



SSCZ52BXXXD1 Series

Zener Voltage Regulator

● Description

The SSCZ52BXXXD1 is packaged in a SOD-123 surface mount package that has a power dissipation of 500mW. They are designed to provide voltage regulation protection and are especially attractive in situations where space is at a premium. It is applicable to mobile phones, hand-held portable devices, high-density PC boards.

● Feature

- ✧ Low profile package
- ✧ Ideal for automated placement
- ✧ Low Zener Impedance
- ✧ Steady state power rating of 500mW
- ✧ RoHS compliant transient

● Applications

- ✧ Hand held portables
- ✧ Cellular phones
- ✧ High density PC boards

● PIN configuration



SOD-123



Circuit diagram

● Mechanical data

- ✧ Package: SOD-123
- ✧ Lead finish:100% matte Sn(Tin)
- ✧ Mounting position: Any
- ✧ Qualified max reflow temperature:260°C
- ✧ Device meets MSL 3 requirements
- ✧ Pure tin plating: 7 ~ 17 um
- ✧ Pin flatness:≤3mil

● Absolute maximum rating @T_A=25°C

| Parameter | Symbol | Value | Unit |
|---|------------------|----------|------|
| Total Device Dissipation FR-5 Board | P _D | 500 | mW |
| Forward Voltage @ I _F = 10mA | V _F | 0.9 | V |
| Thermal Resistance, Junction-to-Ambient | R _{θJA} | 357 | °C/W |
| Storage Temperature | T _{STG} | -55/+150 | °C |
| Operating Temperature | T _J | -55/+150 | °C |



