

BZT52C2V0S THRU BZT52C75S

PLASTIC-ENCAPSULATE ZENER DIODE



VOLTAGE	2.0~75 Volts	POWER	200.0 mW	SOD-323
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FEATURES

- Low Zener Impedance
- Power Dissipation of 200mW
- High Stability and High Reliability
- Zener Voltage Tolerance: $\pm 5\%$

MECHANICAL DATA

- **Case:** SOD-123 Small Outline Plastic Package
- **Epoxy UL:** 94V-0
- **Polarity:** Color band denotes cathode end
- **Mounting position:** Any

PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode



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

Parameter	Symbol	Value	Unit
Power Dissipation	P_d	200 (Note1)	mW
Forward Voltage @IF=10mA	V_f	0.9 (Note2)	V
Junction temperature	T_j	150	°C
Storage temperature range	T_s	-65-150	°C
Typical thermal resistance	R_{thja}	400 (Note1)	K/W

- 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

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

Device	Marking	Zener Voltage Range				Maximum Zener Impedance			Maximum Reverse Current		Typical Temperature coefficient @ IZTC=mV/°C		Test Current IZTC
		Vz@Izt			Izt	Zzt @Izt	Zzk @Izk	Izk	IR	VR			
		Min(V)	Nom(V)	Max(V)							mA	Ω	
BZT52C2V0S	WY	1.8	2.0	2.15	5	150	600	1.0	100	1.0	-3.5	0.0	5
BZT52C2V4S	WX	2.2	2.4	2.6	5	100	600	1.0	50	1.0	-3.5	0.0	5
BZT52C2V7S	W1	2.5	2.7	2.9	5	100	600	1.0	20	1.0	-3.5	0.0	5
BZT52C3V0S	W2	2.8	3.0	3.2	5	95	600	1.0	10	1.0	-3.5	0.0	5
BZT52C3V3S	W3	3.1	3.3	3.5	5	95	600	1.0	5	1.0	-3.5	0.0	5
BZT52C3V6S	W4	3.4	3.6	3.8	5	90	600	1.0	5	1.0	-3.5	0.0	5
BZT52C3V9S	W5	3.7	3.9	4.1	5	90	600	1.0	3	1.0	-3.5	0.0	5
BZT52C4V3S	W6	4.0	4.3	4.6	5	90	600	1.0	3	1.0	-3.5	0.0	5
BZT52C4V7S	W7	4.4	4.7	5.0	5	80	500	1.0	3	2.0	-3.5	0.2	5
BZT52C5V1S	W8	4.8	5.1	5.4	5	60	480	1.0	2	2.0	-2.7	1.2	5
