

Surface Mount Zener Diodes

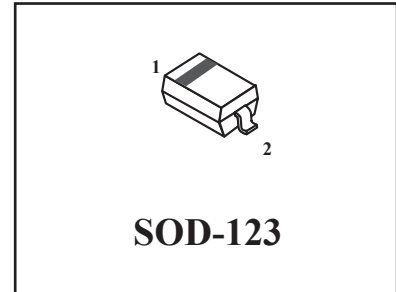
Features:

- *500mw Power Dissipation
- *Ideal for Surface Mountted Application
- *Zener Breakdown Voltage Range 2.0V to 36V
- *Pb-Free package is available

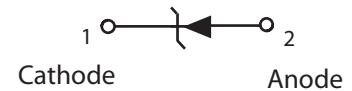
Mechanical Data:

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

LBZT52B2V0T1G Series



Equivalent Circuit Diagram



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

| Characteristics | Symbol | Value | Unit |
|---|-------------------|-------------|------|
| Total Power Dissipation on FR-5 Board ⁽¹⁾ | PD | 500 | mW |
| Thermal Resistance Junction to Ambient Air ⁽¹⁾ | R ^θ JA | 305 | °C/W |
| Forward Voltage @ IF=10mA | VF | 0.9 | V |
| Junction and Storage Temperature Range | Tj,TSTG | -55 to +150 | °C |

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

Device Marking Code

| Device | Marking | Device | Marking |
|---------------|---------|---------------|---------|
| LBZT52B2V0T1G | 02 | LBZT52B9V1T1G | L2 |
| LBZT52B2V2T1G | 12 | LBZT52B10T1G | 05 |
| LBZT52B2V4T1G | 22 | LBZT52B11T1G | 15 |
| LBZT52B2V7T1G | 32 | LBZT52B12T1G | 25 |
| LBZT52B3V0T1G | 42 | LBZT52B13T1G | 35 |
| LBZT52B3V3T1G | 52 | LBZT52B15T1G | 45 |
| LBZT52B3V6T1G | 62 | LBZT52B16T1G | 55 |
| LBZT52B3V9T1G | 72 | LBZT52B18T1G | 65 |
| LBZT52B4V3T1G | 82 | LBZT52B20T1G | 75 |
| LBZT52B4V7T1G | 92 | LBZT52B22T1G | 85 |
| LBZT52B5V1T1G | A2 | LBZT52B24T1G | 95 |
| LBZT52B5V6T1G | C2 | LBZT52B27T1G | A5 |
| LBZT52B6V2T1G | E2 | LBZT52B30T1G | C5 |
| LBZT52B6V8T1G | F2 | LBZT52B33T1G | E5 |
| LBZT52B7V5T1G | H2 | LBZT52B36T1G | F5 |
| LBZT52B8V2T1G | J2 | - | - |

