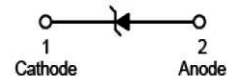


# Surface Mount Zener Diode



## 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> mA
	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>	Min.	Max.	
	Nom(V)	Min(V)	Max(V)	mA	Ω	mA	μA	V				
WI	13	12.4	14.1	5	30	170	1	0.1	8	7	11	5

# Surface Mount Zener Diode



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

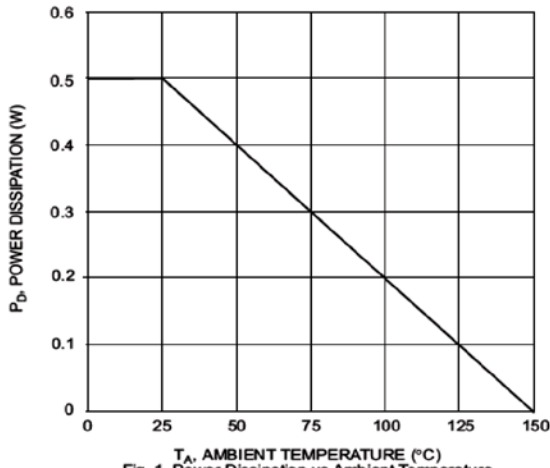


Fig. 1 Power Dissipation vs Ambient Temperature

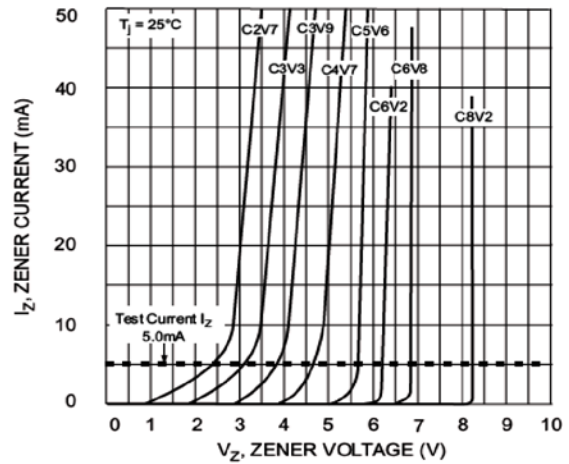


Fig. 2 Zener Breakdown Characteristics

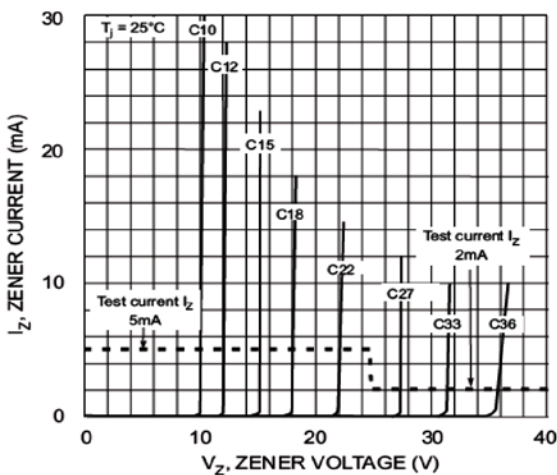


Fig. 3 Zener Breakdown Characteristics

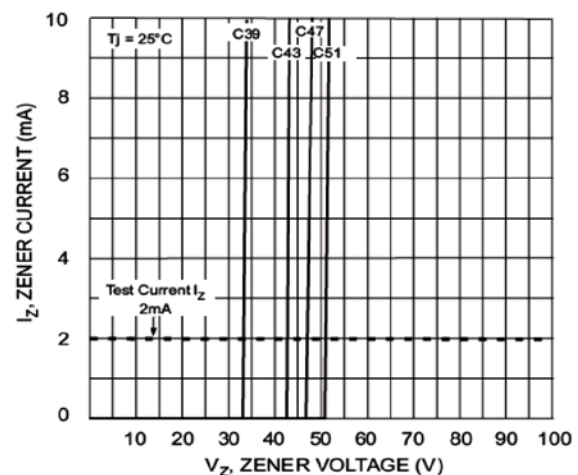


Fig. 4 Zener Breakdown Characteristics

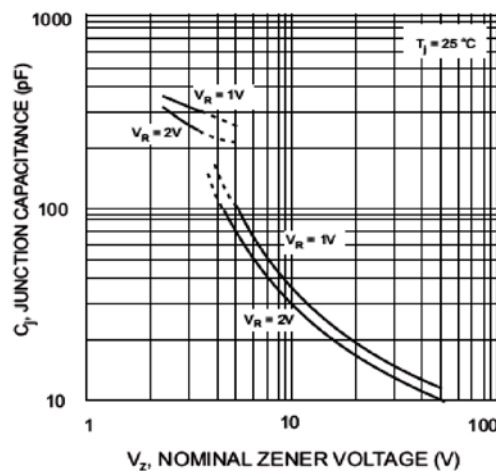


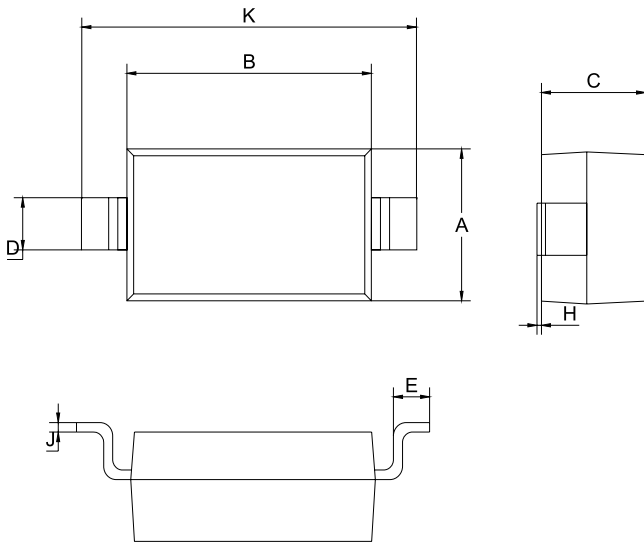
Fig. 5 Junction Capacitance vs Nominal Zener Voltage



# Surface Mount Zener Diode

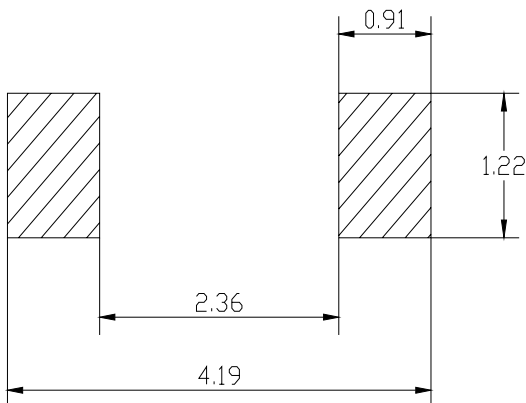


## Plastic surface mounted package



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
BZT52C13-7-F	SOD-123	3,000 / Tape & Reel

## Part Number Table

Description	Part Number
Surface mount zener diode	BZT52C13-7-F

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