BZT52C2V4S THRU BZT52C75S

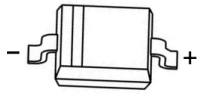
Plastic-encapsulate Zener Diodes

Product data sheet

1. General description

Small signal zener diodes encapsulated in small SOD-323 Surface-Mounted Device (SMD) plastic package.

SOD-323



2. Features

- Planar Die Construction
- 200mW Power Dissipation on Ceramic PCB
- Available in Lead Free Version

3. Applications

- General Purpose, Medium Current
- Ideally Suited for Automated Assembly Processes

4. Quick reference data

Table 1. Quick reference data

Characteristic	Symbol	Value	Unit
Forward Voltage (Note 2) @ I_F = 10mA	V_F	0.9	V
Power Dissipation (Note 1)	P_D	200	mW
Zener Voltage Range	V_Z	2.4-75	V

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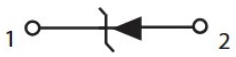
5. Pinning information

Table 2. Pinning information

Pin	Name	Simplified outline	Graphic symbol
1	Cathode		
2	Anode		

6. Ordering information

Table 3. Ordering information

Part number	Package	Material	Packing	Quantity per reel	Flammability rating	Reel size
per table 6	SOD-323	halogen free	tape & reel	3,000pcs	UL 94V-0	7 inches

7. Marking

Table 4. Marking codes

Part number	Marking code
per table 6	per table 6

8. Limiting values and electrical Characteristics

Table 5. Limiting values

Ta=25℃

Characteristic	Symbol	Value	Unit
Forward Voltage (Note 2) @ I_F = 10mA	V_F	0.9	V
Power Dissipation (Note 1)	P_D	200	mW
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	625	℃/W
Junction Temperature	T_J	150	℃
Storage Temperature	T_{STG}	-55~+150	℃

