BZT52C2V0T-BZT52C75T ZENER DIODE

SOD-523

FEATURES

- Planar die construction
- 200mW power dissipation on ceramic PBC
- General purpose, medium current
- Ideally suited for automated assembly processes
- Available in lead free version

Marking:

XX= Device code, see table on page2 the marking code

The marking bar indicates the cathode

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Maximum Ratings (T_a=25℃ unless otherwise specified)

Characteristic	Symbol	Value	Unit
Forward Voltage (Note 2) @ I_F = 10mA	V_F	0.9	V
Power Dissipation(Note 1)	P_D	200	mW
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	625	℃/W
Operation Junction and Storage Temperature Range	T_J,T_{stg}	-55~+150	℃

ELECTRICAL CHARACTERISTICS

T_a=25℃ unless otherwise specified

Device	Device Marking	Zener Voltage (Note 1) V_Z (Volts) Min	Nom	Max	@ I_{ZT} mA	Zener Impedance Z_{ZT} @ I_{ZT} Ω	Z_{ZK} @ I_{ZK} Ω	I_{ZK} mA	Leakage Current I_R @ V_R μA	Volts	ΘV_Z (mV/k) @ I_{ZT} Min	Max	C @ V_R = 0 f = 1 MHz pF
BZT52C2V0T	WY	1.91	2.0	2.09	5	100	600	1.0	150	1.0	−3.5	0	450
BZT52C2V4T	00	2.2	2.4	2.6	5	100	1000	1.0	50	1.0	−3.5	0	450
BZT52C2V7T	01	2.5	2.7	2.9	5	100	1000	1.0	20	1.0	−3.5	0	450
BZT52C3V0T	02	2.8	3.0	3.2	5	100	1000	1.0	10	1.0	−3.5	0	450
BZT52C3V3T	05	3.1	3.3	3.5	5	95	1000	1.0	5	1.0	−3.5	0	450
BZT52C3V6T	06	3.4	3.6	3.8	5	90	1000	1.0	5	1.0	−3.5	0	450
BZT52C3V9T	07	3.7	3.9	4.1	5	90	1000	1.0	3	1.0	−3.5	−2.5	450
BZT52C4V3T	08	4.0	4.3	4.6	5	90	1000	1.0	3	1.0	−3.5	0	450
BZT52C4V7T	09	4.4	4.7	5.0	5	80	800	1.0	3	2.0	−3.5	0.2	260
BZT52C5V1T	0A	4.8	5.1	5.4	5	60	500	1.0	2	2.0	−2.7	1.2	225
BZT52C5V6T	0C	5.2	5.6	6.0	5	40	400	1.0	1	2.0	−2.0	2.5	200
BZT52C6V2T	0E	5.8	6.2	6.6	5	10	100	1.0	3	4.0	0.4	3.7	185
BZT52C6V8T	0F	6.4	6.8	7.2	5	15	160	1.0	2	4.0	1.2	4.5	155
BZT52C7V5T	0G	7.0	7.5	7.9	5	15	160	1.0	1	5.0	2.5	5.3	140
BZT52C8V2T	0H	7.7	8.2	8.7	5	15	160	1.0	0.7	5.0	3.2	6.2	135
BZT52C9V1T	0K	8.5	9.1	9.6	5	15	160	1.0	0.2	7.0	3.8	7.0	130
BZT52C10T	0L	9.4	10	10.6	5	20	160	1.0	0.1	8.0	4.5	8.0	130
BZT52C11T	0M	10.4	11	11.6	5	20	160	1.0	0.1	8.0	5.4	9.0	130
BZT52C12T	0N	11.4	12	12.7	5	25	80	1.0	0.1	8.0	6.0	10	130
BZT52C13T	0P	12.4	13.25	14.1	5	30	80	1.0	0.1	8.0	7.0	11	120
BZT52C15T	0T	14.3	15	15.8	5	30	200	1.0	0.05	10.5	9.2	13	110
BZT52C16T	0U	15.3	16.2	17.1	2	40	200	1.0	0.05	11.2	10.4	14	105
BZT52C18T	0W	16.8	18	19.1	2	45	225	1.0	0.05	12.6	12.4	16	100
BZT52C20T	0Z	18.8	20	21.2	2	55	225	1.0	0.05	14.0	14.4	18	85
BZT52C22T	10	20.8	22	23.3	2	55	250	1.0	0.05	15.4	16.4	20	85
BZT52C24T	11	22.8	24.2	25.6	2	70	120	1.0	0.05	16.8	18.4	22	80
BZT52C27T	12	25.1	27	28.9	2	80	300	1.0	0.05	18.9	21.4	25.3	70
BZT52C30T	14	28	30	32	2	80	300	1.0	0.05	21.0	24.4	29.4	70
BZT52C33T	18	31	33	35	2	80	300	1.0	0.05	23.2	27.4	33.4	70
BZT52C36T	19	34	36	38	2	90	500	1.0	0.05	25.2	30.4	37.4	70
BZT52C39T	20	37	39	41	2	130	500	1.0	0.05	27.3	33.4	41.2	45
BZT52C43T	21	40	43	46	2	150	500	1.0	0.05	30.1	37.6	46.6	40
BZT52C47T	1A	44	47	50	2	170	500	1.0	0.05	32.9	42.0	51.8	40
BZT52C51T	1C	48	51	54	2	180	500	1.0	0.05	35.7	46.6	57.2	40
BZT52C56T	1D	52	56	60	2	200	500	1.0	0.05	39.2	52.2	63.8	40
BZT52C62T	1E	58	62	66	2	215	500	1.0	0.05	43.4	58.8	71.6	35
BZT52C68T	1F	64	68	72	2	240	500	1.0	0.05	47.6	65.6	79.8	35
BZT52C75T	1G	70	75	79	2	255	500	1.0	0.05	52.5	73.4	88.6	35

