

BZT52C Series

Features

Low Zener Impedance

Power Dissipation of 500mW

High Stability and High Reliability

Mechanical Data

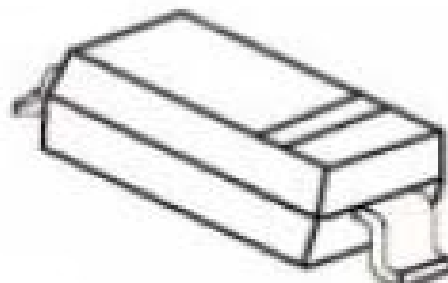
Cases :SOD-123 Small Outline Plastic Package

Polarity: Color band denotes cathode end

Epoxy UL: 94V-0

Mounting Position: Any

SOD-123



Maximum Ratings & Thermal Characteristics

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

Parameters	Symbol	Value	Unit
Power Dissipation	P_d	500 1)	mW
Forward Voltage @ $I_F=10mA$	V_f	0.9 2)	V
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

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

Device	Marking	Zener Voltage Range				Maximum Zener Impedance			Maximum Reverse Current		Typical Temperature Coefficient @ $I_{ZTC}=mV/°C$		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	
		Nom(V)	Min(V)	Max(V)	mA	Ω	mA	μA	V			mA	
BZT52C 2V4	WX	2.4	2.2	2.6	5	100	600	1.0	50	1.0	-3.5	0	5
BZT52C 2V7	W1	2.7	2.5	2.9	5	100	600	1.0	20	1.0	-3.5	0	5
BZT52C 3V0	W2	3.0	2.8	3.2	5	95	600	1.0	10	1.0	-3.5	0	5
BZT52C 3V3	W3	3.3	3.1	3.5	5	95	600	1.0	5	1.0	-3.5	0	5
BZT52C 3V6	W4	3.6	3.4	3.8	5	90	600	1.0	5	1.0	-3.5	0	5
BZT52C 3V9	W5	3.9	3.7	4.1	5	90	600	1.0	3	1.0	-3.5	0	5
BZT52C 4V3	W6	4.3	4.0	4.6	5	90	600	1.0	3	1.0	-3.5	0	5
BZT52C 4V7	W7	4.7	4.4	5.0	5	80	500	1.0	3	2.0	-3.5	0.2	5
BZT52C 5V1	W8	5.1	4.8	5.4	5	60	480	1.0	2	2.0	-2.7	1.2	5
BZT52C 5V6	W9	5.6	5.2	6.0	5	40	400	1.0	1	2.0	-2.0	2.5	5
BZT52C 6V2	WA	6.2	5.8	6.6	5	10	150	1.0	3	4.0	0.4	3.7	5
BZT52C 6V8	WB	6.8	6.4	7.2	5	15	80	1.0	2	4.0	1.2	4.5	5

