

**SURFACE MOUNT ZENER DIODE**

**Features**

- Planar Die Construction
- Ultra-Small Surface Mount Package
- Ideally suited for Automated Assembly Processes
- P/N suffix V means AEC-Q101qualified, e.g:BZT52C2V0SV
- Halogen-free

**Mechanical Data**

- Case: SOD-323, Plastic
- Case material - UL Flammability Rating Classification 94V-0
- Moisture sensitivity: Level 1 per J-STD-020A
- Terminals: Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band



**SOD323**

Marking Information:



XX = Product Type Marking Code  
(See Table Above)

**Maximum Ratings** @ T<sub>A</sub> = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Forward Voltage (Note 2) @ I <sub>F</sub> = 10mA	V <sub>F</sub>	0.9	V
Power Dissipation (Note 1)	P <sub>d</sub>	200	mW
Thermal Resistance, Junction to Ambient Air (Note 1)	R <sub>θJA</sub>	625	°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +150	°C

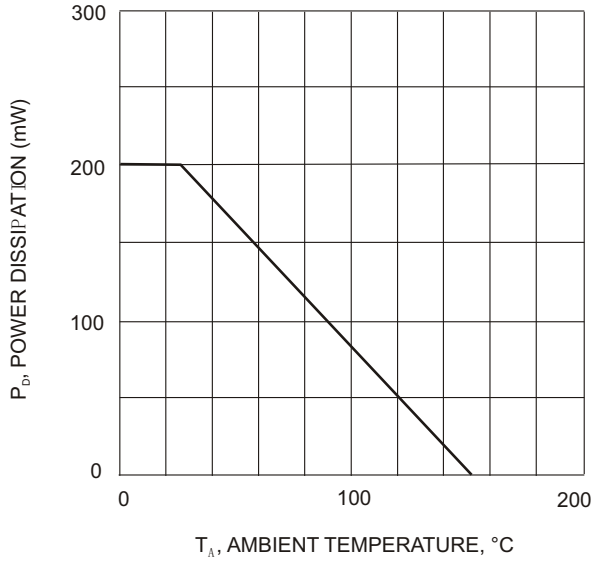
Notes: 1. Part mounted on FR-4 PC board with recommended pad layout  
2. Short duration test pulse used in minimize self-heating effect.

