



# BZT52C2V4S ~ BZT52C43S

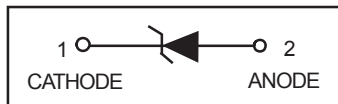
## SURFACE MOUNT ZENER DIODE

### Features

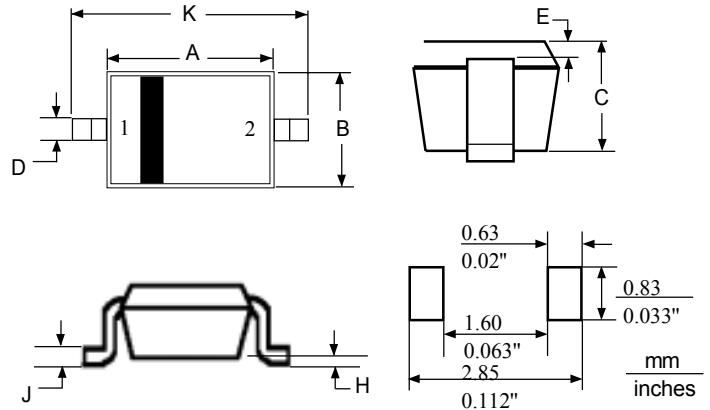
- Planar Die Construction
- Ultra-Small Surface Mount Package
- Ideally suited for Automated Assembly Processes

### 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
- Marking: See Below
- Weight: 0.004 grams (approx.)



### SOD-323



DIN	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	1.60	1.80	0.063	0.071
B	1.15	1.35	0.045	0.053
C	0.80	1.00	0.031	0.039
D	0.25	0.40	0.010	0.016
E	0.15 REF		0.006 REF	
H	0.00	0.10	0.0000	0.004
J	0.089	0.177	0.0035	0.0070
K	2.30	2.70	0.091	0.106

#### NOTES:

1. CONTROLLING DIMENSION: MILLIMETERS
2. LEAD THICKNESS SPECIFIED PER L/F DRAWING WITH SOLDER PLATING.

### Maximum Ratings @ $T_A=25^{\circ}\text{C}$ unless otherwise specified

Type Number	Symbol	Value	Units
Forward Voltage @ $I_F = 10\text{mA}$	VF	1.0	V
Power Dissipation (Note 1)	Pd	200	mW
Thermal Resistance Junction to Ambient Air (Note 1)	$R_{\theta JA}$	625	$^{\circ}\text{C/W}$
Operating and Storage Temperature Range	$T_J, T_{STG}$	-55 to + 150	$^{\circ}\text{C}$

- Notes:
1. Valid provided the device terminals are kept at ambient temperature.
  2. Short duration test pulse used in minimize self-heating effect.
  3.  $f = 1\text{KHz}$ .



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## SURFACE MOUNT ZENER DIODE

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

Type	Marking	Zener Voltage Range (NOTE 2)				Maximum Zener Impedance (NOTE 3)			Maximum Reverse Current (NOTE 2)			Typical Temperature Coefficient @I <sub>ZTC</sub> mV/°C		Test Current I <sub>ZTC</sub>
		V <sub>ZT</sub> ( @ I <sub>ZT</sub> )			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>	MIN	MAX	mA	
		Min ( V )	Nom ( V )	Max ( V )	(mA)	(Ω)		mA	μA	V				
BZT52C2V4S	WX	2.2	2.4	2.6	5	100	600	1	50	1	-3.5	0	5	
BZT52C2V7S	W1	2.5	2.7	2.9	5	100	600	1	20	1	-3.5	0	5	
BZT52C3V0S	W2	2.8	3	3.2	5	95	600	1	10	1	-3.5	0	5	
BZT52C3V3S	W3	3.1	3.3	3.5	5	95	600	1	5	1	-3.5	0	5	
BZT52C3V6S	W4	3.4	3.6	3.8	5	90	600	1	5	1	-3.5	0	5	
BZT52C3V9S	W5	3.7	3.9	4.1	5	90	600	1	3	1	-3.5	0	5	
BZT52C4V3S	W6	4	4.3	4.6	5	90	600	1	3	1	-3.5	0	5	
BZT52C4V7S	W7	4.4	4.7	5	5	80	500	1	3	2	-3.5	0.2	5	
BZT52C5V1S	W8	4.8	5.1	5.4	5	60	480	1	2	2	-2.7	1.2	5	
BZT52C5V6S	W9	5.2	5.6	6	5	40	400	1	1	2	-2	2.5	5	
BZT52C6V2S	WA	5.8	6.2	6.6	5	10	150	1	3	4	0.4	3.7	5	
BZT52C6V8S	WB	6.4	6.8	7.2	5	15	80	1	2	4	1.2	4.5	5	
BZT52C7V5S	WC	7	7.5	7.9	5	15	80	1	1	5	2.5	5.3	5	
BZT52C8V2S	WD	7.7	8.2	8.7	5	15	80	1	0.7	5	3.2	6.2	5	
BZT52C9V1S	WE	8.5	9.1	9.6	5	15	100	1	0.5	6	3.8	7	5	
BZT52C10S	WF	9.4	10	10.6	5	20	150	1	0.2	7	4.5	8	5	
BZT52C11S	WG	10.4	11	11.6	5	20	150	1	0.1	8	5.4	9	5	
BZT52C12S	WH	11.4	12	12.7	5	25	150	1	0.1	8	6	10	5	
BZT52C13S	WI	12.4	13	14.1	5	30	170	1	0.1	8	7	11	5	
BZT52C15S	WJ	13.8	15	15.6	5	30	200	1	0.1	10.5	9.2	13	5	
BZT52C16S	WK	15.3	16	17.1	5	40	200	1	0.1	11.2	10.4	14	5	
BZT52C18S	WL	16.8	18	19.1	5	45	225	1	0.1	12.6	12.4	16	5	
BZT52C20S	WM	18.8	20	21.2	5	55	225	1	0.1	14	14.4	18	5	
BZT52C22S	WN	20.8	22	23.3	5	55	250	1	0.1	15.4	16.4	20	5	
BZT52C24S	WO	22.8	24	25.6	5	70	250	1	0.1	16.8	18.4	22	5	
BZT52C27S	WP	25.1	27	28.9	2	80	300	0.5	0.1	18.9	21.4	25.3	2	
BZT52C30S	WQ	28	30	32	2	80	300	0.5	0.1	21	24.4	29.4	2	
BZT52C33S	WR	31	33	35	2	80	325	0.5	0.1	23.1	27.4	33.4	2	
BZT52C36S	WS	34	36	38	2	90	350	0.5	0.1	25.2	30.4	37.4	2	
BZT52C39S	WT	37	39	41	2	130	350	0.5	0.1	27.3	33.4	41.2	2	
BZT52C43S	WU	40	43	46	2	100	700	1	0.1	32	10	12	5	

