

## SURFACE MOUNT ZENER DIODE

### Features

- ◆ Total power dissipation: Max. 500mW.
- ◆ Wide zener reverse voltage range 2.0V to 75V.
- ◆ Small plastic package suitable for surface mounted design.
- ◆ Tolerance approximately  $\pm 5\%$

### Mechanical Data

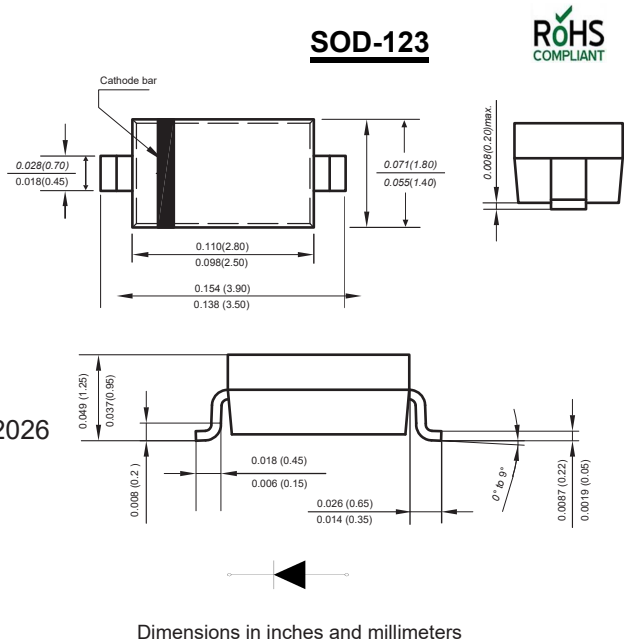
**Case** : JEDEC SOD-123 Molded plastic body

**Terminals** : Solder plated, solderable per MIL-STD-750, Method 2026

**Polarity** : Polarity symbol marking on body

**Mounting Position** : Any

**Weight** : 0.00056 ounce, 0.016 grams



Dimensions in inches and millimeters

### Ordering Information

Type No.	Marking	Package Code	
BZT52C2V0-BZT52C75	See table 2	SOD-123	
<b>MAXIMUM RATING @ Ta=25°C unless otherwise specified</b>			
Parameter	Symbol	Value	Unit
Forward Voltage @ I <sub>F</sub> =10mA	V <sub>F</sub>	0.9	V
Power Dissipation	P <sub>d</sub>	500	mW
Typical thermal resistance junction to ambient <sup>(1)</sup>	R <sub>θJA</sub>	305	°C/W
Junction temperature	T <sub>j</sub>	150	°C
Storage temperature range	T <sub>stg</sub>	-65-150	°C

(1) Thermal resistance from junction to ambient at P.C.B. mounted with 2.0" X 2.0" (5 X 5 cm) copper areas pads.

