

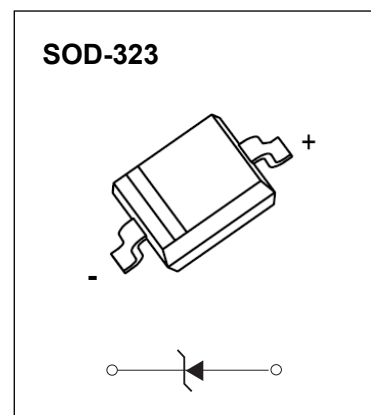
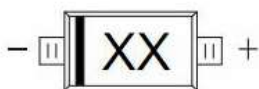
SOD-323 Plastic-Encapsulate Diodes

ZENER DIODE

FEATURES

- Planar die construction
- 400mW power dissipation on ceramic PBC
- General purpose, medium current
- Ideally suited for automated assembly processes
- Available in lead free version

Marking:



Maximum Ratings ($T_a=25^{\circ}\text{C}$ unless otherwise specified)

Characteristic	Symbol	Value	Unit
Forward Voltage (Note 2) @ $I_F = 10\text{mA}$	V_F	0.9	V
Power Dissipation(Note 1)	P_D	400	mW
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	417	$^{\circ}\text{C/W}$
Junction Temperature	T_J	150	$^{\circ}\text{C}$
Storage Temperature Range	T_{stg}	-55~+150	$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS

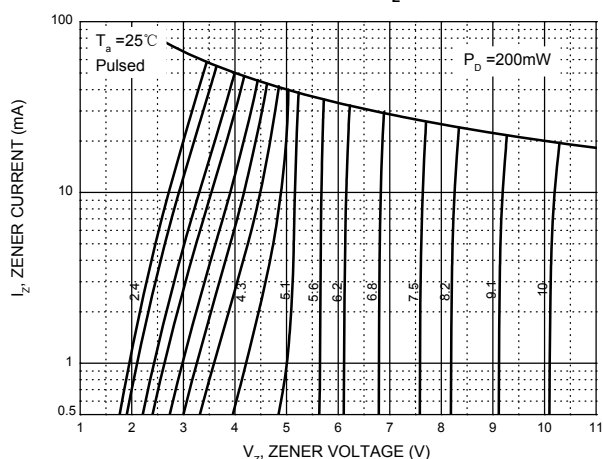
T_a=25°C unless otherwise specified

TYPE	Marking	Zener Voltage Range (Note 2)				Maximum Zener Impedance (Note 3)			Maximum Reverse Current (Note 2)		Typical Temperature Coefficient @I _{ZTC} mV/°C		Test Current I _{ZTC}
		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	μA	V	Min	Max	mA
MM3Z2V4	WX	2.4	2.20	2.60	5	100	600	1.0	50	1.0	-3.5	0	5
MM3Z2V7	W1	2.7	2.5	2.9	5	100	600	1.0	20	1.0	-3.5	0	5
MM3Z3V0	W2	3.0	2.8	3.2	5	95	600	1.0	10	1.0	-3.5	0	5
MM3Z3V3	W3	3.3	3.1	3.5	5	95	600	1.0	5	1.0	-3.5	0	5
MM3Z3V6	W4	3.6	3.4	3.8	5	90	600	1.0	5	1.0	-3.5	0	5
MM3Z3V9	W5	3.9	3.7	4.1	5	90	600	1.0	3	1.0	-3.5	0	5
MM3Z4V3	W6	4.3	4.0	4.6	5	90	600	1.0	3	1.0	-3.5	0	5
MM3Z4V7	W7	4.7	4.4	5.0	5	80	500	1.0	3	2.0	-3.5	0.2	5
MM3Z5V1	W8	5.1	4.8	5.4	5	60	480	1.0	2	2.0	-2.7	1.2	5
MM3Z5V6	W9	5.6	5.2	6.0	5	40	400	1.0	1	2.0	-2	2.5	5
MM3Z6V2	WA	6.2	5.8	6.6	5	10	150	1.0	3	4.0	0.4	3.7	5
MM3Z6V8	WB	6.8	6.4	7.2	5	15	80	1.0	2	4.0	1.2	4.5	5
MM3Z7V5	WC	7.5	7.0	7.9	5	15	80	1.0	1	5.0	2.5	5.3	5
MM3Z8V2	WD	8.2	7.7	8.7	5	15	80	1.0	0.7	5.0	3.2	6.2	5
MM3Z9V1	WE	9.1	8.5	9.6	5	15	100	1.0	0.5	6.0	3.8	7.0	5
MM3Z10V	WF	10	9.4	10.6	5	20	150	1.0	0.2	7.0	4.5	8.0	5
MM3Z11V	WG	11	10.4	11.6	5	20	150	1.0	0.1	8.0	5.4	9.0	5
MM3Z12V	WH	12	11.4	12.7	5	25	150	1.0	0.1	8.0	6.0	10.0	5
MM3Z13V	WI	13	12.4	14.1	5	30	170	1.0	0.1	8.0	7.0	11.0	5
MM3Z15V	WJ	15	13.8	15.6	5	30	200	1.0	0.1	10.5	9.2	13	5
MM3Z16V	WK	16	15.3	17.1	5	40	200	1.0	0.1	11.2	10.4	14	5
MM3Z18V	WL	18	16.8	19.1	5	45	225	1.0	0.1	12.6	12.4	16	5
MM3Z20V	WM	20	18.8	21.2	5	55	225	1.0	0.1	14.0	14.4	18.0	5
MM3Z22V	WN	22	20.8	23.3	5	55	250	1.0	0.1	15.4	16.4	20.0	5
MM3Z24V	WO	24	22.8	25.6	5	70	250	1.0	0.1	16.8	18.4	22.0	5
MM3Z27V	WP	27	25.1	28.9	2	80	300	0.5	0.1	18.9	21.4	25.3	2
MM3Z30V	WQ	30	28.0	32.0	2	80	300	0.5	0.1	21.0	24.4	29.4	2
MM3Z33V	WR	33	31.0	35.0	2	80	325	0.5	0.1	23.1	27.4	33.4	2
MM3Z36V	WS	36	34.0	38.0	2	90	350	0.5	0.1	25.2	30.4	37.4	2
MM3Z39V	WT	39	37.0	41.0	2	100	350	0.5	0.1	27.3	33.4	41.2	2
MM3Z43V	WU	43	40.0	46.0	2	130	700	1	0.1	32	10	12	5
MM3Z47V	3B	47	44.0	50.0	2	150	700	1	0.1	36	10	12	5

