

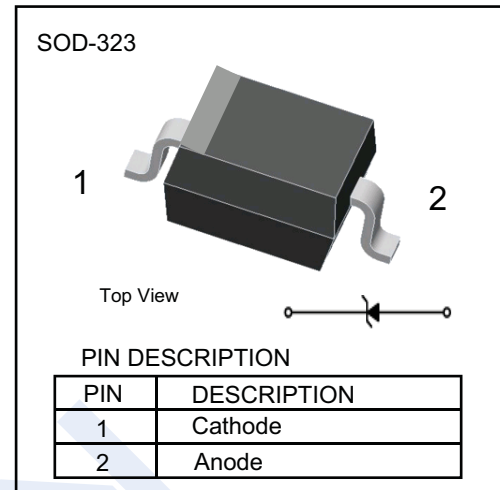
## Zener Diodes

### BZT52C2V4S ~ BZT52C51S

(KZT52C2V4S ~ KZT52C51S)

#### ■ Features

- 200mW Power Dissipation
- 2.4 – 51V Nominal Zener Voltage
- Designed for Surface Mount Application
- Planar Die Construction



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

Parameter	Symbol	Rating	Unit
Forward Voltage @ $I_F = 10\text{mA}$	$V_F$	0.9	V
Power Dissipation (Note.1)	$P_d$	200	mW
Thermal Resistance Junction to Ambient (Note.1)	$R_{\theta JA}$	625	$^\circ\text{C}/\text{W}$
Junction Temperature	$T_J$	150	$^\circ\text{C}$
Storage Temperature range	$T_{stg}$	-65 to 150	

Note.1: Valid provided that device terminals are kept at ambient temperature.

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■ Electrical Characteristics Ta = 25°C

