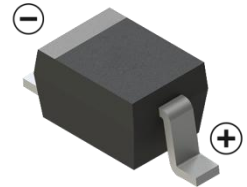


## ZENER DIODE

### FEATURES

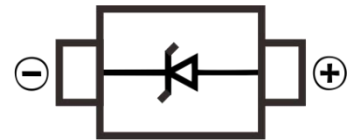
- Medium Current
- 200mW Power Dissipation
- Surface Mount device
- General purpose



SOD-323

### MECHANICAL DATA

- Case: SOD-323
- Case Material: Molded Plastic. UL Flammability
- Classification Rating: 94V-0
- Weight: 0.008 grams (approximate)



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

Parameter	Symbol	Value	Unit
Forward Voltage (Note2) @ I <sub>F</sub> = 10mA	V <sub>F</sub>	0.9	V
Power Dissipation(Note1)	P <sub>D</sub>	200	mW
Thermal Resistance From Junction To Ambient	R <sub>θJA</sub>	625	°C/W
Junction Temperature	T <sub>J</sub>	150	°C
Storage Temperature	T <sub>STG</sub>	-55 ~ +150	°C

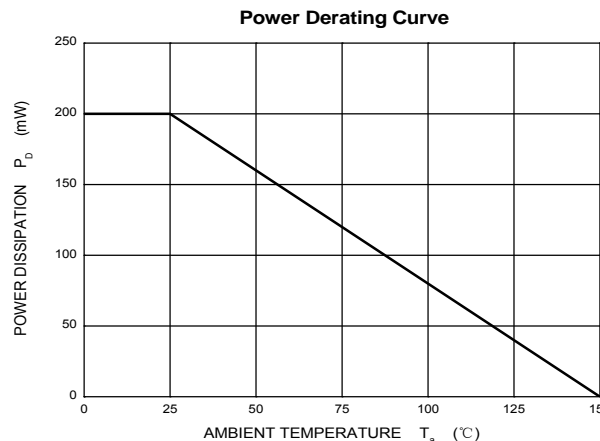
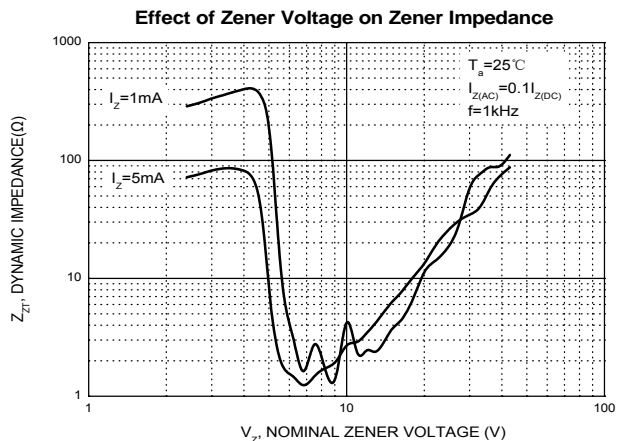
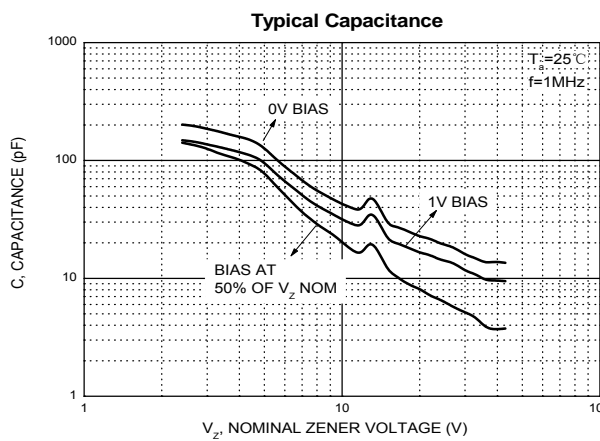
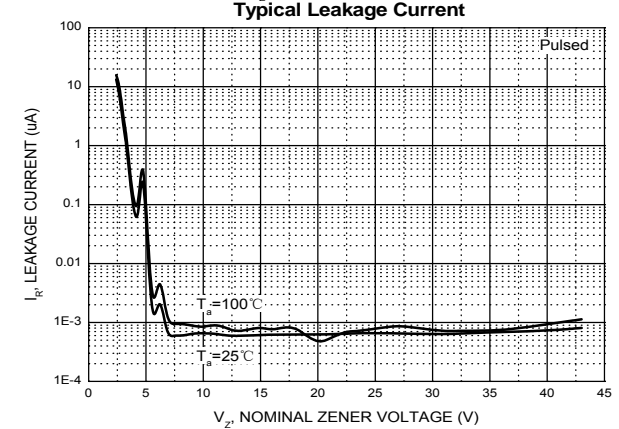
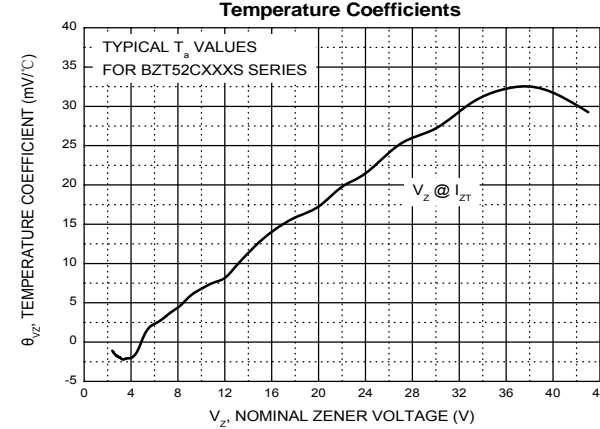
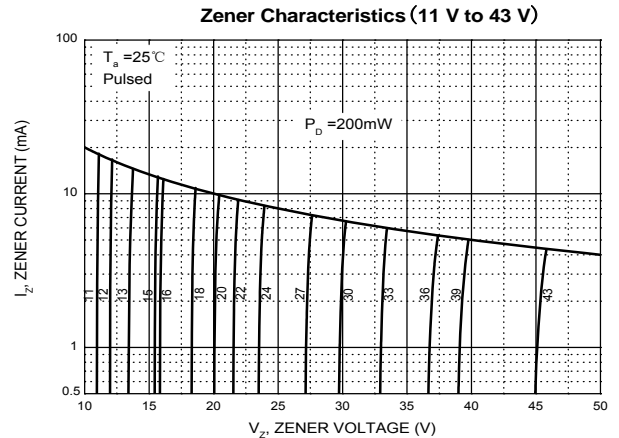
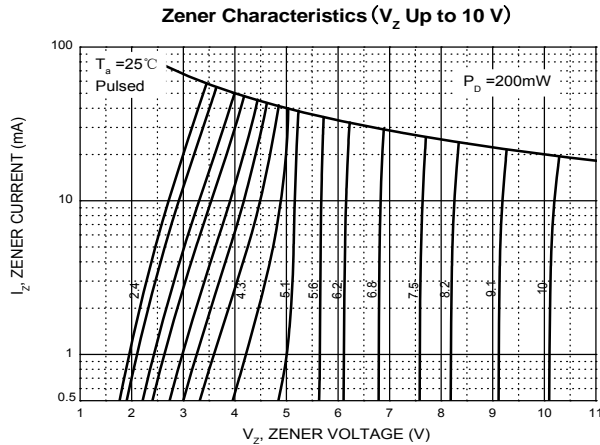
**ZENER DIODE**
**ELECTRICAL CHARACTERISTICS (T<sub>A</sub> = 25°C unless otherwise specified)**

