



SOD-323 Plastic-Encapsulate Zener Diode

BZT52C2V0S THRU BZT52C75S

VOLTAGE RANGE 2 to 75 Volts
CURRENT 200 mW



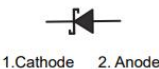
特征 Features

- 齐纳击穿阻抗低 Low Zener Impedance
- 最大功率耗散 200mW; Power Dissipation of 200mW
- 高稳定性和可靠性 High Stability and High Reliability

机械数据 Mechanical Data

- 封装: SOD-323 封装 SOD-323 Small Outline Plastic Package
- 极性: 色环端为负极 Polarity: Color band denotes cathode end
- 环氧树脂 UL 易燃等级 Epoxy UL: 94V-0
- 安装位置: 任意 Mounting Position: Any

SOD-323



最大额定值和电气特性 Maximum Ratings and Electrical Characteristics

极限值和温度特性(TA = 25°C 除非另有规定)

Maximum Ratings & Thermal Characteristics (Ratings at 25°C ambient temperature unless otherwise specified.)

参数 Parameters	符号 Symbol	数值 Value	单位 Unit
功率消耗 Power Dissipation	P_d	200 ^(NOTE 1)	mW
正向压降 Forward Voltage @IF=10mA	V_F	0.9 ^(NOTE 2)	Volts
工作结温 Junction/Operating Temperature	T_j	150	°C
存储温度 Storage temperature range	T_s	-65 to +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



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电特性 (TA = 25°C 除非另有规定)

Electrical Characteristics (Ratings at 25°C ambient temperature unless otherwise specified)

