



Features

- Low Zener Impedance
- Power Dissipation of 500mW
- High Stability and High Reliability

Mechanical Data

- SOD-123 Small Outline Plastic Package
- Polarity: Color band denotes cathode end
- Mounting Position: Any
- Zener Voltage: 2.4V to 51V
- Power Dissipation: 500mW

Maximum Ratings @ TA = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Max. Forward Voltage @ IF = 10mA (Note 2)	V _F	0.9	V
Junction Temperature (Note 1)	P _D	500	mW
Storage Temperature Range	T _{STG}	-65 to +150	°C

Notes:

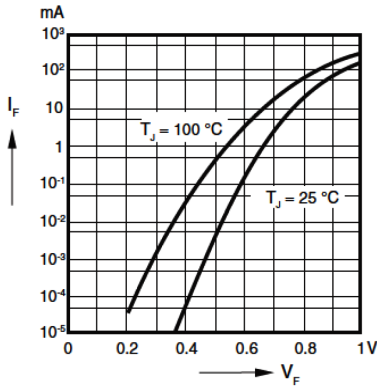
1. Device mounted on ceramic PCB: 7.6mm × 9.4mm × 0.87mm with pad areas 25mm²
2. Short duration test pulse used to minimize self-heating effect

Specification Table

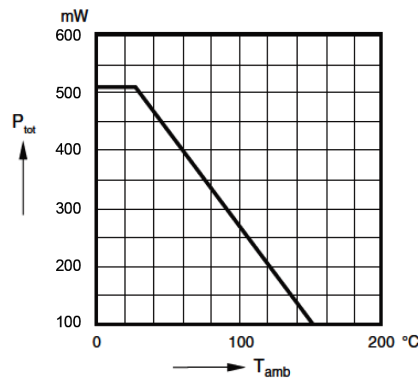
Part Number	Marking	Zener Voltage Range				Maximum Zener Impedance			Maximum Reverse Current	
		V _Z @ I _{ZT}			I _{ZT}	Z _{ZT@I_{ZT}}	Z _{ZK@I_{ZK}}	I _{ZK}	I _R	V _R
		Nom(V)	Min(V)	Max(V)	mA	Ω		mA	μA	V
BZT52C10	WF	10	9.4	10.6	5	20	150	1	0.2	7
BZT52C18	WL	18	16.8	19.1	5	45	225	1	0.1	12.6
BZT52C33	WR	33	31	35	2	80	325	0.5	0.1	23.1
BZT52C3V9	W5	3.9	3.7	4.1	5	90	600	1	3	1
BZT52C4V7	W7	4.7	4.4	5	5	80	500	1	3	2
BZT52C5V1	W8	5.1	4.8	5.4	5	60	480	1	2	2

Part Number	Typical Temperature Coefficient @ I _{ZTC} = mV/°C		Test Current I _{ZTC}
	Min.	Max.	mA
BZT52C10	4.5	8	5
BZT52C18	12.4	16	5
BZT52C33	27.4	33.4	2
BZT52C3V9	-3.5	0	5
BZT52C4V7	-3.5	0.2	5
BZT52C5V1	-2.7	1.2	5

