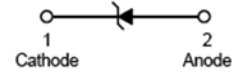


Surface Mount Zener Diode



SOD-123

Features:

- Planar Die Construction
- 500mW Power Dissipation on Ceramic PCB
- General Purpose, Medium Current
- Ideally Suited for Automated Assembly Processes

Applications:

- Zener diode
- Ultra-small surface mount package

Maximum Rating @ Ta = 25°C unless otherwise specified

| Characteristic | Symbol | Value | Unit |
|---------------------------------------------|------------------|-------------|------|
| Forward voltage @ I _F = 10mA | V _F | 0.9 | V |
| Power dissipation | P _D | 500 | mW |
| Thermal resistance, junction to ambient air | R _{θJA} | 305 | °C/W |
| Junction temperature | T _J | 150 | °C |
| Storage temperature range | T _{stg} | -65 to +150 | °C |

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

Short duration test pulse used to minimize self-heating effect.

When provided, otherwise, parts are provided with date code only, and type number identifications appears on reel only.

f = 1kHz

Electrical Characteristics @ Ta = 25°C unless otherwise specified

| Type Number | Marking Code | Zener Voltage Range | | | | Maximum Zener Impedance | | | Maximum Reverse Current | | Typical Temperature Coefficient@ I _{ZTC} 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 | | | | |
| BZT52C3V9 | W5 | 3.9 | 3.7 | 4.1 | 5 | 90 | 600 | 1 | 3 | 1 | -3.5 | 0 | 5 |

