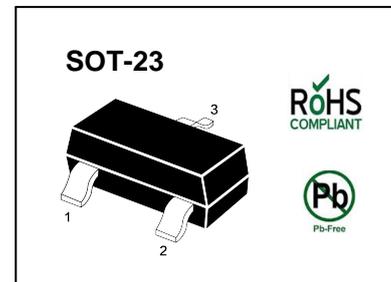
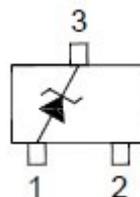


## Silicon Planar Zener Diodes

This series of Zener diodes is offered in the convenient, surface mount plastic SOT-23 package. These devices are designed to provide voltage regulation with minimum space requirement. They are well suited for applications such as cellular phones, hand held portables, and high density PC boards.



### Features

- Zener breakdown voltage range - 2.0 V to 75 V
- Package designed for optimal automated board assembly
- Small package size for high density applications

### Absolute Maximum Ratings ( $T_a = 25\text{ }^\circ\text{C}$ )

Parameter	Symbol	Value	Unit
Power Dissipation	$P_D$	350	mW
Thermal Resistance, Junction to Ambient <sup>1)</sup>	$R_{\theta JA}$	417	$^\circ\text{C/W}$
Junction and Storage Temperature Range	$T_j, T_{stg}$	- 65 to + 150	$^\circ\text{C}$

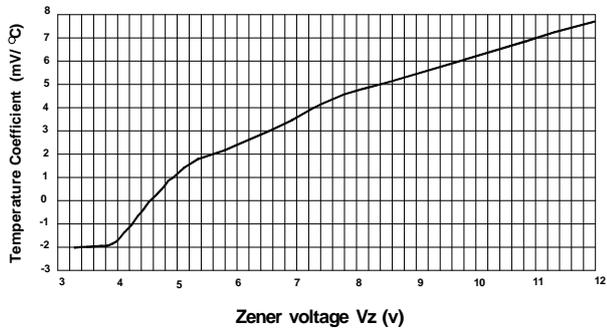
<sup>1)</sup> Alumina = 0.4 X 0.3 X 0.024 in, 99.5% alumina

## Electrical Characteristics ( $T_a = 25\text{ }^\circ\text{C}$ unless otherwise noted, $V_F < 0.9\text{ V}$ at $I_F = 10\text{ mA}$ )

