

Features

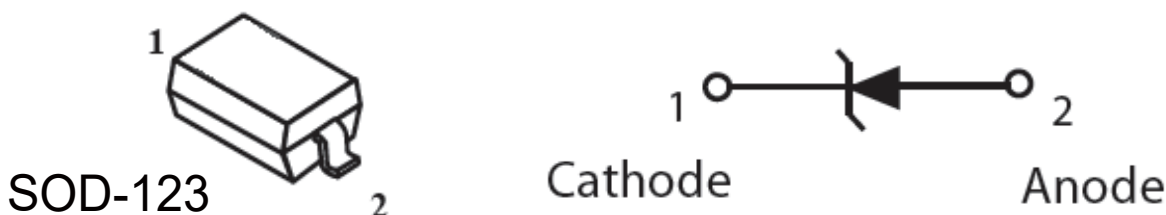
- Total power dissipation: Max. 500mW
- Wide zener reverse voltage range 2.0 V to 47V
- Small plastic package suitable for surface mounted design
- 5% high-precision regulated voltage stability
- High reliability chip and packaging process



Applications

Low-power voltage regulator is mainly used for circuit voltage adjustment of mobile phones, hand-held devices and high-density computer motherboards.

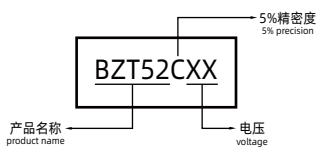
Schematic diagram of package die



Schematic diagram of package die

Parameter	Symbol	Value	Value
Power Dissipation	P_D	500	mW
Forward Voltage at $I_F = 10\text{ mA}$	V_F	0.9	V
Typical thermal resistance junction to ambient ⁽¹⁾	$R_{\theta JA}$	305	°C/W
Operating and Storage Temperature Range	T_J, T_{stg}	-55 ~ +150	°C

Ordering information

Product ID	Pack	Naming rule	voltage	Qty(PCS)
BZT52CXX	SOD-123		2V-47V	3000

Electrical Characteristics (T_A=25℃, unless otherwise noted)

Type	Marking	Zener Voltage Range ⁽²⁾				Maximum Zener ⁽³⁾ mpedance			Reverse Current ⁽²⁾		Typical temperature coefficient @I _{ZT} mV/°C		Test current I _{ZT}
		V _{ZT} (at I _{ZT})			I _{ZT}	Z _T @I _{ZT}	Z _K @I _{ZK}	I _{ZK}	I _R	@V _R			
		Min (V)	Nom (V)	Max (V)	(mA)	(Ω)		(mA)	μA	V	MIN	MAX	
BZT52C2V0	WY	1.91	2.0	2.09	5	100	600	1	150	1.0	-3.5	0	5
BZT52C2V4	WX	2.2	2.4	2.6	5	100	600	1	50	1.0	-3.5	0	5
BZT52C2V7	W1	2.5	2.7	2.9	5	100	600	1	20	1.0	-3.5	0	5
BZT52C3V0	W2	2.8	3.0	3.2	5	95	600	1	10	1.0	-3.5	0	5
BZT52C3V3	W3	3.1	3.3	3.5	5	95	600	1	5.0	1.0	-3.5	0	5
BZT52C3V6	W4	3.4	3.6	3.8	5	90	600	1	5.0	1.0	-3.5	0	5
BZT52C3V9	W5	3.7	3.9	4.1	5	90	600	1	3.0	1.0	-3.5	0	5
BZT52C4V3	W6	4.0	4.3	4.6	5	90	600	1	3.0	1.0	-3.5	0	5
BZT52C4V7	W7	4.4	4.7	5.0	5	80	500	1	3.0	2.0	-3.5	0.2	5
BZT52C5V1	W8	4.8	5.1	5.4	5	60	480	1	2.0	2.0	-2.7	1.2	5
BZT52C5V6	W9	5.2	5.6	6.0	5	40	400	1	1.0	2.0	-2	2.5	5
BZT52C6V2	WA	5.8	6.2	6.6	5	10	150	1	3.0	4.0	0.4	3.7	5
BZT52C6V8	WB	6.4	6.8	7.2	5	15	80	1	2.0	4.0	1.2	4.5	5
BZT52C7V5	WC	7.0	7.5	7.9	5	15	80	1	1.0	5.0	2.5	5.3	5
BZT52C8V2	WD	7.7	8.2	8.7	5	15	80	1	0.7	5.0	3.2	6.2	5
BZT52C9V1	WE	8.5	9.1	9.6	5	15	100	1	0.5	6.0	3.8	7.0	5
BZT52C10	WF	9.4	10	10.6	5	20	150	1	0.2	7.0	4.5	8.0	5
BZT52C11	WG	10.4	11	11.6	5	20	150	1	0.1	8.0	5.4	9.0	5
BZT52C12	WH	11.4	12	12.7	5	25	150	1	0.1	8.0	6.0	10.0	5
BZT52C13	WI	12.4	13	14.1	5	30	170	1	0.1	8.0	7.0	11.0	5
BZT52C15	WJ	13.8	15	15.6	5	30	200	1	0.1	10.5	9.2	13.0	5
BZT52C16	WK	15.3	16	17.1	5	40	200	1	0.1	11.2	10.4	14.0	5
BZT52C18	WL	16.8	18	19.1	5	45	225	1	0.1	12.6	12.4	16.0	5
BZT52C20	WM	18.8	20	21.2	5	55	225	11	0.1	14.0	14.4	18.0	5
BZT52C22	WN	20.8	22	23.3	5	55	250	1	0.1	15.4	16.4	20.0	5
BZT52C24	WO	22.8	24	25.6	5	70	250	1	0.1	16.8	18.4	22.0	5
BZT52C27	WP	25.1	27	28.9	2	80	300	0.5	0.1	18.9	21.4	25.3	2
BZT52C30	WQ	28.0	30	32.0	2	80	300	0.5	0.1	21.0	24.4	29.4	2
BZT52C33	WR	31.0	33	35.0	2	80	325	0.5	0.1	23.1	27.4	33.4	2
BZT52C36	WS	34.0	36	38.0	2	90	350	0.5	0.1	25.2	30.4	37.4	2
BZT52C39	WT	37.0	39	41.0	2	130	350	0.5	0.1	27.3	33.4	41.2	2
BZT52C43	WU	40.0	43	46.0	2.5	130	500	1	2	33	37.6	46.6	2.5
BZT52C47	WV	44.0	47	50.0	2.5	150	500	1	2	36	42.0	51.8	2.5

