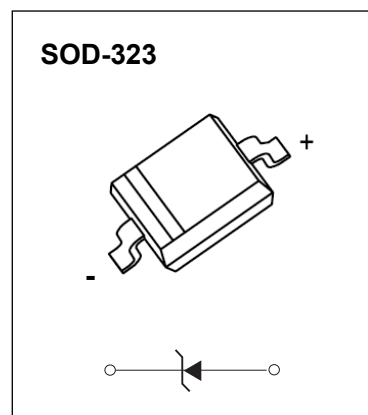


SOD-323 Plastic-Encapsulate Diodes

ZENER DIODE

FEATURES

- Planar die construction
- 250mW 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	250	mW
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	417	$^{\circ}\text{C}/\text{W}$
Junction Temperature	T_j	150	$^{\circ}\text{C}$
Storage Temperature Range	T_{stg}	-55~+150	$^{\circ}\text{C}$

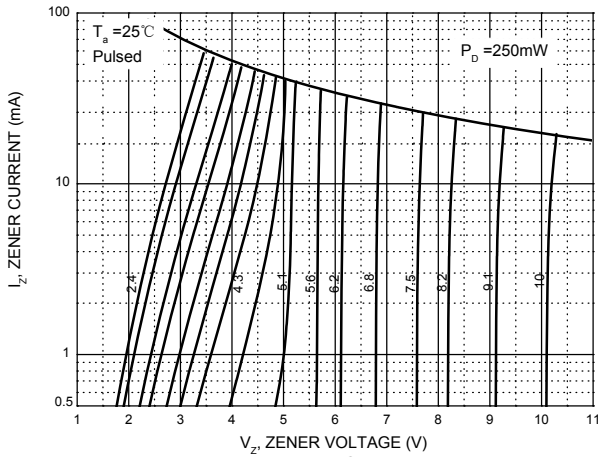
ELECTRICAL CHARACTERISTICS

T_a=25°C unless otherwise specified

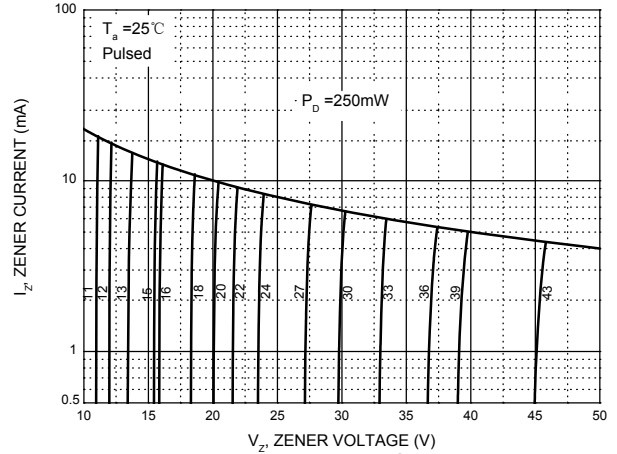
TYPE	Marking	Zener Voltage Range (Note 2)				Maximum Zener Impedance (Note 3)			Maximum Reverse Current (Note 2)		Typical Temperature Coefficient @I _{ZTC} mV/°C		Test Current I _{ZTC}
		V _Z @I _{ZT}			I _{ZT}	Z _{ZT} @I _{ZT}	Z _{ZK} @I _{ZK}	I _{ZK}	I _R	V _R	Min	Max	
		Nom(V)	Min(V)	Max(V)	(mA)	Ω		(mA)	μA	V			mA
MM3Z2V4	WX/1C	2.4	2.20	2.60	5	100	600	1.0	50	1.0	-3.5	0	5
MM3Z2V7	W1/1D	2.7	2.5	2.9	5	100	600	1.0	20	1.0	-3.5	0	5
MM3Z3V0	W2/1E	3.0	2.8	3.2	5	95	600	1.0	10	1.0	-3.5	0	5
MM3Z3V3	W3/1F	3.3	3.1	3.5	5	95	600	1.0	5	1.0	-3.5	0	5
MM3Z3V6	W4/1H	3.6	3.4	3.8	5	90	600	1.0	5	1.0	-3.5	0	5
MM3Z3V9	W5/1J	3.9	3.7	4.1	5	90	600	1.0	3	1.0	-3.5	0	5
MM3Z4V3	W6/1K	4.3	4.0	4.6	5	90	600	1.0	3	1.0	-3.5	0	5
MM3Z4V7	W7/1M	4.7	4.4	5.0	5	80	500	1.0	3	2.0	-3.5	0.2	5
MM3Z5V1	W8/1N	5.1	4.8	5.4	5	60	480	1.0	2	2.0	-2.7	1.2	5
MM3Z5V6	W9/1P	5.6	5.2	6.0	5	40	400	1.0	1	2.0	-2	2.5	5
MM3Z6V2	WA/1R	6.2	5.8	6.6	5	10	150	1.0	3	4.0	0.4	3.7	5
