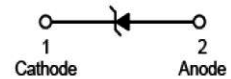


# Surface Mount Zener Diode



## Features:

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



**SOD-123**

## Applications:

Zener diode

Ultra-small surface mount package

## Max. Rating @ T<sub>A</sub> = 25°C unless otherwise specified

| Parameter                                  | Symbol           | Limits      | Unit |
|--------------------------------------------|------------------|-------------|------|
| Forward voltage @ I <sub>F</sub> = 10mA    | V <sub>F</sub>   | 0.9         | V    |
| Power dissipation                          | P <sub>D</sub>   | 500         | mW   |
| Thermal resistance junction to ambient air | R <sub>θJA</sub> | 305         | °C/W |
| Operating junction temperature range       | T <sub>j</sub>   | 150         | °C   |
| Storage temperature range                  | T <sub>STG</sub> | -65 to +150 | °C   |

**Note** : Device mounted on ceramic PCB; 7.6mm × 9.4mm × 0.87mm with pad areas 25mm<sup>2</sup>

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 @ T<sub>A</sub> = 25°C unless otherwise specified

| Marking Code | Zener Voltage Range              |        |        |                 | Max. Zener Impedance             |                                  |                 | Max. Reverse Current |                 | Typical Temperature Coefficient@ I <sub>ZTC</sub> mV/°C |      | Test Current I <sub>ZTC</sub> |
|--------------|----------------------------------|--------|--------|-----------------|----------------------------------|----------------------------------|-----------------|----------------------|-----------------|---------------------------------------------------------|------|-------------------------------|
|              | V <sub>Z</sub> @ I <sub>ZT</sub> |        |        | I <sub>ZT</sub> | Z <sub>ZT</sub> @I <sub>ZT</sub> | Z <sub>ZK</sub> @I <sub>ZK</sub> | I <sub>ZK</sub> | I <sub>R</sub>       | @V <sub>R</sub> |                                                         |      |                               |
|              | Nom(V)                           | Min(V) | Max(V) | mA              | Ω                                | mA                               | μA              | V                    |                 | Min.                                                    | Max. | mA                            |
| WF           | 10                               | 9.4    | 10.6   | 5               | 20                               | 150                              | 1               | 0.2                  | 7               | 4.5                                                     | 8    | 5                             |