Type	Device Marking	Nominal Zener Voltage			Maximun Zener Impedance				Maximun Reverse Leakage Current		Typical Temperature coefficient @ IZTC=mV/°C		Test Current IZTC
		V _Z @ I _{ZT}	V _Z @ I _{ZT}		Z _{ZT} @ I _{ZT}	I _{ZT}	Z _{ZK} @ I _{ZK}	I _{ZK}	IR @ VR		Min	Max	
		(V)	min(V)	max(V)	(Ω)	(mA)	(Ω)	(mA)	(uA)	(V)			
BZT52C2V0S	WY	2.0	1.80	2.15	150	5.0	600	1.0	100	1.0	-3.5	0	5.0
BZT52C2V4S	WX	2.4	2.20	2.60	100	5.0	600	1.0	50	1.0	-3.5	0	5.0
BZT52C2V7S	W1	2.7	2.50	2.90	100	5.0	600	1.0	20	1.0	-3.5	0	5.0
BZT52C3V0S	W2	3.0	2.80	3.20	95	5.0	600	1.0	10	1.0	-3.5	0	5.0
BZT52C3V3S	W3	3.3	3.10	3.50	95	5.0	600	1.0	5.0	1.0	-3.5	0	5.0
BZT52C3V6S	W4	3.6	3.40	3.80	90	5.0	600	1.0	5.0	1.0	-3.5	0	5.0
BZT52C3V9S	W5	3.9	3.70	4.10	90	5.0	600	1.0	3.0	1.0	-3.5	0	5.0
BZT52C4V3S	W6	4.3	4.00	4.60	90	5.0	600	1.0	3.0	1.0	-3.5	0	5.0
BZT52C4V7S	W7	4.7	4.40	5.00	80	5.0	500	1.0	3.0	2.0	-3.5	0.2	5.0
BZT52C5V1S	W8	5.1	4.80	5.40	60	5.0	480	1.0	2.0	2.0	-2.7	1.2	5.0
BZT52C5V6S	W9	5.6	5.20	6.00	40	5.0	400	1.0	1.0	2.0	-2	2.5	5.0
BZT52C6V2S	WA	6.2	5.80	6.60	10	5.0	150	1.0	3.0	4.0	0.4	3.7	5.0
BZT52C6V8S	WB	6.8	6.40	7.20	15	5.0	80	1.0	2.0	4.0	1.2	4.5	5.0
BZT52C7V5S	WC	7.5	7.00	7.90	15	5.0	80	1.0	1.0	5.0	2.5	5.3	5.0
BZT52C8V2S	WD	8.2	7.70	8.70	15	5.0	80	1.0	0.7	5.0	3.2	6.2	5.0
BZT52C9V1S	WE	9.1	8.50	9.60	15	5.0	100	1.0	0.5	6.0	3.8	7.0	5.0
BZT52C10S	WF	10.0	9.40	10.60	20	5.0	150	1.0	0.2	7.0	4.5	8.0	5.0
BZT52C11S	WG	11.0	10.40	11.60	20	5.0	150	1.0	0.1	8.0	5.4	9.0	5.0
BZT52C12S	WH	12.0	11.40	12.70	25	5.0	150	1.0	0.1	8.0	6.0	10.0	5.0
BZT52C13S	WI	13.0	12.40	14.10	30	5.0	170	1.0	0.1	8.0	7.0	11.0	5.0
BZT52C15S	WJ	15.0	13.80	15.60	30	5.0	200	1.0	0.1	10.5	9.2	13.0	5.0
BZT52C16S	WK	16.0	15.30	17.10	40	5.0	200	1.0	0.1	11.2	10.4	14.0	5.0
BZT52C18S	WL	18.0	16.80	19.10	45	5.0	225	1.0	0.1	12.6	12.4	16.0	5.0
BZT52C20S	WM	20.0	19.00	18.80	55	5.0	225	1.0	0.1	14.0	14.4	18.0	5.0
BZT52C22S	WN	22.0	20.90	20.80	55	5.0	250	1.0	0.1	15.4	16.4	20.0	5.0
BZT52C24S	WO	24.0	22.80	25.60	70	5.0	250	1.0	0.1	16.8	18.4	22.0	5.0
BZT52C27S	WP	27.0	25.10	28.90	80	2.0	300	0.5	0.1	18.9	21.4	25.3	2.0
BZT52C30S	WQ	30.0	28.00	32.00	80	2.0	300	0.5	0.1	21.0	24.4	29.4	2.0
BZT52C33S	WR	33.0	31.00	35.00	80	2.0	325	0.5	0.1	23.1	27.4	33.4	2.0
BZT52C36S	WS	36.0	34.00	38.00	90	2.0	350	0.5	0.1	25.2	30.4	37.4	2.0
BZT52C39S	WT	38.0	37.00	41.00	130	2.0	350	0.5	0.1	27.3	33.4	41.2	2.0
BZT52C43S	WU	43.0	40.00	46.00	100	2.0	700	1.0	0.1	32.0	10.0	12.0	5.0
BZT52C47S	WV	47.0	44.00	50.00	100	2.0	750	1.0	0.1	35.0	10.0	12.0	5.0
BZT52C51S	WW	51.0	48.00	54.00	100	2.0	750	1.0	0.1	38.0	10.0	12.0	5.0
BZT52C56S	XW	56.0	52.00	60.00	135	2.0	700	1.0	0.1	39.0	10.0	12.0	5.0
BZT52C62S	6E	62.0	58.00	66.00	200	2.0	1000	1.0	0.2	47.0	10.0	12.0	5.0
BZT52C68S	6F	68.0	64.00	72.00	250	2.0	1000	1.0	0.2	52.0	10.0	12.0	5.0
BZT52C75S	6H	75.0	70.00	79.00	300	2.0	1000	1.0	0.2	57.0	10.0	12.0	5.0