MM3Z6V8	WB/1X	6.8	6.4	7.2	5	15	80	1.0	2	4.0	1.2	4.5	5
MM3Z7V5	WC/1Y	7.5	7.0	7.9	5	15	80	1.0	1	5.0	2.5	5.3	5
MM3Z8V2	WD/1Z	8.2	7.7	8.7	5	15	80	1.0	0.7	5.0	3.2	6.2	5
MM3Z9V1	WE/2A	9.1	8.5	9.6	5	15	100	1.0	0.5	6.0	3.8	7.0	5
MM3Z10V	WF/2B	10	9.4	10.6	5	20	150	1.0	0.2	7.0	4.5	8.0	5
MM3Z11V	WG/2C	11	10.4	11.6	5	20	150	1.0	0.1	8.0	5.4	9.0	5
MM3Z12V	WH/2D	12	11.4	12.7	5	25	150	1.0	0.1	8.0	6.0	10.0	5
MM3Z13V	WI/2E	13	12.4	14.1	5	30	170	1.0	0.1	8.0	7.0	11.0	5
MM3Z15V	WJ/2F	15	13.8	15.6	5	30	200	1.0	0.1	10.5	9.2	13	5
MM3Z16V	WK/2H	16	15.3	17.1	5	40	200	1.0	0.1	11.2	10.4	14	5
MM3Z18V	WL/2J	18	16.8	19.1	5	45	225	1.0	0.1	12.6	12.4	16	5
MM3Z20V	WM/2K	20	18.8	21.2	5	55	225	1.0	0.1	14.0	14.4	18.0	5
MM3Z22V	WN/2M	22	20.8	23.3	5	55	250	1.0	0.1	15.4	16.4	20.0	5
MM3Z24V	WO/2N	24	22.8	25.6	5	70	250	1.0	0.1	16.8	18.4	22.0	5
MM3Z27V	WP/2P	27	25.1	28.9	2	80	300	0.5	0.1	18.9	21.4	25.3	2
MM3Z30V	WQ/2R	30	28.0	32.0	2	80	300	0.5	0.1	21.0	24.4	29.4	2
MM3Z33V	WR/2X	33	31.0	35.0	2	80	325	0.5	0.1	23.1	27.4	33.4	2
MM3Z36V	WS/2Y	36	34.0	38.0	2	90	350	0.5	0.1	25.2	30.4	37.4	2
MM3Z39V	WT/2Z	39	37.0	41.0	2	100	350	0.5	0.1	27.3	33.4	41.2	2
MM3Z43V	WU/3A	43	40.0	46.0	2	130	700	1	0.1	29.4	36.4	45.2	5
MM3Z47V	3B	47	44.0	50.0	2	150	700	1	0.1	36	42.4	52.2	5
MM3Z51V	3C	51	48.0	54.0	2	180	1300	0.25	0.1	39	46.4	56.2	2
MM3Z56V	3D	56	52.0	60.0	2	200	1400	0.25	0.1	43	50.4	65.1	2
MM3Z62V	3E	62	58.0	66.0	2	225	1400	0.25	0.1	47	53.4	68.4	2

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.