## ELECTRICAL CHARACTERISTICS CURVE

Fig.1 Maximum Continuous Power Derating

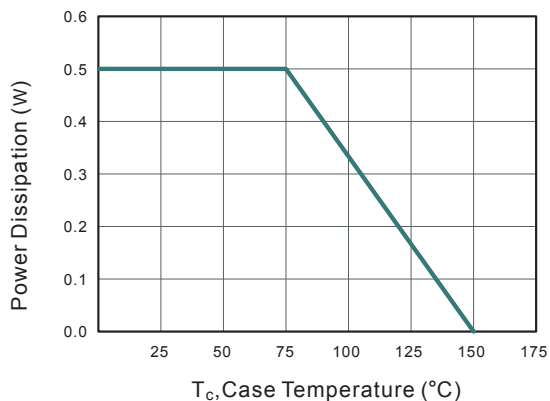


Fig.2 Typical Transient Thermal Impedance

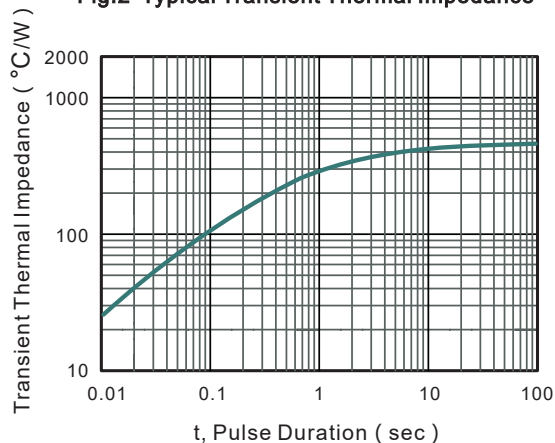
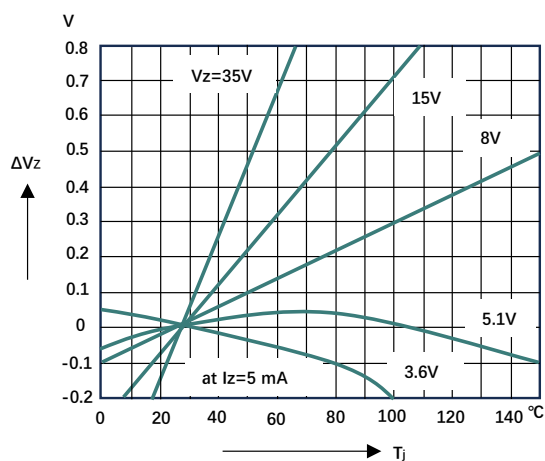


Fig.3 Change of Zener voltage versus junction temperature



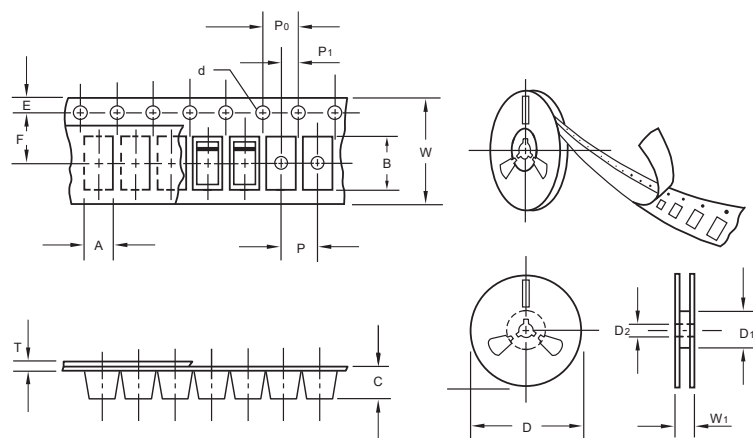
The curve above is for reference only.

## ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

Type	Marking	Zener Voltage Range (1)			I <sub>ZT</sub> (mA)	Dynamic Impedance Z <sub>ZT</sub> (at I <sub>ZT</sub> ) Max (Ω)	Reverse Current	
		V <sub>ZT</sub> (at I <sub>ZT</sub> )					I <sub>R</sub>	at V <sub>R</sub>
		Min (V)	Nom (V)	Max (V)			Max (μA)	(V)
BZT52C2V0	WY	1.8	2.0	2.15	5	100	120	0.5
BZT52C2V2	WZ	2.08	2.2	2.33	5	100	120	0.7
BZT52C2V4	WX	2.28	2.4	2.56	5	100	120	1
BZT52C2V7	W1	2.5	2.7	2.9	5	110	120	1
BZT52C3V0	W2	2.8	3.0	3.2	5	120	50	1
BZT52C3V3	W3	3.1	3.3	3.5	5	130	20	1
BZT52C3V6	W4	3.4	3.6	3.8	5	130	10	1
BZT52C3V9	W5	3.7	3.9	4.1	5	130	5	1
BZT52C4V3	W6	4	4.3	4.6	5	130	5	1
BZT52C4V7	W7	4.4	4.7	5	5	130	2	1
BZT52C5V1	W8	4.8	5.1	5.4	5	130	2	1.5
BZT52C5V6	W9	5.2	5.6	6	5	80	1	2.5
BZT52C6V2	WA	5.8	6.2	6.6	5	50	1	3
BZT52C6V8	WB	6.4	6.8	7.2	5	30	0.5	3.5
BZT52C7V5	WC	7	7.5	7.9	5	30	0.5	4
BZT52C8V2	WD	7.7	8.2	8.7	5	30	0.5	5
BZT52C9V1	WE	8.5	9.1	9.6	5	30	0.5	6
BZT52C10	WF	9.4	10	10.6	5	30	0.1	7
BZT52C11	WG	10.4	11	11.6	5	30	0.1	8
BZT52C12	WH	11.4	12	12.7	5	35	0.1	9
BZT52C13	WI	12.4	13	14.1	5	35	0.1	10
BZT52C15	WJ	13.8	15	15.6	5	40	0.1	11
BZT52C16	WK	15.3	16	17.1	5	40	0.1	12
BZT52C18	WL	16.8	18	19.1	5	45	0.1	13
BZT52C20	WM	18.8	20	21.2	5	50	0.1	15
BZT52C22	WN	20.8	22	23.3	5	55	0.1	17
BZT52C24	WO	22.8	24	25.6	5	60	0.1	19
BZT52C27	WP	25.1	27	28.9	5	70	0.1	21
BZT52C30	WQ	28	30	32	5	80	0.1	23
BZT52C33	WR	31	33	35	5	80	0.1	25
BZT52C36	WS	34	36	38	5	90	0.1	27
BZT52C39	WT	37	39	41	2.5	100	2	30
BZT52C43	WU	40	43	46	2.5	130	2	33
BZT52C47	WV	44	47	50	2.5	150	2	36
BZT52C51	WW	48	51	54	2.5	180	1	39
BZT52C56	XW	52	56	60	2.5	180	1	43
BZT52C62	6E	58	62	66	2.5	200	0.2	47
BZT52C68	6F	64	68	72	2.5	250	0.2	52
BZT52C75	6H	70	75	79	2.5	300	0.2	57

(1) V<sub>ZT</sub> is tested with pulses (20 ms)

## Packing information



unit:mm

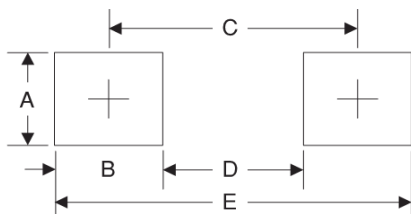
Item	Symbol	Tolerance	SOD-123
Carrier width	A	0.1	2.1
Carrier length	B	0.1	4.0
Carrier depth	C	0.1	1.60
Sprocket hole	d	0.05	1.55
7" Reel outside diameter	D	2.0	178.00
7" Reel inner diameter	D <sub>1</sub>	min	50.0
Feed hole diameter	D <sub>2</sub>	0.5	13.00
Sprocket hole position	E	0.1	1.75
Punch hole position	F	0.1	3.50
Punch hole pitch	P	0.1	4.00
Sprocket hole pitch	P <sub>0</sub>	0.1	4.00
Embossment center	P <sub>1</sub>	0.1	2.00
Overall tape thickness	T	0.1	0.25
Tape width	W	0.3	8.15
Reel width	W <sub>1</sub>	1.0	10.5

Note: Devices are packed in accordance with EIA standard RS-481-A and specifications listed above.

## Reel packing

PACKAGE	REEL SIZE	REEL (pcs)	COMPONENT SPACING (m/m)	BOX (pcs)	INNER BOX (m/m)	REEL DIA, (m/m)	CARTON SIZE (m/m)	CARTON (pcs)	APPROX. GROSS WEIGHT (kg)
SOD-123	7"	3,000	4.0	45,000	210*208*203	178	430*430*235	180,000	9.0

## Suggested Pad Layout



Symbol	Unit (mm)	Unit (inch)
A	1.2	0.047
B	1.2	0.047
C	3.2	0.126
D	2.0	0.079
E	4.4	0.173

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