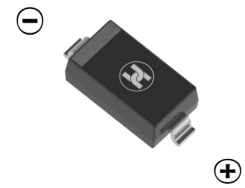


## ZENER DIODE

### FEATURES

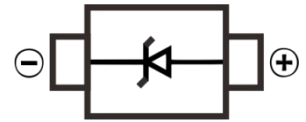
- Medium Current
- 350mW Power Dissipation
- Planar Die Construction
- Surface Mount device



SOD-123

### MECHANICAL DATA

- Case: SOD-123
- Case Material: Molded Plastic. UL flammability
- Classification Rating: 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Weight: 0.005 grams (approximate)



### MAXIMUM RATINGS (T<sub>A</sub> = 25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Forward Voltage(Note 2) @ I <sub>F</sub> = 10mA	V <sub>F</sub>	0.9	V
Power Dissipation(Note 1)	P <sub>D</sub>	350	mW
Thermal Resistance From Junction To Ambient	R <sub>θJA</sub>	357	°C/W
Junction Temperature	T <sub>J</sub>	150	°C
Storage Temperature	T <sub>STG</sub>	-65 ~ +150	°C

## ZENER DIODE

### ELECTRICAL CHARACTERISTICS (T<sub>A</sub> = 25°C unless otherwise specified)

f = 1kHz	Zener Voltage Range(Note2)			Maximum Zener Impedance(Note3)			Maximum Reverse Current (Note 2)		Forward		Typical Temperature Coefficient@ 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>	V <sub>R</sub>	I <sub>F</sub>	V <sub>F</sub> @I <sub>F</sub>	TK <sub>Vz</sub>	I <sub>ZTC</sub>
TYPE	Nom(V)	Range(V)	(mA)	Ω		(mA)	(uA)	(V)	(mA)	(V)	(mV/°C)	(mA)
BZT52C2V4	2.4	2.20~2.60	5	100	600	1.0	50	1.0	10	0.9	-3.5~0	5
BZT52C2V7	2.7	2.5~2.9	5	100	600	1.0	20	1.0	10	0.9	-3.5~0	5
BZT52C3V0	3.0	2.8~3.2	5	95	600	1.0	10	1.0	10	0.9	-3.5~0	5
BZT52C3V3	3.3	3.1~3.5	5	95	600	1.0	5	1.0	10	0.9	-3.5~0	5
BZT52C3V6	3.6	3.4~3.8	5	90	600	1.0	5	1.0	10	0.9	-3.5~0	5
BZT52C3V9	3.9	3.7~4.1	5	90	600	1.0	3	1.0	10	0.9	-3.5~0	5
BZT52C4V3	4.3	4.0~4.6	5	90	600	1.0	3	1.0	10	0.9	-3.5~0	5
BZT52C4V7	4.7	4.4~5.0	5	80	500	1.0	3	2.0	10	0.9	-3.5~0.2	5
BZT52C5V1	5.1	4.8~5.4	5	60	480	1.0	2	2.0	10	0.9	-2.7~1.2	5
BZT52C5V6	5.6	5.2~6.0	5	40	400	1.0	1	2.0	10	0.9	-2.0~2.5	5
BZT52C6V2	6.2	5.8~6.6	5	10	150	1.0	3	4.0	10	0.9	0.4~3.7	5
BZT52C6V8	6.8	6.4~7.2	5	15	80	1.0	2	4.0	10	0.9	1.2~4.5	5
BZT52C7V5	7.5	7.0~7.9	5	15	80	1.0	1	5.0	10	0.9	2.5~5.3	5
BZT52C8V2	8.2	7.7~8.7	5	15	80	1.0	0.7	5.0	10	0.9	3.2~6.2	5
BZT52C9V1	9.1	8.5~9.6	5	15	100	1.0	0.5	6.0	10	0.9	3.8~7.0	5
BZT52C10	10	9.4~10.6	5	20	150	1.0	0.2	7.0	10	0.9	4.5~8.0	5
BZT52C11	11	10.4~11.6	5	20	150	1.0	0.1	8.0	10	0.9	5.4~9.0	5
BZT52C12	12	11.4~12.7	5	25	150	1.0	0.1	8.0	10	0.9	6.0~10.0	5
BZT52C13	13	12.4~14.1	5	30	170	1.0	0.1	8.0	10	0.9	7.0~11.0	5
BZT52C15	15	13.8~15.6	5	30	200	1.0	0.1	10.5	10	0.9	9.2~13.0	5
BZT52C16	16	15.3~17.1	5	40	200	1.0	0.1	11.2	10	0.9	10.4~14.0	5
BZT52C18	18	16.8~19.1	5	45	225	1.0	0.1	12.6	10	0.9	12.4~16.0	5
BZT52C20	20	18.8~21.2	5	55	225	1.0	0.1	14.0	10	0.9	14.4~18.0	5
BZT52C22	22	20.8~23.3	5	55	250	1.0	0.1	15.4	10	0.9	16.4~20.0	5
BZT52C24	24	22.8~25.6	5	70	250	1.0	0.1	16.8	10	0.9	18.4~22.0	5
BZT52C27	27	25.1~28.9	2	80	300	0.5	0.1	18.9	10	0.9	21.4~25.3	2
BZT52C30	30	28~32	2	80	300	0.5	0.1	21	10	0.9	24.4~29.4	2
BZT52C33	33	31~35	2	80	325	0.5	0.1	23.1	10	0.9	27.4~33.4	2
BZT52C36	36	34~38	2	90	350	0.5	0.1	25.2	10	0.9	30.4~37.4	2
BZT52C39	39	37~41	2	130	350	0.5	0.1	27.3	10	0.9	33.4~41.2	2
BZT52C43	43	40~46	5	100	700	1	0.1	32	10	0.9	10.0~12.0	5