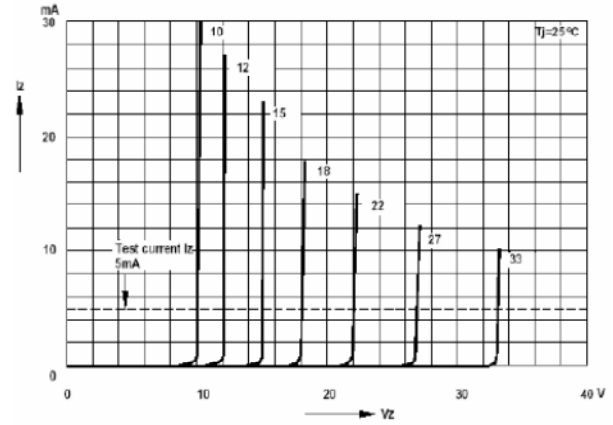
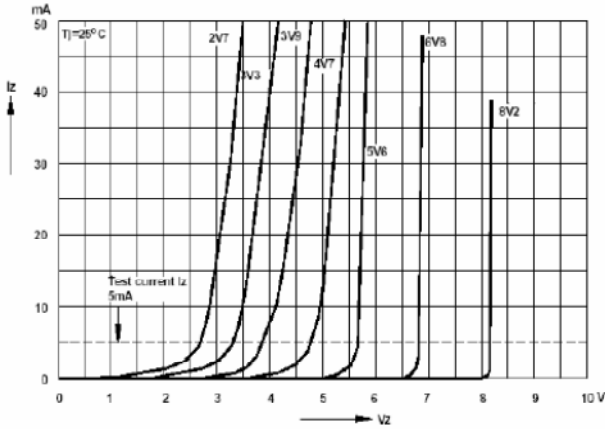
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Device	Marking	Zener Voltage Range				Maximum Zener Impedance			Maximum Reverse Current		Typical Temperature coefficient @I _{ZTC} =mV/°C		Test Current I _{ZTC} mA
		V _Z @I _{ZT}			I _{ZT}	Z _{ZT} @I _{ZT}	Z _{ZK} @I _{ZK}	I _{ZK}	I _R	V _R	Min	Max	
		Nom(V)	Min(V)	Max(V)	mA	Ω	mA	uA	V				
BZT52C 7V5	WC	7.5	7.0	7.9	5	15	80	1.0	1	5.0	2.5	5.3	5
BZT52C 8V2	WD	8.2	7.7	8.7	5	15	80	1.0	0.7	5.0	3.2	6.2	5
BZT52C 9V1	WE	9.1	8.5	9.6	5	15	100	1.0	0.5	6.0	3.8	7.0	5
BZT52C10	WF	10	9.4	10.6	5	20	150	1.0	0.2	7.0	4.5	8.0	5
BZT52C 11	WG	11	10.4	11.6	5	20	150	1.0	0.1	8.0	5.4	9.0	5
BZT52C 12	WH	12	11.4	12.7	5	25	150	1.0	0.1	8.0	6.0	10.0	5
BZT52C 13	WI	13	12.4	14.1	5	30	170	1.0	0.1	8.0	7.0	11.0	5
BZT52C 15	WJ	15	13.8	15.6	5	30	200	1.0	0.1	10.5	9.2	13.0	5
BZT52C 16	WK	16	15.3	17.1	5	40	200	1.0	0.1	11.2	10.4	14.0	5
BZT52C 18	WL	18	16.8	19.1	5	45	225	1.0	0.1	12.6	12.4	16.0	5
BZT52C 20	WM	20	18.8	21.2	5	55	225	1.0	0.1	14.0	14.4	18.0	5
BZT52C 22	WN	22	20.8	23.3	5	55	250	1.0	0.1	15.4	16.4	20.0	5
BZT52C 24	WO	24	22.8	25.6	5	70	250	1.0	0.1	16.8	18.4	22.0	5
BZT52C 27	WP	27	25.1	28.9	2	80	300	0.5	0.1	18.9	21.4	25.3	2
BZT52C 30	WQ	30	28.0	32.0	2	80	300	0.5	0.1	21.0	24.4	29.4	2
BZT52C 33	WR	33	31.0	35.0	2	80	325	0.5	0.1	23.1	27.4	33.4	2
BZT52C 36	WS	36	34.0	38.0	2	90	350	0.5	0.1	25.2	30.4	37.4	2
BZT52C 39	WT	39	37.0	41.0	2	130	350	0.5	0.1	27.3	33.4	41.2	2
BZT52C 43	WU	43	40.0	46.0	2	100	700	1.0	0.1	32.0	10.0	12.0	5
BZT52C 47	WV	47	44.0	50.0	2	100	750	1.0	0.1	35.0	10.0	12.0	5
BZT52C 51	WW	51	48.0	54.0	2	100	750	1.0	0.1	38.0	10.0	12.0	5

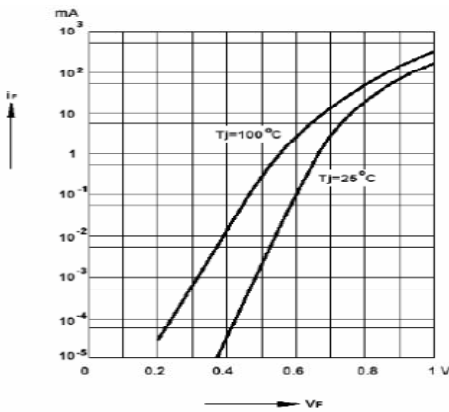
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Characteristic Curves