• ±10% Series



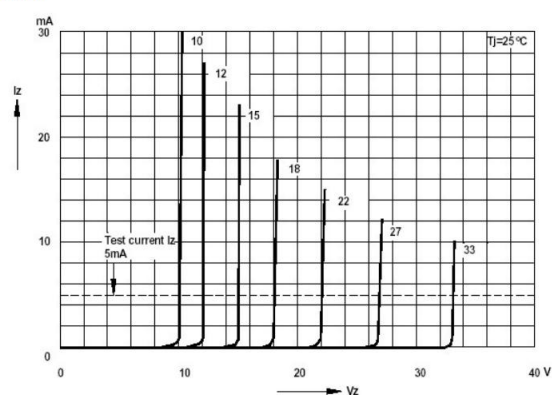
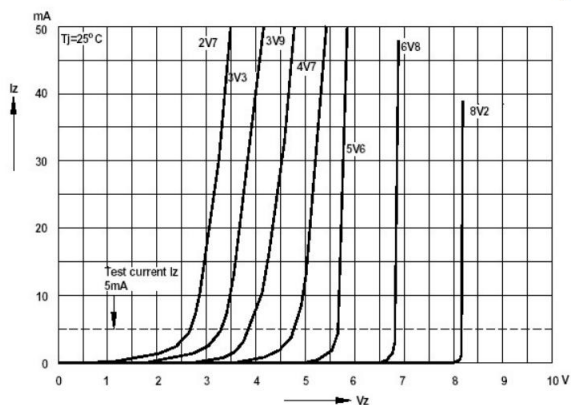
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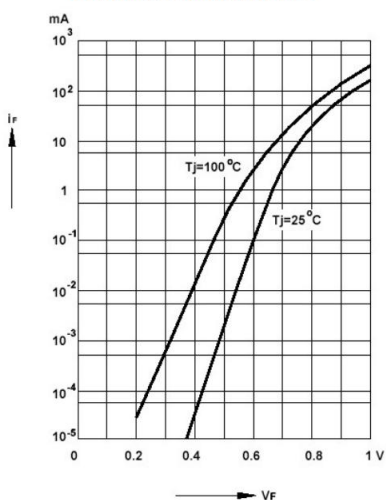
VOLTAGE RANGE 2 to 75 Volts
CURRENT 200 mW

Ratings and Characteristic Curves ($T_A=25^\circ\text{C}$ unless otherwise noted)

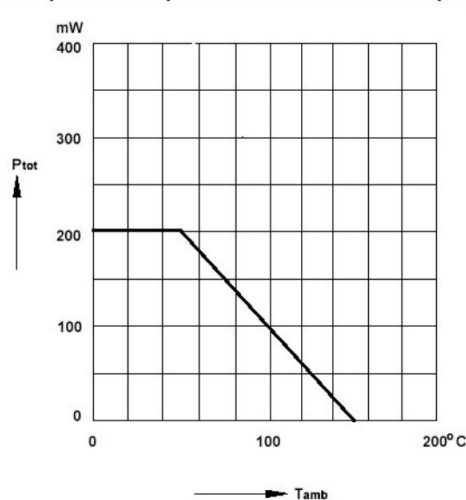
at $T_J=\text{constant}$ (pulsed)



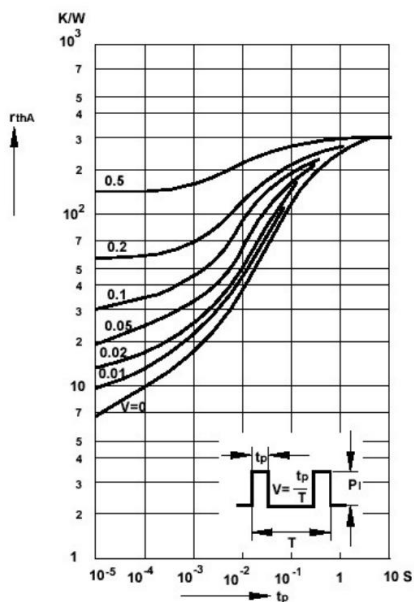
Forward characteristics



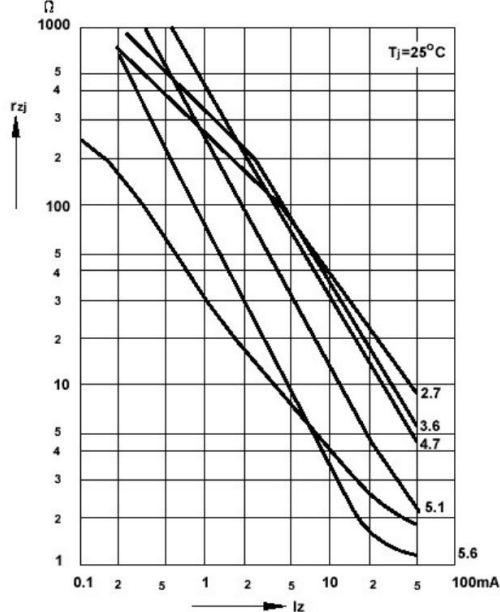
Admissible power dissipation versus ambient temperature



