

BZT52B2V4S-BZT52B39S

SOD323 Plastic-Encapsulate Diodes

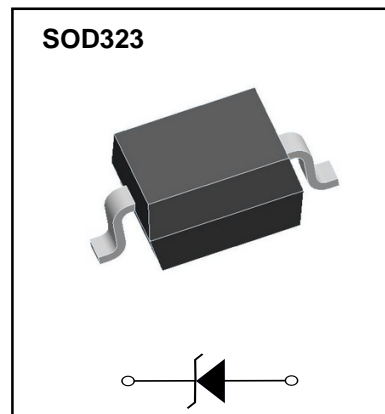
Zener Diodes

Features

- P_d 200mW
- V_z 2.4V- 39V

Applications

- Stabilizing Voltage



Limiting Values (Absolute Maximum Rating)

Item	Symbol	Unit	Conditions	Max
Power dissipation	P_d	mW	$T_A=25^\circ\text{C}$	200
Zener current	I_z	mA		10
Maximum junction temperature	T_j	$^\circ\text{C}$		150
Storage temperature range	T_{stg}	$^\circ\text{C}$		-65 to +150

Electrical Characteristics ($T_A=25^\circ\text{C}$ Unless otherwise specified)

Item	Symbol	Unit	Conditions	Max
Thermal resistance	$R_{\theta JA}$	$^\circ\text{C/W}$	Between junction and ambient	625
Forward voltage	V_F	V	$I_F = 10\text{mA}$	0.9

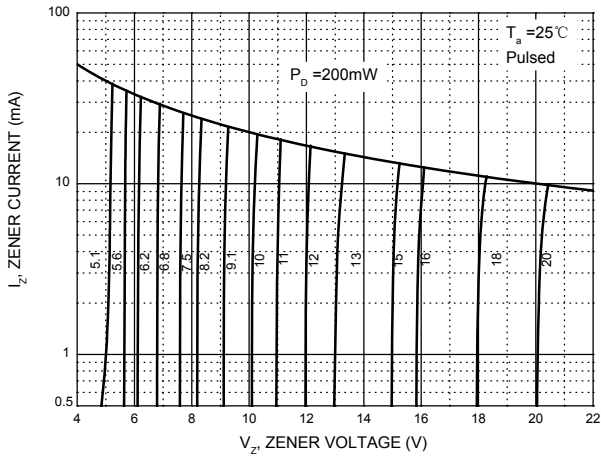
Electrical Characteristics ($T_A=25^\circ\text{C}$ unless otherwise noted)