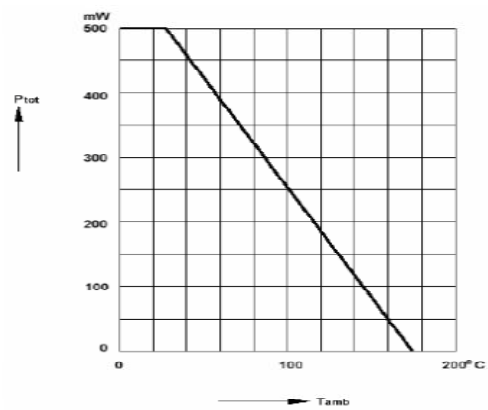
Breakdown characteristics
at $T_j = \text{constant}$ (pulsed)



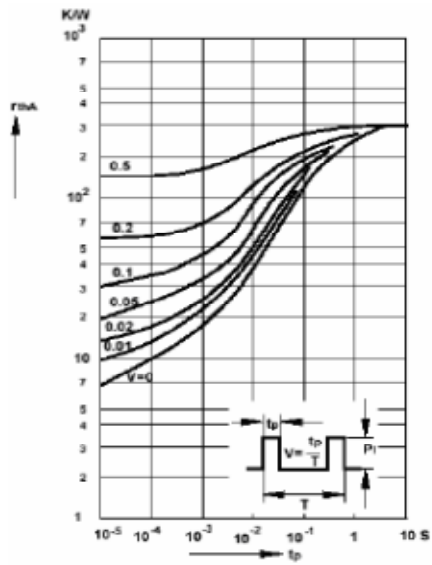
Forward characteristics



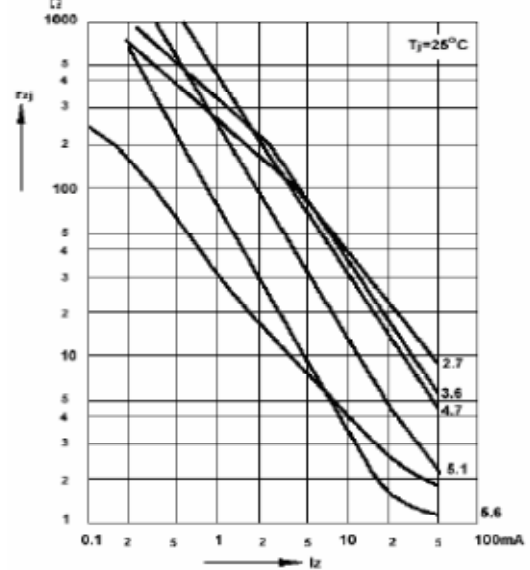
Admissible power dissipation versus ambient temperature



Pulse thermal resistance versus pulse duration



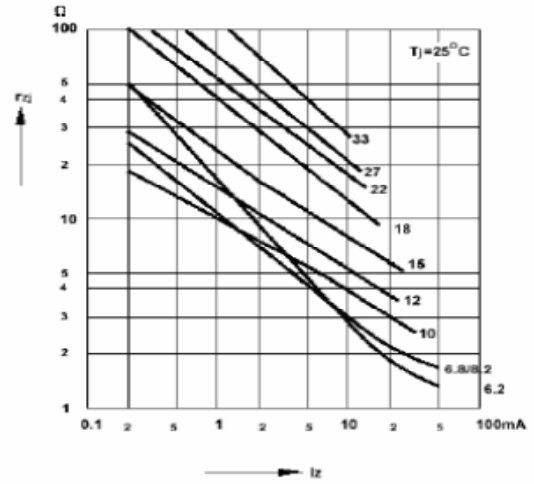
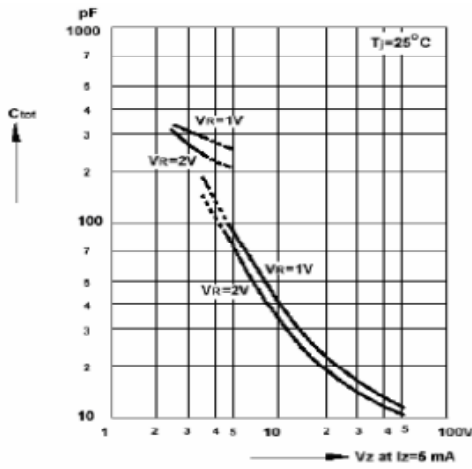
Dynamic resistance versus Zener current