Pulse thermal resistance versus pulse duration



Dynamic resistance versus Zener current





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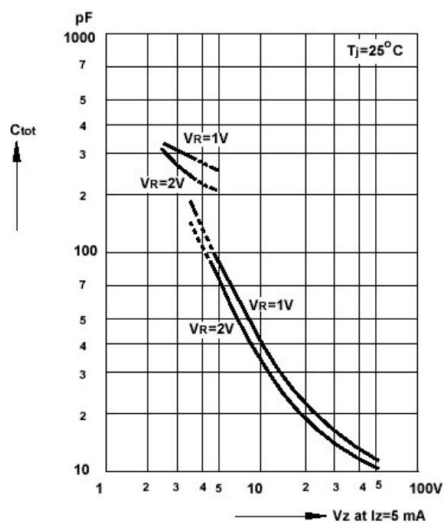
VOLTAGE RANGE

2 to 75 Volts

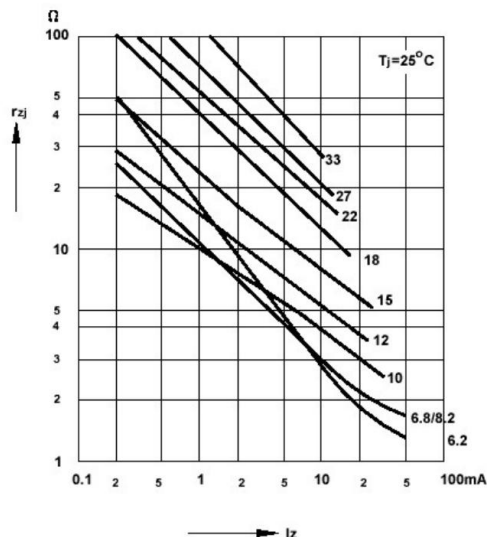
CURRENT

200 mW

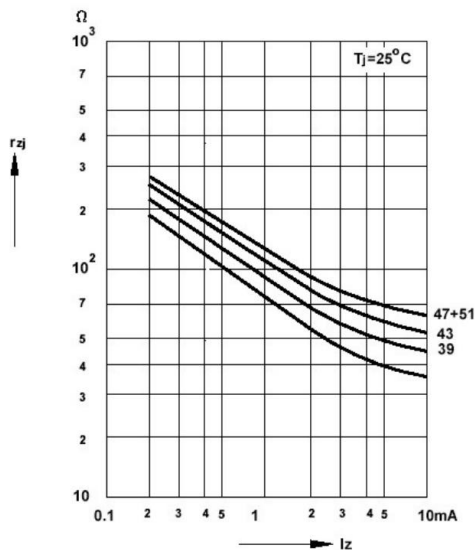
Capacitance versus Zener voltage



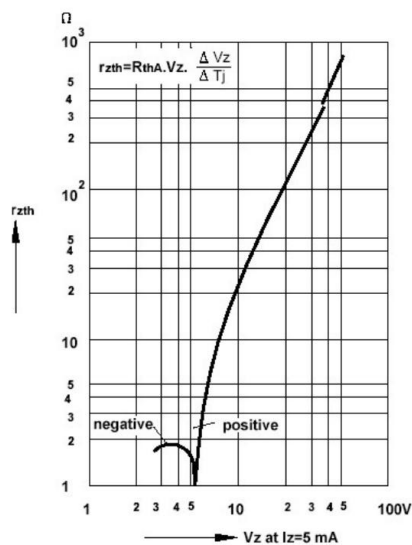
Dynamic resistance versus Zener current