Ratings and Characteristic curves

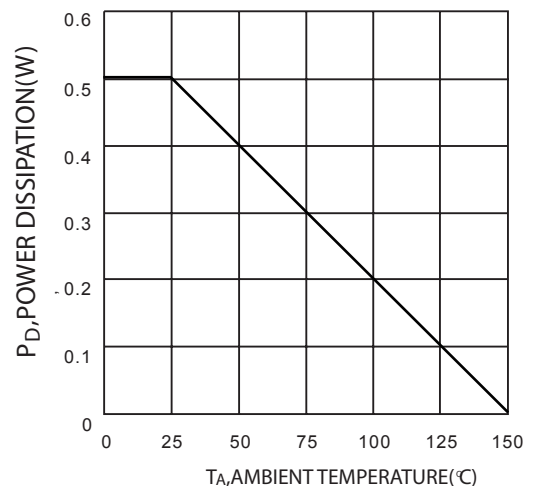


FIG. 1 Power Dissipation vs Ambient temperaute

LBZT52B2V0T1G Series

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

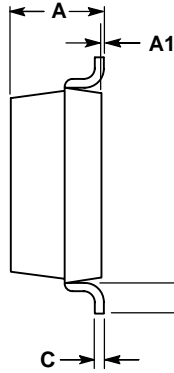
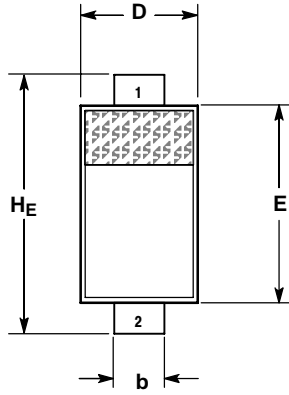
| Device | Zener voltage | | | Operating resistance | | Rising operating resistance | | Reverse current | |
|---------------|-----------------|--------|---------------|----------------------|---------------|-----------------------------|---------------|--------------------|--------------|
| | $V_Z(\text{V})$ | | | $Z_Z(\Omega)$ | | $Z_{ZK}(\Omega)$ | | $I_R(\mu\text{A})$ | |
| | Min. | Max. | I_Z (mA) | Max. | I_Z (mA) | Max. | I_Z (mA) | Max. | V_R (V) |
| LBZT52B2V0T1G | 2.020 | 2.200 | 5 | 100 | 5 | 1000 | 0.5 | 120 | 0.5 |
| LBZT52B2V2T1G | 2.220 | 2.410 | 5 | 100 | 5 | 1000 | 0.5 | 120 | 0.7 |
| LBZT52B2V4T1G | 2.430 | 2.630 | 5 | 100 | 5 | 1000 | 0.5 | 100 | 1.0 |
| LBZT52B2V7T1G | 2.690 | 2.910 | 5 | 110 | 5 | 1000 | 0.5 | 100 | 1.0 |
| LBZT52B3V0T1G | 3.010 | 3.220 | 5 | 120 | 5 | 1000 | 0.5 | 50 | 1.0 |
| LBZT52B3V3T1G | 3.320 | 3.530 | 5 | 120 | 5 | 1000 | 0.5 | 20 | 1.0 |
| LBZT52B3V6T1G | 3.600 | 3.845 | 5 | 100 | 5 | 1000 | 1.0 | 10 | 1.0 |
| LBZT52B3V9T1G | 3.890 | 4.160 | 5 | 100 | 5 | 1000 | 1.0 | 5 | 1.0 |
| LBZT52B4V3T1G | 4.170 | 4.430 | 5 | 100 | 5 | 1000 | 1.0 | 5 | 1.0 |
| LBZT52B4V7T1G | 4.550 | 4.750 | 5 | 100 | 5 | 800 | 0.5 | 2 | 1.0 |
| LBZT52B5V1T1G | 4.980 | 5.200 | 5 | 80 | 5 | 500 | 0.5 | 2 | 1.5 |
| LBZT52B5V6T1G | 5.490 | 5.730 | 5 | 60 | 5 | 200 | 0.5 | 1 | 2.5 |
| LBZT52B6V2T1G | 6.060 | 6.330 | 5 | 60 | 5 | 100 | 0.5 | 1 | 3.0 |
| LBZT52B6V8T1G | 6.650 | 6.930 | 5 | 40 | 5 | 60 | 0.5 | 0.5 | 3.5 |
| LBZT52B7V5T1G | 7.280 | 7.600 | 5 | 30 | 5 | 60 | 0.5 | 0.5 | 4.0 |
| LBZT52B8V2T1G | 8.020 | 8.360 | 5 | 30 | 5 | 60 | 0.5 | 0.5 | 5.0 |
| LBZT52B9V1T1G | 8.850 | 9.230 | 5 | 30 | 5 | 60 | 0.5 | 0.5 | 6.0 |
| LBZT52B10T1G | 9.770 | 10.210 | 5 | 30 | 5 | 60 | 0.5 | 0.1 | 7.0 |
| LBZT52B11T1G | 10.760 | 11.220 | 5 | 30 | 5 | 60 | 0.5 | 0.1 | 8.0 |
| LBZT52B12T1G | 11.740 | 12.240 | 5 | 30 | 5 | 80 | 0.5 | 0.1 | 9.0 |
| LBZT52B13T1G | 12.910 | 13.490 | 5 | 37 | 5 | 80 | 0.5 | 0.1 | 10.0 |
| LBZT52B15T1G | 14.340 | 14.980 | 5 | 42 | 5 | 80 | 0.5 | 0.1 | 11.0 |
| LBZT52B16T1G | 15.850 | 16.510 | 5 | 50 | 5 | 80 | 0.5 | 0.1 | 12.0 |
| LBZT52B18T1G | 17.560 | 18.350 | 5 | 65 | 5 | 80 | 0.5 | 0.1 | 13.0 |
| LBZT52B20T1G | 19.520 | 20.390 | 5 | 85 | 5 | 100 | 0.5 | 0.1 | 15.0 |
| LBZT52B22T1G | 21.540 | 22.470 | 5 | 100 | 5 | 100 | 0.5 | 0.1 | 17.0 |
| LBZT52B24T1G | 23.720 | 24.780 | 5 | 120 | 5 | 120 | 0.5 | 0.1 | 19.0 |
| LBZT52B27T1G | 26.190 | 27.530 | 5 | 150 | 5 | 150 | 0.5 | 0.1 | 21.0 |
| LBZT52B30T1G | 29.190 | 30.690 | 5 | 200 | 5 | 200 | 0.5 | 0.1 | 23.0 |
| LBZT52B33T1G | 32.150 | 33.790 | 5 | 250 | 5 | 250 | 0.5 | 0.1 | 25.0 |
| LBZT52B36T1G | 35.070 | 36.870 | 5 | 300 | 5 | 300 | 0.5 | 0.1 | 27.0 |

Notes) 1. The Zener voltage (V_Z) is measured 40ms after power is supplied.

2. The operating resistances (Z_Z , Z_{ZK}) are measured by superimposing a minute alternating current on the regulated current (I_Z).

LBZT52B2V0T1G Series

SOD-123



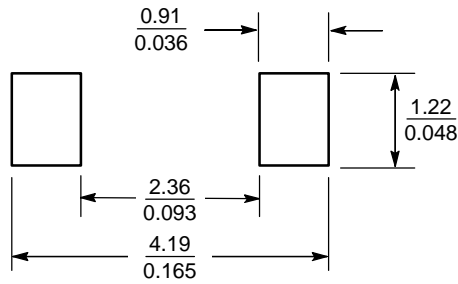
NOTES:

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
2. ANODE

SOLDERING FOOTPRINT*



SCALE 10:1 (mm/inches)

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