Notes: 1. Device mounted on ceramic PCB: 7.6mm x 9.4mm x 0.87mm with pad areas 25mm^2.
2. Short duration test pulse used to minimize self-heating effect.
3. f = 1kHz.

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Typical Characteristics

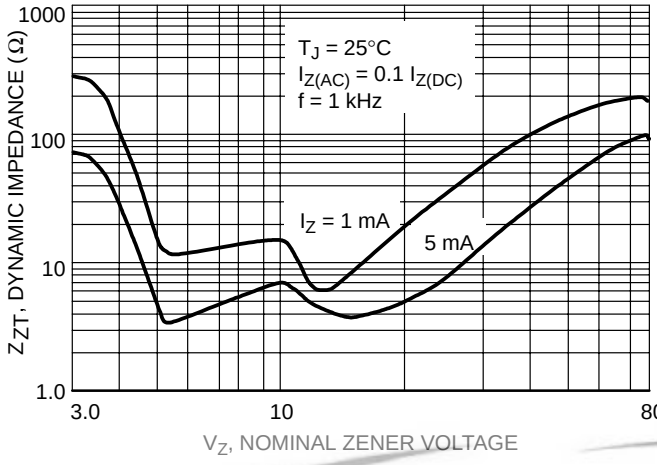

Figure 1. Effect of Zener Voltage on Zener Impedance

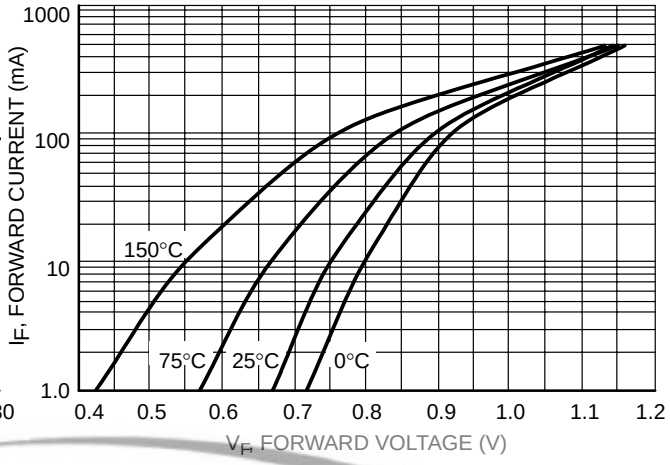

Figure 2. Typical Forward Voltage

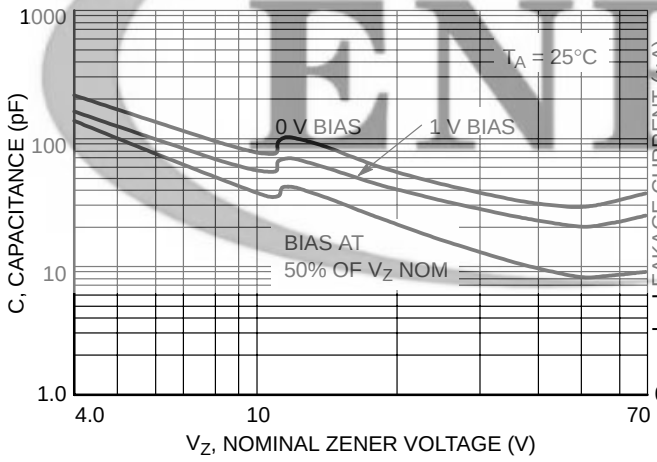

Figure 3. Typical Capacitance

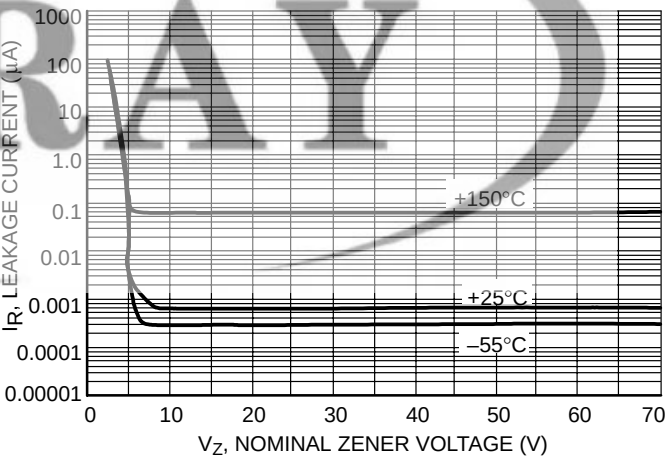

Figure 4. Typical Leakage Current

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Typical Characteristics

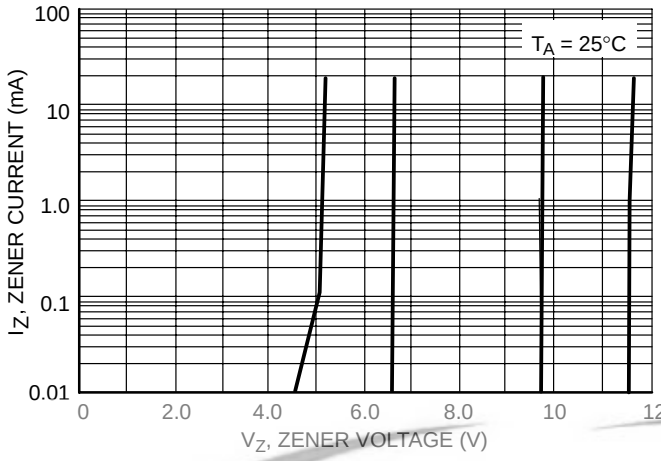

Figure 5. Zener Voltage versus Zener Current (V_Z Up to 12 V)

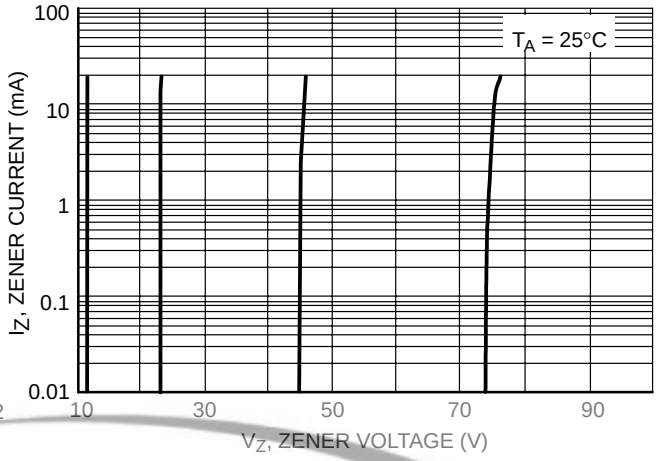

Figure 6. Zener Voltage versus Zener Current (12 V to 75 V)