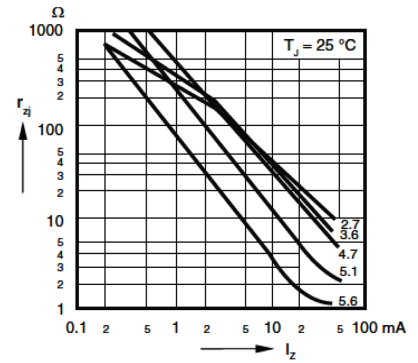
Rating and Characteristic Curves



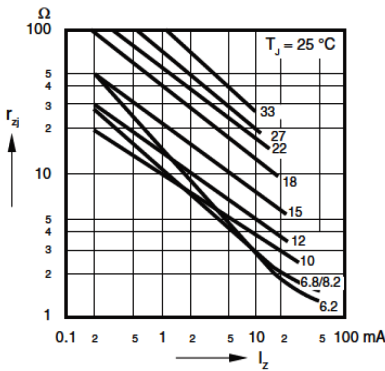
Forward Characteristics



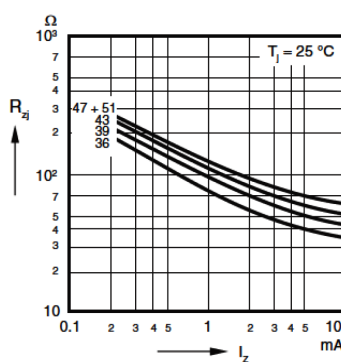
Admissible Power Dissipation Vs. Ambient Temperature



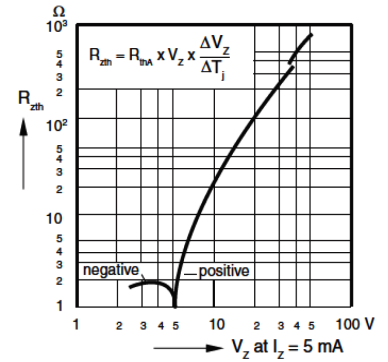
Dynamic Resistance Vs. Zener Current



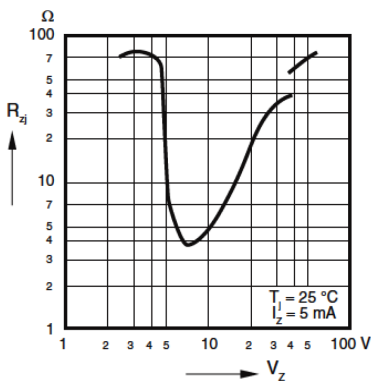
Dynamic Resistance Vs. Zener Current



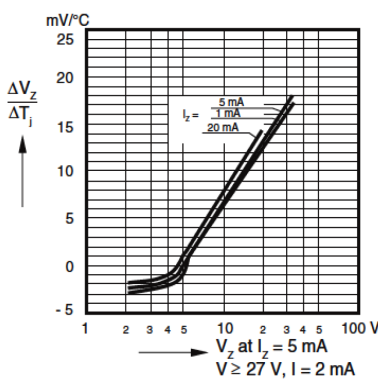
Dynamic Resistance Vs. Zener Current



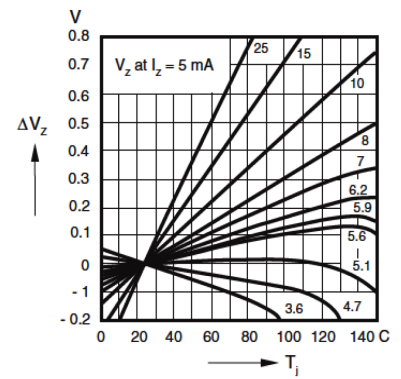
Thermal Differential Resistance Vs. Zener Voltage



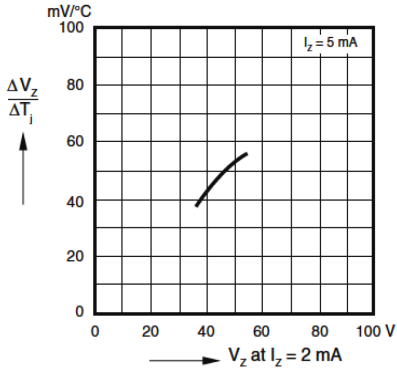
Dynamic Resistance Vs. Zener Voltage



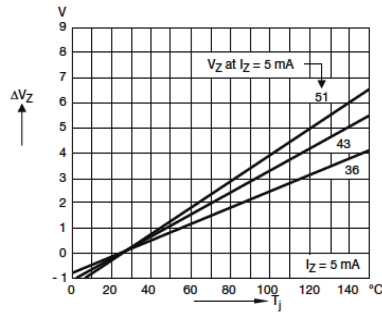
Temperature Dependence of Zener Voltage Vs. Zener Voltage