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



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## RATINGS AND CHARACTERISTIC CURVES

FIG.1- POWER DERATING CURVE

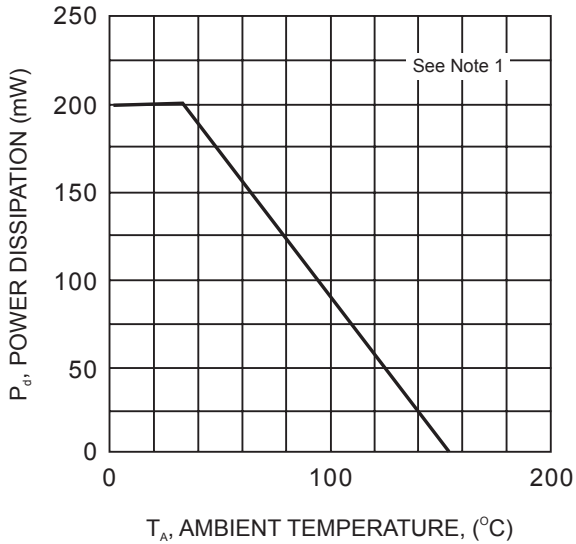


FIG.2- ZENER BREAKDOWN CHARACTERISTICS

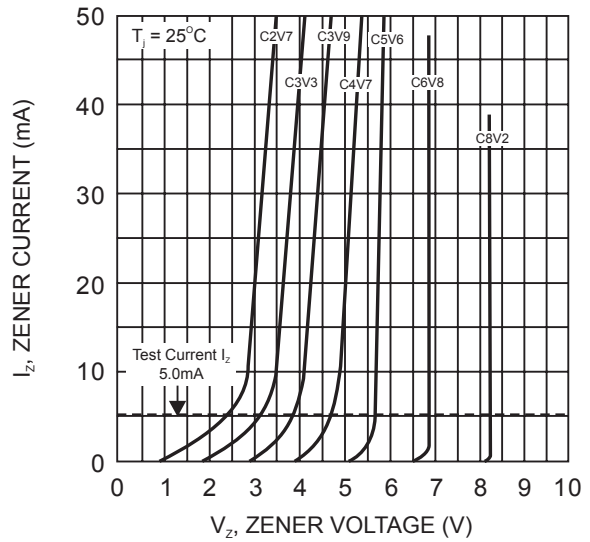


FIG.3- ZENER BREAKDOWN CHARACTERISTICS

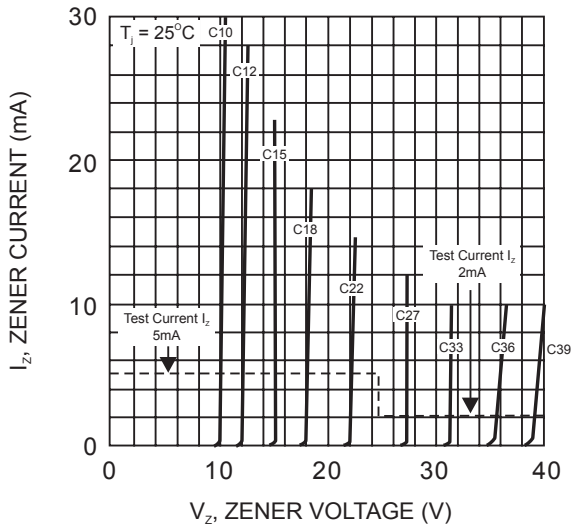


FIG.4- JUNCTION CAPACITANCE VS NOMINAL ZENER VOLTAGE

