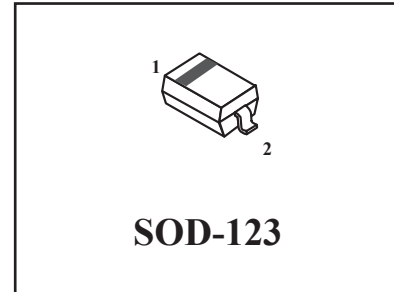


Surface Mount Zener Diodes

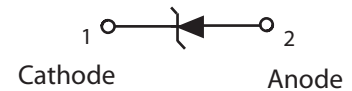
LBZT52C2V4T1G Series S-LBZT52C2V4T1G Series

Features:

- *500mw Power Dissipation
- *Ideal for Surface Mounted Application
- *Zener Breakdown Voltage Range 2.4V to 51V
- *We declare that the material of product compliant with RoHS and Halogen Free.
- *S- Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q101 Qualified and PPAP Capable.



Equivalent Circuit Diagram



Mechanical Data:

- *Case : SOD-123 Molded plastic
- *Terminals: Solderable per MIL-STD-202, Method 208
- *Polarity: Cathode Indicated by Polarity Band
- *Marking: Marking Code (See Table on Page 2)
- *Weigh: 0.01grams(approx)

Maximum Ratings and Electrical Characteristics (TA=25°C Unless Otherwise Noted)

| Characteristics | Symbol | Value | Unit |
|---|-----------------------------------|-------------|------|
| Total Power Dissipation on FR-5 Board ⁽¹⁾ | P _D | 500 | mW |
| Thermal Resistance Junction to Ambient Air ⁽¹⁾ | R _{θJA} | 305 | °C/W |
| Forward Voltage @ IF=10mA | VF | 0.9 | V |
| Junction and Storage Temperature Range | T _J , T _{STG} | -55 to +150 | °C |

NOTES:

1. Device mounted on ceramic PCB; 7.6mm × 9.4mm × 0.87mm with pad areas 25mm²

Ratings and Characteristic curves

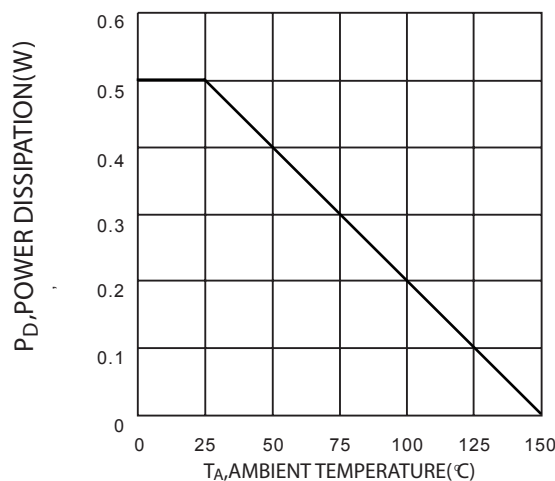


FIG. 1 Power Dissipation vs Ambient Temperature



LBZT52C2V4T1G Series, S-LBZT52C2V4T1G Series

Electrical Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise noted, $V_F=0.9\text{V Max}@ I_F=10\text{mA}$)