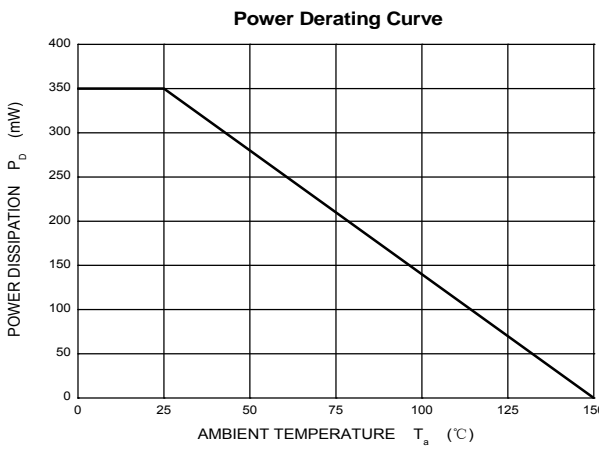
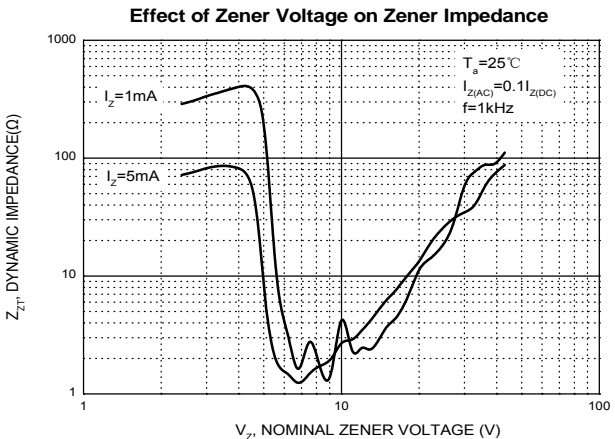
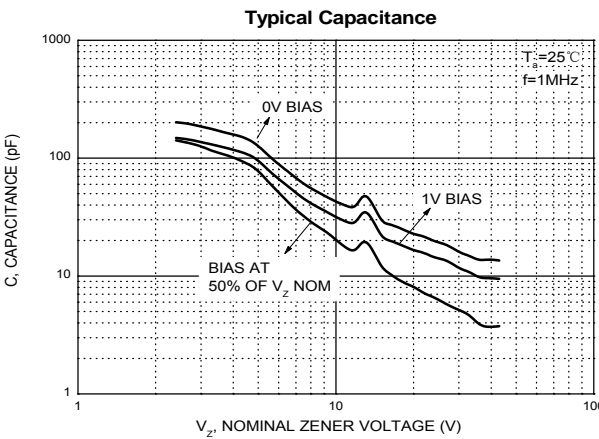
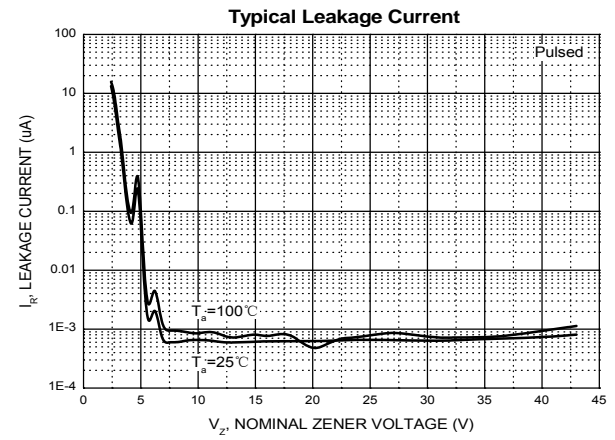
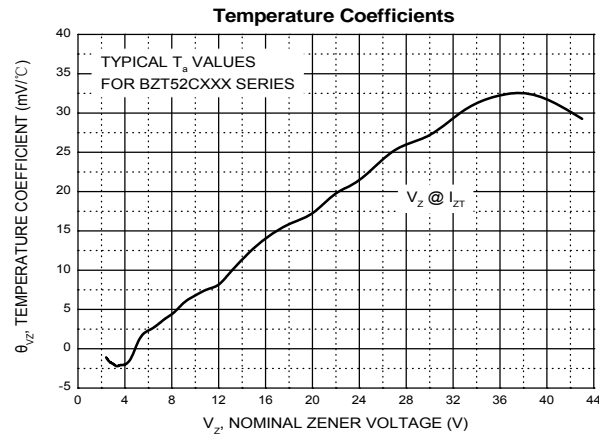