Type Number (Note 1)	Device Marking Code	Zener Voltage Range (Note 2)			Maximum Zener Impedance (Note 3)				Max Reverse Leakage Current		Temp. Coefficient of Zener Voltage @ IZT mV / °C	
		Vz @ IZT			ZZT @ IZT		ZZK @ IZK		IR	@ VR	Min	Max
		Nom (V)	Min (V)	Max (V)	(Ω)	(mA)	(Ω)	(mA)	(μA)	(V)		
BZT52C2V4S	Z0	2.4	2.28	2.52	85	5.0	600	1.0	100	1.0	-3.5	0
BZT52C2V7S	Z1	2.7	2.57	2.84	83	5.0	600	1.0	75	1.0	-3.5	0
BZT52C3S	Z2	3.0	2.85	3.15	95	5.0	600	1.0	50	1.0	-3.5	0
BZT52C3V3S	Z3	3.3	3.14	3.47	95	5.0	600	1.0	25	1.0	-3.5	0
BZT52C3V6S	Z4	3.6	3.42	3.78	95	5.0	600	1.0	15	1.0	-3.5	0
BZT52C3V9S	Z5	3.9	3.71	4.10	95	5.0	600	1.0	10	1.0	-3.5	0
BZT52C4V3S	Z6	4.3	4.09	4.52	95	5.0	600	1.0	5.0	1.0	-3.5	0
BZT52C4V7S	Z7	4.7	4.47	4.94	78	5.0	500	1.0	5.0	1.0	-3.5	0.2
BZT52C5V1S	Z8	5.1	4.85	5.36	60	5.0	480	1.0	0.1	0.8	-2.7	1.2
BZT52C5V6S	Z9	5.6	5.32	5.88	40	5.0	400	1.0	0.1	1.0	-2.0	2.5
BZT52C6V2S	ZA	6.2	5.89	6.51	10	5.0	150	1.0	0.1	2.0	0.4	3.7
BZT52C6V8S	ZB	6.8	6.46	7.14	8.0	5.0	80	1.0	0.1	3.0	1.2	4.5
BZT52C7V5S	ZC	7.5	7.13	7.88	7.0	5.0	80	1.0	0.1	5.0	2.5	5.3
BZT52C8V2S	ZD	8.2	7.79	8.61	7.0	5.0	80	1.0	0.1	6.0	3.2	6.2
BZT52C9V1S	ZE	9.1	8.65	9.56	10	5.0	100	1.0	0.1	7.0	3.8	7.0
BZT52C10S	ZF	10	9.50	10.50	15	5.0	150	1.0	0.1	7.5	4.5	8.0
BZT52C11S	ZG	11	10.45	11.55	20	5.0	150	1.0	0.1	8.5	5.4	9.0
BZT52C12S	ZH	12	11.40	12.60	20	5.0	90	1.0	0.1	9.0	6.0	9.0
BZT52C13S	ZJ	13	12.35	13.65	25	5.0	170	1.0	0.1	10	7.0	11
BZT52C15S	ZK	15	14.25	15.75	30	5.0	200	1.0	0.1	11	9.2	13
BZT52C16S	ZL	16	15.20	16.80	40	5.0	200	1.0	0.1	12	10.4	14
BZT52C18S	ZM	18	17.10	18.90	50	5.0	225	1.0	0.1	14	12.4	16
BZT52C20S	ZN	20	19.00	21.00	50	5.0	225	1.0	0.1	15	14.4	18
BZT52C22S	ZP	22	20.90	23.10	55	5.0	250	1.0	0.1	17	16.4	20
BZT52C24S	ZR	24	22.80	25.20	80	5.0	250	1.0	0.1	18	18.4	22
BZT52C27S	ZS	27	25.65	28.35	80	5.0	300	1.0	0.1	20	21.4	25.3
BZT52C30S	ZT	30	28.50	31.50	80	5.0	300	1.0	0.1	22.5	24.4	29.4
BZT52C33S	ZU	33	31.35	34.65	80	5.0	325	1.0	0.1	25	27.4	33.4
BZT52C36S	ZV	36	34.20	37.80	90	5.0	350	1.0	0.1	27	30.4	37.4
BZT52C39S	ZW	39	37.05	40.95	90	5.0	350	1.0	0.1	29	33.4	41.2
BZT52C43S	ZX	43	40.85	45.15	100	5.0	700	1.0	0.1	32	10.0	12
BZT52C47S	ZY	47	44.65	49.35	100	5.0	750	1.0	0.1	35	10.0	12
BZT52C51S	Z-	51	48.45	53.55	100	5.0	750	1.0	0.1	38	10.0	12

Note: 1. Type numbers listed have standard tolerance on the nominal zener voltage of ±5%.

