

SOD-323 Plastic-Encapsulate Diodes

BZT52B2V0S-BZT52B75S ZENER DIODE

SOD-323



FEATURES

- Total power dissipation: Max. 300mW
- Wide zener reverse voltage range 2.0V to 75V.
- Small plastic package suitable for surface mounted design.
- Tolerance approximately $\pm 2\%$

Mechanical Data

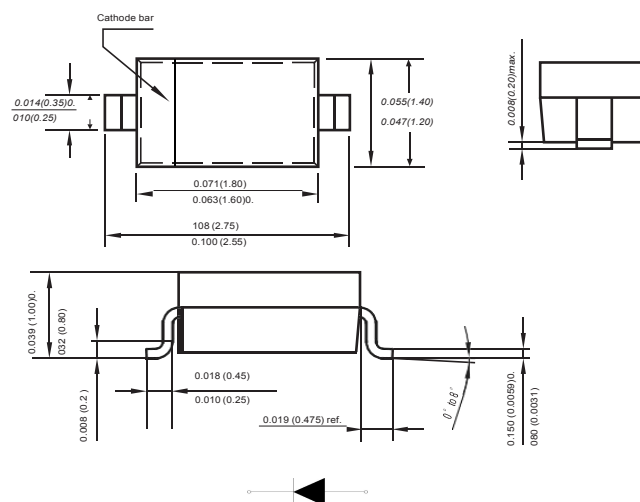
Case : SOD-323

Terminals : Solderable per MIL-STD-750, Method 2026

Polarity : Polarity symbol marking on body

Mounting Position : Any

Weight : 0.00019 ounce, 0.00548 grams



Dimensions in inches and (millimeters)

Maximum Ratings(Ta=25 °C unless otherwise specified)

Characteristic	Symbol	Value	Unit
Forward Voltage at $I_F = 10\text{mA}$ (Note 2)	V_F	0.9	V
Power Dissipation(Note 1)	P_d	300	mW
Typical thermal resistance from junction to ambient(Note 1)	$R_{\theta JA}$	417	°C/W
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	-55 ~ +150	°C

Notes: 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.

2..Short duration test pulse used to minimize self-heating effect3

..f = 1kHz

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) 0
BZT52B2V0S	20B	1.96 2.	2	2.04 2.	5	100	120	.5
BZT52B2V2S	20C	16 2.	2.2 2	24 2.	5	100	120	0.7
BZT52B2VS4	2C1	35 2.	.4 2.	45 2.	5	100	120	1 1
BZT52B2V7S	2D1	65 2.	7	75 3.	5	110	120	1 1
BZT52B3VS0	2E1	94 3.	3	06 3.	5	120	50	1 1
BZT52B3VS3	2F1	23 3.	3.3 3.	37 3.	5	130	20	1 1
BZT52B3V6S	2H1	53 3.	63.9	67 3.	5	130	10	1.5
BZT52B3VS9	2J1	82 4.	4.3 4.	98 4.	5	130	55	2.5
BZT52B4V3S	2K1	21 4.	75.1	39 4.	5	130	22	
BZT52B4V7S	2M1	61	5.6 6.	79 5.	5	130	1 1	
BZT52B5V1S	2N1	5	26.8	20 5.	5	130		
BZT52B5V6S	2P1	5.49 6	7.5 8.	71 6.	5	80		
BZT52B6V2S	2R1	.08 6.	29.1	32 6.	5	50		33.
BZT52B6V8S	2X1	66 7.		94 7.	5	30	0.5 0	5
BZT52B7V5S	2Y1	35 8.		65 8.	5	30	.5 0.	45
BZT52B8V2S	2Z1	04 8.		36 9.	5	30	50.5	67
BZT52B9V1S	2A2	92		28 10.	5	30	0.1 0	89
BZT52B10S	2B2	9.8	10	2	5	30	.1 0.	
BZT52B11S	2C2	10.78	11	11.22	5	30	10.1	
BZT52B12S	2D2	11.76	12	12.24	5	35	0.1 0	
BZT52B13S	2E2	12.74	13	13.26	5	35	.1 0.	10
BZT52B15S	2F2	14.7	15	15.3	5	40	10.1	11
BZT52B16S	2H2	15.68	16	16.32	5	40	0.1 0	12
BZT52B18S	2J2	17.64	18	18.36	5	45	.1 0.	13
BZT52B20S	2K2	19.6	20	20.4	5	50	10.1	15
BZT52B22S	2M2	21.56	22	22.44	5	55	0.1 0	17
BZT52B24S	2N2	23.52	24	24.48	5	60	.1 0.	19
BZT52B27S	2P2	26.46	27	27.54	2	70	10.1	21
BZT52B30S	2R2	29.4	30	30.6	2	80	0.1 0	23
BZT52B33S	2X2	32.34	33	33.66	2	80	.1 0.	25
BZT52B36S	2Y2	35.28	36	36.72	2	90	10.1	27
BZT52B39S	2Z2	38.22	39	39.78	2	100	0.1 0	30
BZT52B43S	2A3	42.14	43	43.86	2	130	.1	33
BZT52B47S	2B3	46.06	47	47.94	2	150		36
BZT52B51S	2C3	49.98	51	52.02	2	180		39
BZT52B56S	2D3	54.88	56	57.12	2	200		43
BZT52B62S	2E3	60.76	62	63.24	2	215		47
BZT52B68S	2F3	66.64	68	69.36	2	240		52
BZT52B75S	2H3	73.5	75	76.5	2	265		56