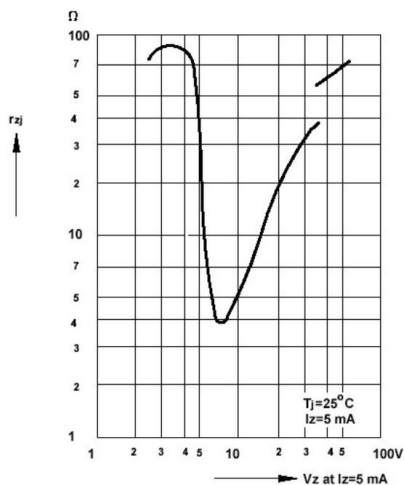
Dynamic resistance versus Zener current



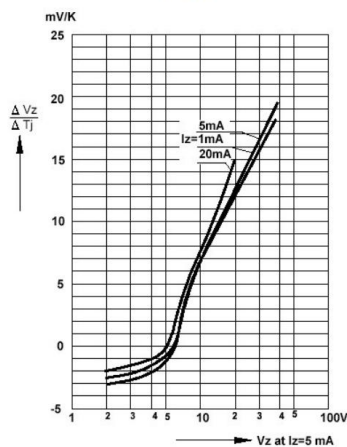
Thermal differential resistance versus Zener voltage



Dynamic resistance versus Zener voltage

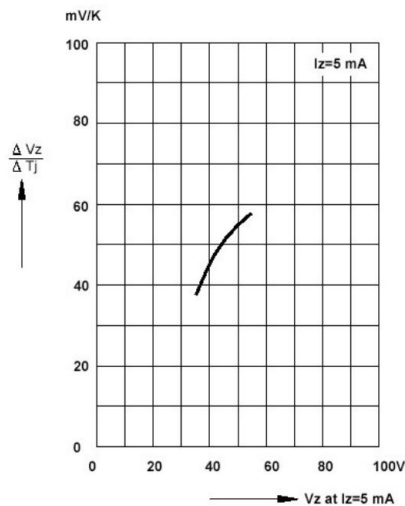


Temperature dependence of Zener voltage versus Zener voltage

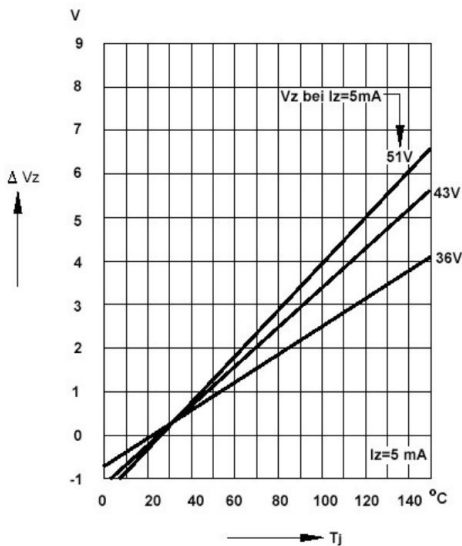




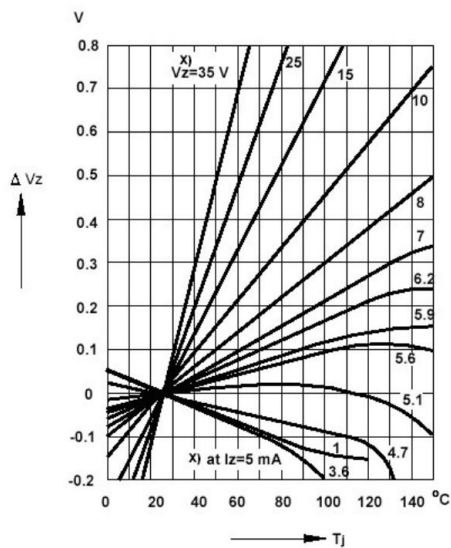
Temperature dependence of Zener voltage versus Zener voltage