Table 6. Electrical characteristics

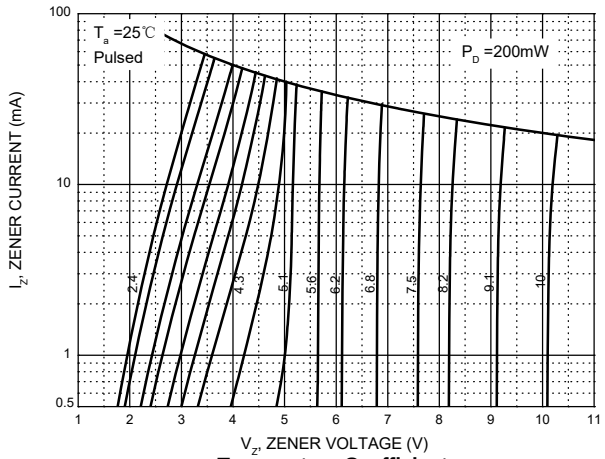
Ta=25℃

Model Number	Marking Code	Zener Voltage Range (note 2)				Maximum Zener Impedance (note 3)			Maximum Reverse Current (note 2)		Typical Temperature Coefficient @ I_{ZTC} mV/ ℃		Test Current I_{ZTC}
		V_Z@I_{ZT}			I_{ZT}	Z_{ZT}@I_{ZT}	Z_{ZK}@I_{ZK}	I_{ZK}	I_R	V_R			
		Nom (V)	Min (V)	Max (V)	mA	Q		mA	uA	V	Min	Max	mA
BZT52C2V4S	WX	2.4	2.2	2.6	5	100	600	1	50	1	-3.5	0	5
BZT52C2V7S	W1	2.7	2.5	2.9	5	100	600	1	20	1	-3.5	0	5
BZT52C3V0S	W2	3	2.8	3.2	5	95	600	1	10	1	-3.5	0	5
BZT52C3V3S	W3	3.3	3.1	3.5	5	95	600	1	5	1	-3.5	0	5
BZT52C3V6S	W4	3.6	3.4	3.8	5	90	600	1	5	1	-3.5	0	5
BZT52C3V9S	W5	3.9	3.7	4.1	5	90	600	1	3	1	-3.5	0	5
BZT52C4V3S	W6	4.3	4	4.6	5	90	600	1	3	1	-3.5	0	5
BZT52C4V7S	W7	4.7	4.4	5	5	80	500	1	3	2	-3.5	0.2	5
BZT52C5V1S	W8	5.1	4.8	5.4	5	60	480	1	2	2	-2.7	1.2	5
BZT52C5V6S	W9	5.6	5.2	6	5	40	400	1	1	2	-2	2.5	5
BZT52C6V2S	WA	6.2	5.8	6.6	5	10	150	1	3	4	0.4	3.7	5
BZT52C6V8S	WB	6.8	6.4	7.2	5	15	80	1	2	4	1.2	4.5	5
BZT52C7V5S	WC	7.5	7	7.9	5	15	80	1	1	5	2.5	5.3	5
BZT52C8V2S	WD	8.2	7.7	8.7	5	15	80	1	0.7	5	3.2	6.2	5
BZT52C9V1S	WE	9.1	8.5	9.6	5	15	100	1	0.5	6	3.8	7	5
BZT52C10S	WF	10	9.4	10.6	5	20	150	1	0.2	7	4.5	8	5
BZT52C11S	WG	11	10.4	11.6	5	20	150	1	0.1	8	5.4	9	5
BZT52C12S	WH	12	11.4	12.7	5	25	150	1	0.1	8	6	10	5
BZT52C13S	WI	13	12.4	14.1	5	30	170	1	0.1	8	7	11	5
BZT52C15S	WJ	15	13.8	15.6	5	30	200	1	0.1	10.5	9.2	13	5
BZT52C16S	WK	16	15.3	17.1	5	40	200	1	0.1	11.2	10.4	14	5
BZT52C18S	WL	18	16.8	19.1	5	45	225	1	0.1	12.6	12.4	16	5
BZT52C20S	WM	20	18.8	21.2	5	55	225	1	0.1	14	14.4	18	5
BZT52C22S	WN	22	20.8	23.3	5	55	250	1	0.1	15.4	16.4	20	5
BZT52C24S	WO	24	22.8	25.6	5	70	250	1	0.1	16.8	18.4	22	5
BZT52C27S	WP	27	25.1	28.9	2	80	300	0.5	0.1	18.9	21.4	25.3	2
BZT52C30S	WQ	30	28	32	2	80	300	0.5	0.1	21	24.4	29.4	2
BZT52C33S	WR	33	31	35	2	80	325	0.5	0.1	23.1	27.4	33.4	2
BZT52C36S	WS	36	34	38	2	90	350	0.5	0.1	25.2	30.4	37.4	2
BZT52C39S	WT	39	37	41	2	130	350	0.5	0.1	27.3	33.4	41.2	2
BZT52C43S	WU	43	40	46	2	100	700	1	0.1	32	10	12	5
BZT52C47S	WV	47	44	50	2	100	750	1	0.1	35	10	12	5
BZT52C51S	WW	51	48	54	2	125	750	1	0.1	38	10	12	5
BZT52C56S	XW	56	52	60	2	135	700	1	0.1	39	10	12	5
BZT52C62S	6E	62	58	66	2	200	1000	1	0.2	47	10	12	5
BZT52C68S	6F	68	64	72	2	250	1000	1	0.2	52	10	12	5
BZT52C75S	6H	75	70	79	2	300	1000	1	0.2	57	10	12	5

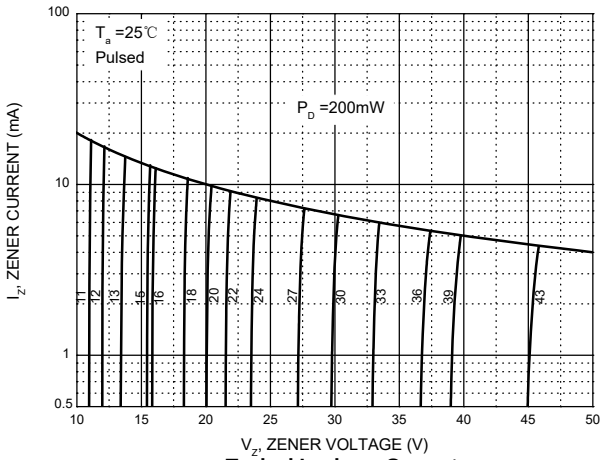
Notes:
1. Device mounted on ceramic PCB: 7.6 mm x 9.4 mm x 0.87 mm with pad areas 25 mm^2
2. Short duration test pulse used to minimize self-heating effect
3. f=1kHz