NOTES:

- (1) f=1KHz
- (2) Short duration test pulse used to minimize self-heating effect.
- (3) VZT is tested with pulses 20ms.

Typical Characteristics

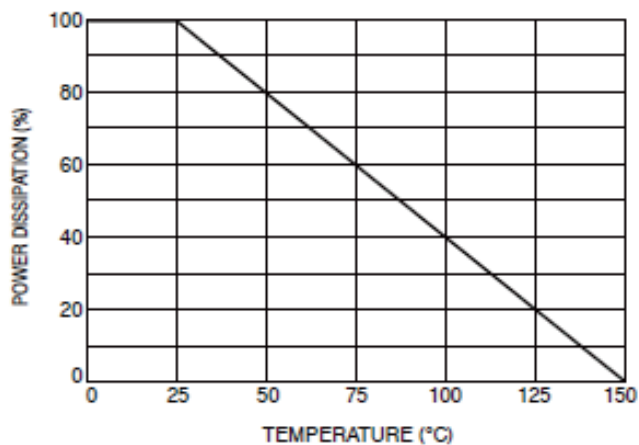


Fig.1 Maximum continuous power loss

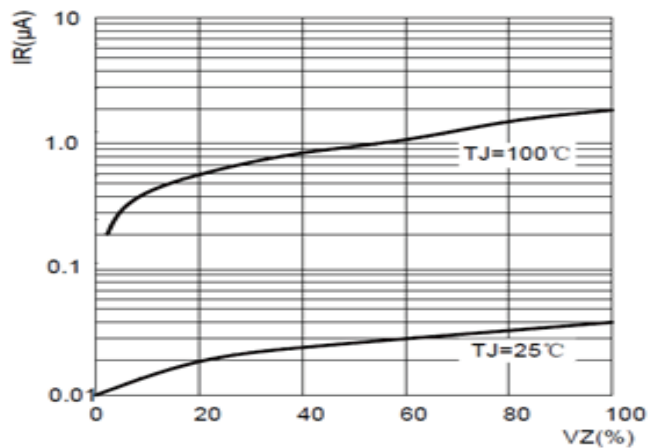


Fig.2 Typical reverse characteristic

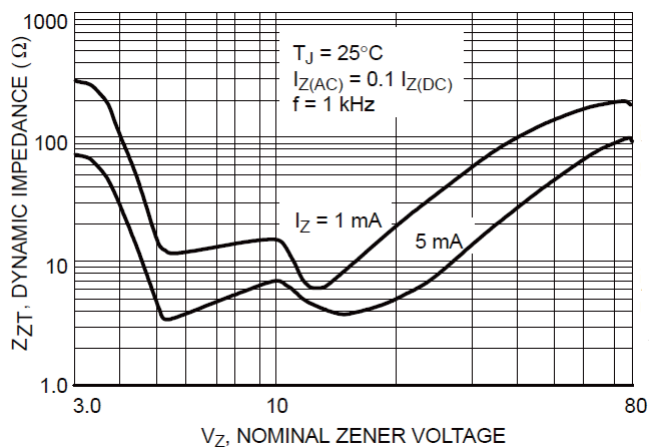