BZT52C5V6S	W9	5.2	5.6	6.0	5	40	400	1.0	1	2.0	-2.0	2.5	5
BZT52C6V2S	WA	5.8	6.2	6.6	5	10	150	1.0	3	4.0	0.4	3.7	5
BZT52C6V8S	WB	6.4	6.8	7.2	5	15	80	1.0	2	4.0	1.2	4.5	5
BZT52C7V5S	WC	7.0	7.5	7.9	5	15	80	1.0	1	5.0	2.5	5.3	5
BZT52C8V2S	WD	7.7	8.2	8.7	5	15	80	1.0	0.7	5.0	3.2	6.2	5
BZT52C9V1S	WE	8.5	9.1	9.6	5	15	100	1.0	0.5	6.0	3.8	7.0	5
BZT52C10S	WF	9.4	10.0	10.6	5	20	150	1.0	0.2	7.0	4.5	8.0	5
BZT52C11S	WG	10.4	11.0	11.6	5	20	150	1.0	0.1	8.0	5.4	9.0	5
BZT52C12S	WH	11.4	12.0	12.7	5	25	150	1.0	0.1	8.0	6.0	10.0	5
BZT52C13S	WI	12.4	13.0	14.1	5	30	170	1.0	0.1	8.0	7.0	11.0	5
BZT52C15S	WJ	13.8	15.0	15.6	5	30	200	1.0	0.1	10.5	9.2	13.0	5
BZT52C16S	WK	15.3	16.0	17.1	5	40	200	1.0	0.1	11.2	10.4	14.0	5
BZT52C18S	WL	16.8	18.0	19.1	5	45	225	1.0	0.1	12.6	12.4	16.0	5
BZT52C20S	WM	18.8	20.0	21.2	5	55	225	1.0	0.1	14.0	14.4	18.0	5
BZT52C22S	WN	20.8	22.0	23.3	5	55	250	1.0	0.1	15.4	16.4	20.0	5
BZT52C24S	WO	22.8	24.0	25.6	5	70	250	1.0	0.1	16.8	18.4	22.0	5
BZT52C27S	WP	25.1	27.0	28.9	2	80	300	0.5	0.1	18.9	21.4	25.3	2
BZT52C30S	WQ	28.0	30.0	32.0	2	80	300	0.5	0.1	21.0	24.4	29.4	2
BZT52C33S	WR	31.0	33.0	35.0	2	80	325	0.5	0.1	23.1	27.4	33.4	2
BZT52C36S	WS	34.0	36.0	38.0	2	90	350	0.5	0.1	25.2	30.4	37.4	2
BZT52C39S	WT	37.0	39.0	41.0	2	130	350	0.5	0.1	27.3	33.4	41.2	2
BZT52C43S	WU	40.0	43.0	46.0	2	100	700	1.0	0.1	32.0	10.0	12.0	5
BZT52C47S	WV	44.0	47.0	50.0	2	100	750	1.0	0.1	35.0	10.0	12.0	5
BZT52C51S	WW	48.0	51.0	54.0	2	125	750	1.0	0.1	38.0	10.0	12.0	5
BZT52C56S	XW	52.0	56.0	60.0	2	135	700	1.0	0.1	39.0	10.0	12.0	5
BZT52C62S	6E	58.0	62.0	66.0	2	200	1000	1.0	0.2	47.0	10.0	12.0	5
BZT52C68S	6F	64.0	68.0	72.0	2	250	1000	1.0	0.2	52.0	10.0	12.0	5
BZT52C75S	6H	70.0	75.0	79.0	2	300	1000	1.0	0.2	57.0	10.0	12.0	5

