SuperDiode – 200mW SOD-323 Plastic-Encapsulate Zener Diode

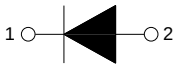
1. Features

- Low zener impedance
- Power dissipation of 200mW
- High stability and high reliability

2. Mechanical Data

- SOD-323 Small Outline Plastic Package
- Polarity: Color band denotes cathode end
- Mounting Position: Any

3. Marking and Circuit

Marking	Circuit
	

4. Specification

Absolute Maximum Rating & Thermal Characteristics

Ratings at 25 ˚C ambient temperature unless otherwise specified.

Parameters	Symbol	Value	Unit
Forward voltage @I_F=10mA	V_F	0.9 2)	V
Power dissipation	P_D	200 1)	mW
Storage temperature range	T_S	-65~150	˚C

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

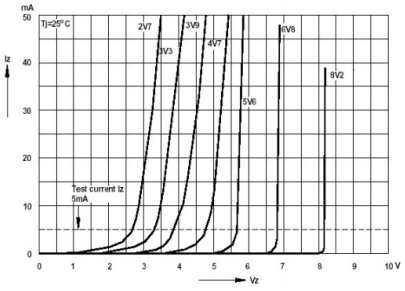
Electrical Characteristics (At TA = 25℃ unless otherwise specified)

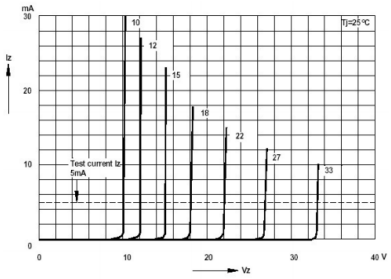
Device	Marking	Zener Voltage Range				Maximum Zener Impedance			Maximum Reverse Current		Typical Temperature coefficent @IZTC=mV/°C		Test Current IZTC
		Vz@Izt			Izt	Zzt @Izt	Zzk @Izk	Izk	IR	VR			
		Nom(V)	Min(V)	Max(V)	mA	Ω		mA	uA	V	Min	Max	mA
BZT52C2V0S	WY	2.0	1.8	2.15	5	150	600	1.0	100.0	1.0	-3.5	0.0	5