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Surface Mount Zener Diode



Typical Characteristics @ $T_a = 25^\circ\text{C}$ unless otherwise specified

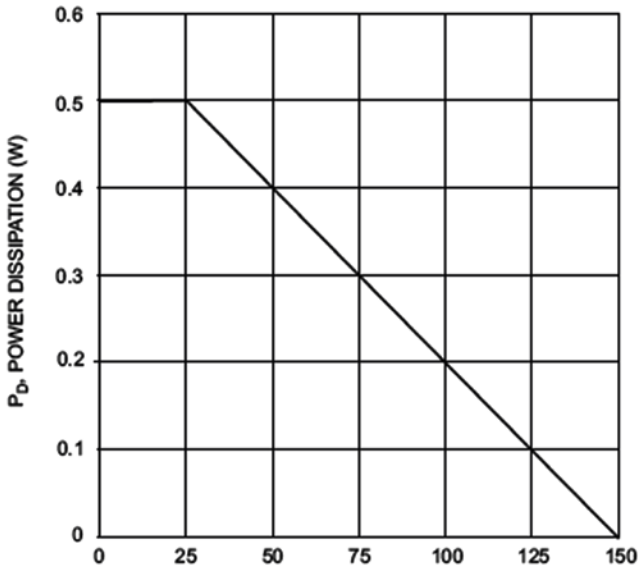


Fig. 1 Power Dissipation vs Ambient Temperature

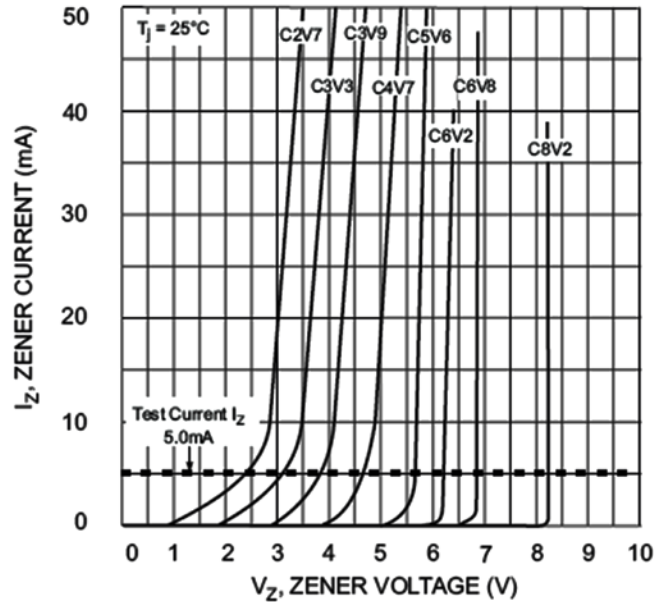


Fig. 2 Zener Breakdown Characteristics

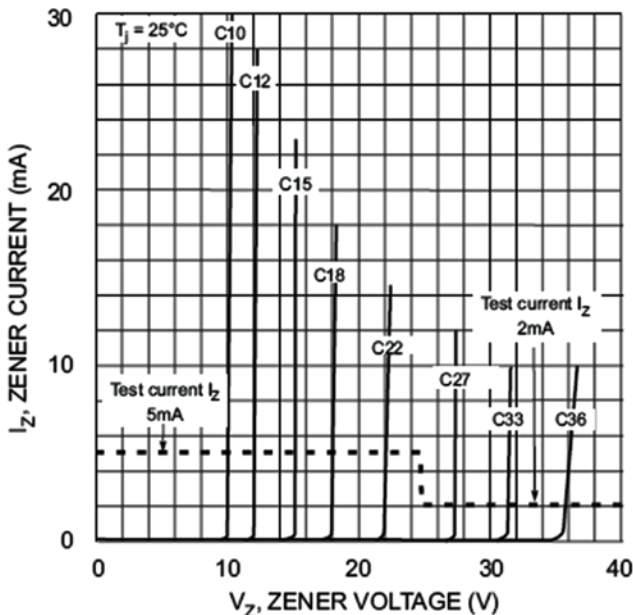


Fig. 3 Zener Breakdown Characteristics

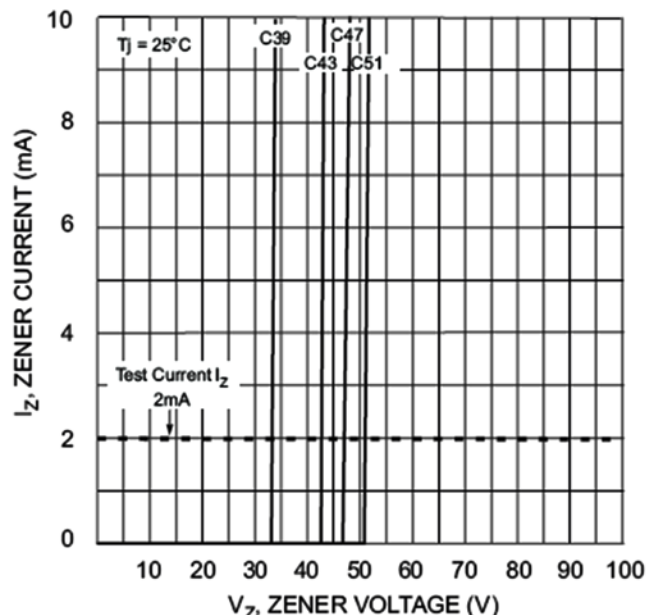


Fig. 4 Zener Breakdown Characteristics



Surface Mount Zener Diode

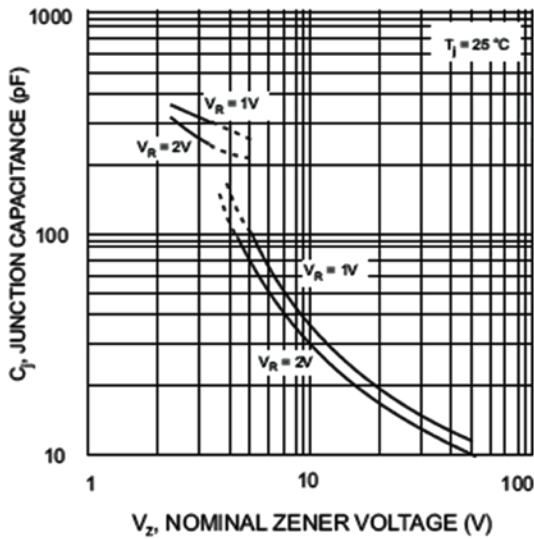
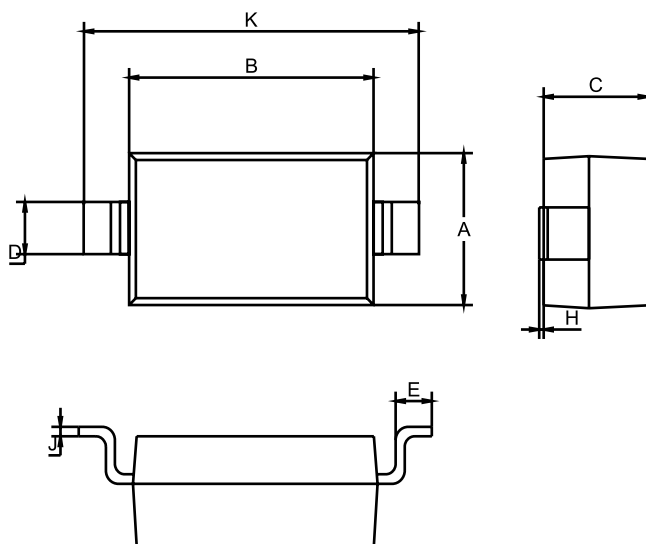


Fig. 5 Junction Capacitance vs Nominal Zener Voltage

Package Outline

Plastic surface mounted package

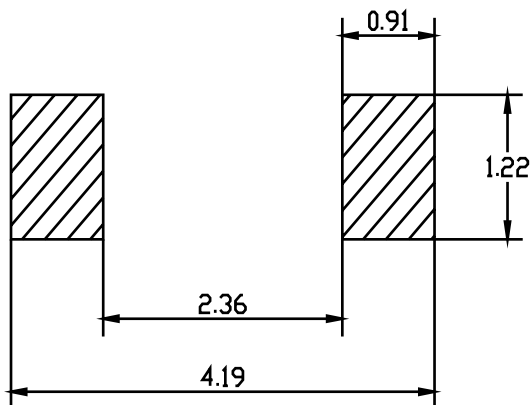


| SOD-123 | | |
|----------------------|--------------|------|
| Dim | Min | Max |
| A | 1.4 | 1.8 |
| B | 2.55 | 2.85 |
| C | 1.15 Typical | |
| D | 0.5 | 0.6 |
| E | 0.3 | 0.4 |
| H | 0.02 | 0.10 |
| J | 0.1 Typical | |
| K | 3.55 | 3.85 |
| All Dimensions in mm | | |

Surface Mount Zener Diode



Soldering Footprint



Dimensions : Millimetres

Package Information

| Device | Package | Shipping |
|---------------|---------|-------------------|
| BZT52C3V9-7-F | SOD-123 | 3,000/Tape & Reel |

Part Number Table

| Description | Part Number |
|---------------------------|---------------|
| Surface Mount Zener Diode | BZT52C3V9-7-F |

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