Type Number	Type Code	Zener Voltage Range (Note 2)				Maximum Zener Impedance (Note 3)			Maximum Reverse Current		Typical Temperature Coefficient @ I_{ZTC} mV/ $^\circ\text{C}$		Test Current I_{ZTC}
		$V_Z@I_{ZT}$			I_{ZT}	$Z_{ZT}@I_{ZT}$	$Z_{ZK}@I_{ZK}$	I_{ZK}	I_R	V_R	Min	Max	mA
		Nom(V)	Min(V)	Max(V)	mA	Ω	mA	μA	V				
BZT52B2V4S	2WX	2.4	2.35	2.45	5	100	600	1.0	50	1.0	-3.5	0	5
BZT52B2V7S	2W1	2.7	2.65	2.75	5	100	600	1.0	20	1.0	-3.5	0	5
BZT52B3V0S	2W2	3.0	2.94	3.06	5	95	600	1.0	10	1.0	-3.5	0	5
BZT52B3V3S	2W3	3.3	3.23	3.37	5	95	600	1.0	5	1.0	-3.5	0	5
BZT52B3V6S	2W4	3.6	3.53	3.67	5	90	600	1.0	5	1.0	-3.5	0	5
BZT52B3V9S	2W5	3.9	3.82	3.98	5	90	600	1.0	3	1.0	-3.5	0	5
BZT52B4V3S	2W6	4.3	4.21	4.39	5	90	600	1.0	3	1.0	-3.5	0	5
BZT52B4V7S	2W7	4.7	4.61	4.79	5	80	500	1.0	3	2.0	-3.5	0.2	5
BZT52B5V1S	2W8	5.1	5.00	5.20	5	60	480	1.0	2	2.0	-2.7	1.2	5
BZT52B5V6S	2W9	5.6	5.49	5.71	5	40	400	1.0	1	2.0	-2.0	2.5	5
BZT52B6V2S	2WA	6.2	6.08	6.32	5	10	150	1.0	3	4.0	0.4	3.7	5
BZT52B6V8S	2WB	6.8	6.66	6.94	5	15	80	1.0	2	4.0	1.2	4.5	5
BZT52B7V5S	2WC	7.5	7.35	7.65	5	15	80	1.0	1	5.0	2.5	5.3	5
BZT52B8V2S	2WD	8.2	8.04	8.36	5	15	80	1.0	0.7	5.0	3.2	6.2	5
BZT52B9V1S	2WE	9.1	8.92	9.28	5	15	100	1.0	0.5	6.0	3.8	7.0	5
BZT52B10S	2WF	10	9.80	10.20	5	20	150	1.0	0.2	7.0	4.5	8.0	5
BZT52B11S	2WG	11	10.78	11.22	5	20	150	1.0	0.1	8.0	5.4	9.0	5
BZT52B12S	2WH	12	11.76	12.24	5	25	150	1.0	0.1	8.0	6.0	10.0	5
BZT52B13S	2WI	13	12.74	13.26	5	30	170	1.0	0.1	8.0	7.0	11.0	5
BZT52B15S	2WJ	15	14.70	15.30	5	30	200	1.0	0.1	10.5	9.2	13.0	5
BZT52B16S	2WK	16	15.68	16.32	5	40	200	1.0	0.1	11.2	10.4	14.0	5
BZT52B18S	2WL	18	17.64	18.36	5	45	225	1.0	0.1	12.6	12.4	16.0	5
BZT52B20S	2WM	20	19.60	20.40	5	55	225	1.0	0.1	14.0	14.4	18.0	5
BZT52B22S	2WN	22	21.56	22.44	5	55	250	1.0	0.1	15.4	16.4	20.0	5
BZT52B24S	2WO	24	23.52	24.48	5	70	250	1.0	0.1	16.8	18.4	22.0	5
BZT52B27S	2WP	27	26.46	27.54	2	80	300	0.5	0.1	18.9	21.4	25.3	2
BZT52B30S	2WQ	30	29.40	30.60	2	80	300	0.5	0.1	21.0	24.4	29.4	2
BZT52B33S	2WR	33	32.34	33.66	2	80	325	0.5	0.1	23.1	27.4	33.4	2
BZT52B36S	2WS	36	35.28	36.72	2	90	350	0.5	0.1	25.2	30.4	37.4	2
BZT52B39S	2WT	39	38.22	39.78	2	130	350	0.5	0.1	27.3	33.4	41.2	2

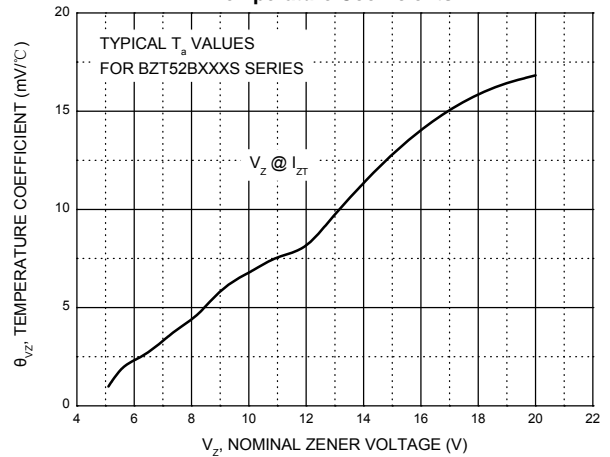
- Notes: 1. Device mounted on ceramic PCB: 7.6mm x 9.4mm x 0.87mm with pad areas 25mm².
2. Short duration test pulse used to minimize self-heating effect.
3. f = 1kHz.

