

Zener Diodes SOD-123

BZT52C Series

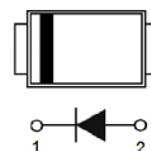
MERITEK

FEATURES

- Breakdown Voltage Range: 2.4V to 75V
- Zener Voltage Tolerance: $\pm 5V$
- Power Dissipation: 500mW
- Case Molded Plastic Meets UL94V-0

APPLICATIONS

- Voltage Regulation
- Overvoltage Protection
- Clipping Circuits

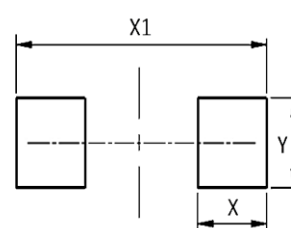
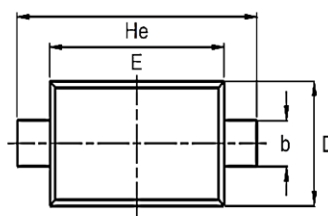
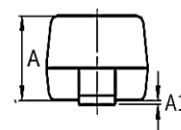
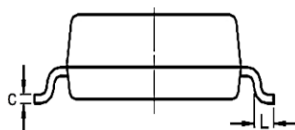


ABSOLUTE MAXIMUM RATINGS

Parameter	Symbols	Value	Unit
Power Dissipation at $T_A=25^{\circ}C$	P_D	500	mW
Maximum Forward Voltage at $I_F=10mA$	V_F	0.9	V
Typical Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	305	$^{\circ}C/W$
Typical Thermal Resistance from Junction to Case	$R_{\theta JC}$	200	$^{\circ}C/W$
Junction and Storage Temperature Range	T_J, T_{STG}	-55~+150	$^{\circ}C$

DIMENSIONS

Item	Min (mm)	Max (mm)
A	0.95	1.35
A1	0.10	--
b	0.45	0.65
c	0.00	0.20
D	1.40	1.80
E	2.50	2.80
He	3.55	3.85
L	0.25	0.45
X	1.22	
X1	4.18	
Y	0.91	



ELECTRICAL CHARACTERISTICS

Part Number	Zener Voltage Range				Zener Impedance			Reverse Current	
	V _Z at I _{ZT}			I _{ZT}	Z _{ZT} at I _{ZT}	Z _{ZT} at I _{ZK}	I _{ZK}	I _R	V _R
	Min. (V)	Nom. (V)	Max. (V)	(mA)	Max. (Ω)	Max. (Ω)	(mA)	Max. (μA)	(V)
BZT52C2V4	2.2	2.4	2.6	5	100	600	1.0	50.0	1.0
BZT52C2V7	2.5	2.7	2.9	5	100	600	1.0	20.0	1.0
BZT52C3V0	2.8	3.0	3.2	5	95	600	1.0	10.0	1.0
BZT52C3V3	3.1	3.3	3.5	5	95	600	1.0	5.0	1.0
BZT52C3V6	3.4	3.6	3.8	5	90	600	1.0	5.0	1.0
BZT52C3V9	3.7	3.9	4.1	5	90	600	1.0	3.0	1.0
BZT52C4V3	4.0	4.3	4.6	5	90	600	1.0	3.0	1.0
BZT52C4V7	4.4	4.7	5.0	5	80	500	1.0	3.0	2.0
BZT52C5V1	4.8	5.1	5.4	5	60	480	1.0	2.0	2.0
BZT52C5V6	5.2	5.6	6.0	5	40	400	1.0	1.0	2.0
BZT52C6V2	5.8	6.2	6.6	5	10	150	1.0	3.0	4.0
BZT52C6V8	6.4	6.8	7.2	5	15	80	1.0	2.0	4.0
BZT52C7V5	7.0	7.5	7.9	5	15	80	1.0	1.0	5.0
BZT52C8V2	7.7	8.2	8.7	5	15	80	1.0	3.0	5.0
BZT52C9V1	8.5	9.1	9.6	5	15	100	1.0	2.0	6.0
BZT52C10	9.4	10.0	10.6	5	20	150	1.0	1.0	7.0
BZT52C11	10.4	11.0	11.6	5	20	150	1.0	3.0	8.0
BZT52C12	11.4	12.0	12.7	5	25	150	1.0	2.0	8.0
BZT52C13	12.4	13.0	14.1	5	30	170	1.0	1.0	8.0
BZT52C15	13.8	15.0	15.8	5	30	200	1.0	0.7	10.5
BZT52C16	15.3	16.0	17.1	5	40	200	1.0	0.5	11.2
BZT52C18	16.8	18.0	19.1	5	45	225	1.0	0.2	12.6
BZT52C20	18.8	20.0	21.2	5	55	225	1.0	0.1	14.0
BZT52C22	20.8	22.0	23.3	5	55	250	1.0	0.1	15.4
BZT52C24	22.8	24.0	25.6	5	70	250	1.0	0.1	16.8
BZT52C27	25.1	27.0	28.9	2	80	300	0.5	0.1	18.9
BZT52C30	28.0	30.0	32.0	2	80	300	0.5	0.1	21.0
BZT52C33	31.0	33.0	35.0	2	80	325	0.5	0.1	23.1
BZT52C36	34.0	36.0	38.0	2	90	350	0.5	0.1	25.2
BZT52C39	37.0	39.0	41.0	2	130	350	0.5	0.1	27.3
BZT52C43	40.0	43.0	46.0	2	150	700	0.5	0.1	32.0
BZT52C47	44.0	47.0	50.0	2	170	1000	0.25	0.1	35.0
BZT52C51	48.0	51.0	54.0	2	180	1300	1.0	0.1	38.0
BZT52C56	52.0	56.0	60.0	2	200	1400	0.25	0.1	42.0
BZT52C62	58.0	62.0	66.0	2	225	1400	0.25	0.2	46.0
BZT52C68	64.0	68.0	72.0	2	250	1600	0.25	0.2	51.0
BZT52C75	70.0	75.0	79.0	2	300	1700	0.25	0.2	56.0