Fig.3 Reverse voltage and impedance characteristic curve

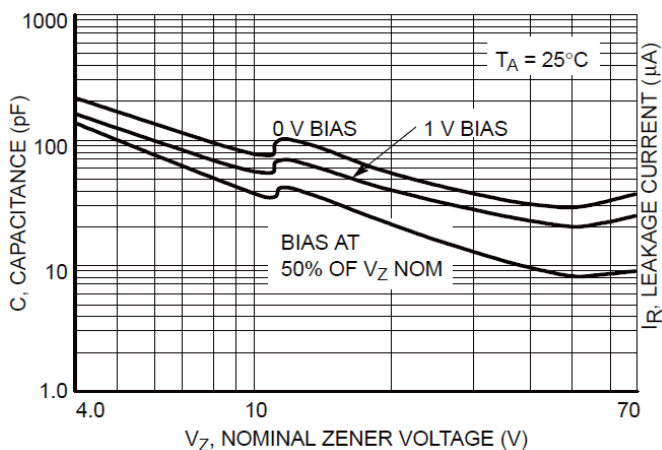
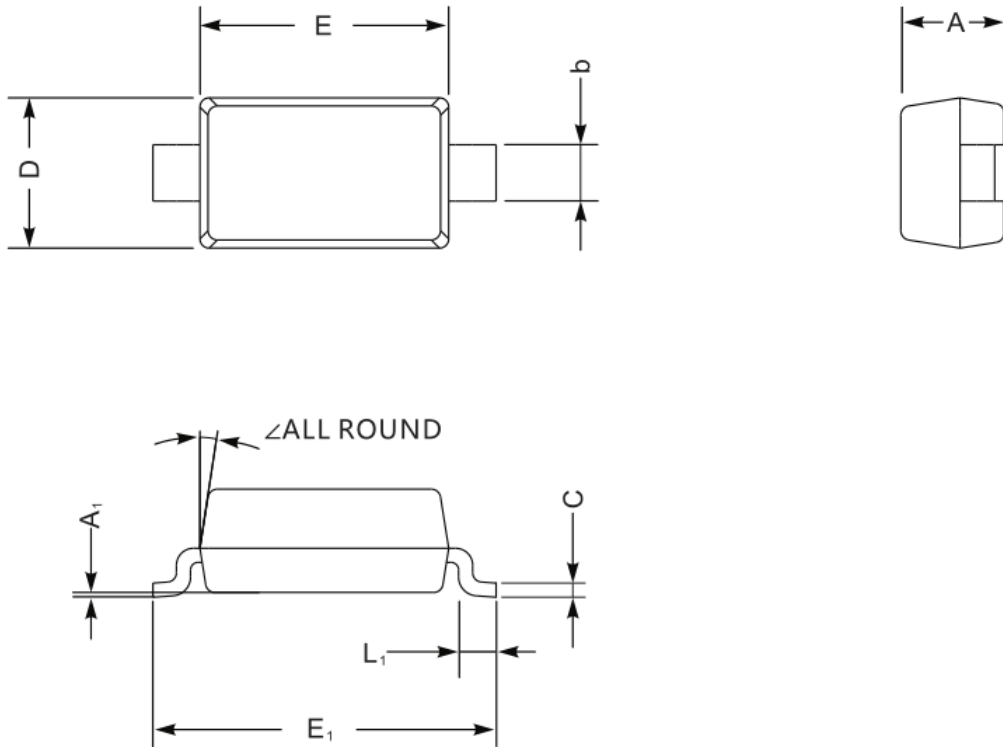


Fig.4 Typical capacitance characteristic curve



SOD-123 Package Outline Dimensions



Symbol	mm		mil	
	min	max	min	max
A	0.9	1.3	35	51
C	0.09	0.22	3.5	8.7
D	1.5	1.8	59	71
E	2.5	2.8	98	110
E ₁	3.6	3.9	142	154
L ₁	0.25	0.45	10	18
b	0.5	0.7	20	28
A ₁		0.2		8
∠	9°			