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RATING AND CHARACTERISTIC CURVES

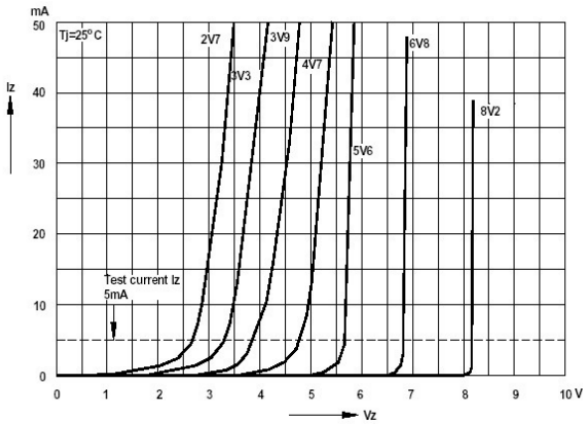


Fig.1-Breakdown characteristics

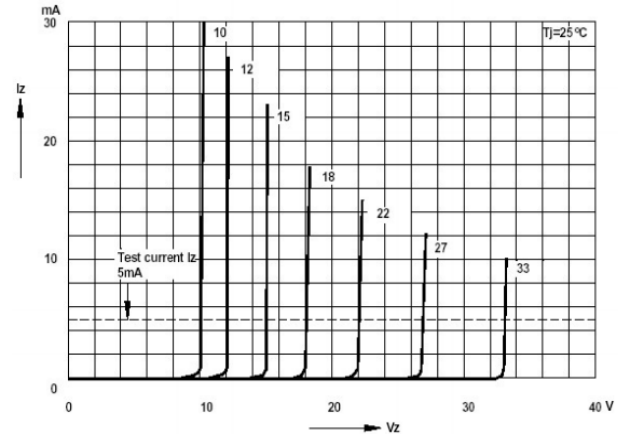


Fig.2- Breakdown characteristics

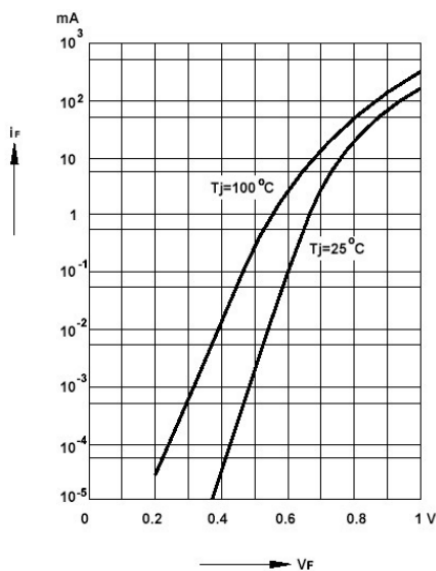


Fig.3- Forward characteristics

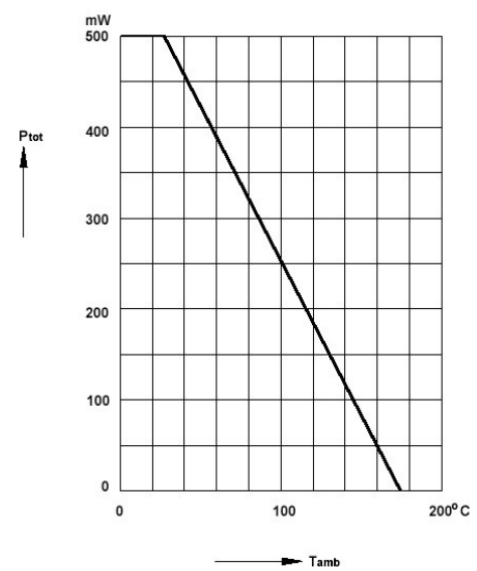


Fig.4- Admissible power dissipation versus ambient temperature

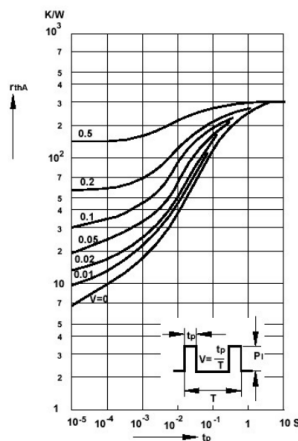


Fig.5-Pulse thermal resistance versus pulsed duration

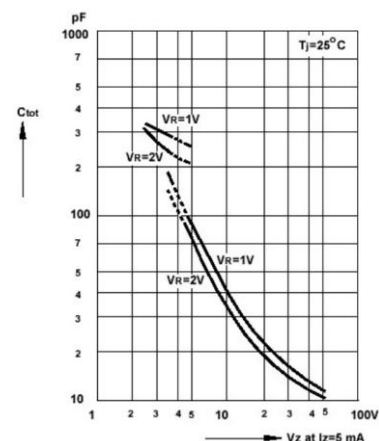


Fig.6-Capacitance versus Zener voltage

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RATING AND CHARACTERISTIC CURVES