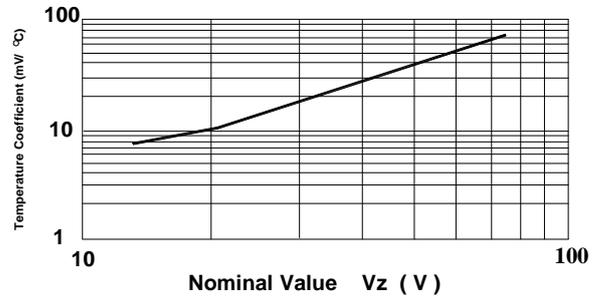
Type	Marking Code	Zener Voltage Range <sup>1)</sup>				Dynamic Impedance		Reverse Current	
		$V_{ZT}$			at $I_{ZT}$	$Z_{ZT}$	at $I_{ZT}$	$I_R$	at $V_R$
		Nom. (V)	Min. (V)	Max. (V)	(mA)	Max. ( $\Omega$ )	(mA)	Max. ( $\mu\text{A}$ )	(V)
BZX84C2V0	A8	2	1.8	2.15	5	100	5	120	0.5
BZX84C2V2	B8	2.2	2.08	2.33	5	100	5	120	0.7
BZX84C2V4	C8	2.4	2.2	2.6	5	100	5	50	1
BZX84C2V7	D8	2.7	2.5	2.9	5	100	5	20	1
BZX84C3V0	E8	3	2.8	3.2	5	95	5	10	1
BZX84C3V3	F8	3.3	3.1	3.5	5	95	5	5	1
BZX84C3V6	H8	3.6	3.4	3.8	5	90	5	5	1
BZX84C3V9	J8	3.9	3.7	4.1	5	90	5	3	1
BZX84C4V3	K8	4.3	4	4.6	5	90	5	3	1
BZX84C4V7	M8	4.7	4.4	5	5	80	5	3	2
BZX84C5V1	N8	5.1	4.8	5.4	5	60	5	2	2
BZX84C5V6	P8	5.6	5.2	6	5	40	5	1	2
BZX84C6V2	R8	6.2	5.8	6.6	5	10	5	3	4
BZX84C6V8	X8	6.8	6.4	7.2	5	15	5	2	4
BZX84C7V5	Y8	7.5	7	7.9	5	15	5	1	5
BZX84C8V2	Z8	8.2	7.7	8.7	5	15	5	0.7	5
BZX84C9V1	A9	9.1	8.5	9.6	5	15	5	0.5	6
BZX84C10	B9	10	9.4	10.6	5	20	5	0.2	7
BZX84C11	C9	11	10.4	11.6	5	20	5	0.1	8
BZX84C12	D9	12	11.4	12.7	5	25	5	0.1	8
BZX84C13	E9	13	12.4	14.1	5	30	5	0.1	8
BZX84C15	F9	15	13.8	15.6	5	30	5	0.05	10.5
BZX84C16	H9	16	15.3	17.1	5	40	5	0.05	11.2
BZX84C18	J9	18	16.8	19.1	5	45	5	0.05	12.6
BZX84C20	K9	20	18.8	21.2	5	55	5	0.05	14
BZX84C22	M9	22	20.8	23.3	5	55	5	0.05	15.4
BZX84C24	N9	24	22.8	25.6	5	70	5	0.05	16.8
BZX84C27	P9	27	25.1	28.9	2	80	2	0.05	18.9
BZX84C30	R9	30	28	32	2	80	2	0.05	21
BZX84C33	X9	33	31	35	2	80	2	0.05	23.1
BZX84C36	Y9	36	34	38	2	90	2	0.05	25.2
BZX84C39	Z9	39	37	41	2	130	2	0.05	27.3
BZX84C43	A0	43	40	46	2	150	2	0.05	30.1
BZX84C47	B0	47	44	50	2	170	2	0.05	32.9
BZX84C51	C0	51	48	54	2	180	2	0.05	35.7
BZX84C56	D0	56	52	60	2	200	2	0.05	39.2
BZX84C62	E0	62	58	66	2	215	2	0.05	43.4
BZX84C68	F0	68	64	72	2	240	2	0.05	47.6
BZX84C75	H0	75	70	79	2	255	2	0.05	52.5

<sup>1)</sup> Tested with pulses  $t_p = 20\text{ ms}$ .

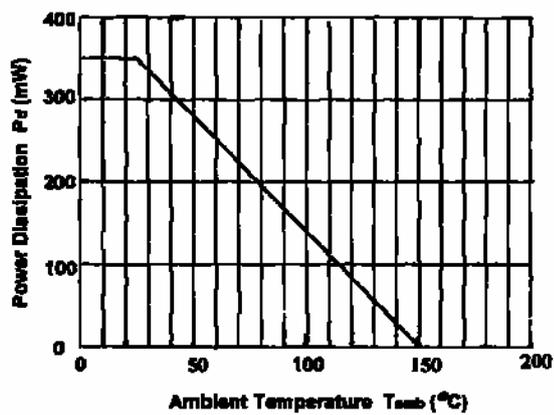
Temperature Coefficient



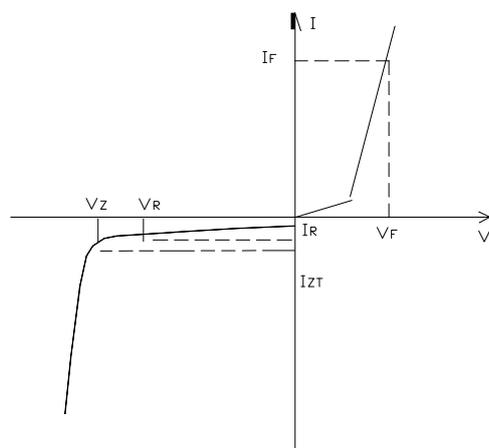
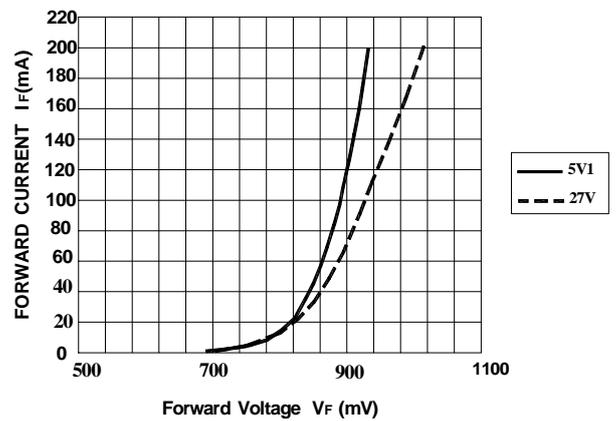
Temperature Coefficient



