



BZT52C2V0T - BZT52C24T

SURFACE MOUNT ZENER DIODE

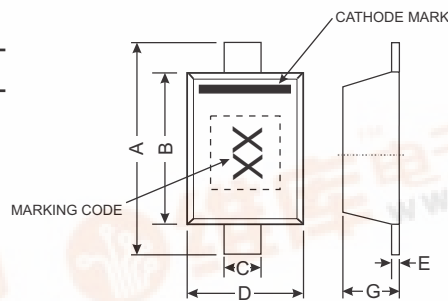
NEW PRODUCT

Features

- Planar Die Construction
- Ultra-Small Surface Mount Package
- Ideally Suited for Automated Assembly Processes
- **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-020C
- Terminal Connections: Cathode Band
- Terminals: Solderable per MIL-STD-202, Method 208
- Terminals: Finish - Matte Tin annealed over Alloy 42 leadframe. Solderable per MIL-STD-202, Method 208
- Marking & Type Code Information: See Electrical Specifications Table
- Ordering Information: See Page 3
- Weight: 0.001 grams (approximate)



SOD-523		
Dim	Min	Max
A	1.50	1.70
B	1.10	1.30
C	0.25	0.35
D	0.70	0.90
E	0.10	0.20
G	0.55	0.65
All Dimensions in mm		

Maximum Ratings @ T_A = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Forward Voltage @ I _F = 10mA	V _F	0.9	V
Power Dissipation (Note 3)	P _d	150	mW
Thermal Resistance, Junction to Ambient Air (Note 3)	R _{θJA}	833	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-65 to +150	°C

- Notes:
1. No purposefully added lead.
 2. Diodes Inc.'s "Green" policy can be found on our website at http://www.diodes.com/products/lead_free/index.php.
 3. Part mounted on FR-4 board with recommended pad layout, which can be found on our website at <http://www.diodes.com/datasheets/ap02001.pdf>.



Electrical Characteristics @ T_A = 25°C unless otherwise specified

Type Number	Marking Codes	Zener Voltage Range (Note 4)				Maximum Zener Impedance (Note 5)			Maximum Reverse Current (Note 4)		Typical Temperature Coefficient @ I _{ZTC} mV/°C		Test Current I _{ZTC} mA
		V _Z @ I _{ZT}			I _{ZT}	Z _{ZT} @ I _{ZT}	Z _{ZK} @ I _{ZK}	I _{ZK}	I _R	@ V _R	Min	Max	
		Nom (V)	Min (V)	Max (V)	mA	Ω		mA	uA	V			
BZT52C2V0T	WY	2.0	1.91	2.09	5	100	600	1.0	150	1.0	-3.5	0	5
BZT52C2V4T	WX	2.4	2.2	2.6	5	100	600	1.0	50	1.0	-3.5	0	5
BZT52C2V7T	W1	2.7	2.5	2.9	5	100	600	1.0	20	1.0	-3.5	0	5
BZT52C3V0T	W2	3.0	2.8	3.2	5	95	600	1.0	10	1.0	-3.5	0	5
BZT52C3V3T	W3	3.3	3.1	3.5	5	95	600	1.0	5.0	1.0	-3.5	0	5
BZT52C3V6T	W4	3.6	3.4	3.8	5	90	600	1.0	5.0	1.0	-3.5	0	5
BZT52C3V9T	W5	3.9	3.7	4.1	5	90	600	1.0	3.0	1.0	-3.5	0	5
BZT52C4V3T	W6	4.3	4.0	4.6	5	90	600	1.0	3.0	1.0	-3.5	0	5
BZT52C4V7T	W7	4.7	4.4	5.0	5	80	500	1.0	3.0	2.0	-3.5	0.2	5
BZT52C5V1T	W8	5.1	4.8	5.4	5	60	480	1.0	2.0	2.0	-2.7	1.2	5
BZT52C5V6T	W9	5.6	5.2	6.0	5	40	400	1.0	1.0	2.0	-2	2.5	5
BZT52C6V2T	WA	6.2	5.8	6.6	5	10	150	1.0	3.0	4.0	0.4	3.7	5
BZT52C6V8T	WB	6.8	6.4	7.2	5	15	80	1.0	2.0	4.0	1.2	4.5	5
BZT52C7V5T	WC	7.5	7.0	7.9	5	15	80	1.0	1.0	5.0	2.5	5.3	5
BZT52C8V2T	WD	8.2	7.7	8.7	5	15	80	1.0	0.7	5.0	3.2	6.2	5
BZT52C9V1T	WE	9.1	8.5	9.6	5	15	100	1.0	0.5	6.0	3.8	7.0	5
BZT52C10T	WF	10	9.4	10.6	5	20	150	1.0	0.2	7.0	4.5	8.0	5
BZT52C11T	WG	11	10.4	11.6	5	20	150	1.0	0.1	8.0	5.4	9.0	5
BZT52C12T	WH	12	11.4	12.7	5	25	150	1.0	0.1	8.0	6.0	10.0	5
BZT52C13T	WI	13	12.4	14.1	5	30	170	1.0	0.1	8.0	7.0	11.0	5
BZT52C15T	WJ	15	13.8	15.6	5	30	200	1.0	0.1	10.5	9.2	13.0	5
BZT52C16T	WK	16	15.3	17.1	5	40	200	1.0	0.1	11.2	10.4	14.0	5
BZT52C18T	WL	18	16.8	19.1	5	45	225	1.0	0.1	12.6	12.4	16.0	5
BZT52C20T	WM	20	18.8	21.2	5	55	225	1.0	0.1	14.0	14.4	18.0	5
BZT52C22T	WN	22	20.8	23.3	5	55	250	1.0	0.1	15.4	16.4	20.0	5
BZT52C24T	WO	24	22.8	25.6	5	70	250	1.0	0.1	16.8	18.4	22.0	5