f = 1kHz	Marking	Zener Voltage Range(Note2)			Maximum Zener Impedance(Note3)			Reverse		Forward		Typical Temperature Coefficient @I <sub>ZTC</sub>	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>	I <sub>F</sub>	V <sub>F</sub>	TK	I <sub>ZTC</sub>
		Nom(V)	Deviation(V)	(mA)	Ω		(mA)	(uA)	(V)	(mA)	(V)	(mV/°C)	(mA)
BZT52C2V0S	WY	2.0	±0.09	5	100	600	1.0	150	1.0	10	0.9	-3.5~0	5
BZT52C2V4S	WX	2.4	±0.2	5	100	600	1.0	50	1.0	10	0.9	-3.5~0	5
BZT52C2V7S	W1	2.7	±0.2	5	100	600	1.0	20	1.0	10	0.9	-3.5~0	5
BZT52C3V0S	W2	3.0	±0.2	5	95	600	1.0	10	1.0	10	0.9	-3.5~0	5
BZT52C3V3S	W3	3.3	±0.2	5	95	600	1.0	5	1.0	10	0.9	-3.5~0	5
BZT52C3V6S	W4	3.6	±0.2	5	90	600	1.0	5	1.0	10	0.9	-3.5~0	5
BZT52C3V9S	W5	3.9	±0.2	5	90	600	1.0	3	1.0	10	0.9	-3.5~0	5
BZT52C4V3S	W6	4.3	±0.3	5	90	600	1.0	3	1.0	10	0.9	-3.5~0	5
BZT52C4V7S	W7	4.7	±0.3	5	80	500	1.0	3	2.0	10	0.9	-3.5~0.2	5
BZT52C5V1S	W8	5.1	±0.3	5	60	480	1.0	2	2.0	10	0.9	-2.7~1.2	5
BZT52C5V6S	W9	5.6	±0.4	5	40	400	1.0	1	2.0	10	0.9	-2.0~2.5	5
BZT52C6V2S	WA	6.2	±0.4	5	10	150	1.0	3	4.0	10	0.9	0.4~3.7	5
BZT52C6V8S	WB	6.8	±0.4	5	15	80	1.0	2	4.0	10	0.9	1.2~4.5	5
BZT52C7V5S	WC	7.5	-0.5 ~ +0.4	5	15	80	1.0	1	5.0	10	0.9	2.5~5.3	5
BZT52C8V2S	WD	8.2	±0.5	5	15	80	1.0	0.7	5.0	10	0.9	3.2~6.2	5
BZT52C9V1S	WE	9.1	-0.6 ~ +0.5	5	15	100	1.0	0.5	6.0	10	0.9	3.8~7.0	5
BZT52C10S	WF	10	±0.6	5	20	150	1.0	0.2	7.0	10	0.9	4.5~8.0	5
BZT52C11S	WG	11	±0.6	5	20	150	1.0	0.1	8.0	10	0.9	5.4~9.0	5
BZT52C12S	WH	12	-0.6 ~ +0.7	5	25	150	1.0	0.1	8.0	10	0.9	6.0~10.0	5
BZT52C13S	WI	13	-0.6 ~ +1.1	5	30	170	1.0	0.1	8.0	10	0.9	7.0~11.0	5
BZT52C15S	WJ	15	-1.2 ~ +0.6	5	30	200	1.0	0.1	10.5	10	0.9	9.2~13.0	5
BZT52C16S	WK	16	-0.7 ~ +1.1	5	40	200	1.0	0.1	11.2	10	0.9	10.4~14.0	5
BZT52C18S	WL	18	-1.2 ~ +1.1	5	45	225	1.0	0.1	12.6	10	0.9	12.4~16.0	5
BZT52C20S	WM	20	±1.2	5	55	225	1.0	0.1	14.0	10	0.9	14.4~18.0	5
BZT52C22S	WN	22	-1.2 ~ +1.3	5	55	250	1.0	0.1	15.4	10	0.9	16.4~20.0	5
BZT52C24S	WO	24	-1.2 ~ +1.6	5	70	250	1.0	0.1	16.8	10	0.9	18.4~22.0	5
BZT52C27S	WP	27	±1.9	2	80	300	0.5	0.1	18.9	10	0.9	21.4~25.3	2
BZT52C30S	WQ	30	±2	2	80	300	0.5	0.1	21.0	10	0.9	24.4~29.4	2
BZT52C33S	WR	33	±2	2	80	325	0.5	0.1	23.1	10	0.9	27.4~33.4	2
BZT52C36S	WS	36	±2	2	90	350	0.5	0.1	25.2	10	0.9	30.4~37.4	2
BZT52C39S	WT	39	±2	2	130	350	0.5	0.1	27.3	10	0.9	33.4~41.2	2
BZT52C43S	WU	43	±3	5	100	700	1.0	0.1	32	10	0.9	10.0~12.0	5
BZT52C47S	WV	47	±3	5	100	750	1.0	0.1	35	10	0.9	10.0~12.0	5
BZT52C51S	WW	51	±3	5	100	750	1.0	0.1	38	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.

