



# BZT52C2V0T - BZT52C24T

### SURFACE MOUNT ZENER DIODE

### **Features**

- Ultra-Small Surface Mount Package
- Flat Lead Package Design for Low Profile and High Power Dissipation.
- Lead Free By Design/RoHS Compliant (Note 1)
- "Green" Device (Note 2)

## **Mechanical Data**

- Case: SOD-523
- Case Material: Molded Plastic, "Green" Molding Compound. • UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D •
- Terminal Connections: Cathode Band •
- Terminals: Finish Matte Tin annealed over Alloy 42 leadframe. • Solderable per MIL-STD-202, Method 208
- Marking Information: See Page 3 .
- Ordering Information: See Page 3
- Weight: 0.001 grams (approximate)



Top View

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

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitance load, defate current by 20%.						
Cha	racteristic	Symbol	Value	Unit		
Forward Voltage	@ I <sub>F</sub> = 10mA	V <sub>F</sub>	0.9	V		

# Thermal Characteristics

Notes:

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 3)	PD	300	mW
Thermal Resistance, Junction to Ambient Air (Note 3)	R <sub>θJA</sub>	417	°C/W
Operating and Storage Temperature Range	TJ, TSTG	-65 to +150	°C

1. No purposefully added lead.

Diodes Inc.'s "Green" policy can be found on our website at http://www.diodes.com/products/lead\_free/index.php. Part mounted on FR-4 PC board, single-sided, 2oz. copper with pad areas 1.92mm<sup>2</sup>. 2.

3.

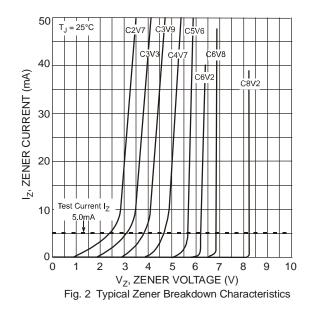


# **Electrical Characteristics** @T<sub>A</sub> = 25°C unless otherwise specified

Type Number	Marking Codes	Zener Voltage Range (Note 4)			Maximum Zener Impedance (Note 5)		Maximum Reverse Current (Note 4)		Temperature Coefficient @ I <sub>ZT</sub> mV/⁰C			
			Vz @ Izt		Izt	Zzt @ Izt Zzk @ Izk		Izĸ	IR	@ V <sub>R</sub>		
		Nom (V)	Min (V)	Max (V)	mA	9	2	mA	uA	V	Min	Max
BZT52C2V0T	WY	2.0	1.91	2.09	5	100	600	1.0	150	1.0	-3.5	0
BZT52C2V4T	WX	2.4	2.2	2.6	5	100	600	1.0	50	1.0	-3.5	0
BZT52C2V7T	W1	2.7	2.5	2.9	5	100	600	1.0	20	1.0	-3.5	0
BZT52C3V0T	W2	3.0	2.8	3.2	5	95	600	1.0	10	1.0	-3.5	0
BZT52C3V3T	W3	3.3	3.1	3.5	5	95	600	1.0	5.0	1.0	-3.5	0
BZT52C3V6T	W4	3.6	3.4	3.8	5	90	600	1.0	5.0	1.0	-3.5	0
BZT52C3V9T	W5	3.9	3.7	4.1	5	90	600	1.0	3.0	1.0	-3.5	0
BZT52C4V3T	W6	4.3	4.0	4.6	5	90	600	1.0	3.0	1.0	-3.5	0
BZT52C4V7T	W7	4.7	4.4	5.0	5	80	500	1.0	3.0	2.0	-3.5	0.2
BZT52C5V1T	W8	5.1	4.8	5.4	5	60	480	1.0	2.0	2.0	-2.7	1.2
BZT52C5V6T	<u>W</u> 9	5.6	5.2	6.0	5	40	400	1.0	1.0	2.0	-2	2.5
BZT52C6V2T	<u>W</u> A	6.2	5.8	6.6	5	10	150	1.0	3.0	4.0	0.4	3.7
BZT52C6V8T	<u>W</u> B	6.8	6.4	7.2	5	15	80	1.0	2.0	4.0	1.2	4.5
BZT52C7V5T	<u>W</u> C	7.5	7.0	7.9	5	15	80	1.0	1.0	5.0	2.5	5.3
BZT52C8V2T	<u>W</u> D	8.2	7.7	8.7	5	15	80	1.0	0.7	5.0	3.2	6.2
BZT52C9V1T	<u>W</u> E	9.1	8.5	9.6	5	15	100	1.0	0.5	6.0	3.8	7.0
BZT52C10T	WF	10	9.4	10.6	5	20	150	1.0	0.2	7.0	4.5	8.0
BZT52C11T	<u>W</u> G	11	10.4	11.6	5	20	150	1.0	0.1	8.0	5.4	9.0
BZT52C12T	<u>W</u> H	12	11.4	12.7	5	25	150	1.0	0.1	8.0	6.0	10.0
BZT52C13T	WI	13	12.4	14.1	5	30	170	1.0	0.1	8.0	7.0	11.0
BZT52C15T	<u>W</u> J	15	13.8	15.6	5	30	200	1.0	0.1	10.5	9.2	13.0
BZT52C16T	<u>W</u> K	16	15.3	17.1	5	40	200	1.0	0.1	11.2	10.4	14.0
BZT52C18T	WL	18	16.8	19.1	5	45	225	1.0	0.1	12.6	12.4	16.0
BZT52C20T	M	20	18.8	21.2	5	55	225	1.0	0.1	14.0	14.4	18.0
BZT52C22T	<u>W</u> N	22	20.8	23.3	5	55	250	1.0	0.1	15.4	16.4	20.0
BZT52C24T	<u>W</u> O	24	22.8	25.6	5	70	250	1.0	0.1	16.8	18.4	22.0