BZT52C2V4S	WX	2.4	2.2	2.6	5	100	600	1.0	50.0	1.0	-3.5	0.0	5
BZT52C2V7S	W1	2.7	2.5	2.9	5	100	600	1.0	20.0	1.0	-3.5	0.0	5
BZT52C3V0S	W2	3.0	2.8	3.2	5	95	600	1.0	10.0	1.0	-3.5	0.0	5
BZT52C3V3S	W3	3.3	3.1	3.5	5	95	600	1.0	5.0	1.0	-3.5	0.0	5
BZT52C3V6S	W4	3.6	3.4	3.8	5	90	600	1.0	5.0	1.0	-3.5	0.0	5
BZT52C3V9S	W5	3.9	3.7	4.1	5	90	600	1.0	3.0	1.0	-3.5	0.0	5
BZT52C4V3S	W6	4.3	4.0	4.6	5	90	600	1.0	3.0	1.0	-3.5	0.0	5
BZT52C4V7S	W7	4.7	4.4	5.0	5	80	500	1.0	3.0	2.0	-3.5	0.2	5
BZT52C5V1S	W8	5.1	4.8	5.4	5	60	480	1.0	2.0	2.0	-2.7	1.2	5
BZT52C5V6S	W9	5.6	5.2	6.0	5	40	400	1.0	1.0	2.0	-2.0	2.5	5
BZT52C6V2S	WA	6.2	5.8	6.6	5	10	150	1.0	3.0	4.0	0.4	3.7	5
BZT52C6V8S	WB	6.8	6.4	7.2	5	15	80	1.0	2.0	4.0	1.2	4.5	5
BZT52C7V5S	WC	7.5	7.0	7.9	5	15	80	1.0	1.0	5.0	2.5	5.3	5
BZT52C8V2S	WD	8.2	7.7	8.7	5	15	80	1.0	0.7	5.0	3.2	6.2	5
BZT52C9V1S	WE	9.1	8.5	9.6	5	15	100	1.0	0.5	6.0	3.8	7.0	5
BZT52C10S	WF	10.0	9.4	10.6	5	20	150	1.0	0.2	7.0	4.5	8.0	5
BZT52C11S	WG	11.0	10.4	11.6	5	20	150	1.0	0.1	8.0	5.4	9.0	5
BZT52C12S	WH	12.0	11.4	12.7	5	25	150	1.0	0.1	8.0	6.0	10.0	5
BZT52C13S	WI	13.0	12.4	14.1	5	30	170	1.0	0.1	8.0	7.0	11.0	5
BZT52C15S	WJ	15.0	13.8	15.6	5	30	200	1.0	0.1	10.5	9.2	13.0	5
BZT52C16S	WK	16.0	15.3	17.1	5	40	200	1.0	0.1	11.2	10.4	14.0	5
BZT52C18S	WL	18.0	16.8	19.1	5	45	225	1.0	0.1	12.6	12.4	16.0	5
BZT52C20S	WM	20.0	18.8	21.2	5	55	225	1.0	0.1	14.0	14.4	18.0	5
BZT52C22S	WN	22.0	20.8	23.3	5	55	250	1.0	0.1	15.4	16.4	20.0	5
BZT52C24S	WO	24.0	22.8	25.6	5	70	250	1.0	0.1	16.8	18.4	22.0	5
BZT52C27S	WP	27.0	25.1	28.9	2	80	300	0.5	0.1	18.9	21.4	25.3	2
BZT52C30S	WQ	30.0	28.0	32.0	2	80	300	0.5	0.1	21.0	24.4	29.4	2
BZT52C33S	WR	33.0	31.0	35.0	2	80	325	0.5	0.1	23.1	27.4	33.4	2
BZT52C36S	WS	36.0	34.0	38.0	2	90	350	0.5	0.1	25.2	30.4	37.4	2
BZT52C39S	WT	39.0	37.0	41.0	2	130	350	0.5	0.1	27.3	33.4	41.2	2
BZT52C43S	WU	43.0	40.0	46.0	2	100	700	1.0	0.1	32.0	10.0	12.0	5
BZT52C47S	WV	47.0	44.0	50.0	2	100	750	1.0	0.1	35.0	10.0	12.0	5
BZT52C51S	WW	51.0	48.0	54.0	2	100	750	1.0	0.1	38.0	10.0	12.0	5
BZT52C56S	XW	56.0	52.0	60.0	2	135	700	1.0	0.1	39.0	10.0	12.0	5
BZT52C62S	6E	62.0	58.0	66.0	2	200	1000	1.0	0.2	47.0	10.0	12.0	5
BZT52C68S	6F	68.0	64.0	72.0	2	250	1000	1.0	0.2	52.0	10.0	12.0	5
BZT52C75S	6H	75.0	70.0	79.0	2	300	1000	1.0	0.2	57.0	10.0	12.0	5

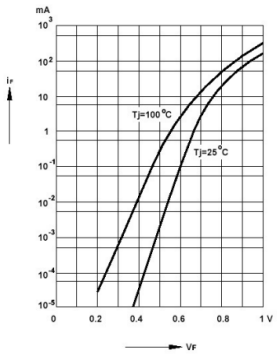
5. Typical Characteristic

Breakdown characteristics
at Tj=constant (pulsed)

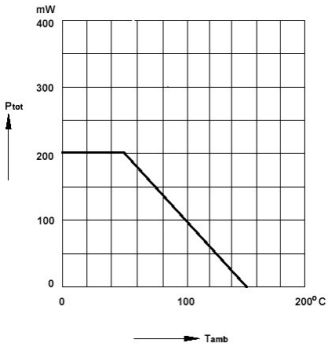




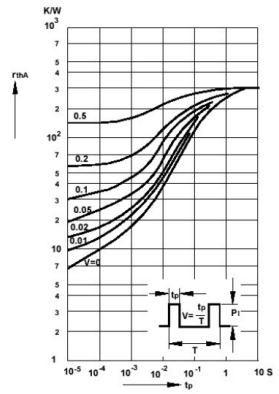
Forward characteristics



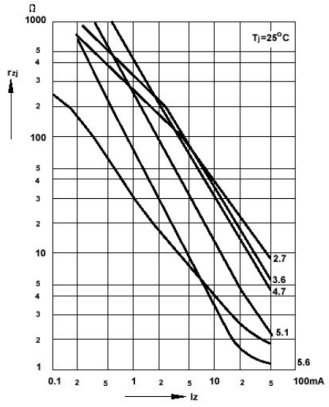
Admissible power dissipation versus ambient temperature