Typical Characteristics

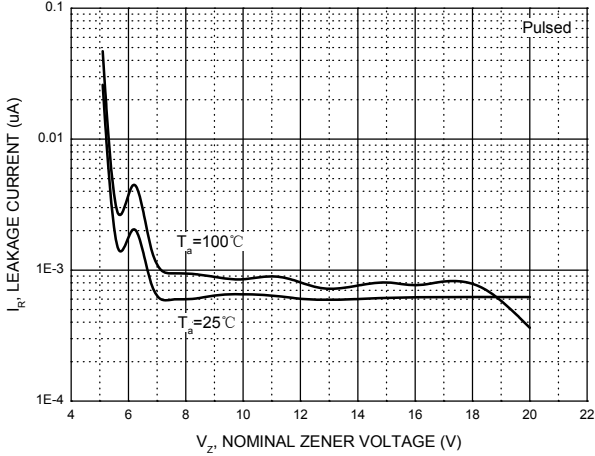
Zener Characteristics (V_z 5.1V to 20 V)



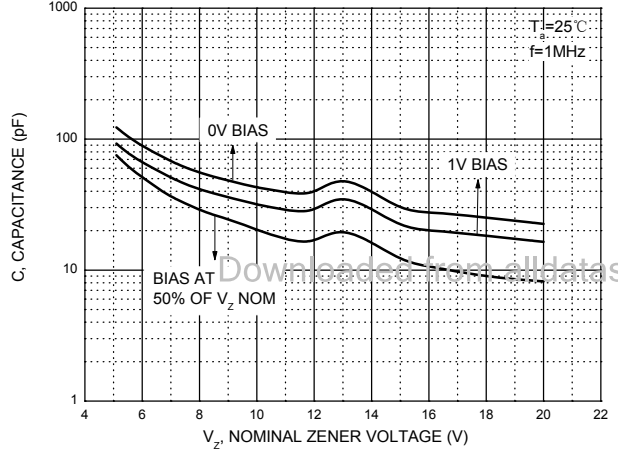
Temperature Coefficients



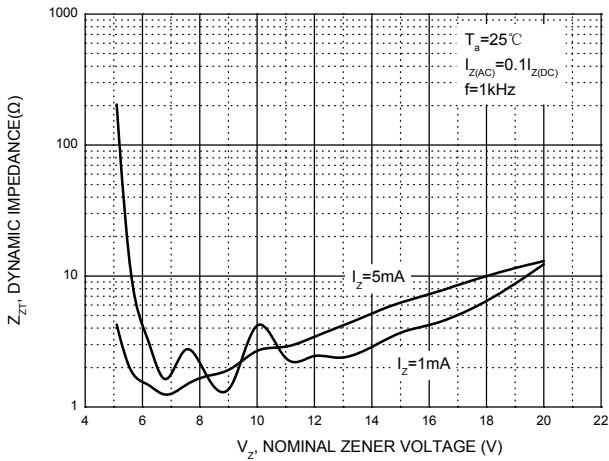
Typical Leakage Current



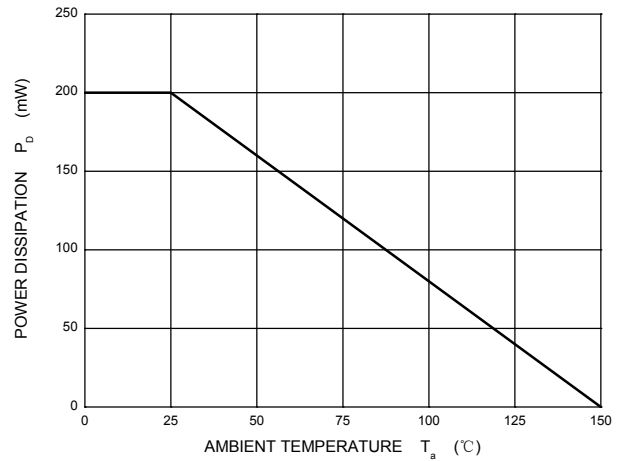
Typical Capacitance



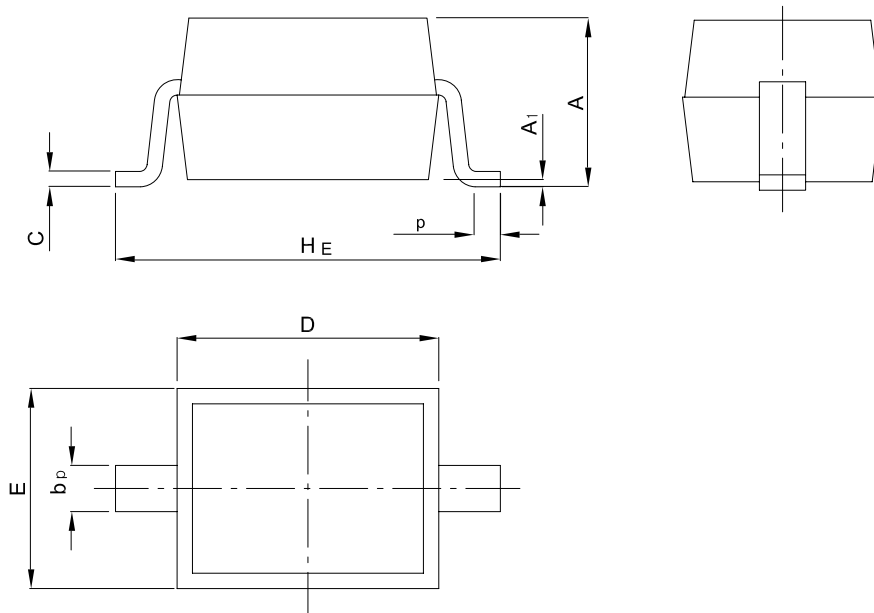
Effect of Zener Voltage on Zener Impedance



Power Derating Curve



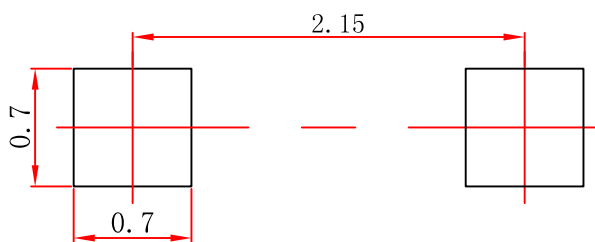
SOD323 Package Outline Dimensions



UNIT	A	bp	C	D	E	HE	A1	Lp
mm	1.20	0.40	0.15	1.80	1.35	2.80	0.10	0.50