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

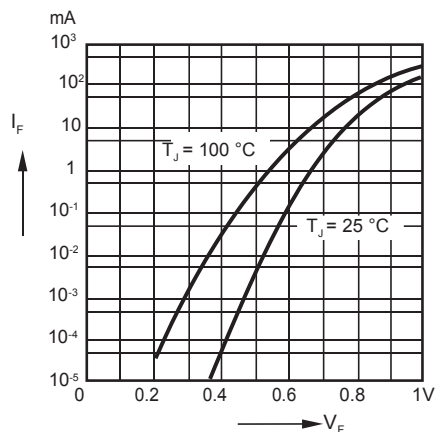


Fig. 1 - Forward characteristics

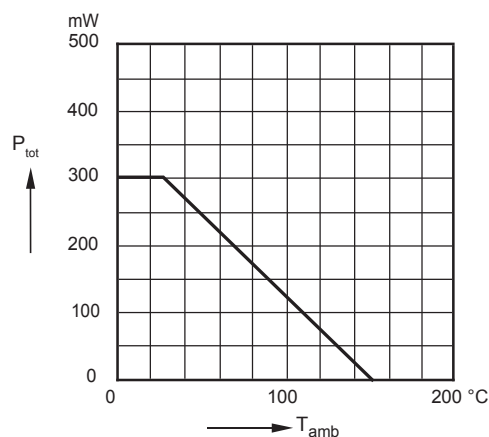


Fig. 2 - Admissible Power Dissipation vs. Ambient Temperature

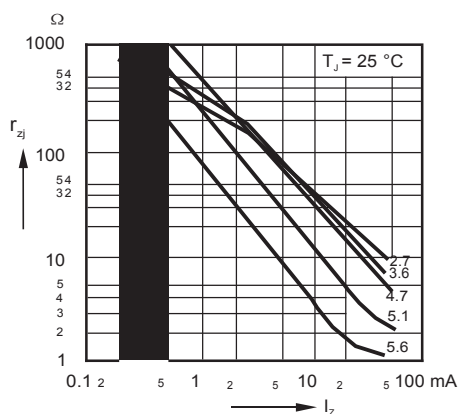


Fig. 3 - Dynamic Resistance vs. Zener Current

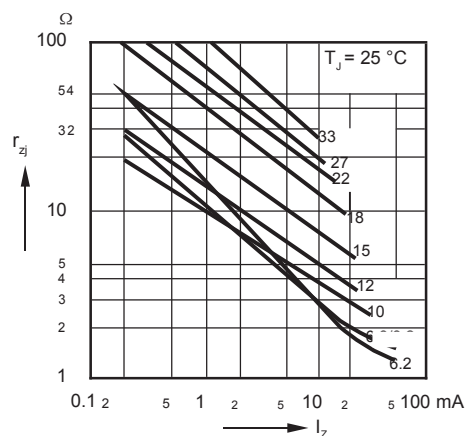


Fig. 4 - Dynamic Resistance vs. Zener Current

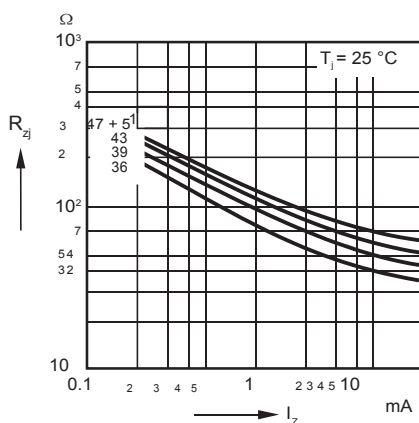