Power Derating Curve



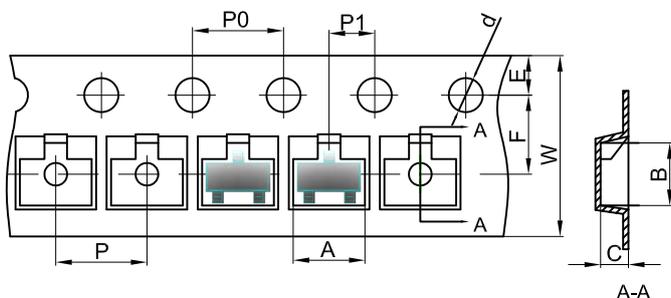
Typical Forward Voltage



Zener Voltage Regulator

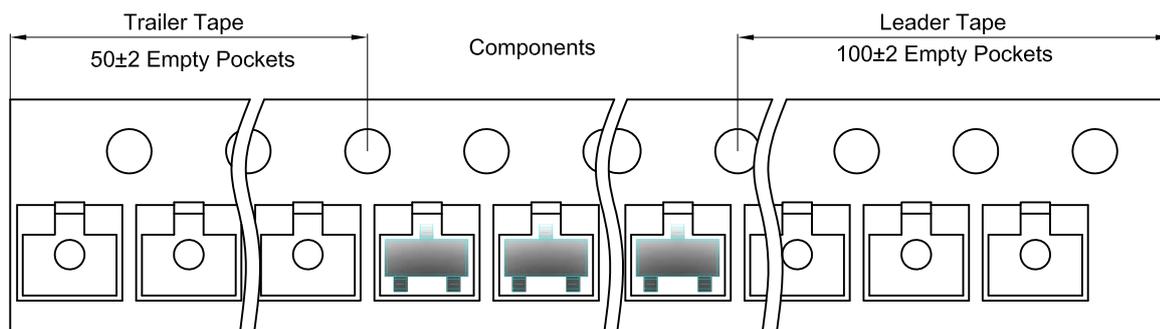
## SOT-23 Tape and Reel

### SOT-23 Embossed Carrier Tape

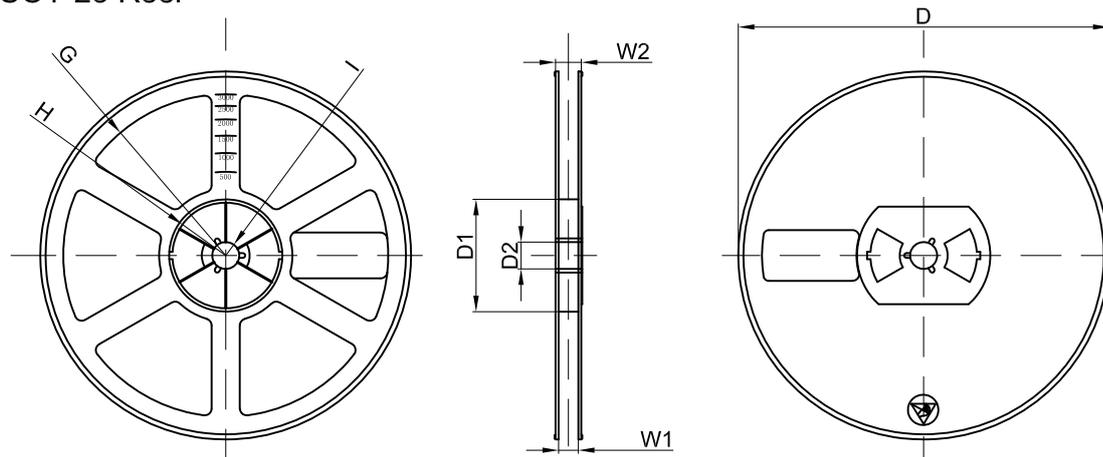


Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOT-23	3.15	2.77	1.22	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00