# Surface Mount Zener Diode



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

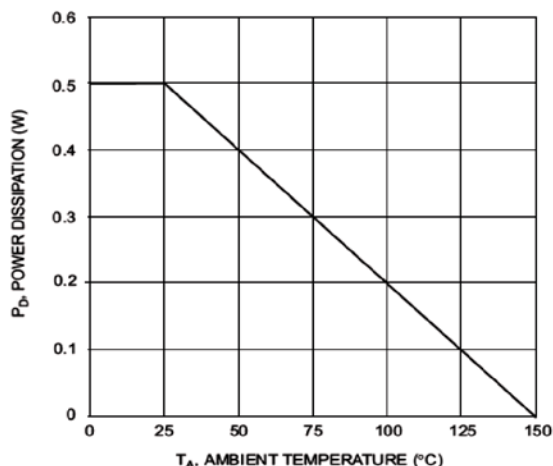


Fig. 1 Power Dissipation vs Ambient Temperature

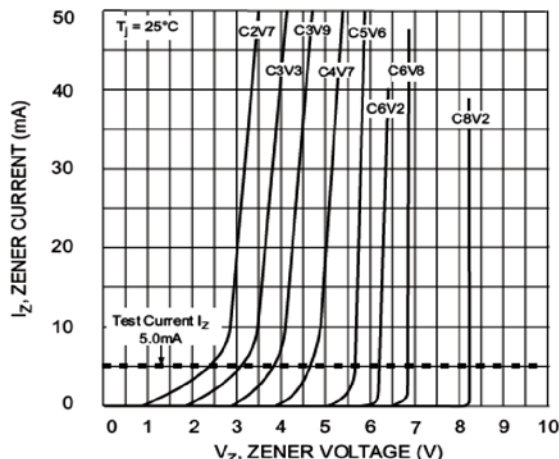


Fig. 2 Zener Breakdown Characteristics

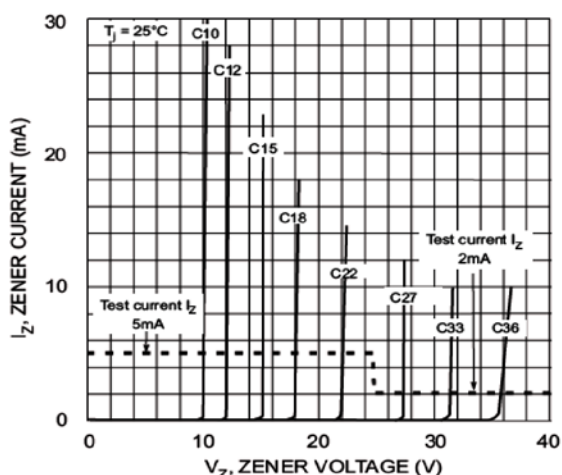


Fig. 3 Zener Breakdown Characteristics

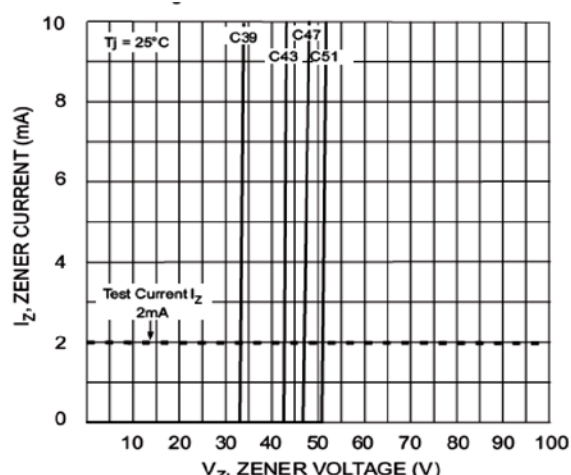


Fig. 4 Zener Breakdown Characteristics

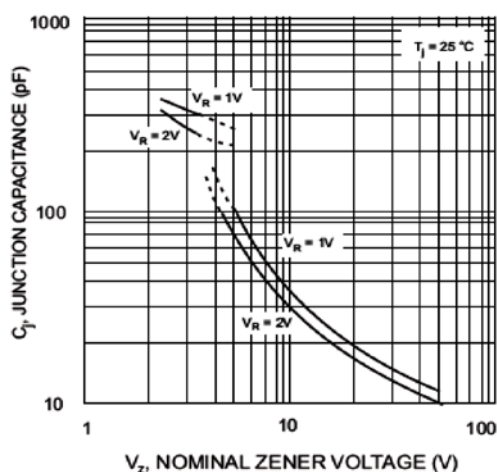
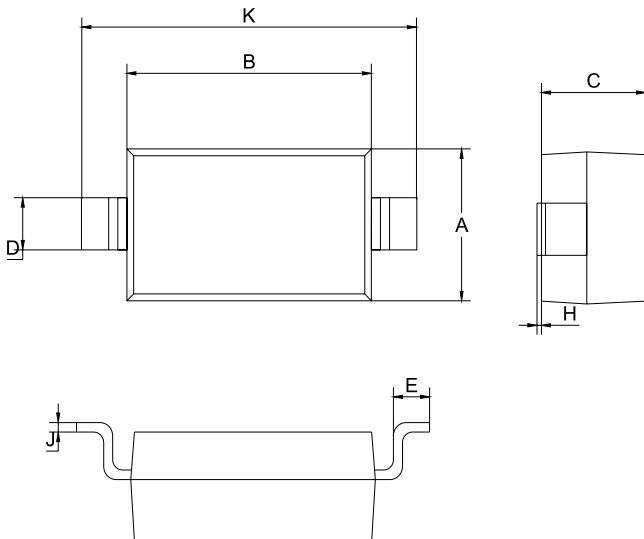


Fig. 5 Junction Capacitance vs Nominal Zener Voltage

# Surface Mount Zener Diode

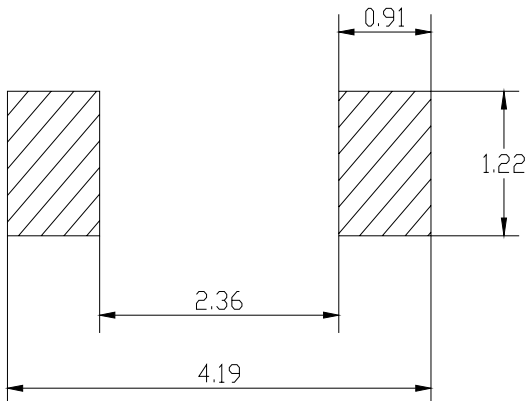


## Plastic surface mounted package



| 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 |              |      |

## Soldering Footprint



Unit : mm

## Package Information

| Device       | Package | Shipping            |
|--------------|---------|---------------------|
| BZT52C10-7-F | SOD-123 | 3,000 / Tape & Reel |

## Part Number Table

| Description               | Part Number  |
|---------------------------|--------------|
| Surface mount zener diode | BZT52C10-7-F |

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