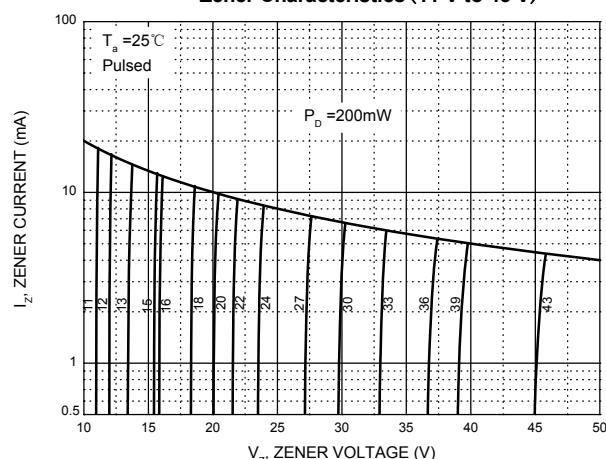
Notes: 1. Device mounted on ceramic PCB: 7.6mm x 9.4mm x 0.87mm with pad areas 25mm².
 2. Short duration test pulse used to minimize self-heating effect.
 3. f = 1kHz.

Typical Characteristics

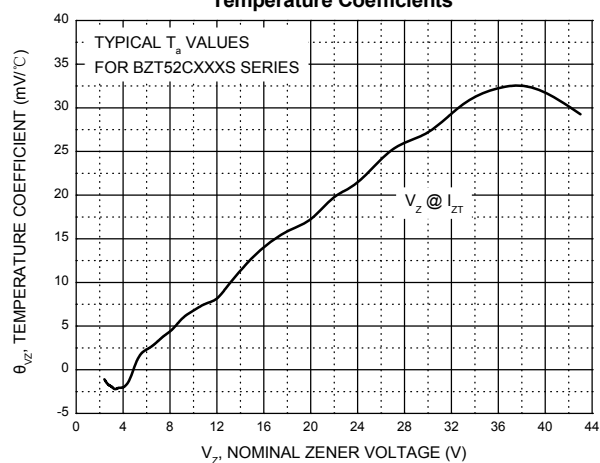
Zener Characteristics (V_Z Up to 10 V)



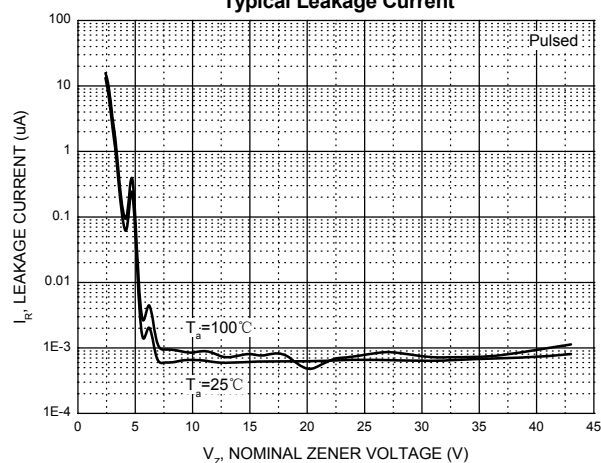
Zener Characteristics (11 V to 43 V)