### SOT-23 Tape Leader and Trailer

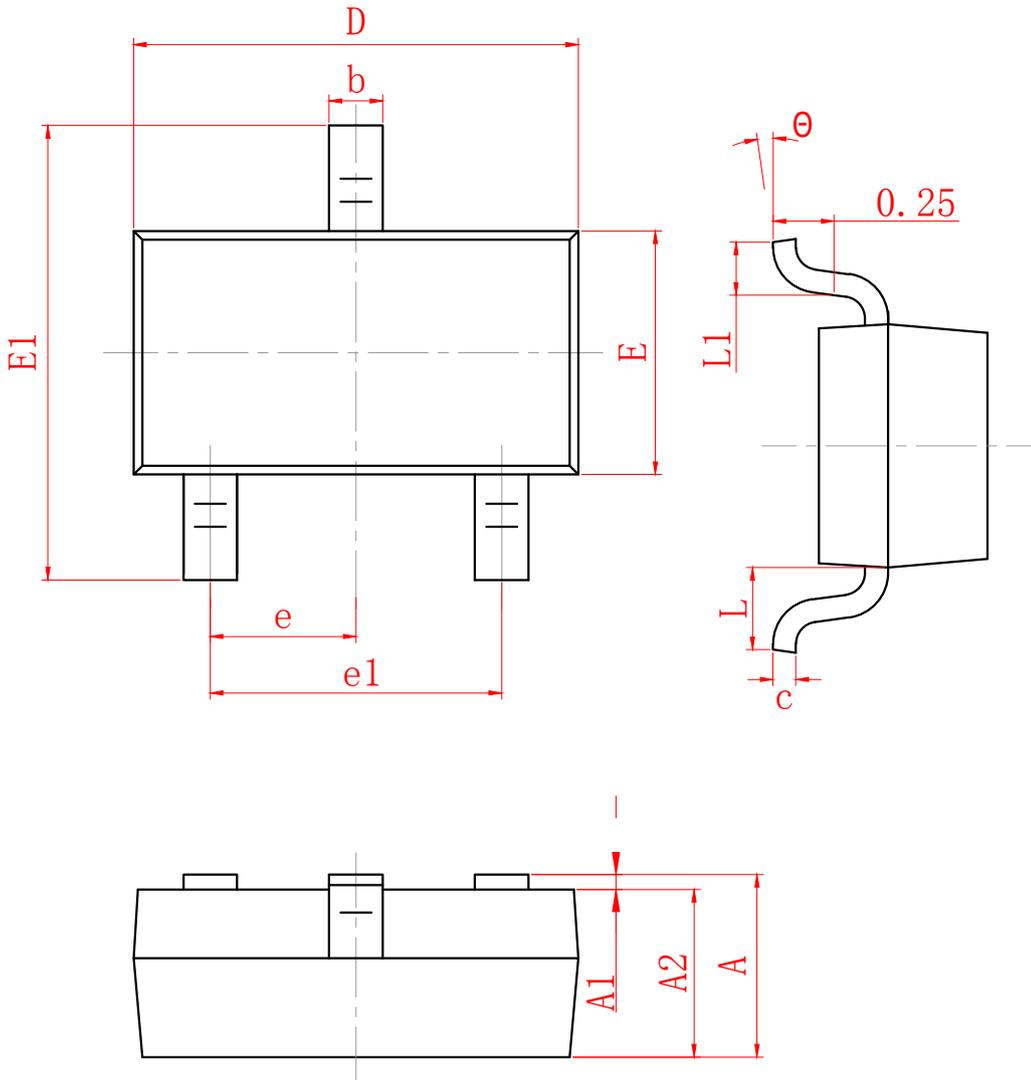


### SOT-23 Reel



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	



SYMBOL	MILLIMETER	
	MIN	MAX
A	0.900	1.150
A1	0.000	0.100
A2	0.900	1.050
b	0.300	0.500
c	0.080	0.150
D	2.800	3.000
E	1.200	1.400
E1	2.250	2.550
e	0.950 TYP	
e1	1.800	2.000
L	0.550 REF	
L1	0.300	0.500
θ	0°	8°

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