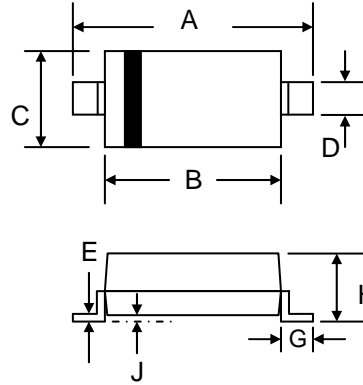


### Features

- Planar Die Construction
- 500mW Power Dissipation
- 2.0V – 51V Nominal Zener Voltage
- 5% Standard Vz Tolerance
- Designed for Surface Mount Application
- Plastic Material – UL Recognition Flammability Classification 94V-0



SOD-123		
Dim	Min	Max
A	3.6	3.9
B	2.5	2.8
C	1.4	1.8
D	0.5	0.7
E	—	0.2
G	0.4	—
H	0.95	1.35
J	—	0.12
All Dimensions in mm		

### Mechanical Data

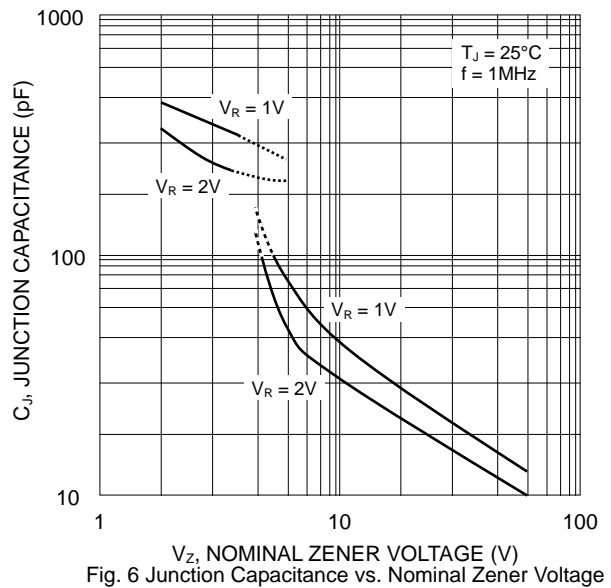
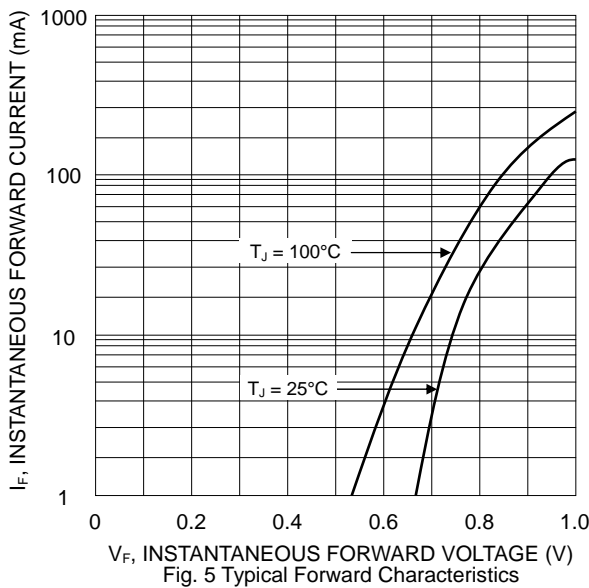
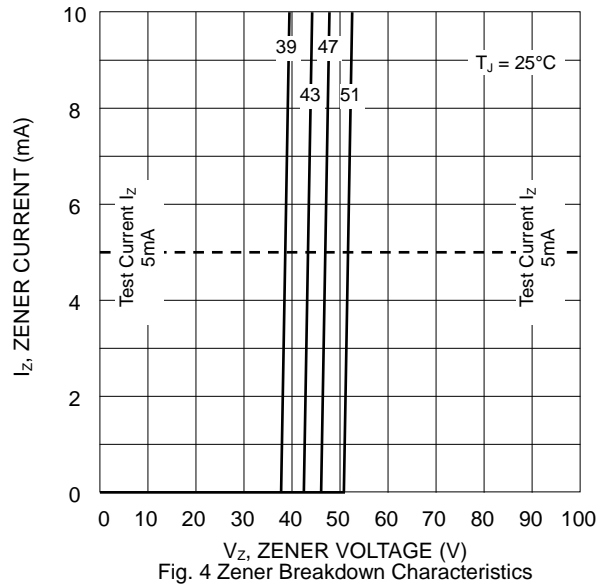
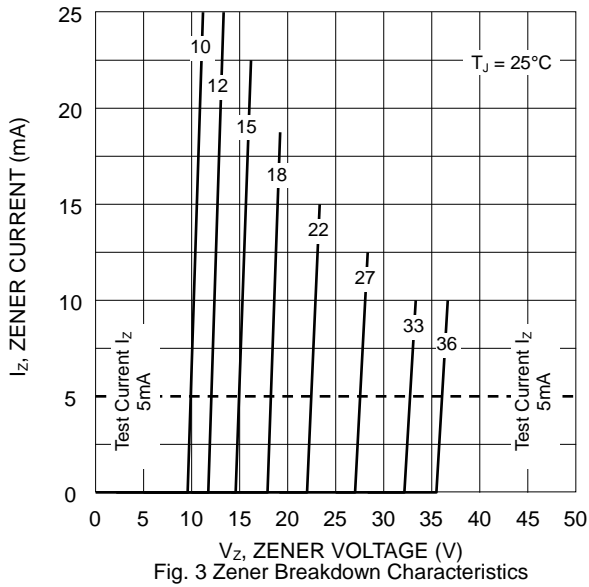
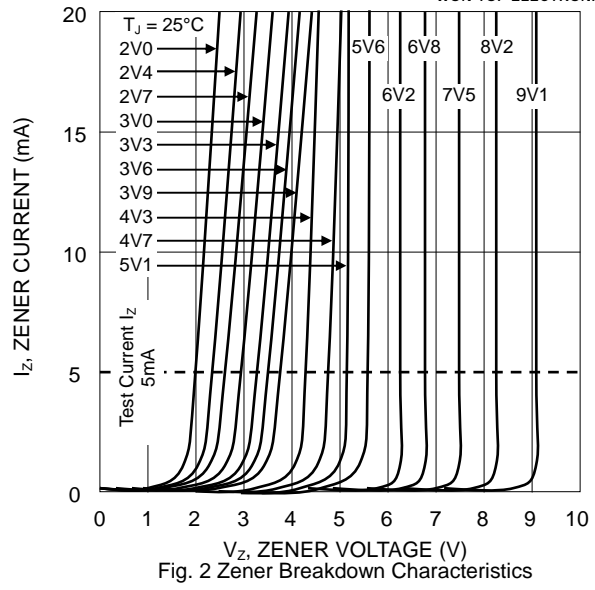
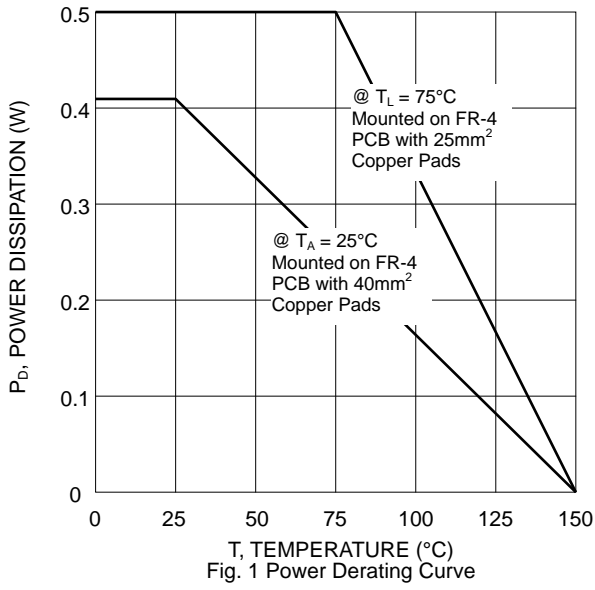
- Case: SOD-123, Molded Plastic
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Weight: 0.01 grams (approx.)
- Marking: Device Code
- **Lead Free: For RoHS / Lead Free Version, Add “-LF” Suffix to Part Number, See Page 5**