● Electrical Characteristics @T_A=25°C

| Device | Marking | Zener Voltage Range | | | | Maximum Zener Impedance | | | Maximum Reverse Current | | Typical Temperature coefficient @ I _{ZTC} =mV/°C | | Test Current I _{ZTC} |
|--------------|---------|----------------------------------|--------|--------|-----------------|----------------------------------|----------------------------------|-----------------|-------------------------|----------------|---|------|-------------------------------|
| | | 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 | Min | Max | mA | |
| SSCZ52B2V4D1 | 2WX | 2.4 | 2.35 | 2.45 | 5 | 100 | 600 | 1.0 | 50 | 1.0 | -3.5 | 0 | 5 |
| SSCZ52B2V7D1 | 2W1 | 2.7 | 2.65 | 2.75 | 5 | 100 | 600 | 1.0 | 20 | 1.0 | -3.5 | 0 | 5 |
| SSCZ52B3V0D1 | 2W2 | 3.0 | 2.94 | 3.06 | 5 | 95 | 600 | 1.0 | 10 | 1.0 | -3.5 | 0 | 5 |
| SSCZ52B3V3D1 | 2W3 | 3.3 | 3.23 | 3.37 | 5 | 95 | 600 | 1.0 | 5 | 1.0 | -3.5 | 0 | 5 |
| SSCZ52B3V6D1 | 2W4 | 3.6 | 3.53 | 3.67 | 5 | 90 | 600 | 1.0 | 5 | 1.0 | -3.5 | 0 | 5 |
| SSCZ52B3V9D1 | 2W5 | 3.9 | 3.82 | 3.98 | 5 | 90 | 600 | 1.0 | 3 | 1.0 | -3.5 | 0 | 5 |
| SSCZ52B4V3D1 | 2W6 | 4.3 | 4.21 | 4.39 | 5 | 90 | 600 | 1.0 | 3 | 1.0 | -3.5 | 0 | 5 |
| SSCZ52B4V7D1 | 2W7 | 4.7 | 4.61 | 4.79 | 5 | 80 | 500 | 1.0 | 3 | 2.0 | -3.5 | 0.2 | 5 |
| SSCZ52B5V1D1 | 2W8 | 5.1 | 5.00 | 5.20 | 5 | 60 | 480 | 1.0 | 2 | 2.0 | -2.7 | 1.2 | 5 |
| SSCZ52B5V6D1 | 2W9 | 5.6 | 5.49 | 5.71 | 5 | 40 | 400 | 1.0 | 1 | 2.0 | -2.0 | 2.5 | 5 |
| SSCZ52B6V2D1 | 2WA | 6.2 | 6.08 | 6.32 | 5 | 10 | 150 | 1.0 | 3 | 4.0 | 0.4 | 3.7 | 5 |
| SSCZ52B6V8D1 | 2WB | 6.8 | 6.66 | 6.94 | 5 | 15 | 80 | 1.0 | 2 | 4.0 | 1.2 | 4.5 | 5 |
| SSCZ52B7V5D1 | 2WC | 7.5 | 7.35 | 7.65 | 5 | 15 | 80 | 1.0 | 1 | 5.0 | 2.5 | 5.3 | 5 |
| SSCZ52B8V2D1 | 2WD | 8.2 | 8.04 | 8.36 | 5 | 15 | 80 | 1.0 | 0.7 | 5.0 | 3.2 | 6.2 | 5 |
| SSCZ52B9V1D1 | 2WE | 9.1 | 8.92 | 9.28 | 5 | 15 | 100 | 1.0 | 0.5 | 6.0 | 3.8 | 7.0 | 5 |
| SSCZ52B10VD1 | 2WF | 10 | 9.80 | 10.20 | 5 | 20 | 150 | 1.0 | 0.2 | 7.0 | 4.5 | 8.0 | 5 |
| SSCZ52B11VD1 | 2WG | 11 | 10.78 | 11.22 | 5 | 20 | 150 | 1.0 | 0.1 | 8.0 | 5.4 | 9.0 | 5 |
| SSCZ52B12VD1 | 2WH | 12 | 11.76 | 12.24 | 5 | 25 | 150 | 1.0 | 0.1 | 8.0 | 6.0 | 10.0 | 5 |
| SSCZ52B13VD1 | 2WI | 13 | 12.74 | 13.26 | 5 | 30 | 170 | 1.0 | 0.1 | 8.0 | 7.0 | 11.0 | 5 |
| SSCZ52B15VD1 | 2WJ | 15 | 14.70 | 15.30 | 5 | 30 | 200 | 1.0 | 0.1 | 10.5 | 9.2 | 13.0 | 5 |
| SSCZ52B16VD1 | 2WK | 16 | 15.68 | 16.32 | 5 | 40 | 200 | 1.0 | 0.1 | 11.2 | 10.4 | 14.0 | 5 |
| SSCZ52B18VD1 | 2WL | 18 | 17.64 | 18.36 | 5 | 45 | 225 | 1.0 | 0.1 | 12.6 | 12.4 | 16.0 | 5 |
| SSCZ52B20VD1 | 2WM | 20 | 19.60 | 20.40 | 5 | 55 | 225 | 1.0 | 0.1 | 14.0 | 14.4 | 18.0 | 5 |
| SSCZ52B22VD1 | 2WN | 22 | 21.56 | 22.44 | 5 | 55 | 250 | 1.0 | 0.1 | 15.4 | 16.4 | 20.0 | 5 |
| SSCZ52B24VD1 | 2WO | 24 | 23.52 | 24.48 | 5 | 70 | 250 | 1.0 | 0.1 | 16.8 | 18.4 | 22.0 | 5 |
| SSCZ52B27VD1 | 2WP | 27 | 26.46 | 27.54 | 2 | 80 | 300 | 0.5 | 0.1 | 18.9 | 21.4 | 25.3 | 2 |
| SSCZ52B30VD1 | 2WQ | 30 | 29.40 | 30.60 | 2 | 80 | 300 | 0.5 | 0.1 | 21.0 | 24.4 | 29.4 | 2 |
| SSCZ52B33VD1 | 2WR | 33 | 32.34 | 33.66 | 2 | 80 | 325 | 0.5 | 0.1 | 23.1 | 27.4 | 33.4 | 2 |
| SSCZ52B36VD1 | 2WS | 36 | 35.28 | 36.72 | 2 | 90 | 350 | 0.5 | 0.1 | 25.2 | 30.4 | 37.4 | 2 |
| SSCZ52B39VD1 | 2WT | 39 | 38.22 | 39.78 | 2 | 130 | 350 | 0.5 | 0.1 | 27.3 | 33.4 | 41.2 | 2 |
| SSCZ52B43VD1 | 2WU | 43 | 41.16 | 43.84 | 2 | 150 | 375 | 0.5 | 0.1 | 32.0 | 10.0 | 12.0 | 5 |
| SSCZ52B47VD1 | 2WV | 47 | 46.06 | 47.94 | 2 | 170 | 375 | 0.5 | 0.1 | 35.0 | 10.0 | 12.0 | 5 |
| SSCZ52B51VD1 | 2WW | 51 | 49.98 | 52.02 | 2 | 180 | 400 | 0.5 | 0.1 | 38.0 | 10.0 | 12.0 | 5 |