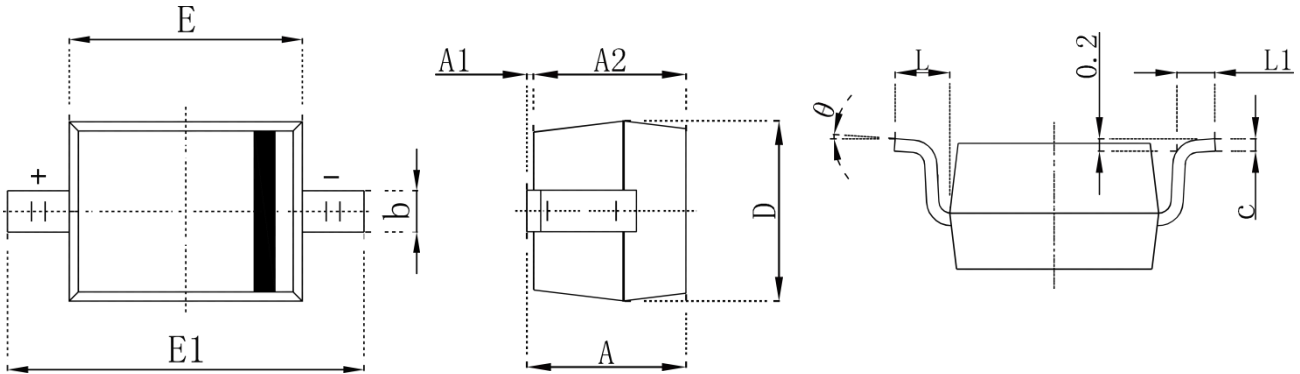
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Typical Characteristics



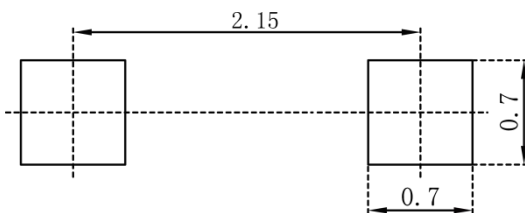
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**SOD-323 Package Outline Dimensions**



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A		1.000		0.039
A1	0.000	0.100	0.000	0.004
A2	0.800	0.900	0.031	0.035
b	0.250	0.350	0.010	0.014
c	0.080	0.150	0.003	0.006
D	1.200	1.400	0.047	0.055
E	1.600	1.800	0.063	0.071
E1	2.250	2.750	0.100	0.108
L	0.475 REF		0.019 REF	
L1	0.250	0.400	0.010	0.016
θ	0°	8°	0°	8°