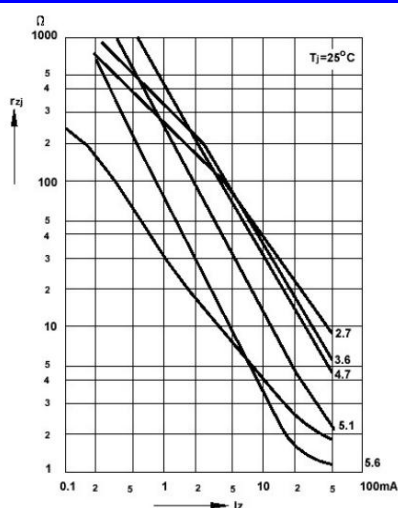


Fig.7- Dynamic resistance versus Zener current

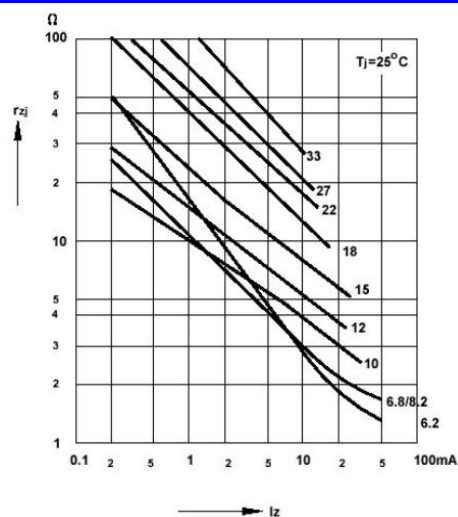


Fig.8- Dynamic resistance versus Zener current

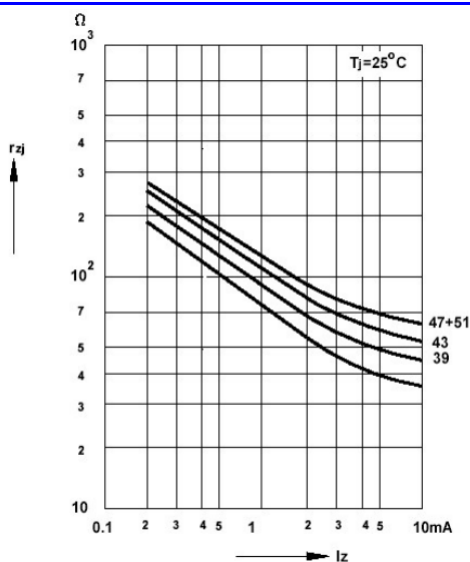


Fig.9- Dynamic resistance versus Zener current

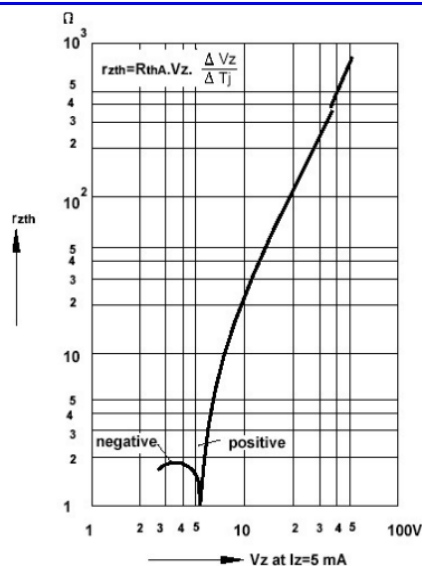


Fig.10- Thermal differential resistance versus Zener voltage

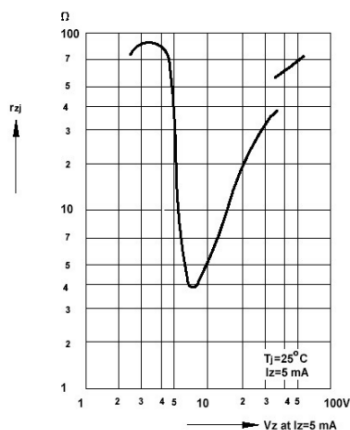


Fig.11- Dynamic resistance versus Zener voltage

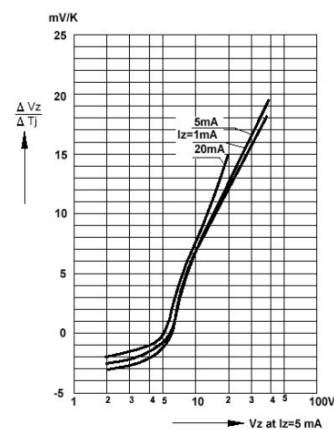


Fig.12- Temperature dependence of Zener voltage versus Zener voltage

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RATING AND CHARACTERISTIC CURVES