Capacitance versus Zener voltage

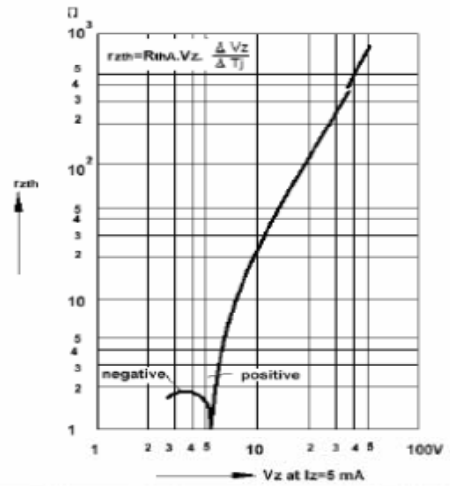
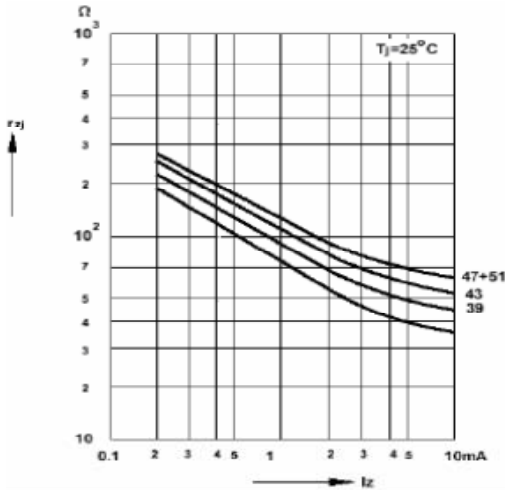
Dynamic resistance versus Zener current

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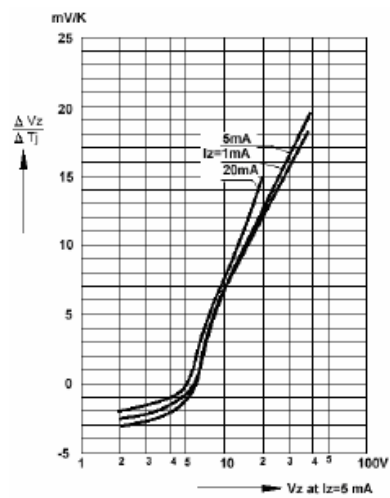
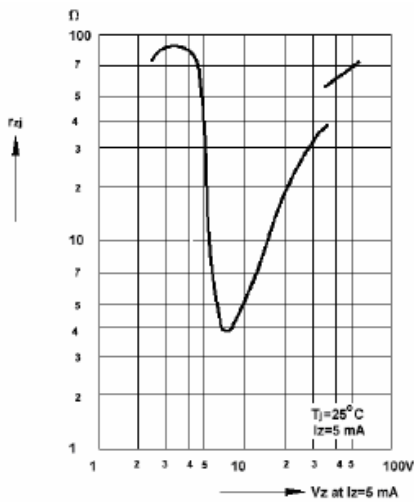
Dynamic resistance versus Zener current

Thermal differential resistance versus Zener voltage



Dynamic resistance versus Zener voltage

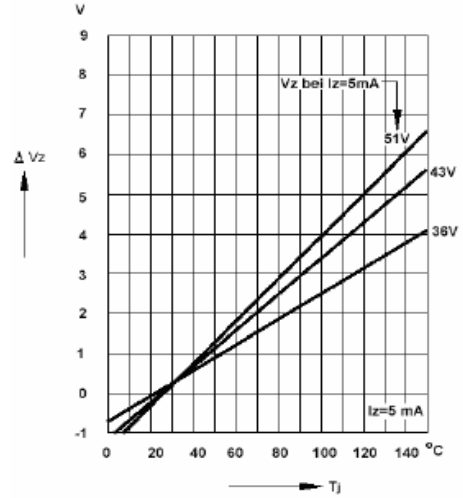
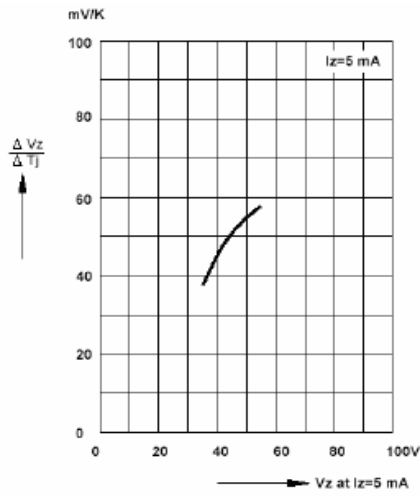
Temperature dependence of Zener voltage versus Zener voltage