Electrical Characteristics @ T<sub>A</sub> = 25°C unless otherwise specified

Type Number	Device Marking	V <sub>z</sub> (V) *1			I <sub>ZT</sub>	Z <sub>ZT</sub> @I <sub>ZT</sub>	Z <sub>ZK</sub> @I <sub>ZK</sub>	I <sub>zk</sub>	I <sub>R</sub>	V <sub>R</sub>
		Nom(V)	Min(V)	Max(V)	mA	Ω		(mA)	(μA)	(V)
BZT52C2V0S	WY	2.0	1.91	2.09	5	100	600	1.0	150	1.0
BZT52C2V4S	WX	2.4	2.28	2.52	5	100	600	1.0	50	1.0
BZT52C2V7S	W1	2.7	2.57	2.84	5	100	600	1.0	20	1.0
BZT52C3V0S	W2	3.0	2.85	3.15	5	95	600	1.0	10	1.0
BZT52C3V3S	W3	3.3	3.14	3.47	5	95	600	1.0	5	1.0
BZT52C3V6S	W4	3.6	3.42	3.78	5	90	600	1.0	5	1.0
BZT52C3V9S	W5	3.9	3.71	4.10	5	90	600	1.0	3	1.0
BZT52C4V3S	W6	4.3	4.09	4.52	5	90	600	1.0	3	1.0
BZT52C4V7S	W7	4.7	4.47	4.94	5	80	500	1.0	3	2.0
BZT52C5V1S	W8	5.1	4.85	5.36	5	60	480	1.0	2	2.0
BZT52C5V6S	W9	5.6	5.32	5.88	5	40	400	1.0	1	2.0
BZT52C6V2S	WA	6.2	5.89	6.51	5	10	150	1.0	3	4.0
BZT52C6V8S	WB	6.8	6.46	7.14	5	15	80	1.0	2	4.0
BZT52C7V5S	WC	7.5	7.13	7.88	5	15	80	1.0	1	5.0
BZT52C8V2S	WD	8.2	7.79	8.61	5	15	80	1.0	0.7	5.0
BZT52C9V1S	WE	9.1	8.65	9.56	5	15	100	1.0	0.5	6.0
BZT52C10S	WF	10.0	9.50	10.50	5	20	150	1.0	0.2	7.0
BZT52C11S	WG	11.0	10.45	11.55	5	20	150	1.0	0.1	8.0
BZT52C12S	WH	12.0	11.40	12.60	5	25	150	1.0	0.1	8.0
BZT52C13S	WI	13.0	12.35	13.65	5	30	170	1.0	0.1	8.0
BZT52C15S	WJ	15.0	14.25	15.75	5	30	200	1.0	0.1	10.5
BZT52C16S	WK	16.0	15.20	16.80	5	40	200	1.0	0.1	11.2
BZT52C18S	WL	18.0	17.10	18.90	5	45	225	1.0	0.1	12.6
BZT52C20S	WM	20.0	19.00	21.00	5	55	225	1.0	0.1	14.0
BZT52C22S	WN	22.0	20.90	23.10	5	55	250	1.0	0.1	15.4
BZT52C24S	WO	24.0	22.80	25.20	5	70	250	1.0	0.1	16.8
BZT52C27S	WP	27.0	25.65	28.35	2	80	300	0.5	0.1	18.9
BZT52C30S	WQ	30.0	28.50	31.50	2	80	300	0.5	0.1	21.0
BZT52C33S	WR	33.0	31.35	34.65	2	80	325	0.5	0.1	23.1
BZT52C36S	WS	36.0	34.20	37.80	2	90	350	0.5	0.1	25.2
BZT52C39S	WT	39.0	37.05	40.95	2	130	350	0.5	0.1	27.3
BZT52C43S	WU	43.0	40.85	45.15	2	130	350	0.5	0.1	29.4
BZT52C47S	WV	47.0	44.65	49.35	2	170	1000	0.25	0.1	36
BZT52C51S	X1	51	48.45	53.55	2	180	1300	0.25	0.1	39
BZT52C56S	X2	56	53.20	58.80	2	200	1400	0.25	0.1	43
BZT52C62S	X3	62	58.90	65.10	2	225	1400	0.25	0.1	47
BZT52C68S	X4	68	64.60	71.40	2	240	1600	0.25	0.1	52
BZT52C75S	X5	75	71.25	78.75	2	265	1700	0.25	0.1	56