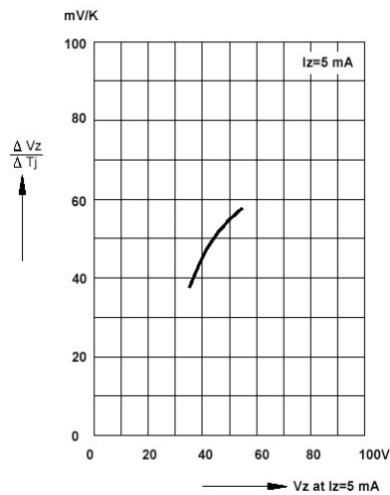


Fig.13- Temperature dependence of Zener voltage versus Zener voltage

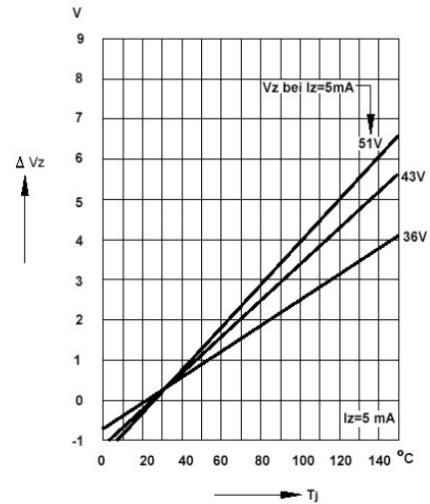


Fig.14- Change of Zener voltage versus junction temperature

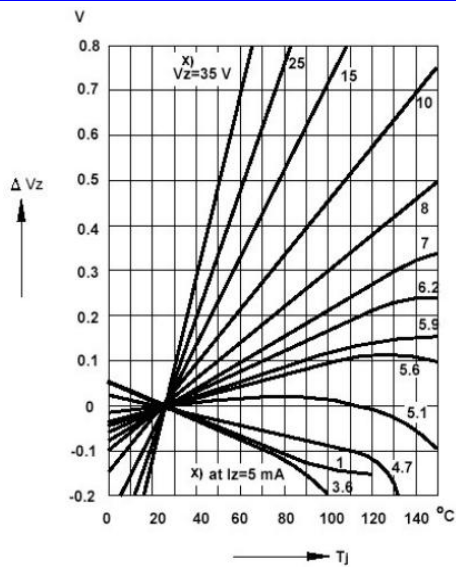


Fig.15- Change of Zener voltage versus junction temperature

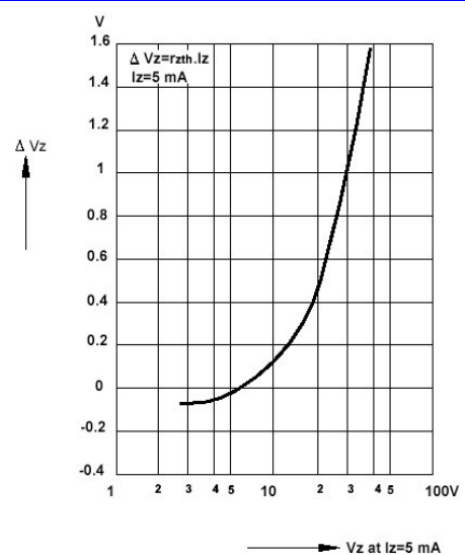


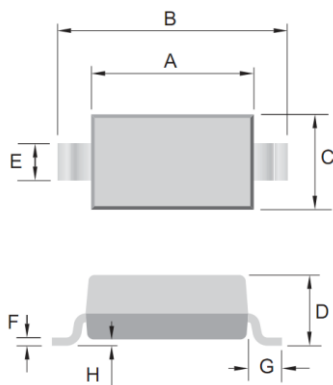
Fig.16- Change of Zener voltage from turn-on up to the point of thermal equilibrium versus Zener voltage

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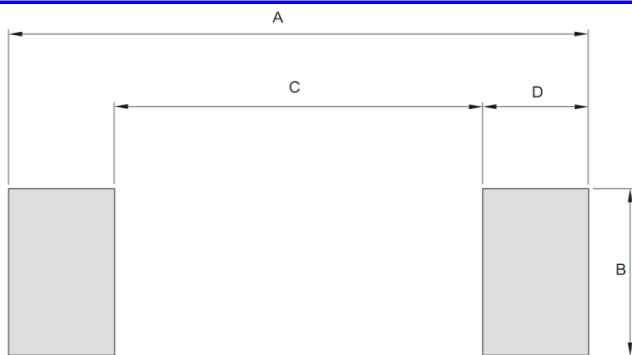
OUTLINE DRAWINGS



OUTLINE DIMENSIONS						
DIM	MILLIMETERS			INCHES		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	1.600	-	1.800	0.063	-	0.071
B	2.500	-	2.700	0.098	-	0.106
C	1.200	-	1.400	0.047	-	0.055
D	-	-	1.000	-	-	0.039
E	0.250	-	0.350	0.010	-	0.014
F	0.080	-	0.150	0.003	-	0.006
G	-	0.475REF.	-	-	0.019	-
H	-	-	0.120	-	-	0.005

SOD-323

MOUNTING PAD LAYOUT



OUTLINE DIMENSIONS						
DIM	MILLIMETERS			INCHES		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	--	2.900	--	--	0.114	--
B	--	0.500	--	--	0.02	--
C	--	1.440	--	--	0.057	--
D	--	0.730	--	--	0.029	--

Packing Information

Product code	Pack	Reel Size (mm)	Quantity (pcs/reel)	Inner Box Size L×W×H(mm)	Carton Size L×W×H(mm)	Quantity (Inner Box/carton)
BZT52C2V0S THRU BZT52C75S SOD-323	T/R	Φ180	3000	210×208×203	440×440×230	4