Notes: 4. Short duration test pulse used to minimize self-heating effect.
5. f = 1kHz.

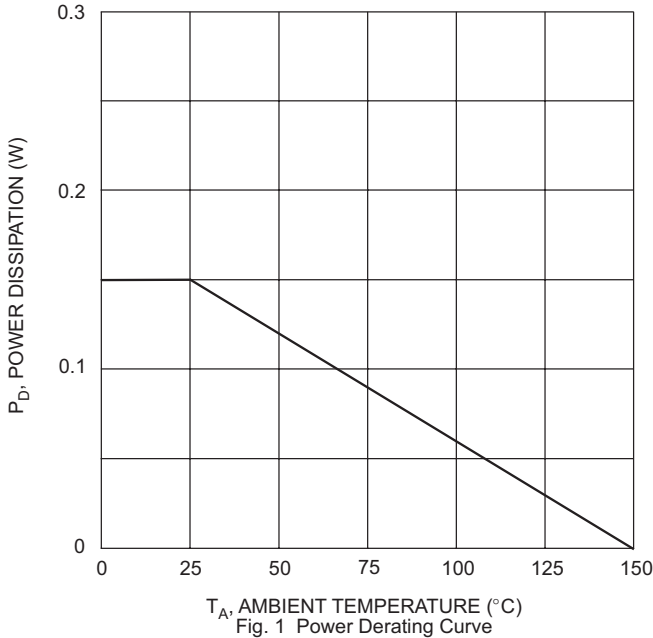


Fig. 1 Power Derating Curve

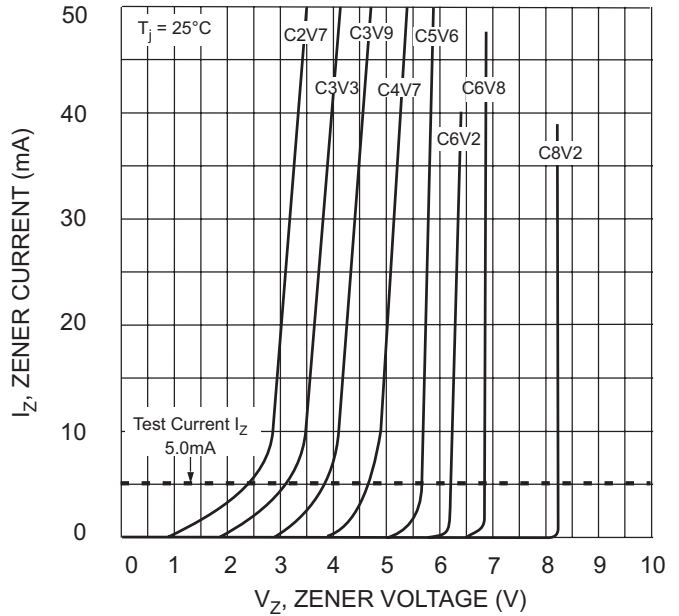


Fig. 2 Zener Breakdown Characteristics

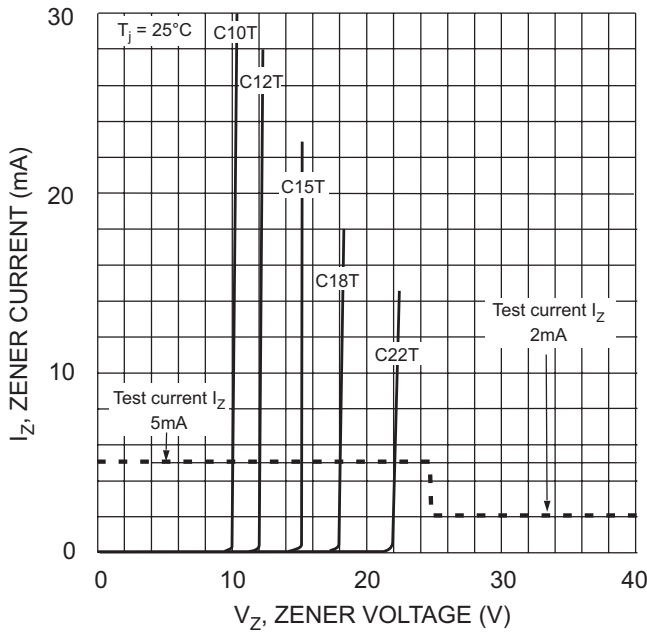


Fig. 3 Zener Breakdown Characteristics

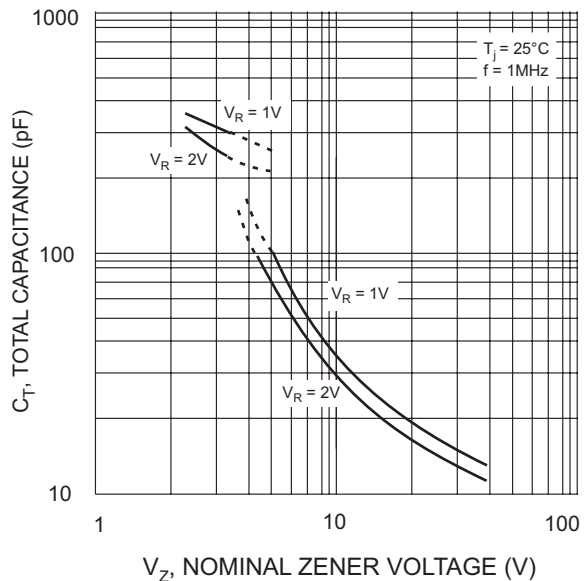


Fig. 4 Total Capacitance vs Nominal Zener Voltage

Ordering Information (Note 6)

Device	Packaging	Shipping
(Type Number)-7*	SOD-523	3000/Tape & Reel

* Add "-7" to the appropriate type number in Table 1 above example: 6.2V Zener = BZT52C6V2T-7.

Notes: 6. For Packaging Details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

Marking Information



XX = Product Type Marking Code (See Page 2)
 YM = Date Code Marking
 Y = Year (ex: T = 2006)
 M = Month (ex: 9 = September)

Date Code Key

Year					2006	2007	2008	2009				
Code					T	U	V	W				
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D

IMPORTANT NOTICE

Diodes Incorporated and its subsidiaries reserve the right to make modifications, enhancements, improvements, corrections or other changes without further notice to any product herein. Diodes Incorporated does not assume any liability arising out of the application or use of any product described herein; neither does it convey any license under its patent rights, nor the rights of others. The user of products in such applications shall assume all risks of such use and will agree to hold Diodes Incorporated and all the companies whose products are represented on our website, harmless against all damages.

LIFE SUPPORT

Diodes Incorporated products are not authorized for use as critical components in life support devices or systems without the expressed written approval of the President of Diodes Incorporated.