

Small Signal Zener Diode

General Description

These diodes small signal Zener diodes, fabricated in planar technology. Miniature surface mount package is excellent for hand-held and portable applications where is space is limited.



SOD-323

Features and Benefits

- Silicon epitaxial planar diode
- Low Zener impedance and low leakage current
- Standard Zener voltage tolerance is 4.3%.
- Full lead (Pb)-free device and RoHS compliant device
- Available in "Green" device



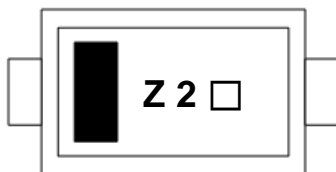
Applications

- Voltage regulator

Ordering Information

| Part Number | Marking Code | Package | Packaging |
|-------------|--------------|---------|-------------|
| SDZ5V1D | Z2 □ | SOD-323 | Tape & Reel |

Marking Information

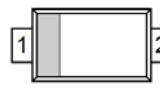
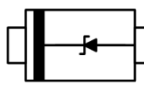


Z 2 = Specific Device Code

□ = Year & Week Code Marking

■ = Color band denote cathode

Pinning Information

| Pin | Description | Simplified Outline | Graphic Symbol |
|-----|-------------|--|---|
| 1 | Cathode |  |  |
| 2 | Anode | | |

Absolute Maximum Ratings ($T_{amb}=25^{\circ}\text{C}$, Unless otherwise specified)

| Characteristic | Symbol | Ratings | Unit |
|---------------------------------|-----------|---|--------------------|
| Power dissipation ¹⁾ | P_D | 200 | mW |
| Operating junction temperature | T_J | 150 | $^{\circ}\text{C}$ |
| Storage temperature range | T_{stg} | -55 $^{\circ}\text{C}$ to +150 $^{\circ}\text{C}$ | $^{\circ}\text{C}$ |

¹⁾ Device mounted on FR-4 board with recommended pad layout.

Thermal Characteristics ($T_{amb}=25^{\circ}\text{C}$, Unless otherwise specified)

| Characteristic | Symbol | Ratings | Unit |
|---|---------------|---------|-----------------------------|
| Thermal resistance, junction to ambient ¹⁾ | $R_{th(j-a)}$ | 625 | $^{\circ}\text{C}/\text{W}$ |

¹⁾ Device mounted on FR-4 board with recommended pad layout.

Electrical Characteristics ($T_{amb}=25^{\circ}\text{C}$, Unless otherwise specified)

| Characteristic | Symbol | Test Condition | Min. | Typ. | Max. | Unit |
|-------------------------|----------|---------------------|------|------|------|---------------|
| Zener voltage | V_Z | $I_Z=5\text{mA}$ | 4.88 | - | 5.32 | V |
| Dynamic impedance | Z_{ZT} | $I_Z=5\text{mA}$ | - | - | 70 | Ω |
| KNEE dynamic impedance | Z_{ZK} | $I_Z=0.25\text{mA}$ | - | - | 2050 | Ω |
| Reverse leakage current | I_R | $V_R=2\text{V}$ | - | - | 2 | μA |