| Device | Device Marking (2) | Zener Voltage Range (1) | | | | Maximum Zener Impedance(3) | | | Maximum Reverse Current | | Typical Temperature Coefficient @ I_{ZT} mV/°C | | Test Current I_{ZTC} mA |
|---------------|-----------------------|----------------------------|--------|--------|------------|----------------------------|-------------------|---------------|-------------------------|---------|---|------|---------------------------------|
| | | $V_Z @ I_{ZT}$ | | | @ I_{ZT} | $Z_{ZT} @ I_{ZT}$ | $Z_{ZK} @ I_{ZK}$ | I_{zk} | I_R | @ V_R | Min | Max | |
| | | Nom(V) | Min(V) | Max(V) | mA | Ω | mA | μA | V | | | | |
| LBZT52C2V4T1G | WX | 2.4 | 2.2 | 2.6 | 5 | 100 | 600 | 1.0 | 50 | 1.0 | -3.5 | 0 | 5 |
| LBZT52C2V7T1G | W1 | 2.7 | 2.5 | 2.9 | 5 | 100 | 600 | 1.0 | 20 | 1.0 | -3.5 | 0 | 5 |
| LBZT52C3V0T1G | W2 | 3.0 | 2.8 | 3.2 | 5 | 95 | 600 | 1.0 | 10 | 1.0 | -3.5 | 0 | 5 |
| LBZT52C3V3T1G | W3 | 3.3 | 3.1 | 3.5 | 5 | 95 | 600 | 1.0 | 5.0 | 1.0 | -3.5 | 0 | 5 |
| LBZT52C3V6T1G | W4 | 3.6 | 3.4 | 3.8 | 5 | 90 | 600 | 1.0 | 5.0 | 1.0 | -3.5 | 0 | 5 |
| LBZT52C3V9T1G | W5 | 3.9 | 3.7 | 4.1 | 5 | 90 | 600 | 1.0 | 3.0 | 1.0 | -3.5 | 0 | 5 |
| LBZT52C4V3T1G | W6 | 4.3 | 4.0 | 4.6 | 5 | 90 | 600 | 1.0 | 3.0 | 1.0 | -3.5 | 0 | 5 |
| LBZT52C4V7T1G | W7 | 4.7 | 4.4 | 5.0 | 5 | 80 | 500 | 1.0 | 3.0 | 2.0 | -3.5 | 0.2 | 5 |
| LBZT52C5V1T1G | W8 | 5.1 | 4.8 | 5.4 | 5 | 60 | 480 | 1.0 | 2.0 | 2.0 | -2.7 | 1.2 | 5 |
| LBZT52C5V6T1G | W9 | 5.6 | 5.2 | 6.0 | 5 | 40 | 400 | 1.0 | 1.0 | 2.0 | -2.0 | 2.5 | 5 |
| LBZT52C6V2T1G | WA | 6.2 | 5.8 | 6.6 | 5 | 10 | 150 | 1.0 | 3.0 | 4.0 | 0.4 | 3.7 | 5 |
| LBZT52C6V8T1G | WB | 6.8 | 6.4 | 7.2 | 5 | 15 | 80 | 1.0 | 2.0 | 4.0 | 1.2 | 4.5 | 5 |
| LBZT52C7V5T1G | WC | 7.5 | 7.0 | 7.9 | 5 | 15 | 80 | 1.0 | 1.0 | 5.0 | 2.5 | 5.3 | 5 |