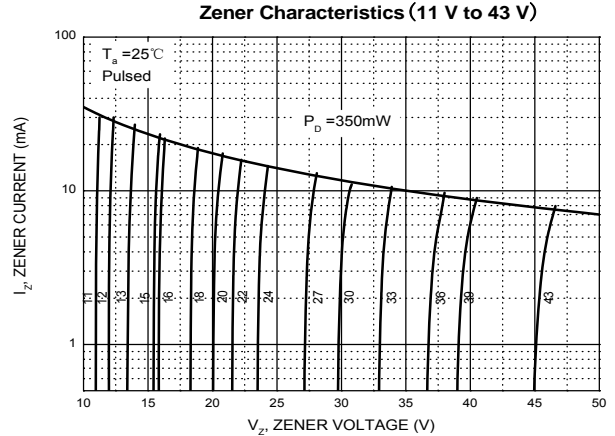
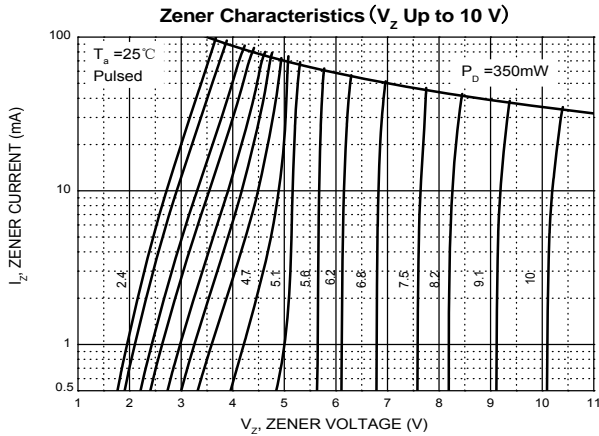
Notes: 1. Device mounted on ceramic PCB: 7.6mm x 9.4mm x 0.87mm with pad areas 25mm<sup>2</sup>