Fig. 5 - Dynamic Resistance vs. Zener Current

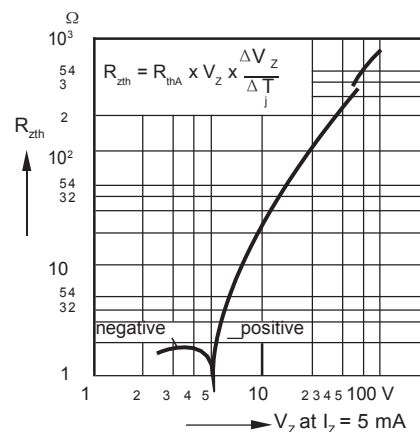


Fig. 6 - Thermal Differential Resistance vs. Zener Voltage

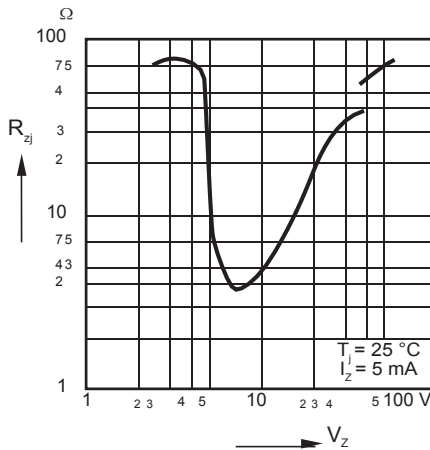


Fig. 7 - Dynamic Resistance vs. Zener Voltage

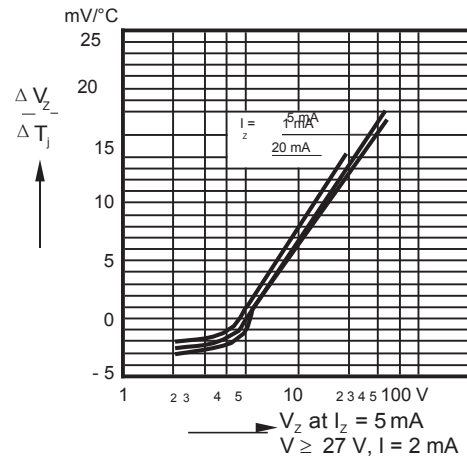


Fig. 8 - Temperature Dependence of Zener Voltage vs. Zener Voltage

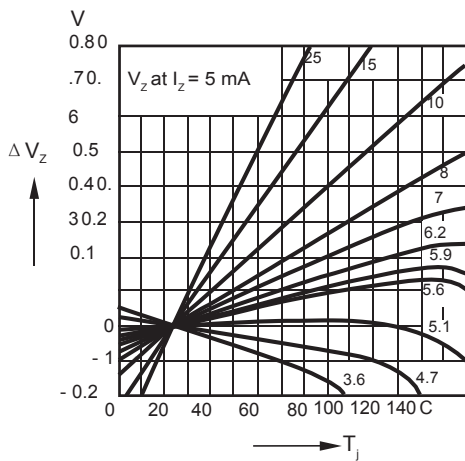


Fig. 9 - Change of Zener Voltage vs. Junction Temperature

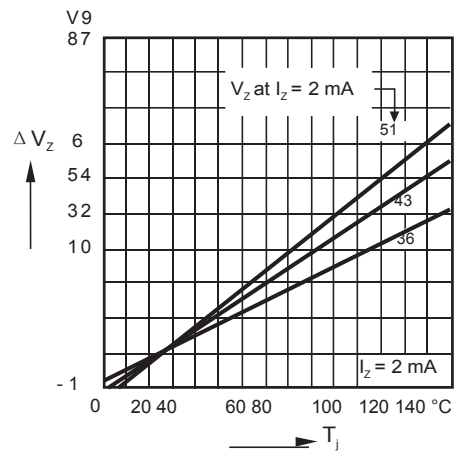