9. Typical characteristics

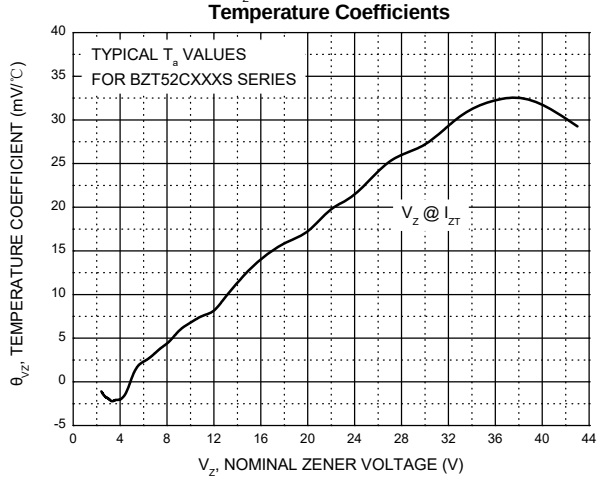
Zener Characteristics (V_Z Up to 10 V)



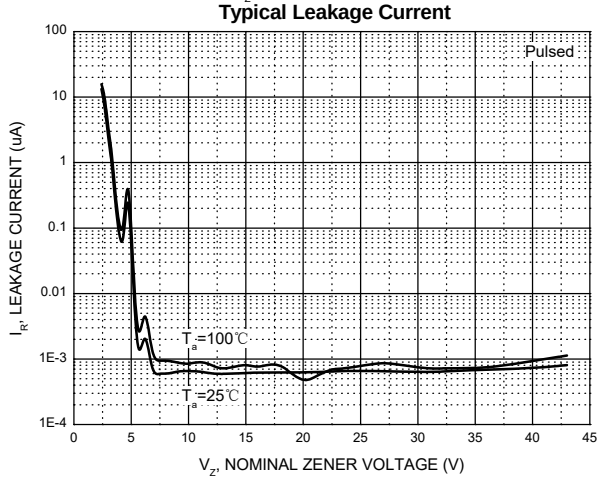
Zener Characteristics (11 V to 43 V)