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

3. f=1kHz

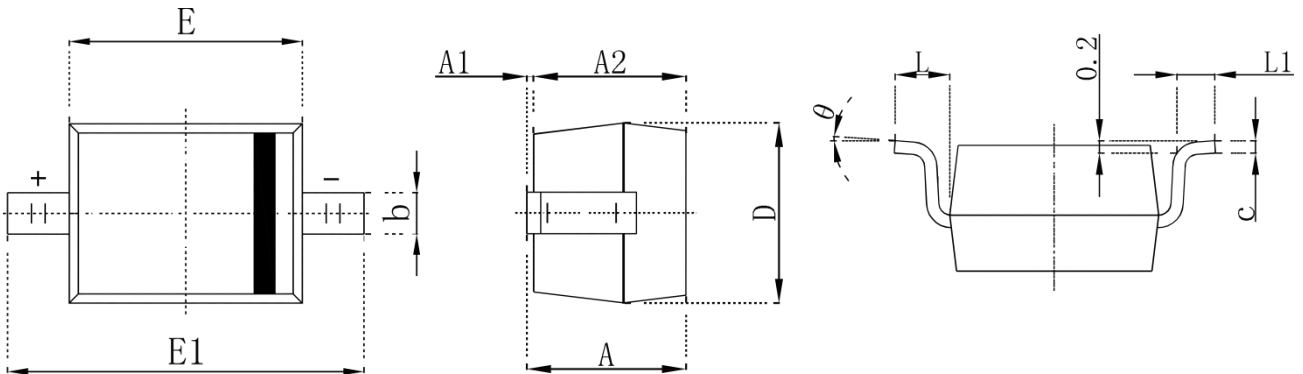
ZENER DIODE

Typical Characteristics



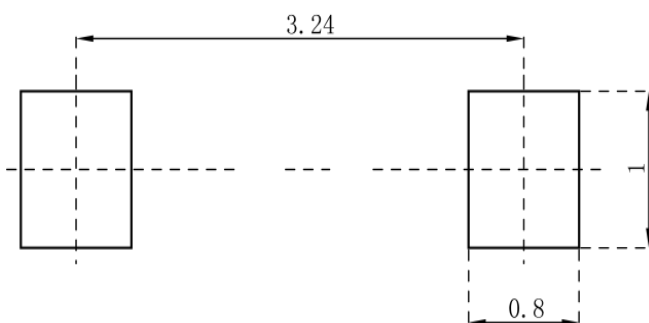
## ZENER DIODE

### SOD-123 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.450	0.650	0.018	0.026
c	0.080	0.150	0.003	0.006
D	1.500	1.700	0.059	0.067
E	2.600	2.800	0.102	0.110
E1	3.550	3.850	0.140	0.152
L	0.500REF		0.020 REF	
L1	0.250	0.450	0.010	0.018
$\theta$	0°	8°	0°	8°

### SOD-123 Suggested Pad Layout



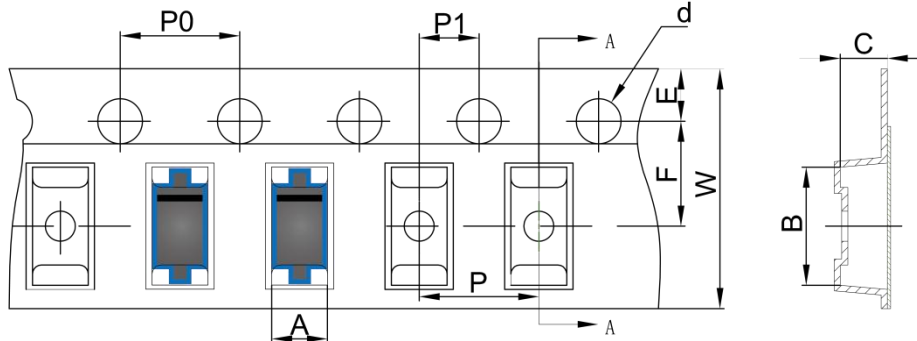
**Note:**

1. Controlling dimension: in millimeters
2. General tolerance:  $\pm 0.05\text{mm}$
3. The pad layout is for reference purposes only