Fig. 10 - Change of Zener Voltage vs. Junction Temperature

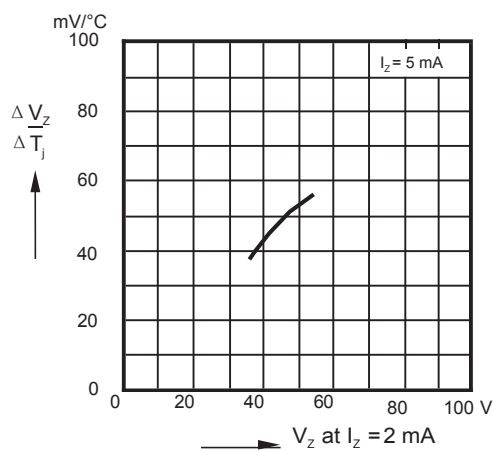


Fig. 11 - Temperature Dependence of Zener Voltage vs. Zener Voltage

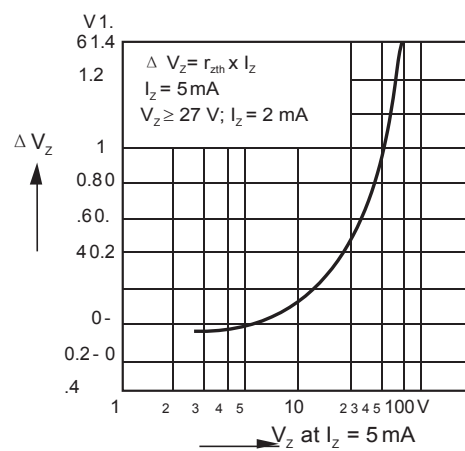


Fig. 12 - Change of Zener Voltage from Turn-on up to the Point of Thermal Equilibrium vs. Zener Voltage

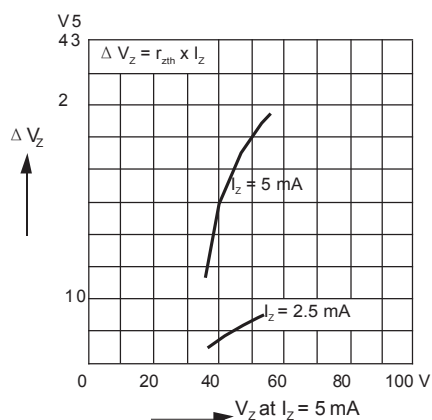


Fig. 13 - Change of Zener Voltage from Turn-on up to the Point of Thermal Equilibrium vs. Zener Voltage