	0.90	0.25	0.10	1.60	1.15	2.30	0.01	0.20

Downloaded from alldatasheet.com

SOD323 Suggested Pad Layout



Note:

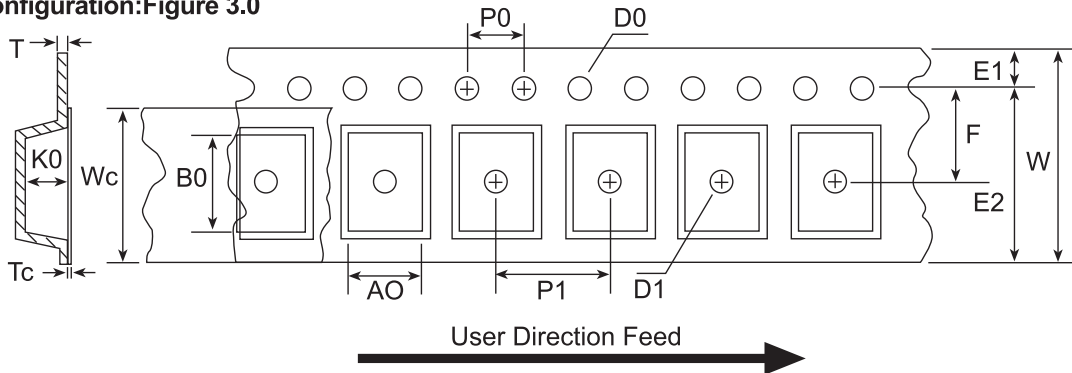
1. Controlling dimension: in millimeters.
2. General tolerance: ± 0.05 mm.
3. The pad layout is for reference purposes only.

NOTICE

JSHD reserve the right to make modifications, enhancements, improvements, corrections or other changes without further notice to any product herein. JSHD does not assume any liability arising out of the application or use of any product described herein.