## ZENER DIODE

### SOD-123 Tape and Reel

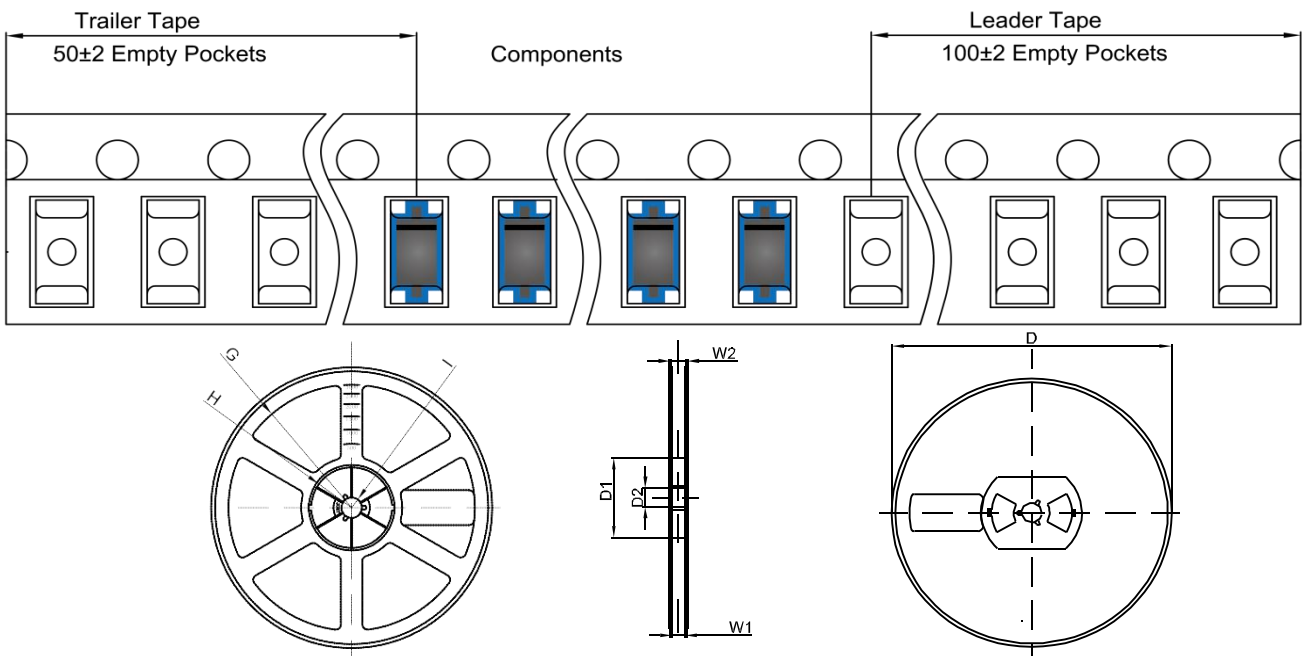
#### SOD-123 Embossed Carrier Tape



#### SOD-123 Tape Leader and Trailer

DIMENSIONS ARE IN MILLIMETER										
TYPE	A	B	C	d	E	F	P0	P	P1	W
SOD-123	1.85	3.95	1.57	Ø1.55	1.75	3.50	4.00	4.00	2.00	8.00
TOLERANCE	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1

#### SOD-123 Reel



DIMENSIONS ARE IN MILLIMETER								
REEL OPTION	D	D1	D2	G	H	I	W1	W2
7" DIA	Ø178	54.40	13.00	R78	R25.60	R6.50	9.50	12.30
TOLERANCE	±2	±1	±1	±1	±1	±1	±1	±1