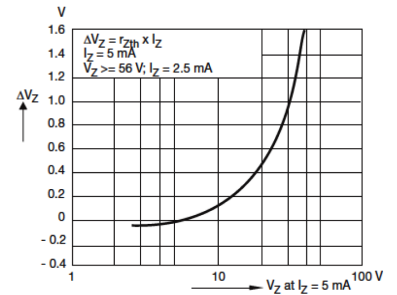
Change of Zener Voltage Vs. Junction Temperature



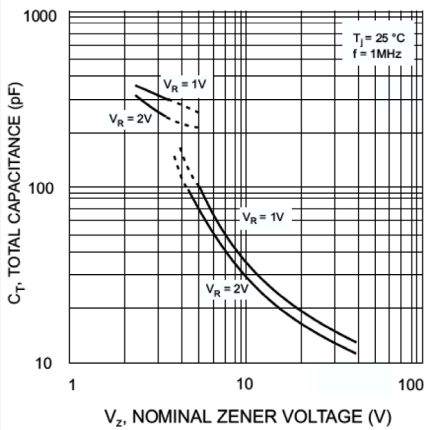
Temperature Dependence of Zener Voltage Vs. Zener Voltage



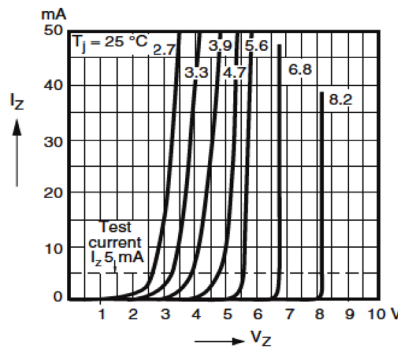
Change of Zener Voltage Vs. Junction Temperature



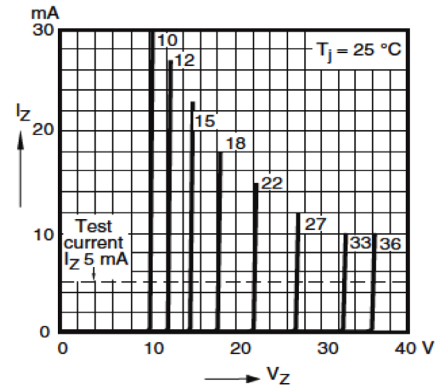
Change of Zener Voltage from Turn-on up to the point of Thermal Equilibrium Vs. Zener Voltage



Total capacitance Vs Nominal Zener Voltage



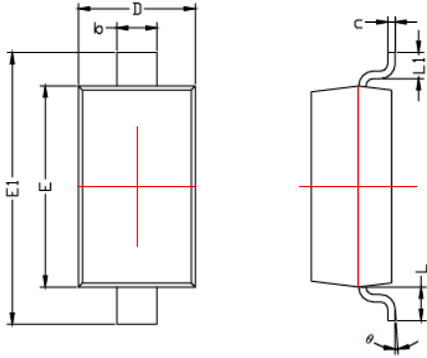
Breakdown Characteristics



Breakdown Characteristics

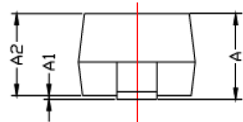
Dimensions:

SOD-123



Symbol	Dimensions	
	Min.	Max.
A	1.02	1.25
A1	0	0.1
A2	1.05	1.15
b	0.45	0.65
c	0.08	0.15
D	1.5	1.7

Symbol	Dimensions	
	Min.	Max.
E	2.6	2.8
E1	3.55	3.85
L	0.5 REF	
L1	0.25	0.45
θ	0°	8°



Dimensions : Millimetres

Part Number Table

Description	Part Number
Zener - Single 500mW 10V SOD-123	BZT52C10
Zener - Single 500mW 18V SOD-123	BZT52C18
Zener - Single 500mW 33V SOD-123	BZT52C33
Zener - Single 500mW 3.9V SOD-123	BZT52C3V9
Zener - Single 500mW 4.7V SOD-123	BZT52C4V7
Zener - Single 500mW 5.1V SOD-123	BZT52C5V1

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