2. Measured with pulses  $t_p = 5\text{ms}$ .

3.  $f = 1\text{KHz}$

## Zener Diodes

### BZT52C2V4S ~ BZT52C51S (KZT52C2V4S ~ KZT52C51S)

■ Typical Characteristics

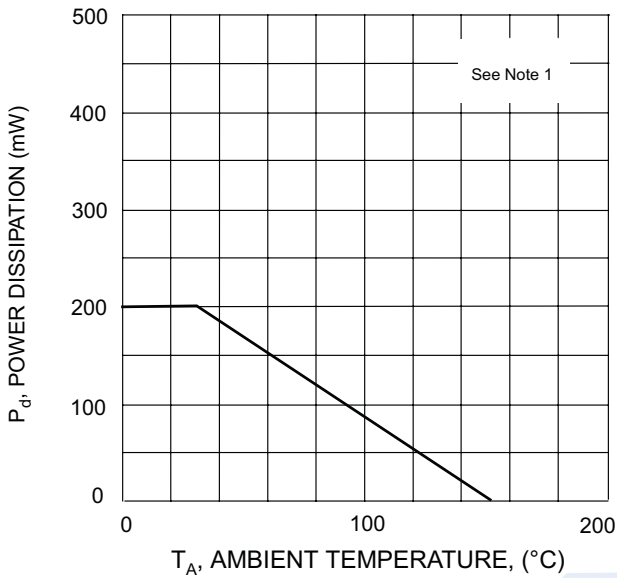


Fig. 1 Power Derating Curve

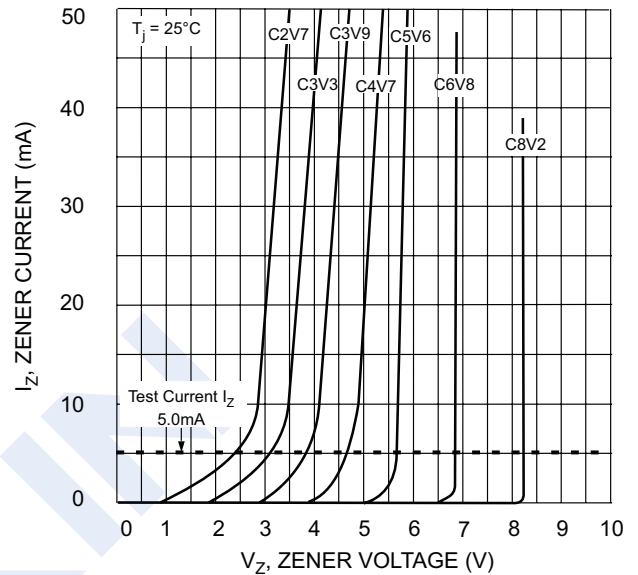


Fig. 2 Zener Breakdown Characteristics

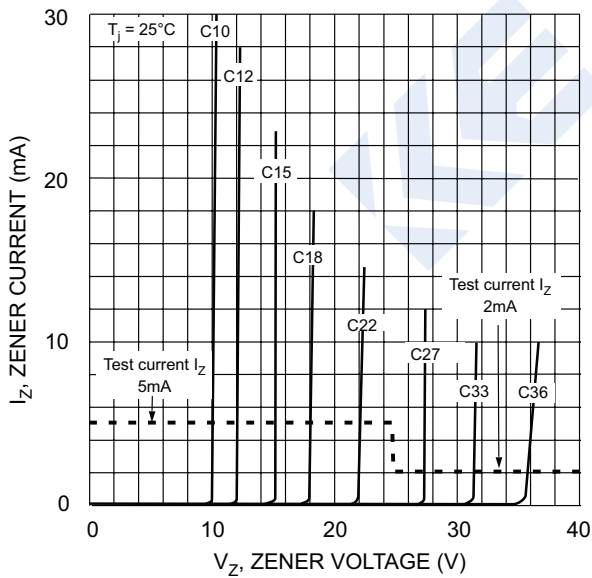


Fig. 3 Zener Breakdown Characteristics

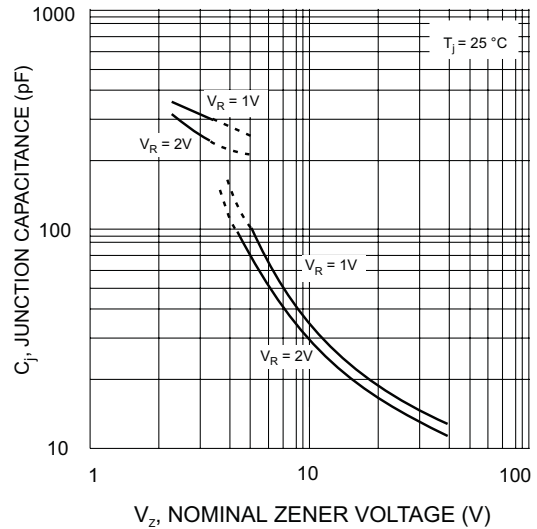