Note:

1. T_A = 25°C unless otherwise noted.

2. Tested with pulses, period = 5ms, pulse width = 300μs.

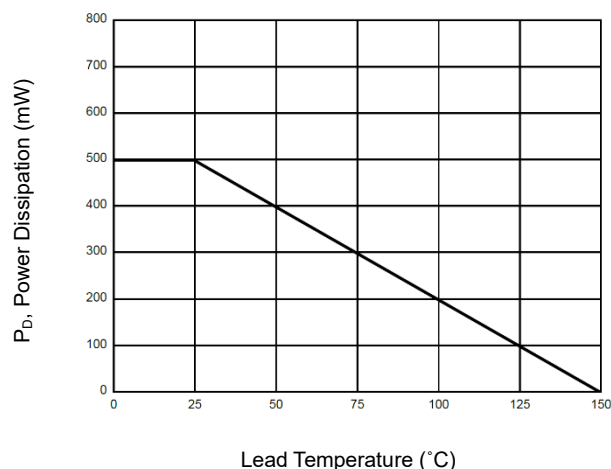
3. Device mounted on ceramic PCB; 7.6mm x 9.4mm x 0.87mm with pad area 25mm²

4. When provided, otherwise, parts are provided with date code only, and type number identifications appears on reel only.

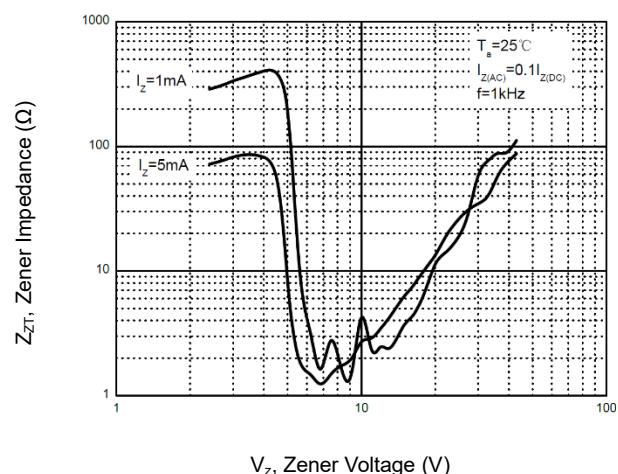
5. f=1KHz.