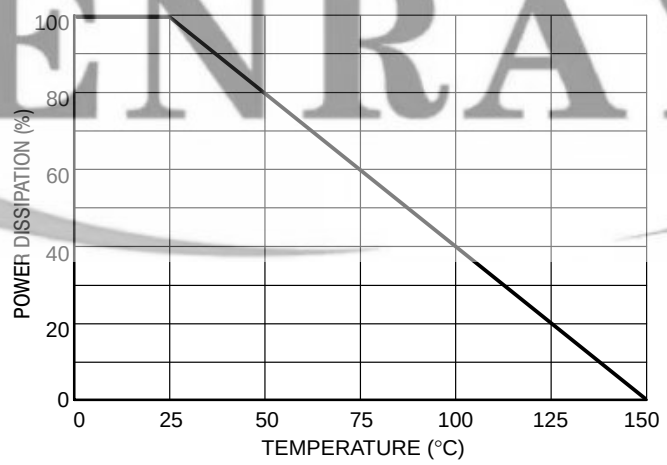

Figure 7. Steady State Power Derating

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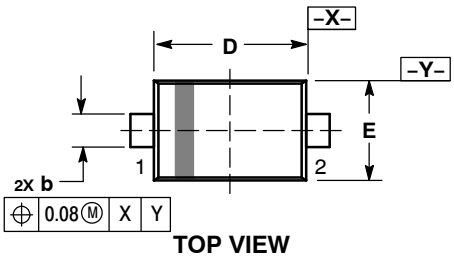
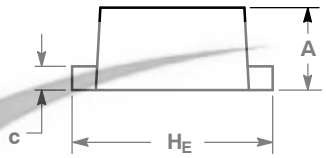
PACKAGE OUTLINE AND PAD LAYOUT INFORMATION

SOD-523 Package Outline Dimensions

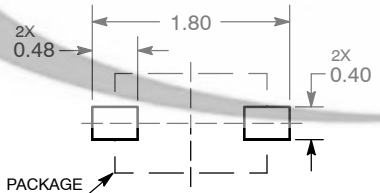


TOP VIEW



SIDE VIEW

RECOMMENDED
SOLDERING FOOTPRINT*



DIMENSION: MILLIMETERS

NOTES:
1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 1994.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.
4. DIMENSIONS D AND E DO NOT INCLUDE MOLD FLASH, PROTRUSIONS, OR GATE BURRS.

	MILLIMETERS		
DIM	MIN	NOM	MAX
A	0.50	0.60	0.70
b	0.25	0.30	0.35
c	0.07	0.14	0.20
D	1.10	1.20	1.30
E	0.70	0.80	0.90
H_E	1.50	1.60	1.70
L	0.30 REF		
L_2	0.15	0.20	0.25

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