

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

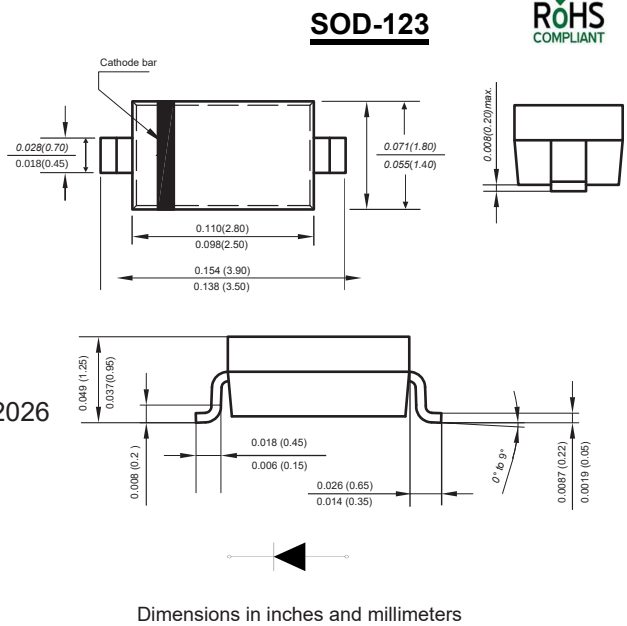
Case : JEDEC SOD-123 Molded plastic body

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



Ordering Information

Type No.	Marking	Package Code	
BZT52C2V0-BZT52C75	See table 2	SOD-123	
MAXIMUM RATING @ Ta=25℃ unless otherwise specified			
Parameter	Symbol	Value	Unit
Forward Voltage @ I _F =10mA	V _F	0.9	V
Power Dissipation	P _d	500	mW
Typical thermal resistance juncting to ambient ⁽¹⁾	R _{θJA}	305	℃/W
Junction temperature	T _j	150	℃
Storage temperature range	T _{stg}	-65-150	℃

(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

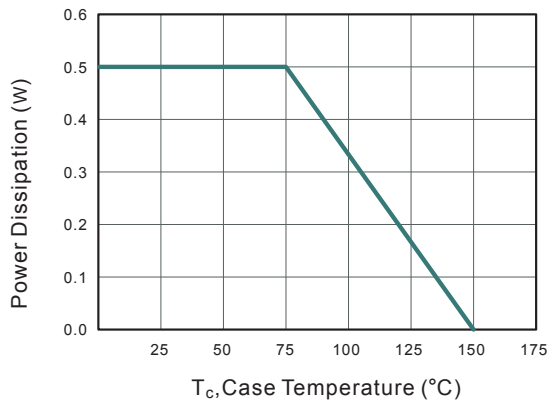


Fig.2 Typical Transient Thermal Impedance

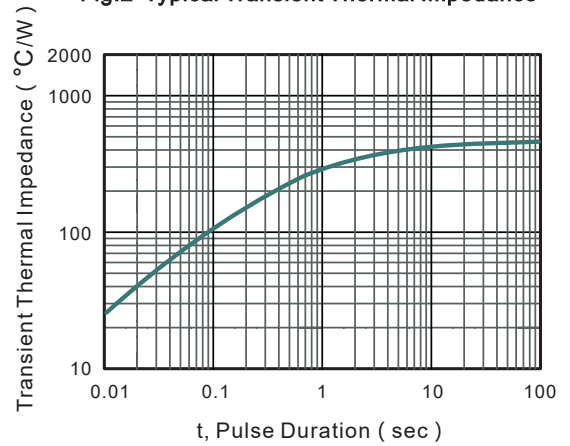
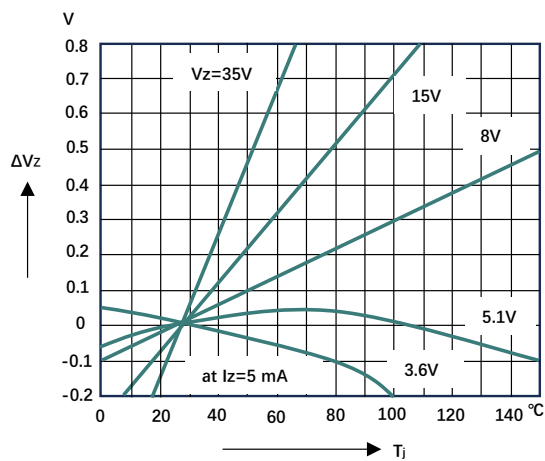


Fig.3 Change of Zener voltage versus junction temperature



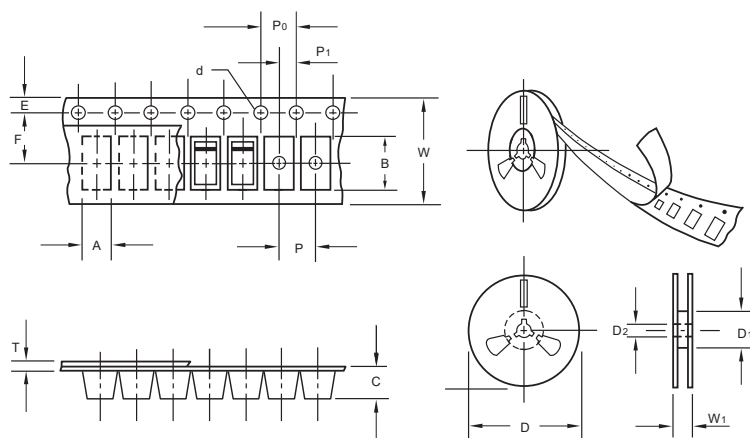
The curve above is for reference only.

ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

Type	Marking	Zener Voltage Range ⁽¹⁾				Dynamic Impedance	Reverse Current	
		V _{ZT} (at I _{ZT})			I _{ZT}	Z _{ZT} (at I _{ZT})	I _R	at V _R
		Min (V)	Nom (V)	Max (V)	(mA)	Max (Ω)	Max (μA)	(V)
BZT52C2V0	WY	1.9	2.0	2.1	5	100	120	0.5
BZT52C2V2	WZ	2.09	2.2	2.31	5	100	120	0.7
BZT52C2V4	WX	2.28	2.4	2.52	5	100	120	1
BZT52C2V7	W1	2.57	2.7	2.84	5	110	120	1
BZT52C3V0	W2	2.85	3.0	3.15	5	120	50	1
BZT52C3V3	W3	3.14	3.3	3.47	5	130	20	1
BZT52C3V6	W4	3.42	3.6	3.78	5	130	10	1
BZT52C3V9	W5	3.71	3.9	4.11	5	130	5	1
BZT52C4V3	W6	4.11	4.3	4.52	5	130	5	1
BZT52C4V7	W7	4.47	4.7	4.94	5	130	2	1
BZT52C5V1	W8	4.85	5.1	5.36	5	130	2	1.5
BZT52C5V6	W9	5.32	5.6	5.88	5	80	1	2.5
BZT52C6V2	WA	5.89	6.2	6.51	5	50	1	3
BZT52C6V8	WB	6.46	6.8	7.14	5	30	0.5	3.5
BZT52C7V5	WC	7.13	7.5	7.88	5	30	0.5	4
BZT52C8V2	WD	7.79	8.2	8.61	5	30	0.5	5
BZT52C9V1	WE	8.65	9.1	9.56	5	30	0.5	6
BZT52C10	WF	9.5	10	10.5	5	30	0.1	7
BZT52C11	WG	10.45	11	11.55	5	30	0.1	8
BZT52C12	WH	11.4	12	12.6	5	35	0.1	9
BZT52C13	WI	12.35	13	13.65	5	35	0.1	10
BZT52C15	WJ	14.25	15	15.75	5	40	0.1	11
BZT52C16	WK	15.2	16	16.8	5	40	0.1	12
BZT52C18	WL	17.1	18	18.9	5	45	0.1	13
BZT52C20	WM	19	20	21	5	50	0.1	15
BZT52C22	WN	20.9	22	23.1	5	55	0.1	17
BZT52C24	WO	22.8	24	25.2	5	60	0.1	19
BZT52C27	WP	25.65	27	28.35	5	70	0.1	21
BZT52C30	WQ	28.5	30	31.5	5	80	0.1	23
BZT52C33	WR	31.35	33	34.65	5	80	0.1	25
BZT52C36	WS	34.2	36	37.8	5	90	0.1	27
BZT52C39	WT	37.05	39	40.95	2.5	100	2	30
BZT52C43	WU	40.85	43	45.15	2.5	130	2	33
BZT52C47	WV	44.65	47	49.35	2.5	150	2	36
BZT52C51	WW	48.45	51	53.55	2.5	180	1	39
BZT52C56	XW	53.2	56	58.8	2.5	180	1	43
BZT52C62	6E	58.9	62	65.1	2.5	200	0.2	47
BZT52C68	6F	64.6	68	71.4	2.5	250	0.2	52
BZT52C75	6H	71.25	75	78.75	2.5	300	0.2	57

(1) V_{ZT} is tested with pulses (20 ms)

Packing information



unit:mm

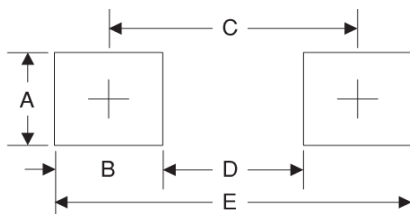
Item	Symbol	Tolerance	SOD-123
Carrier width	A	0.1	2.1
Carrier length	B	0.1	4.0
Carrier depth	C	0.1	1.60
Sprocket hole	d	0.05	1.55
7" Reel outside diameter	D	2.0	178.00
7" Reel inner diameter	D ₁	min	50.0
Feed hole diameter	D ₂	0.5	13.00
Sprocket hole position	E	0.1	1.75
Punch hole position	F	0.1	3.50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