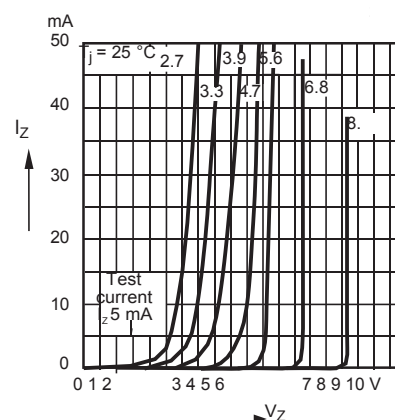


Fig. 14 - Breakdown Characteristics

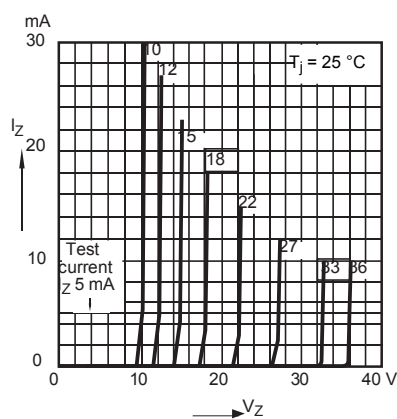


Fig. 15 - Breakdown Characteristics

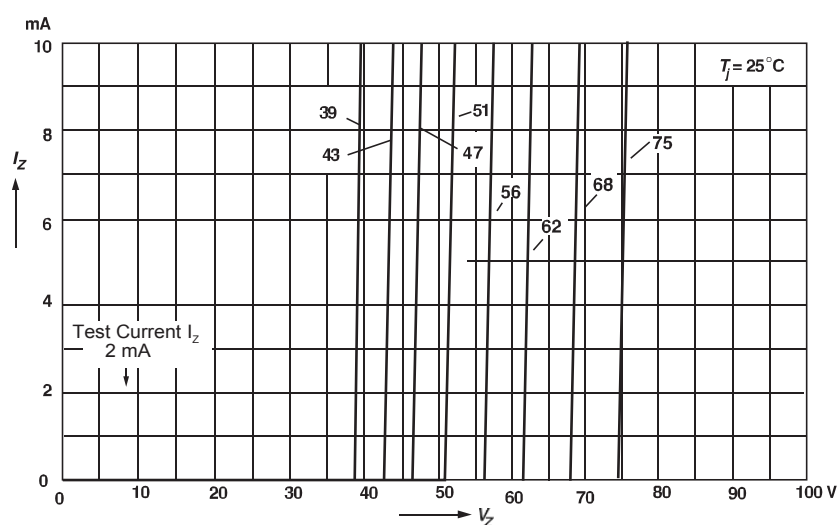
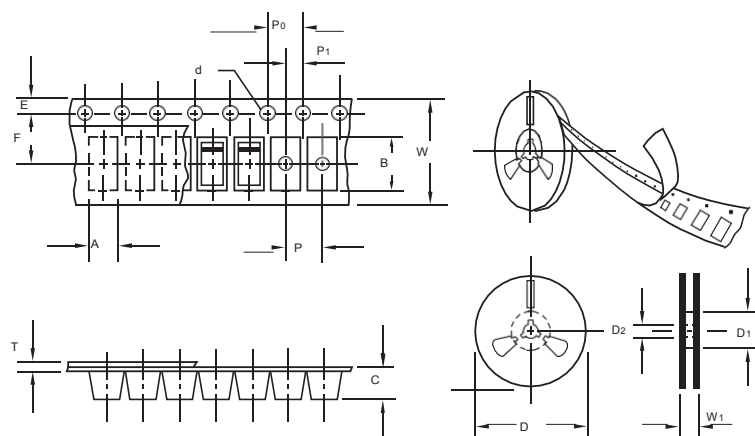


Fig. 16 - Breakdown Characteristics

The curve above is for reference only.



unit:mm

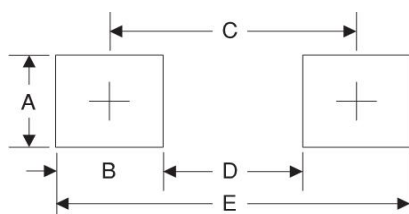
Item	Symbol	Tolerance	SOD-323
Carrier width	A	0.1	2.1
Carrier length	B	0.1	4.0
Carrier depth	C	0.1	1.60
Sprocket hole	d	0.05	1.55
7" Reel outside diameter	D	2.0	178.00
7" Reel inner diameter	D ₁	min	50.0
Feed hole diameter	D ₂	0.5	13.00
Sprocket hole position	E	0.1	1.75
Punch hole position	F	0.1	3.50
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-323	7"	3,000	4.0	45,000	210*208*203	178	430*430*235	180,000	

Suggested Pad Layout



Symbol	Unit (mm)	Unit (inch)
A	0.7	0.028
B	0.7	0.028
C	2.15	0.085
D	1.8	0.071
E	2.85	0.112