| LBZT52C8V2T1G | WD | 8.2 | 7.7 | 8.7 | 5 | 15 | 80 | 1.0 | 0.7 | 5.0 | 3.2 | 6.2 | 5 |
| LBZT52C9V1T1G | WE | 9.1 | 8.5 | 9.6 | 5 | 15 | 100 | 1.0 | 0.5 | 6.0 | 3.8 | 7.0 | 5 |
| LBZT52C10T1G | WF | 10 | 9.4 | 10.6 | 5 | 20 | 150 | 1.0 | 0.2 | 7.0 | 4.5 | 8.0 | 5 |
| LBZT52C11T1G | WG | 11 | 10.4 | 11.6 | 5 | 20 | 150 | 1.0 | 0.1 | 8.0 | 5.4 | 9.0 | 5 |
| LBZT52C12T1G | WH | 12 | 11.4 | 12.7 | 5 | 25 | 150 | 1.0 | 0.1 | 8.0 | 6.0 | 10.0 | 5 |
| LBZT52C13T1G | WI | 13 | 12.4 | 14.1 | 5 | 30 | 170 | 1.0 | 0.1 | 8.0 | 7.0 | 11.0 | 5 |
| LBZT52C15T1G | WJ | 15 | 13.8 | 15.8 | 5 | 30 | 200 | 1.0 | 0.1 | 10.5 | 9.2 | 13.0 | 5 |
| LBZT52C16T1G | WK | 16 | 15.3 | 17.1 | 5 | 40 | 200 | 1.0 | 0.1 | 11.2 | 10.4 | 14.0 | 5 |
| LBZT52C18T1G | WL | 18 | 16.8 | 19.1 | 5 | 45 | 225 | 1.0 | 0.1 | 12.6 | 12.4 | 16.0 | 5 |
| LBZT52C20T1G | WM | 20 | 18.8 | 21.2 | 5 | 55 | 225 | 1.0 | 0.1 | 14.0 | 14.4 | 18.0 | 5 |
| LBZT52C22T1G | WN | 22 | 20.8 | 23.3 | 5 | 55 | 250 | 1.0 | 0.1 | 15.4 | 16.4 | 20.0 | 5 |
| LBZT52C24T1G | WO | 24 | 22.8 | 25.6 | 5 | 70 | 250 | 1.0 | 0.1 | 16.8 | 18.4 | 22.0 | 5 |
| LBZT52C27T1G | WP | 27 | 25.1 | 28.9 | 2 | 80 | 300 | 0.5 | 0.1 | 18.9 | 21.4 | 25.3 | 2 |
| LBZT52C30T1G | WQ | 30 | 28.0 | 32 | 2 | 80 | 300 | 0.5 | 0.1 | 21.0 | 24.4 | 29.4 | 2 |
| LBZT52C33T1G | WR | 33 | 31.0 | 35 | 2 | 80 | 325 | 0.5 | 0.1 | 23.1 | 27.4 | 33.4 | 2 |
| LBZT52C36T1G | WS | 36 | 34.0 | 38 | 2 | 90 | 350 | 0.5 | 0.1 | 25.2 | 30.4 | 37.4 | 2 |
| LBZT52C39T1G | WT | 39 | 37.0 | 41 | 2 | 130 | 350 | 0.5 | 0.1 | 27.3 | 33.4 | 41.2 | 2 |
| LBZT52C43T1G | WU | 43 | 40.0 | 46 | 2 | 100 | 700 | 1.0 | 0.1 | 32 | 10.0 | 12.0 | 5 |
| LBZT52C47T1G | WV | 47 | 44.0 | 50 | 2 | 100 | 750 | 1.0 | 0.1 | 35 | 10.0 | 12.0 | 5 |
| LBZT52C51T1G | WW | 51 | 48.0 | 54 | 2 | 100 | 750 | 1.0 | 0.1 | 38 | 10.0 | 12.0 | 5 |