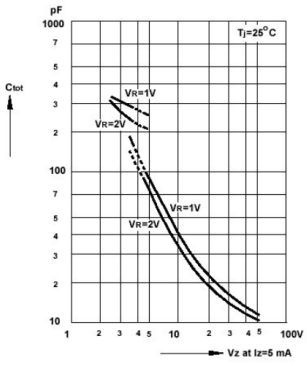
Pulse thermal resistance versus pulse duration



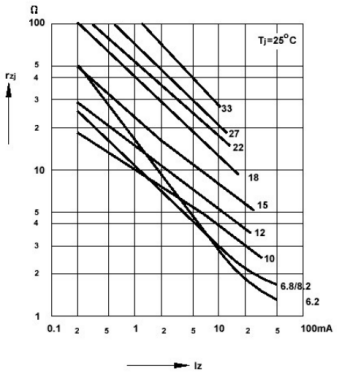
Dynamic resistance versus Zener current



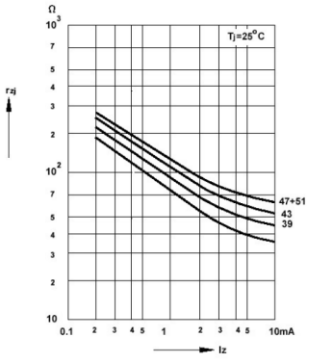
Capacitance versus Zener voltage



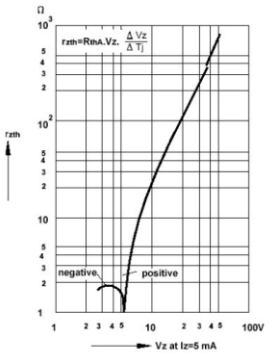
Dynamic resistance versus Zener current



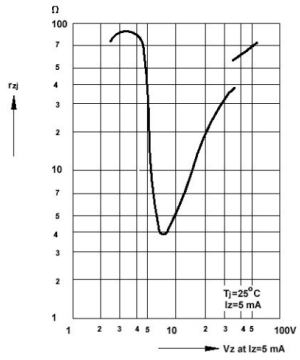
Dynamic resistance versus Zener current



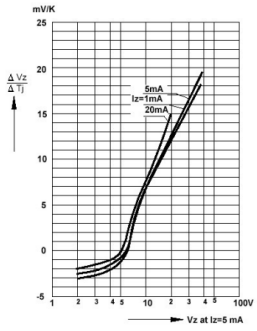
Thermal differential resistance versus Zener voltage



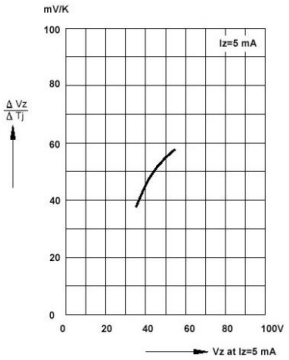
Dynamic resistance versus Zener voltage



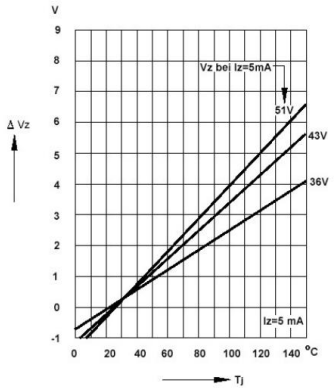
Temperature dependence of Zener voltage versus Zener voltage



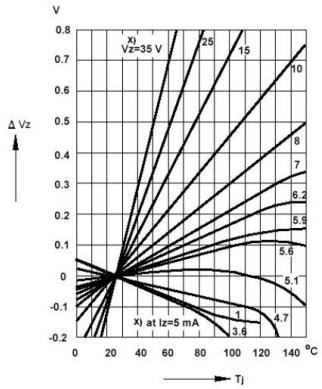
Temperature dependence of Zener voltage versus Zener voltage