\*1 Pulse width = 10 ms

## RATING AND CHARACTERISTICS CURVES (BZT52C2V0SV THRU BZT52C75SV)



$T_A$ , AMBIENT TEMPERATURE, °C  
Fig. 1. Power Derating Curve

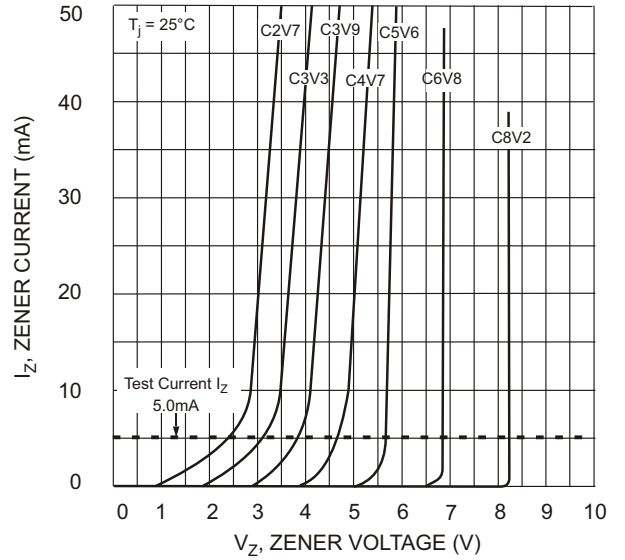


Fig. 2. Zener Breakdown Characteristics

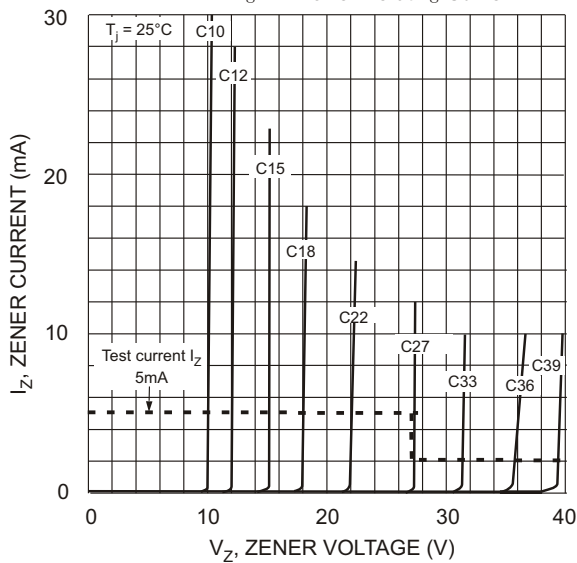


Fig. 3. Zener Breakdown Characteristics

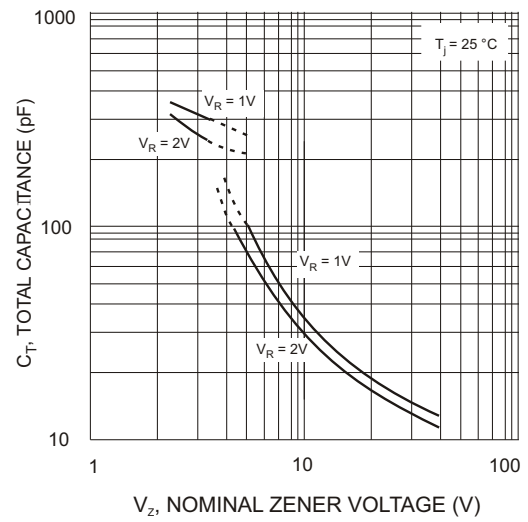
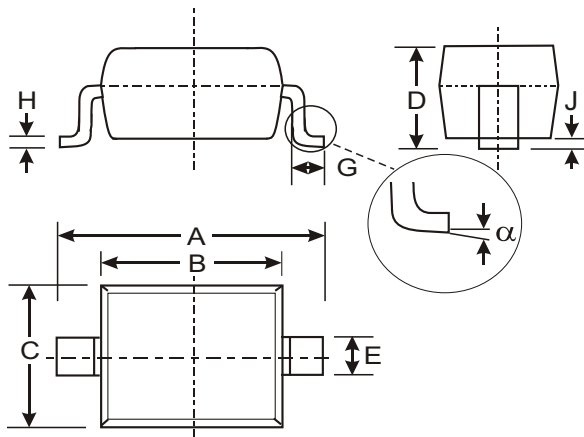


Fig. 4. Total Capacitance vs. Nominal Zener Voltage



SOD-323		
Dim	Min	Max
A	2.30	2.70
B	1.60	1.80
C	1.20	1.40
D	1.05 Typical	
E	0.25	0.35
G	0.20	0.40
H	0.10	0.15
J	0.05 Typical	
$\alpha$	0°	8°
All Dimensions in mm		

## PACKAGING OF DIODE AND BRIDGE RECTIFIERS

### REEL PACK

PACKAGE	PACKING CODE	EA PER REEL	EA PER INNER BOX	COMPONENT SPACE (mm)	TAPE SPACE (mm)	REEL DIA (mm)	CARTON SIZE (mm)	EA PER CARTON	GROSS WEIGHT(Kg)
SOD-323	-T	3,000	15,000	---	---	178	390*205*31	120,000	5.17

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