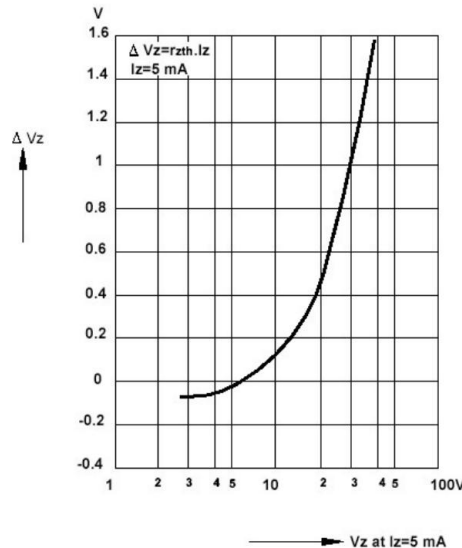
Change of Zener voltage versus junction temperature



Change of Zener voltage versus junction temperature



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





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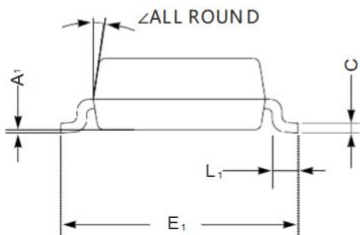
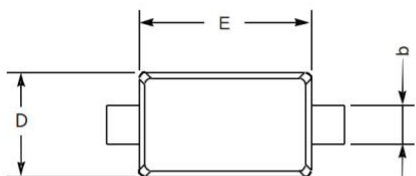
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Package Outline Dimensions in inches (millimeters)

SOD-323

Unit: mm



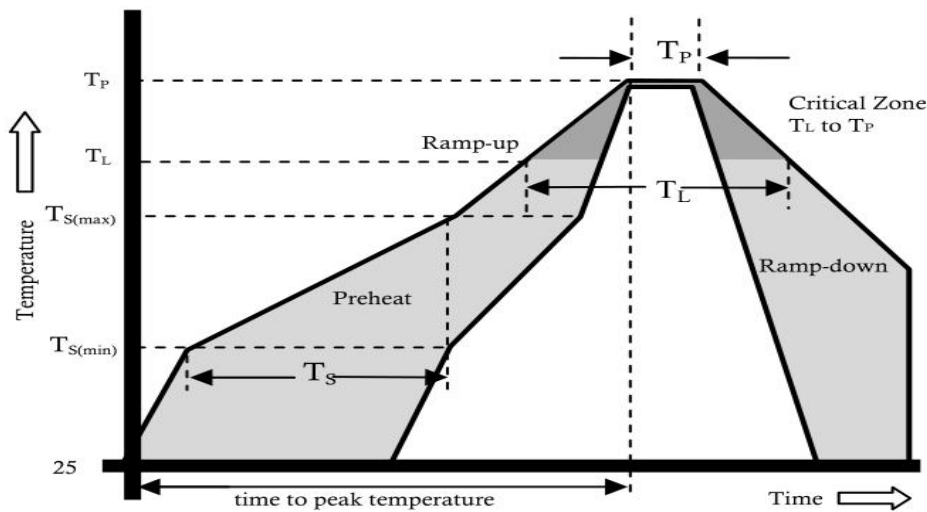
UNIT		A	C	D	E	E ₁	L ₁	b	A ₁	∠
mm	max	1.0	0.15	1.4	1.8	2.8	0.45	0.35	0.1	9°
	min	0.9	0.08	1.2	1.6	2.5	0.25	0.25	—	
mil	max	.039	.006	.055	.071	.110	.018	.014	.004	
	min	.035	.003	.047	.063	.098	.010	.010	—	



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CURRENT 200 mW

Reflow Profile



Reflow Condition		Pb-Free Assembly
Pre Heat	Temperature Min.	+150°C
	Temperature Max.	+200°C
	Time(Min to Max)	60-180 secs.
Average ramp up rate(Liquidus Temp(T_L) to peak)		3°C/sec. Max.
$T_S(max)$ to T_L - Ramp-up Rate		3°C/sec. Max.
Reflow	Temperature (T_L)(Liquidus)	+217°C
	Temperature (T_L)	60-150 secs.
Peak Temp (T_P)		+(260+0/-5)°C
Time within 5°C of actual Peak Temp (T_P)		25 secs.
Ramp-down Rate		6°C/sec. Max.
Time 25°C to peak Temp (T_P)		8 min. Max.
Do not exceed		+260°C



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Disclaimer

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