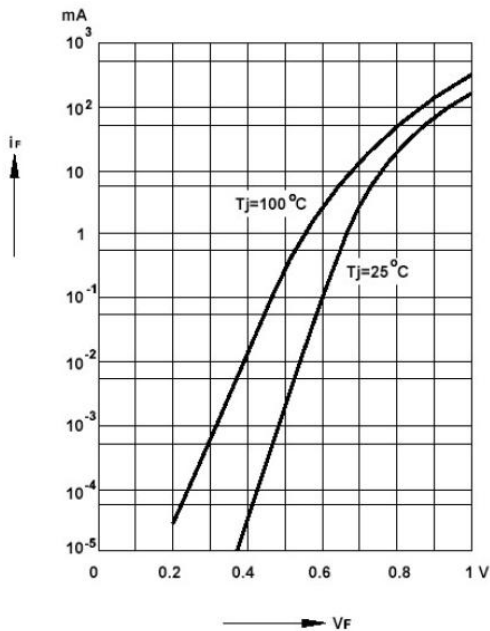
● Typical Performance Characteristics



Zener Current vs. Zener Voltage



Zener Current vs. Zener Voltage



Forward Current vs. Forward Voltage



Power Derating vs. Ambient Temperature



● Package Information

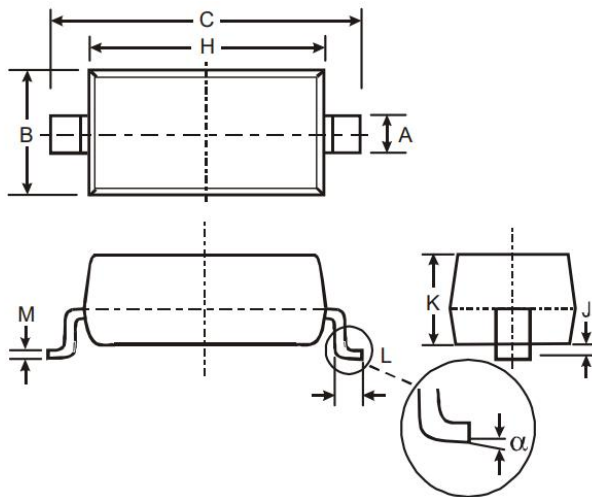
Ordering Information

| Device | Package | Qty per Reel | Reel Size |
|-------------|---------|--------------|-----------|
| SSCZ52BXXD1 | SOD-123 | 3000 | 7 Inch |

Mechanical Data

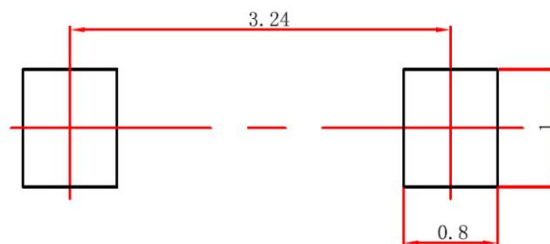
Case:SOD-123

Case Material: Molded Plastic. UL Flammability



| DIM | Millimeters | |
|-----|-------------|------|
| | Min | Max |
| A | 0.45 | 0.65 |
| B | 1.50 | 1.70 |
| C | 3.55 | 3.85 |
| H | 2.6 | 2.8 |
| J | 0.00 | 0.10 |
| K | 1.05 | 1.15 |
| L | 0.25 | 0.45 |
| M | 0.08 | 0.15 |
| α | 0 | 8° |

Recommended Pad outline (Unit:mm)





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