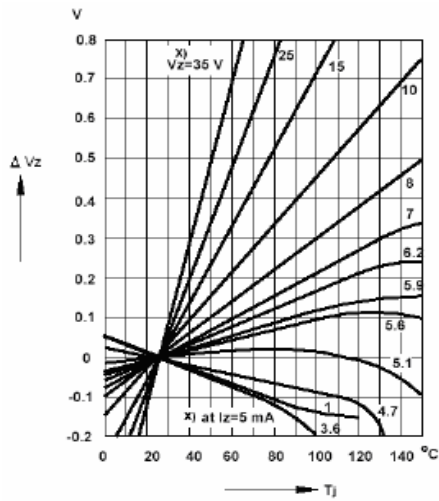
Temperature dependence of Zener voltage versus Zener voltage

Change of Zener voltage versus junction temperature

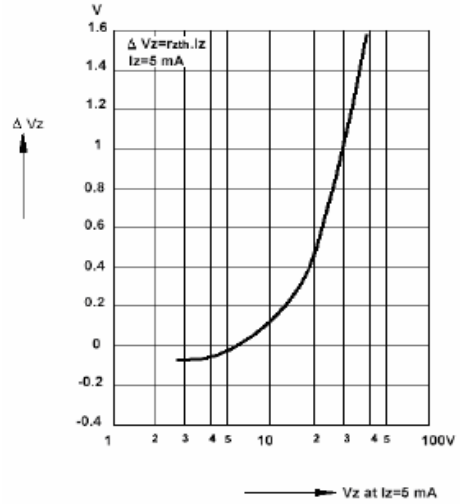
BZT52C Series



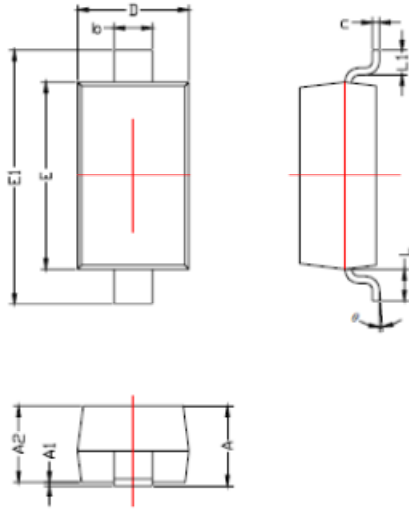
Change of Zener voltage versus junction temperature



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



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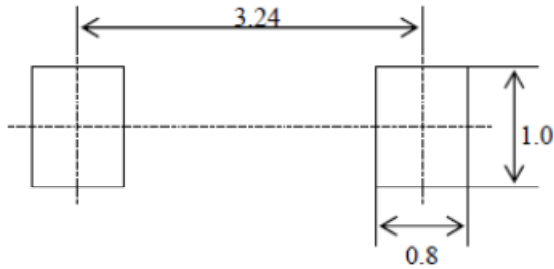


SYMBOL	DIMENSIONS	
	MIN.	MAX.
A	1.050	1.250
A1	0.000	0.100
A2	1.050	1.150
b	0.450	0.650
c	0.080	0.150
D	1.500	1.700
E	2.600	2.800
E1	3.550	3.850
L	0.500REF	
L1	0.250	0.450
θ	0°	8°

焊盘设计参考

Precautions: PCB Design

Recommended land dimensions for SOD-123 diode. Electrode patterns for PCBs



中心距: 3.24
脚宽: 0.55
焊盘宽: 1.00
脚长: 0.50
焊盘长: 0.80

技术要求:

- 1, 塑封体尺寸: 2.70 X 1.60
- 2, 未注公差为: ± 0.05
- 3, 所有单位: mm