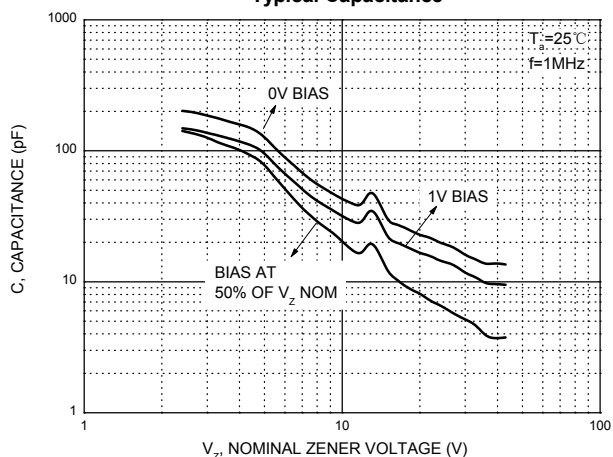
Temperature Coefficients



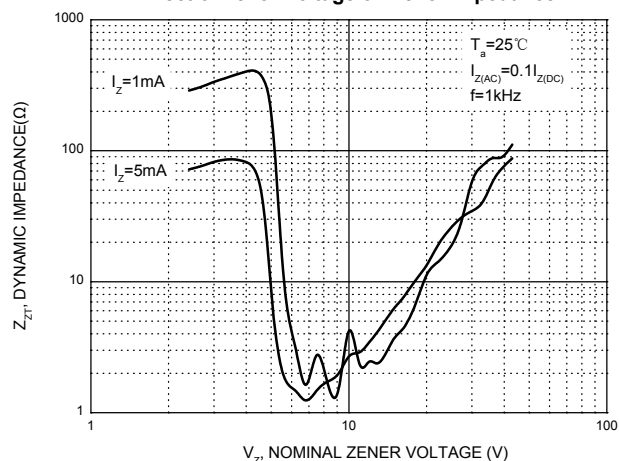
Typical Leakage Current



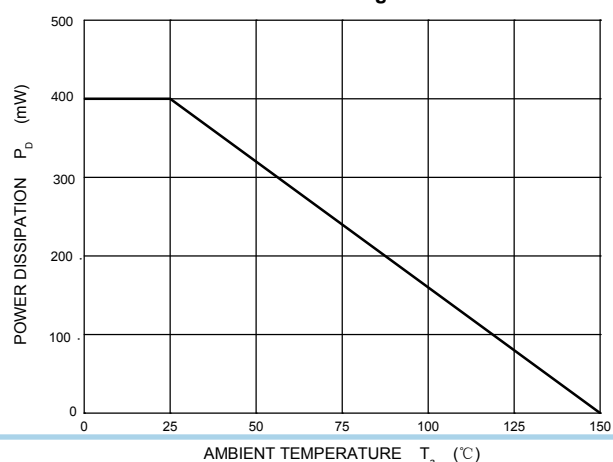
Typical Capacitance



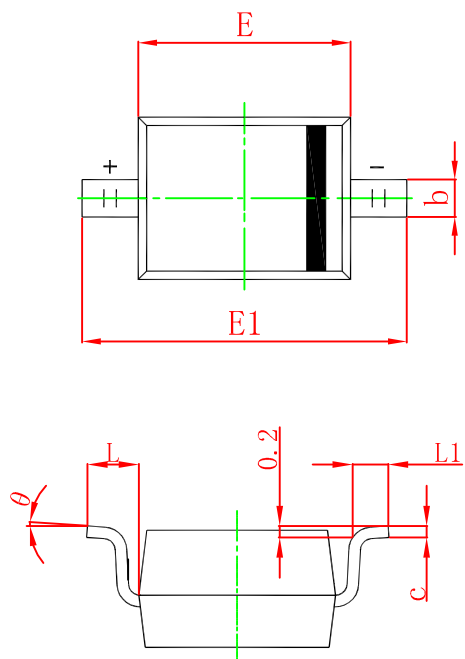
Effect of Zener Voltage on Zener Impedance



Power Derating Curve

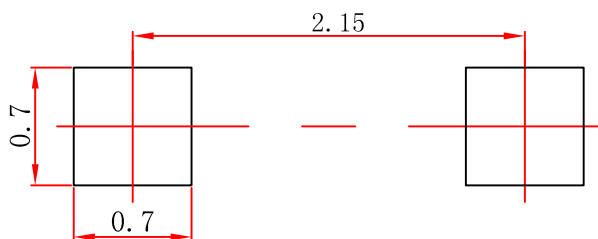


SOD-323 Package Outline Dimensions



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	2.550	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