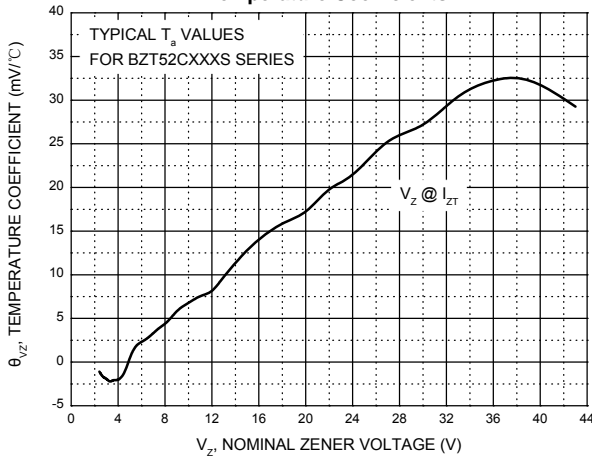
Zener Characteristics (V_z Up to 10 V)



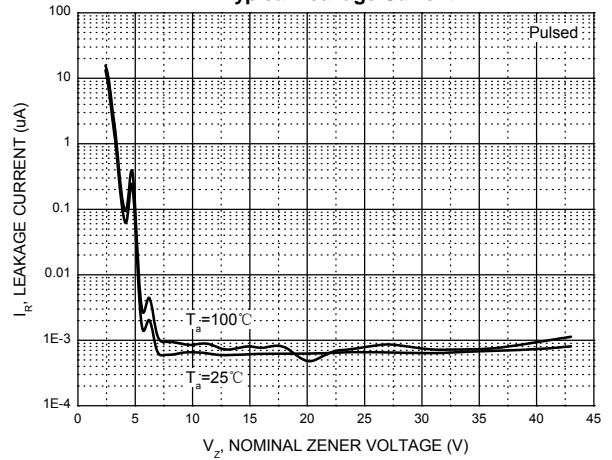
Zener Characteristics (11 V to 43 V)