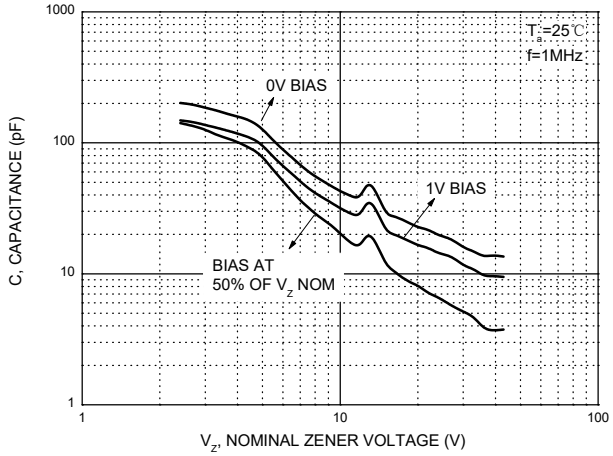
Temperature Coefficients



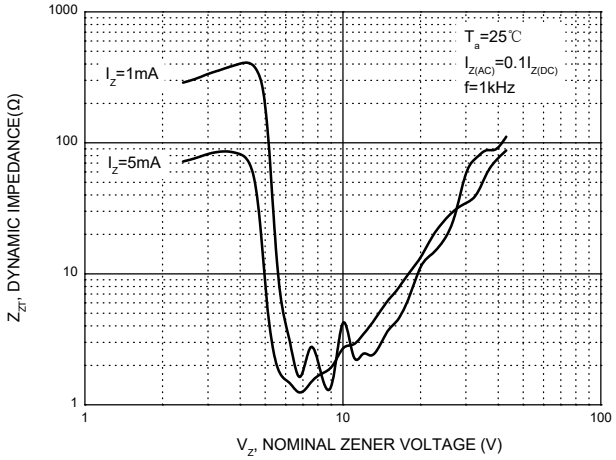
Typical Leakage Current



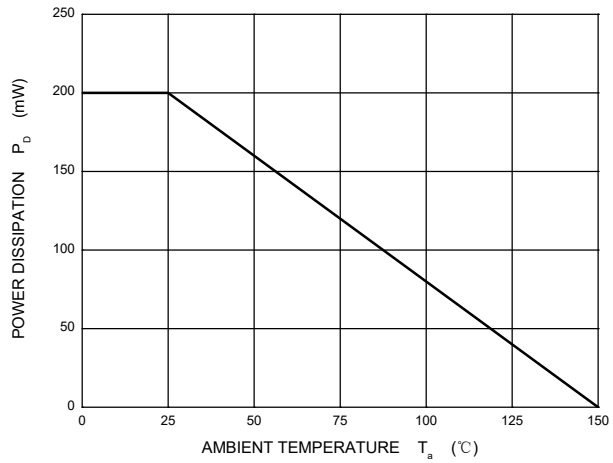
Typical Capacitance



Effect of Zener Voltage on Zener Impedance

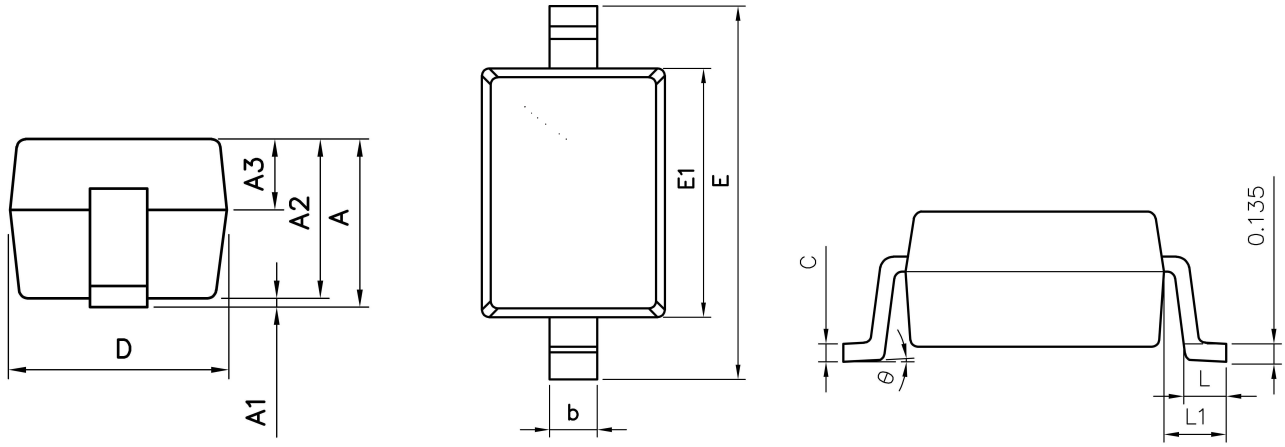


Power Derating Curve



10.Package outline

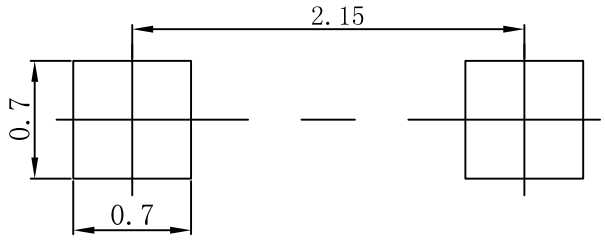
Table 5. SOD323 Package outline



Symbol	Dimension in millimeter		
	Min	Nom	Max
A	0.95	1.0	1.05
A1	0.0	0.05	0.1
A2	0.85	0.90	0.95
A3	0.35	0.40	0.45
b	0.30	0.35	0.40
c	0.127	0.131	0.135
D	1.20	1.25	1.30
E	2.50	2.65	2.80
E1	1.65	1.70	1.75
L	0.20	0.30	0.40
L1	0.45		0.65
θ	0°	3°	8°

11.Suggested pad layout

Table 6. Suggested pad layout



Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.05mm.
3.The pad layout is for reference purposes only.

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