

# BZT52C2V0WAT THRU BZT52C75WAT

## Surface Mount Zener Diodes

Power Dissipation: 500mW

Zener Voltage: 2.0V to 75V

### FEATURES

- ◆ Total power dissipation: Max. 500mW.
- ◆ Wide zener reverse voltage range 2.0 V to 75V.
- ◆ Small plastic package suitable for surface mounted design.

### PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode



### MECHANICAL DATA

- ◆ Case: SOD-123W
- ◆ Terminals: Solderable per MIL-STD-750, Method 2026
- ◆ Approx. Weight: 16mg 0.00056oz

### Absolute Maximum Ratings And Characteristics (Ta = 25 °C)

Parameter	Symbol	Value	Unit
Power Dissipation	$P_D$	500	mW
Forward Voltage at $I_F = 10$ mA	$V_F$	0.9	V
Typical thermal resistance junction to ambient <sup>(1)</sup>	$R_{\theta JA}$	305	°C/W
Operating and Storage Temperature Range	$T_J, T_{stg}$	-55 ~ +150	°C

(1) Thermal resistance from junction to ambient at P.C.B. mounted with 7.6mm X 9.4mm X 0.87mm copper areas pads.

Fig.1 Maximum Continuous Power Derating

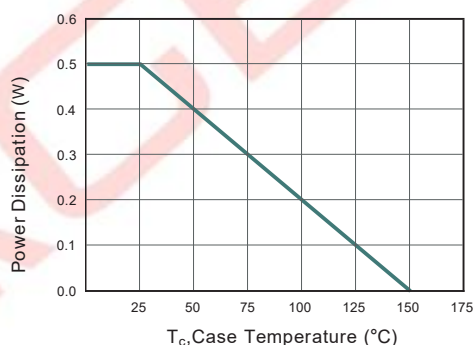
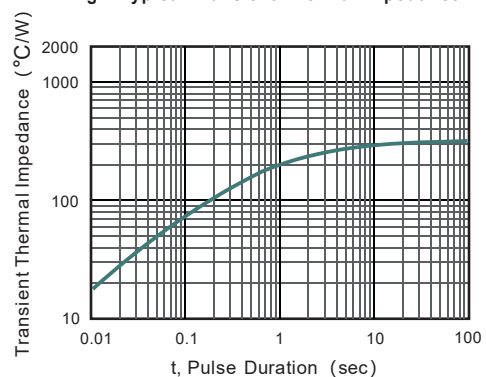


Fig.2 Typical Transient Thermal Impedance



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Characteristics at Ta = 25°C

Type	Marking	Zener Voltage Range <sup>(2)</sup>				Maximum Zener <sup>(3)</sup> Impedance				Reverse Current <sup>(2)</sup>	
		V <sub>ZT</sub> (at I <sub>ZT</sub> )			I <sub>ZT</sub>	Z <sub>ZT</sub> @I <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>
		Min (V)	Nom (V)	Max (V)	(mA)	(Ω)	(mA)	(Ω)	(mA)	μA	V
BZT52C2V0WAT	WY	1.91	2.0	2.09	5	100	5	600	1	150	1.0
BZT52C2V4WAT	WX	2.2	2.4	2.6	5	100	5	600	1	50	1.0
BZT52C2V7WAT	W1	2.5	2.7	2.9	5	100	5	600	1	20	1.0
BZT52C3V0WAT	W2	2.8	3.0	3.2	5	95	5	600	1	10	1.0
BZT52C3V3WAT	W3	3.1	3.3	3.5	5	95	5	600	1	5.0	1.0
BZT52C3V6WAT	W4	3.4	3.6	3.8	5	90	5	600	1	5.0	1.0
BZT52C3V9WAT	W5	3.7	3.9	4.1	5	90	5	600	1	3.0	1.0
BZT52C4V3WAT	W6	4	4.3	4.6	5	90	5	600	1	3.0	1.0
BZT52C4V7WAT	W7	4.4	4.7	5	5	80	5	500	1	3.0	2.0
BZT52C5V1WAT	W8	4.8	5.1	5.4	5	60	5	480	1	2.0	2.0
BZT52C5V6WAT	W9	5.2	5.6	6	5	40	5	400	1	1.0	2.0
BZT52C6V2WAT	WA	5.8	6.2	6.6	5	10	5	150	1	3.0	4.0
BZT52C6V8WAT	WB	6.4	6.8	7.2	5	15	5	80	1	2.0	4.0
BZT52C7V5WAT	WC	7	7.5	7.9	5	15	5	80	1	1.0	5.0
BZT52C8V2WAT	WD	7.7	8.2	8.7	5	15	5	80	1	0.7	5.0
BZT52C9V1WAT	WE	8.5	9.1	9.6	5	15	5	100	1	0.5	6.0
BZT52C10WAT	WF	9.4	10	10.6	5	20	5	150	1	0.2	7.0
BZT52C11WAT	WG	10.4	11	11.6	5	20	5	150	1	0.1	8.0
BZT52C12WAT	WH	11.4	12	12.7	5	25	5	150	1	0.1	8.0
BZT52C13WAT	WI	12.4	13	14.1	5	30	5	170	1	0.1	8.0
BZT52C15WAT	WJ	13.8	15	15.6	5	30	5	200	1	0.1	10.5
BZT52C16WAT	WK	15.3	16	17.1	5	40	5	200	1	0.1	11.2
BZT52C18WAT	WL	16.8	18	19.1	5	45	5	225	1	0.1	12.6
BZT52C20WAT	WM	18.8	20	21.2	5	55	5	225	1	0.1	14.0
BZT52C22WAT	WN	20.8	22	23.3	5	55	5	250	1	0.1	15.4
BZT52C24WAT	WO	22.8	24	25.6	5	70	5	250	1	0.1	16.8
BZT52C27WAT	WP	25.1	27	28.9	2	80	2	300	0.5	0.1	18.9
BZT52C30WAT	WQ	28	30	32	2	80	2	300	0.5	0.1	21.0
BZT52C33WAT	WR	31	33	35	2	80	2	325	0.5	0.1	23.1
BZT52C36WAT	WS	34	36	38	2	90	2	350	0.5	0.1	25.2
BZT52C39WAT	WT	37	39	41	2	130	2	350	0.5	0.1	27.3
BZT52C43WAT	6A	40	43	46	2.5	130	2	500	1	2	33
BZT52C47WAT	6B	44	47	50	2.5	150	2	500	1	2	36
BZT52C51WAT	6C	48	51	54	2.5	180	2	500	1	1	37
BZT52C56WAT	6D	52	56	60	2.5	180	2	500	1	1	43
BZT52C62WAT	6E	58	62	66	2.5	200	2	500	1	0.2	47
BZT52C68WAT	6F	64	68	72	2.5	250	2	500	1	0.2	52
BZT52C75WAT	6H	70	75	79	2.5	300	2	500	1	0.2	57