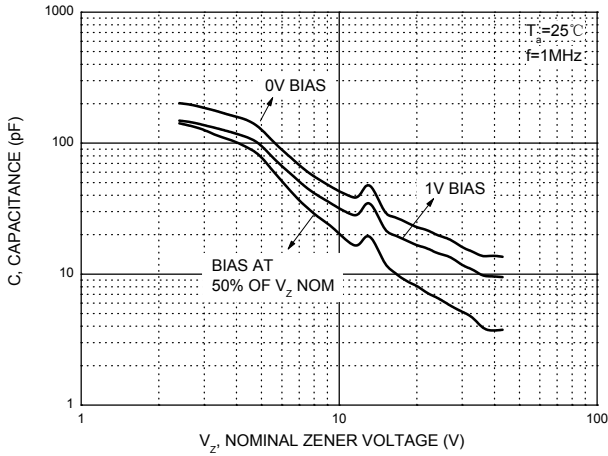
Temperature Coefficients



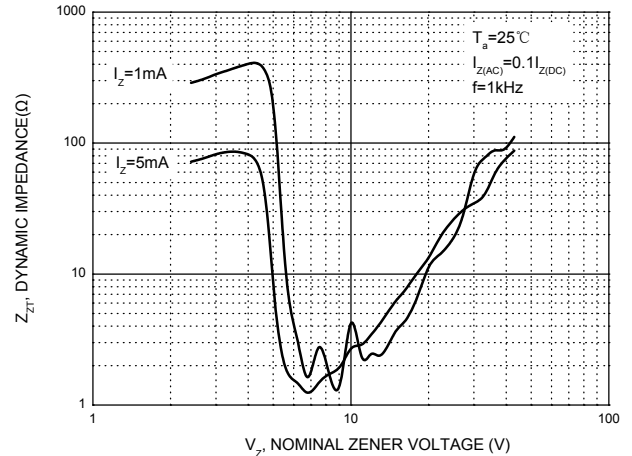
Typical Leakage Current



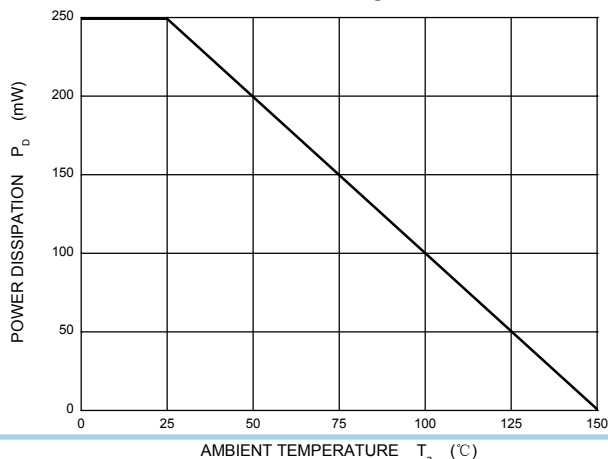
Typical Capacitance



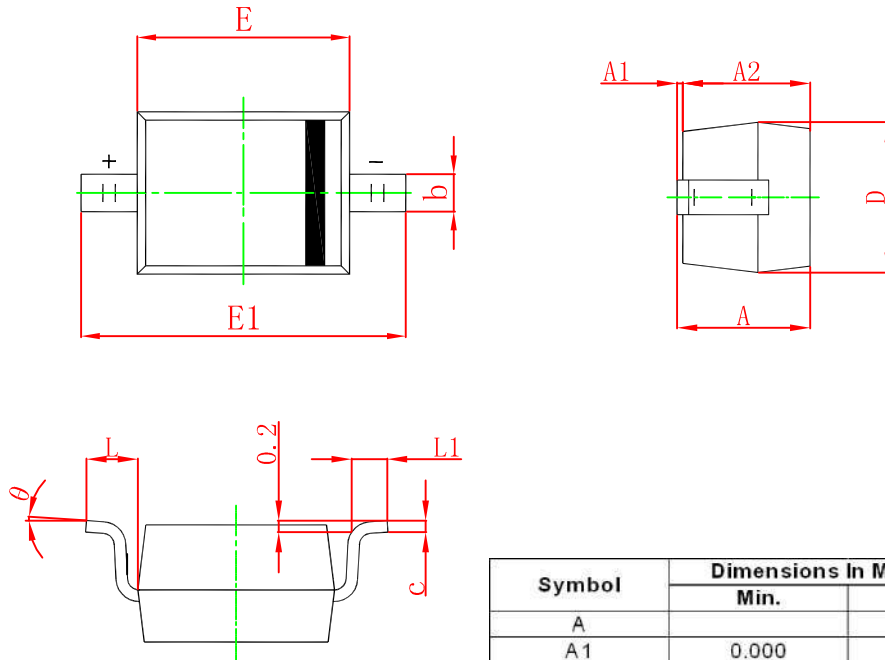
Effect of Zener Voltage on Zener Impedance