CHARACTERISTIC CURVES

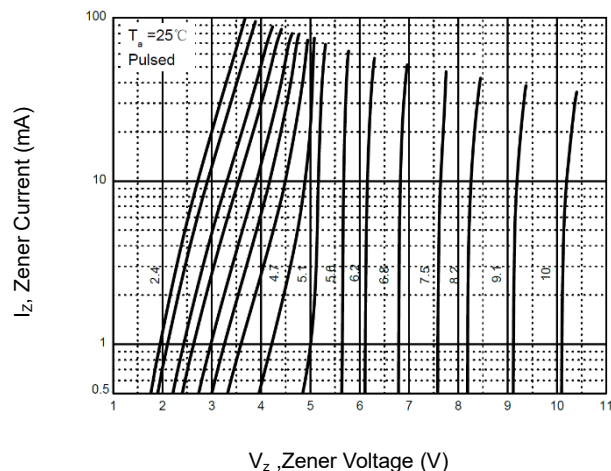
Power Derating Curve



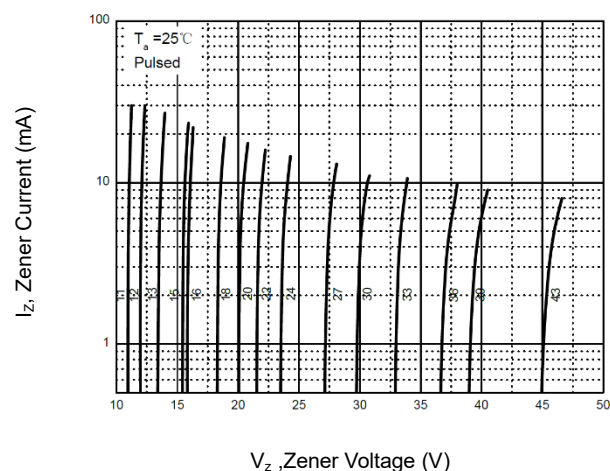
Typical Zener Impedance Characteristics



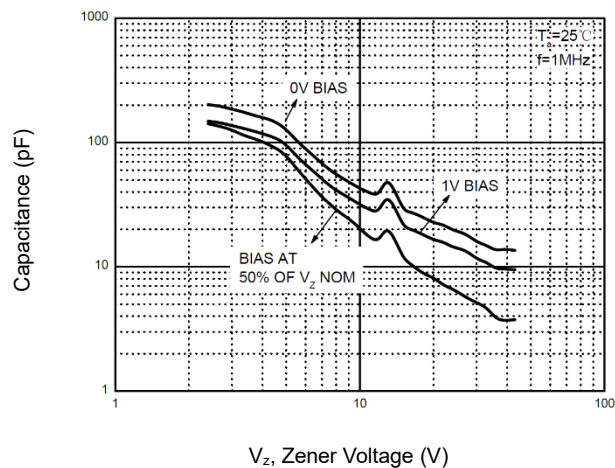
Zener Breakdown Characteristics



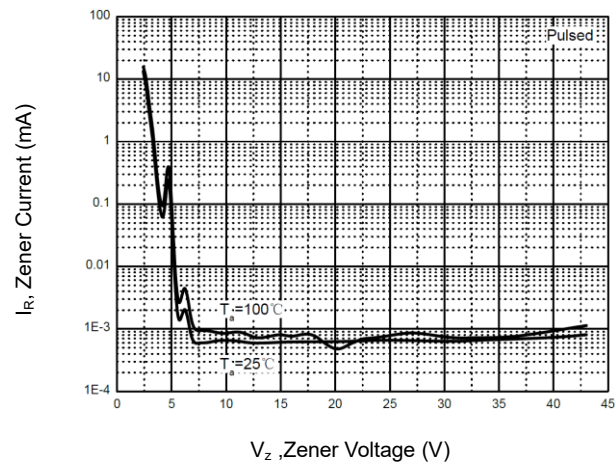
Zener Breakdown Characteristics



Typical Capacitance



Typical Leakage Current



CHARACTERISTIC CURVES

Temperature Coefficients