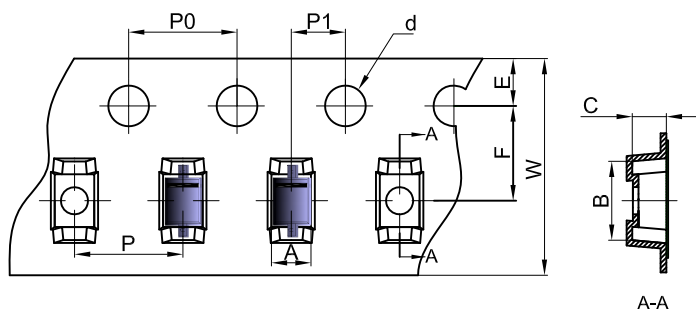


Note:

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

SOD-323 Tape and Reel

SOD-323 Embossed Carrier Tape

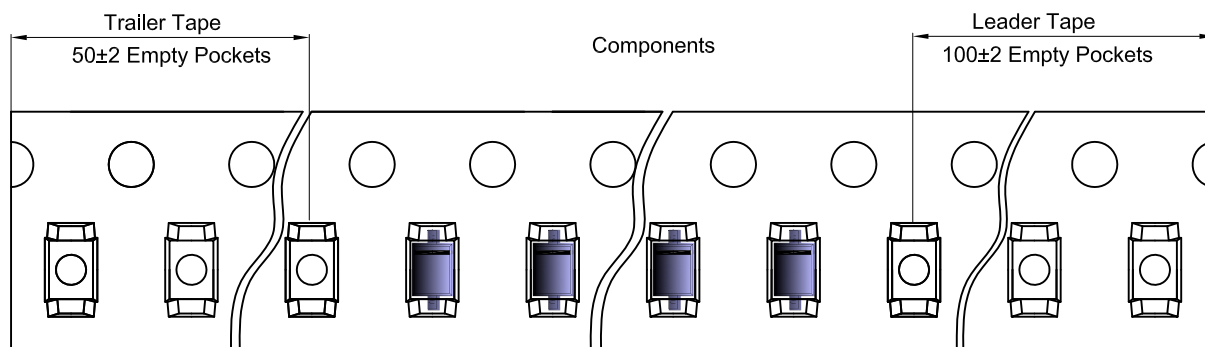


Packaging Description:

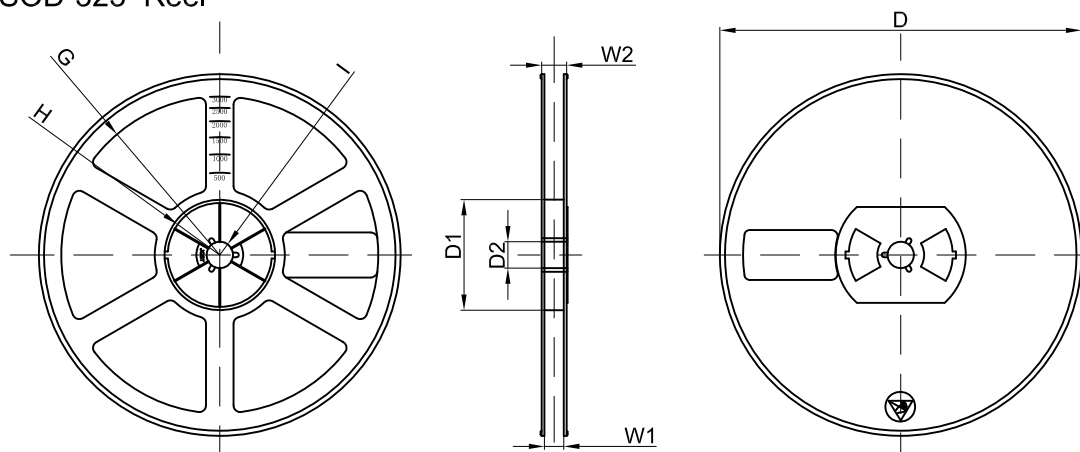
SOD-323 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 3,000 units per 7" or 17.8cm diameter reel. The reels are clear in color and is made of polystyrene plastic (anti-static coated).

Dimensions are in millimeter										
Pkg 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

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	Ø178.00	54.40	13.00	R78.00	R25.60	R6.50	9.50	12.30

REEL	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)	G.W.(kg)
3000 pcs	7 inch	45,000 pcs	203×203×195	180,000 pcs	438×438×220	