Power Derating Curve

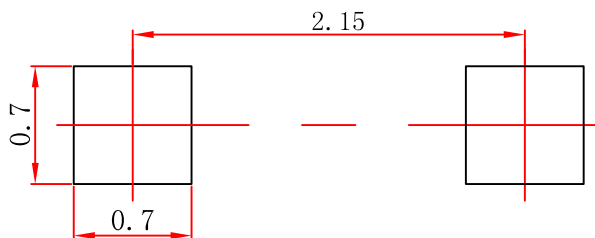


SOD-323 Package Outline Dimensions



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°	

SOD-323 Suggested Pad Layout

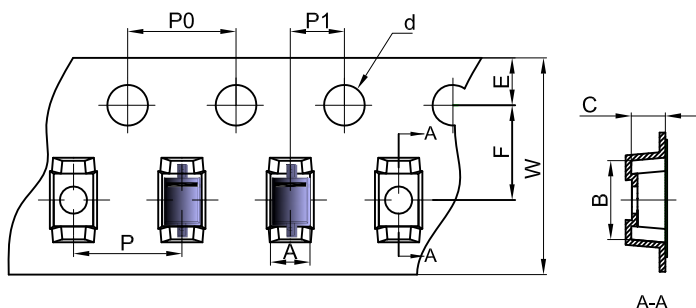


Note:

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

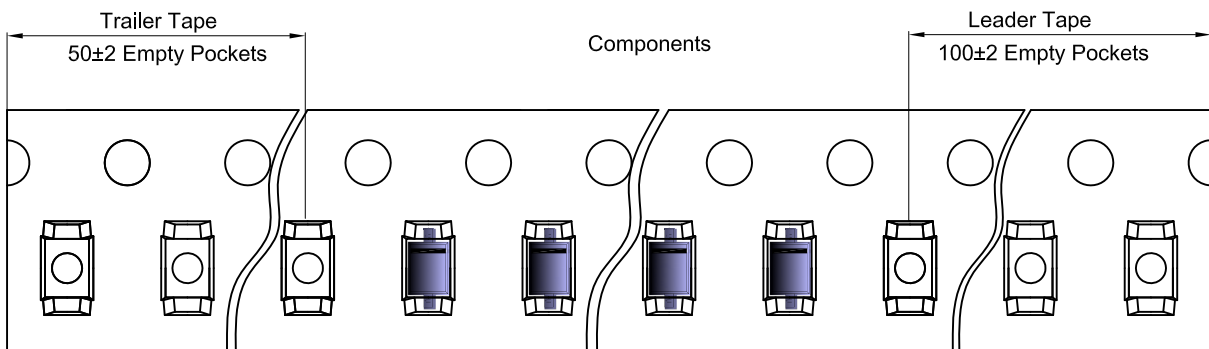
SOD-323 Embossed Carrier Tape



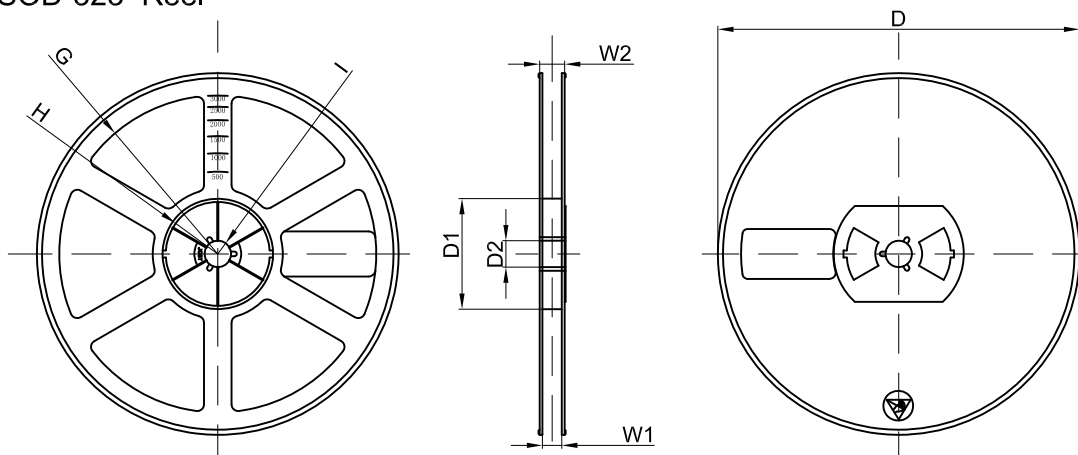
Packaging Description:
 SOD-323 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. 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	