Note:

1. Tested with pulses, period = 5ms, pulse width = 300us.
2. When provided, otherwise, parts are provided with date code only, and type number identifications appears on reel only.
3. $f=1\text{KHz}$.

LBZT52C2V4T1G Series , S-LBZT52C2V4T1G Series

ELECTRICAL CHARACTERISTIC CURVES (Ta=25°C)

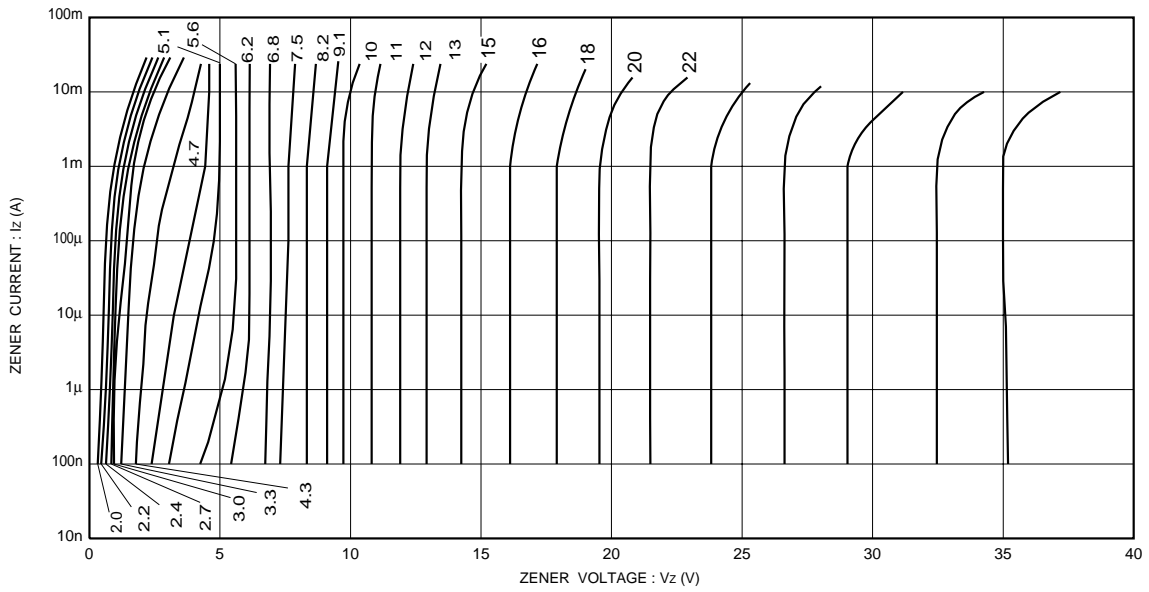
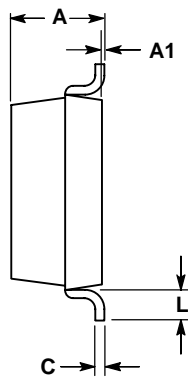
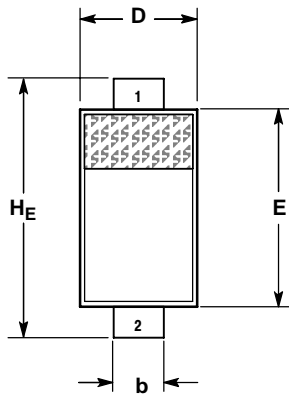


Fig.1 Zener voltage characteristics

LBZT52C2V4T1G Series, S-LBZT52C2V4T1G Series

SOD-123



NOTES:

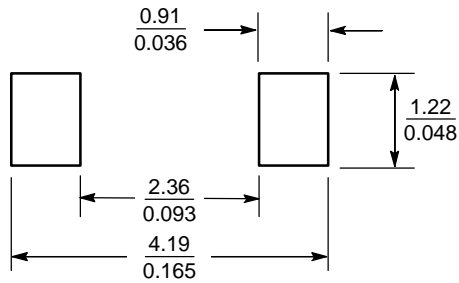
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.

| DIM | MILLIMETERS | | | INCHES | | |
|-----|-------------|------|------|--------|-------|-------|
| | MIN | NOM | MAX | MIN | NOM | MAX |
| A | 0.94 | 1.17 | 1.35 | 0.037 | 0.046 | 0.053 |
| A1 | 0.00 | 0.05 | 0.10 | 0.000 | 0.002 | 0.004 |
| b | 0.51 | 0.61 | 0.71 | 0.020 | 0.024 | 0.028 |
| c | --- | --- | 0.15 | --- | --- | 0.006 |
| D | 1.40 | 1.60 | 1.80 | 0.055 | 0.063 | 0.071 |
| E | 2.54 | 2.69 | 2.84 | 0.100 | 0.106 | 0.112 |
| HE | 3.56 | 3.68 | 3.86 | 0.140 | 0.145 | 0.152 |
| L | 0.25 | --- | --- | 0.010 | --- | --- |

STYLE 1:

- PIN 1. CATHODE
- PIN 2. ANODE

SOLDERING FOOTPRINT*



SCALE 10:1 $\left(\frac{\text{mm}}{\text{inches}}\right)$

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[1N5221B](#) [1N5236B](#) [1N5241BTR](#) [1N5242BTR](#) [1N5350B](#) [1N5352B](#) [1N961BRR1](#) [1N964BRL](#) [RKZ5.1BKU#P6](#) [3SMAJ5946B-TP](#)
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