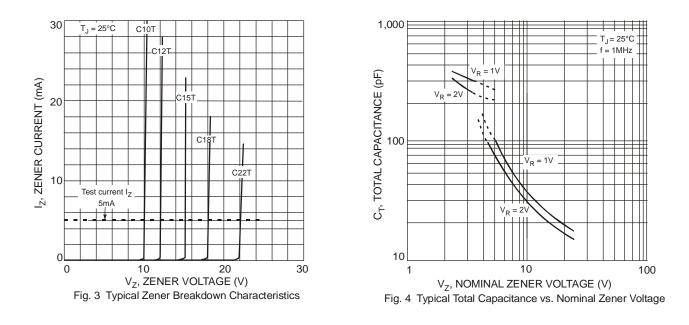
Notes: 4. Short duration pulse test used to minimize self-heating effect.

5. f = 1kHz.  $\int_{a}^{0.45} \int_{a}^{0.30} \int_{a}^{0.30} \int_{a}^{0} \int$ 





# BZT52C2V0T - BZT52C24T



# Ordering Information (Note 6)

Part Number	Case	Packaging
(Type Number)-7* (Note 7)	SOD-523	3000/Tape & Reel

\*Add "-7" to the appropriate type number in Electrical Characteristics Table, example: 6.2V Zener = BZT52C6V2T-7.

Notes: 6. For packaging details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.

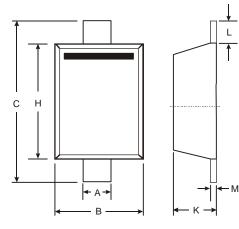
7. Dispensed in every other cavity of the tape.

# **Marking Information**



xx = Product Type Marking Code (See Electrical Characteristics Table)

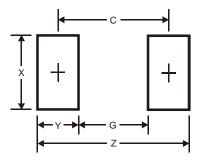
## **Package Outline Dimensions**



SOD-523					
Dim Min Max					
Α	0.25	0.35			
в	0.70	0.90			
с	1.50	1.70			
Н	1.10	1.30			
K	0.55	0.65			
L	0.10	0.30			
М	0.10	0.12			
All Dimensions in mm					



## Suggested Pad Layout



Dimensions	Value (in mm)	
Z	2.3	
G	1.1	
Х	0.8	
Y	0.6	
С	1.7	

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