NOTES: (1) f=1KHz

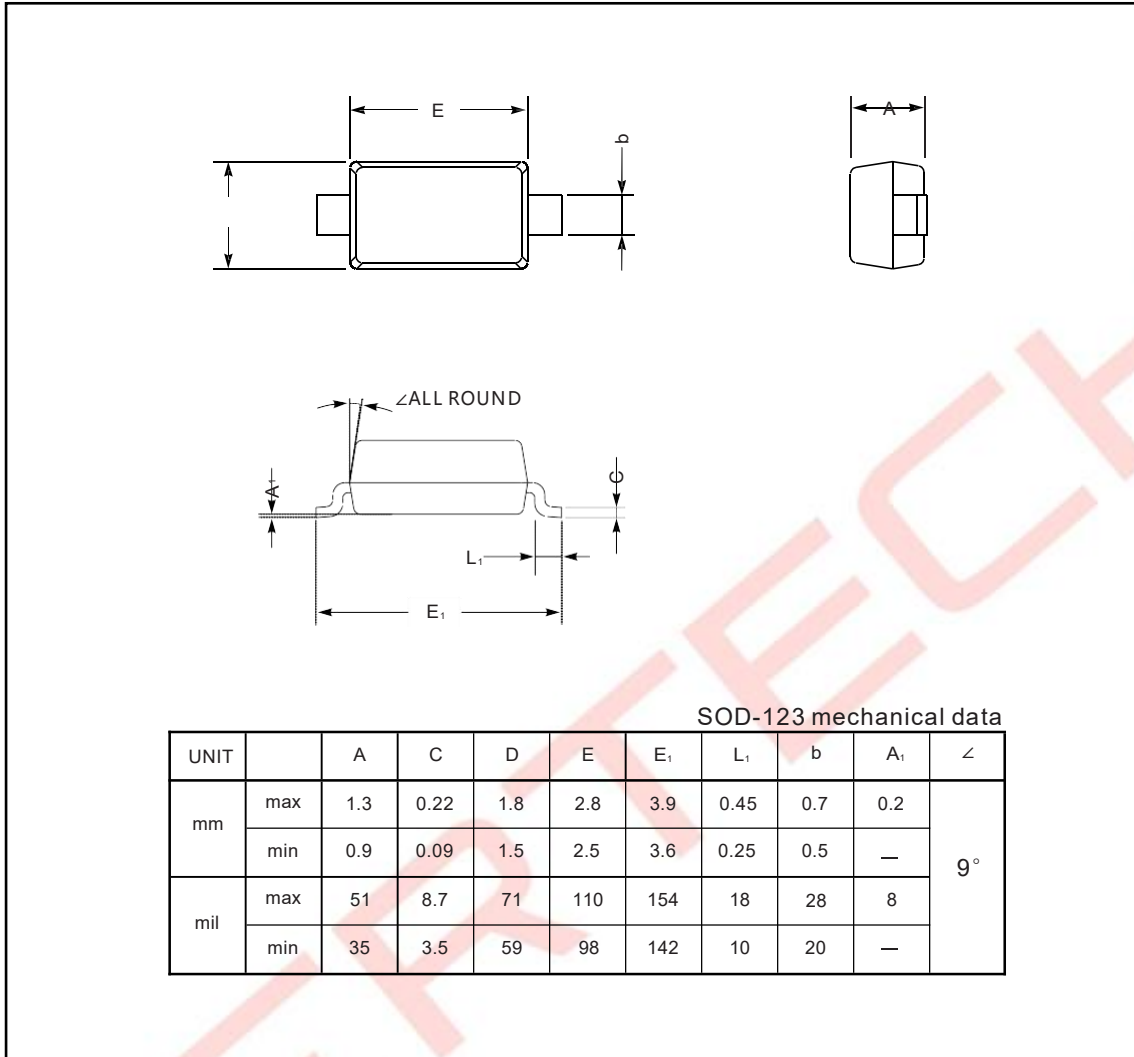
(2) Short duration test pulse used to minimize self-heating effect.

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

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## Package Outline

SOD-123W



### The recommended mounting pad size