Rating and Characteristic Curves

Fig. 1) Typical Zener Characteristics

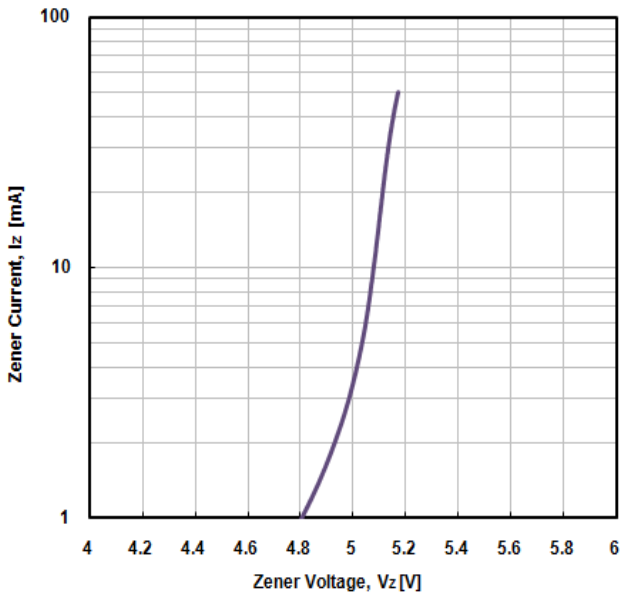


Fig. 2) Typical Forward Characteristics

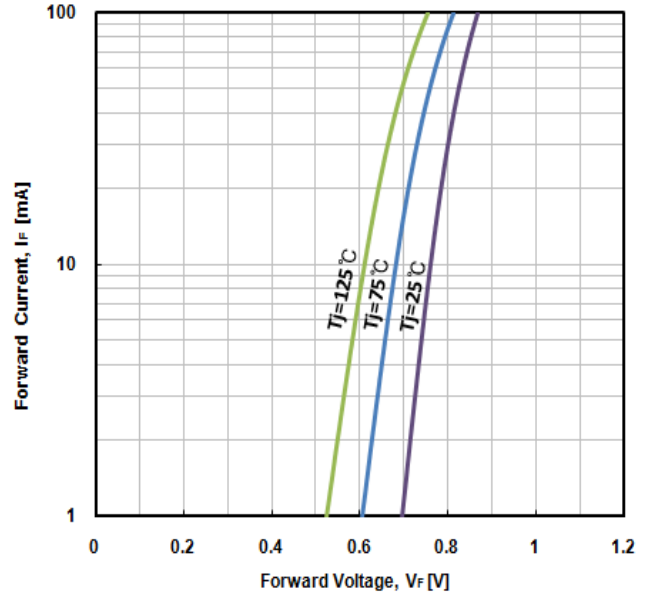


Fig. 3) Typical Capacitance Characteristics

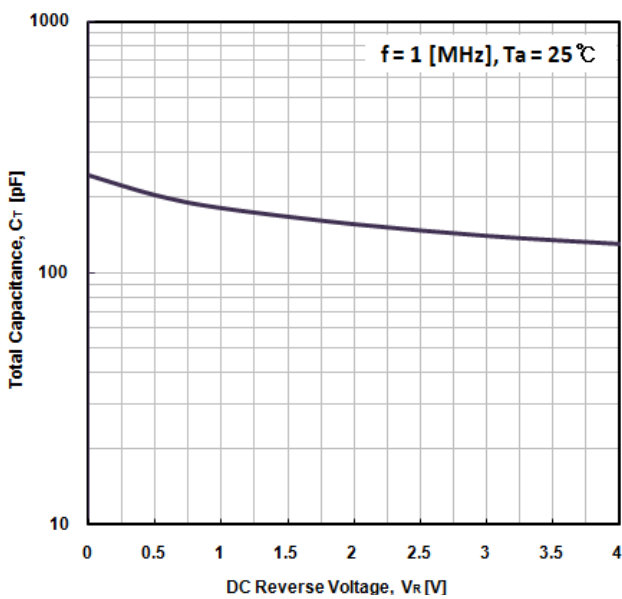
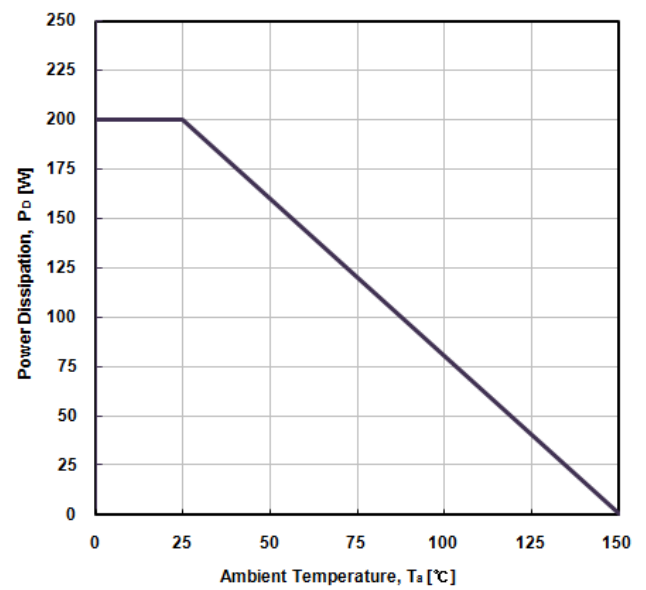
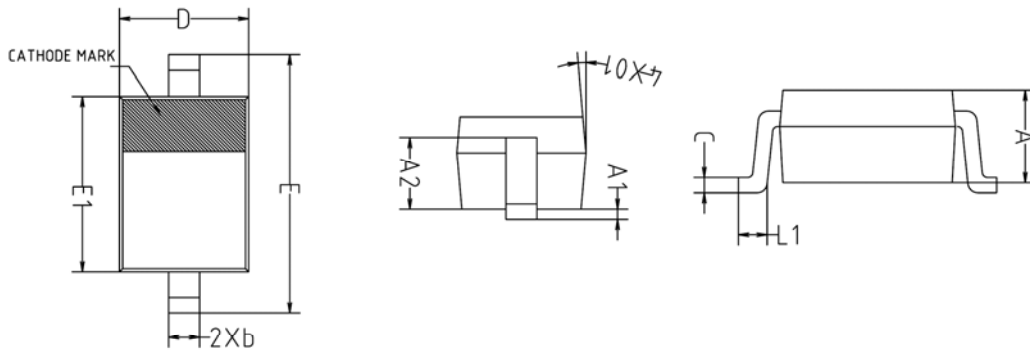


Fig. 4) Power Dissipation vs. Ambient Temperature

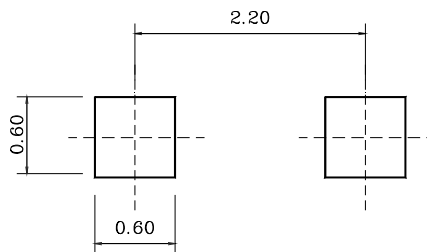


Package Outline Dimensions



| SYMBOL | MILLIMETERS | | | NOTE |
|--------|-------------|---------|---------|------|
| | MINIMUM | NOMINAL | MAXIMUM | |
| A | 0.850 | - | 0.950 | |
| A1 | 0.000 | - | 0.100 | |
| A2 | 0.650 | 0.700 | 0.750 | |
| b | 0.250 | 0.300 | 0.350 | |
| c | 0.110 | 0.150 | 0.190 | |
| D | 1.200 | 1.250 | 1.300 | |
| E | 2.400 | 2.500 | 2.600 | |
| E1 | 1.650 | 1.700 | 1.750 | |
| L1 | 0.200 | - | 0.300 | |
| ∅2 | 5° REF | | | |

※ Recommend PCB solder land (Unit : mm)



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