Reel Taping Specifications For Surface Mount Devices-SOD323

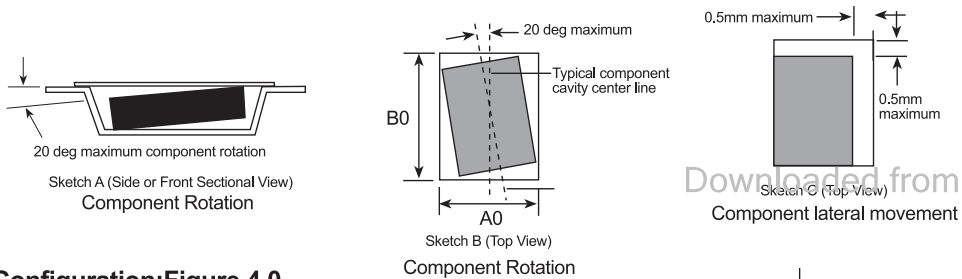
SOD323 Embossed Carrier Tape Configuration: Figure 3.0



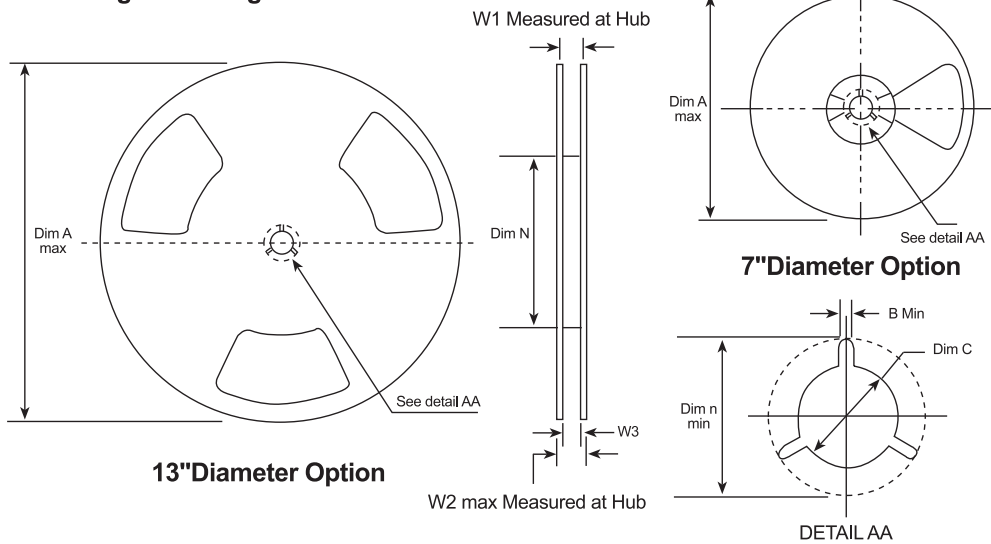
Dimensions are millimeter

Pkg type	A0	B0	W	D0	D1	E1	E2	F	P1	P0	K0	T	Wc	Tc
SOD323 (8mm)	1.46 +/-0.10	2.9 +/-0.10	8.0 +/-0.3	1.50 +/-0.125	1.125 +/-0.125	1.75 +/-0.10	6.25 min	3.50 +/-0.05	4.0 +/-0.10	4.0 +/-0.10	1.25 +/-0.10	0.25 +/-0.020	5.2 +/-0.20	0.06 +/-0.02

Notes: A0, B0 and K0 dimensions are determined with respect to the EW Jedec RS-481 rotational and lateral movement requirements (see sketches A, B and C).



SOD323 Reel Configuration: Figure 4.0



Dimensions are in inches and millimeter

Type Size	Reel Option	Dim A	Dim B	Dim C	Dim D	Dim N	Dim W1	Dim W2	Dim W3 (LSL-USL)
8mm	7" Dia	7.00 177.8	0.059 1.5	512+0.020/-0.008 13+0.5/-0.2	0.795 20.0	2.165 55	0.331+0.059/-0.000 8.4+1.5/0	0.567 14.4	0.311-0.429 7.9-10.9
8mm	13" Dia	13.00 330	0.059 1.5	512+0.020/-0.008 13+0.5/-0.2	0.795 20.0	4.00 100	0.331+0.059/-0.000 8.4+1.5/0	0.567 14.4	0.311-0.429 7.9-10.9