**SOD-323 Suggested Pad Layout**



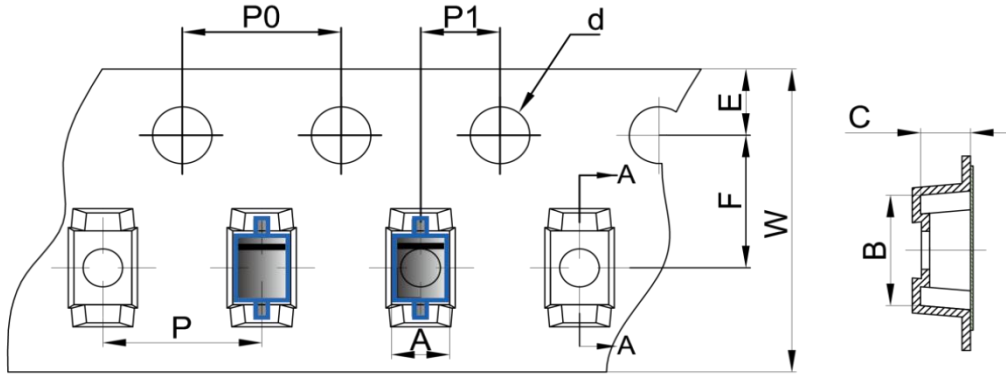
**Note:**

1. Controlling dimension: in millimeters
2. General tolerance: ±0.05mm
3. The pad layout is for reference purposes only

ZENER DIODE

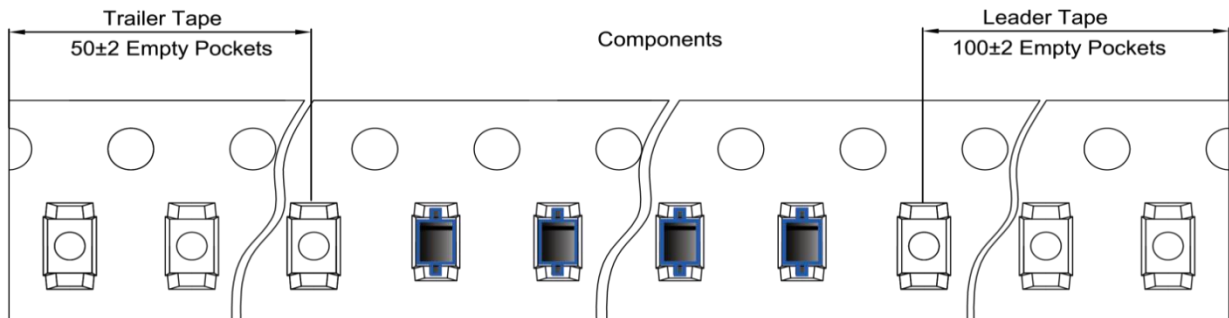
**SOD-323 Tape and Reel**

**SOD-323 Embossed Carrier Tape**

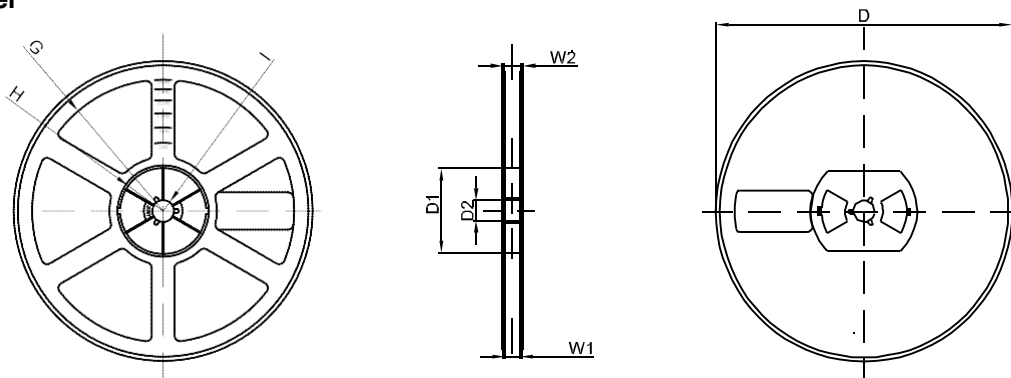


DIMENSIONS ARE IN MILLIMETER										
TYPE	A	B	C	d	E	F	P0	P	P1	W
SOD-323	1.48	3.3	1.25	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00
TOLERANCE	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1

**SOD-323 Tape Leader and Trailer**



**SOD-323 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

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