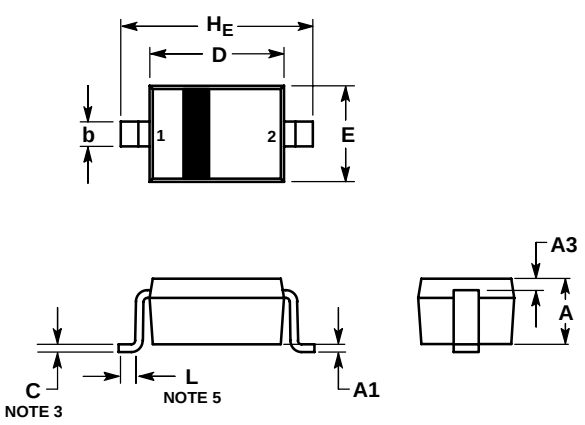



FIG.3 IZ VS.VZ

# LUDZS7.5BT1G,S-LUDZS7.5BT1G

## SOD–323




NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. LEAD THICKNESS SPECIFIED PER L/F DRAWING WITH SOLDER PLATING.
4. DIMENSIONS A AND B DO NOT INCLUDE MOLD FLASH, PROTRUSIONS OR GATE BURRS.
5. DIMENSION L IS MEASURED FROM END OF RADIUS.

| | MILLIMETERS | | | INCHES | | |
|---|---|---|---|---|---|---|
| DIM | MIN | NOM | MAX | MIN | NOM | MAX |
| A | 0.80 | 0.90 | 1.00 | 0.031 | 0.035 | 0.040 |
| A1 | 0.00 | 0.05 | 0.10 | 0.000 | 0.002 | 0.004 |
| A3 | | 0.15 REF | | | 0.006 REF | |
| b | 0.25 | 0.32 | 0.4 | 0.010 | 0.012 | 0.016 |
| C | 0.089 | 0.12 | 0.177 | 0.003 | 0.005 | 0.007 |
| D | 1.60 | 1.70 | 1.80 | 0.062 | 0.066 | 0.070 |
| E | 1.15 | 1.25 | 1.35 | 0.045 | 0.049 | 0.053 |
| L | 0.08 | | | 0.003 | | |
| $H_E$ | 2.30 | 2.50 | 2.70 | 0.090 | 0.098 | 0.105 |

### SOLDERING FOOTPRINT*