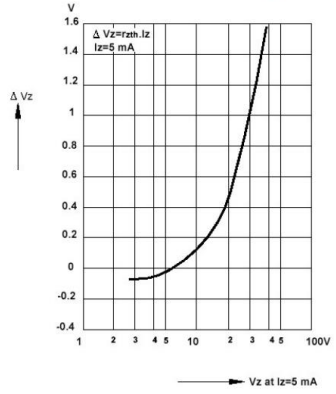
Change of Zener voltage versus junction temperature



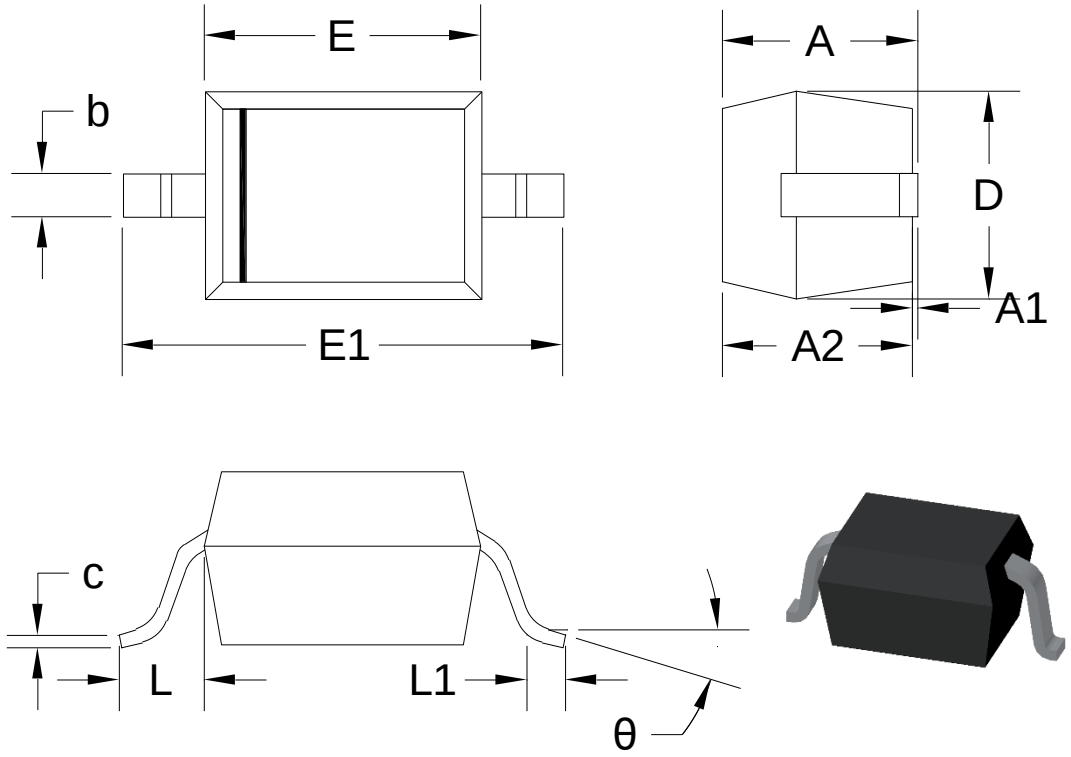
Change of Zener voltage versus junction temperature



Change of Zener voltge from turn-on up to the point of thermal equilibrium versus Zener voltage

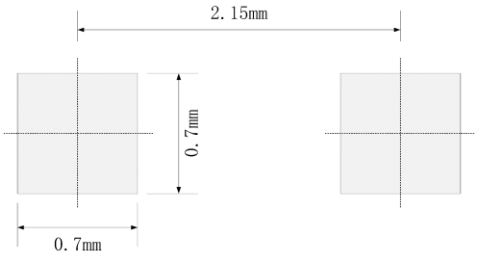


6. Dimension and Patterns (SOD-323)



Units: mm

Symbol	Min.	Max.	Symbol	Min.	Max.
A		1.000	E	1.600	1.800
A1	0.000	0.100	E1	2.550	2.750
A2	0.800	0.900	L	0.475REF	
b	0.250	0.350	L1	0.250	0.400
c	0.080	0.150	θ	0°	8°
D	1.200	1.400			



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

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