Fig. 4 Junction Capacitance vs Nominal Zener Voltage

## Zener Diodes

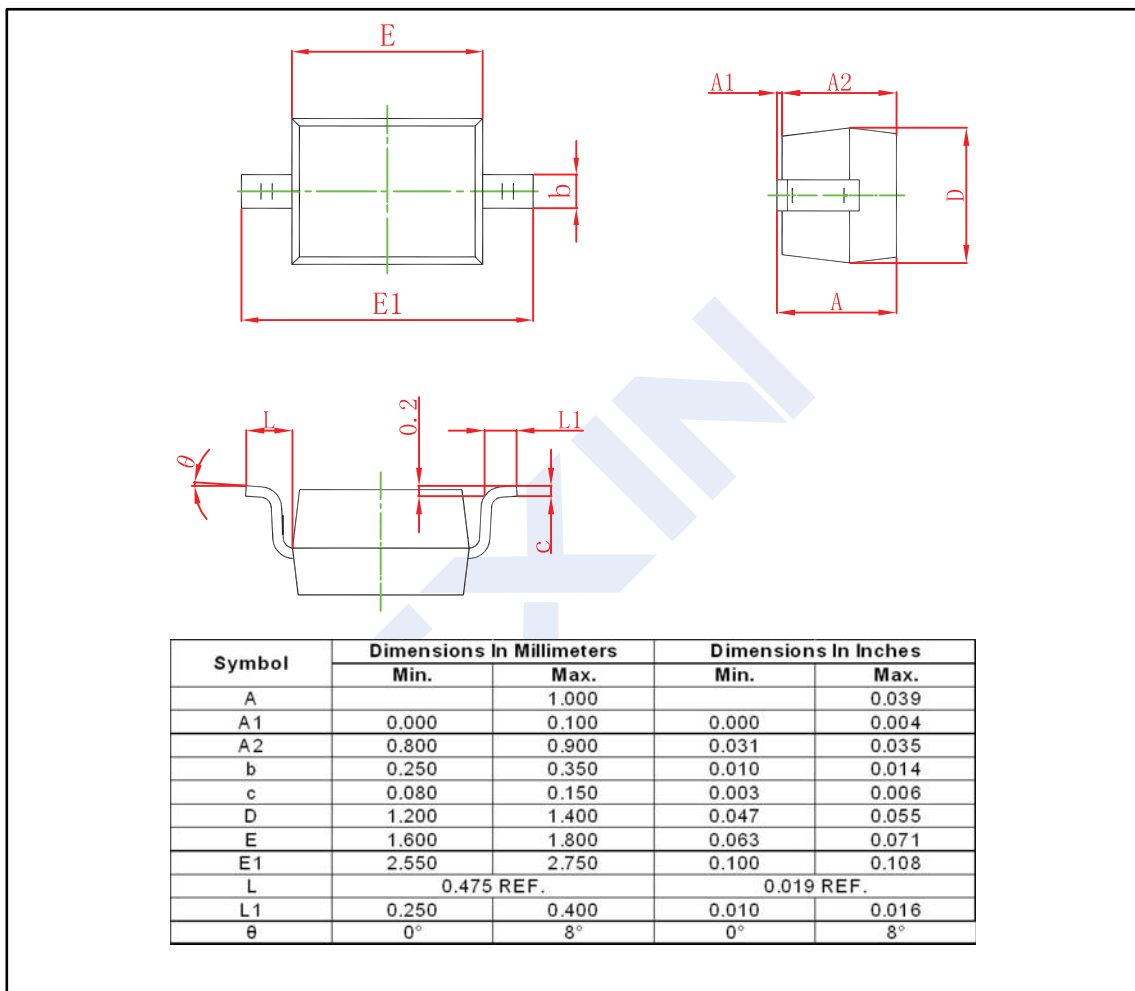
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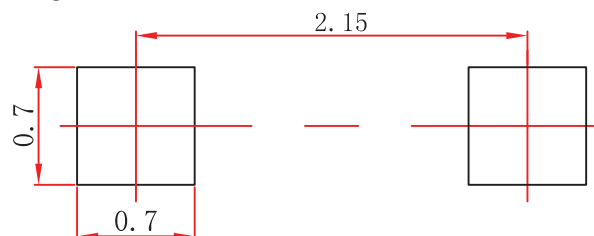
#### ■ Package Outline Dimensions

Plastic surface mounted package; 2 leads

SOD-323



#### ■ The Recommended Mounting Pad Size



#### Note:

1. Controlling dimension: in millimeters.
2. General tolerance:  $\pm 0.05\text{mm}$ .
3. The pad layout is for reference purposes only.