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

Characteristic	Symbol	Value	Unit
Power Dissipation at $T_L = 75^{\circ}\text{C}$ (Note 1)	$P_D$	500	mW
Power Dissipation at $T_A = 25^{\circ}\text{C}$ (Note 2)	$P_D$	410	mW
Forward Voltage @ $I_F = 10\text{mA}$	$V_F$	0.9	V
Thermal Resistance, Junction to Ambient (Note 2, 3)	$R_{JA}$	340	$^{\circ}\text{C/W}$
Thermal Resistance, Junction to Lead (Note 2, 3)	$R_{JL}$	150	$^{\circ}\text{C/W}$
Operating and Storage Temperature Range	$T_J, T_{STG}$	-65 to +150	$^{\circ}\text{C}$

- Note: 1. Mounted on ceramic substrate with  $25\text{mm}^2$  copper pads.  
 2. Mounted on ceramic substrate with  $40\text{mm}^2$  copper pads.  
 3. Thermal resistance measurement obtained via infrared scan method.

# BZT52C2V0 – BZT52C51

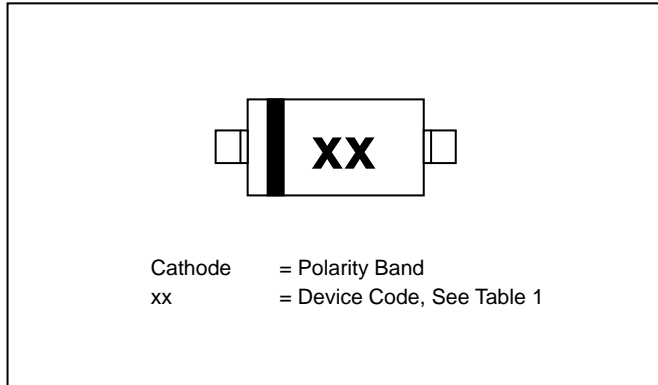


**Electrical Characteristics (@T<sub>A</sub>=25°C unless otherwise specified) Table 1**

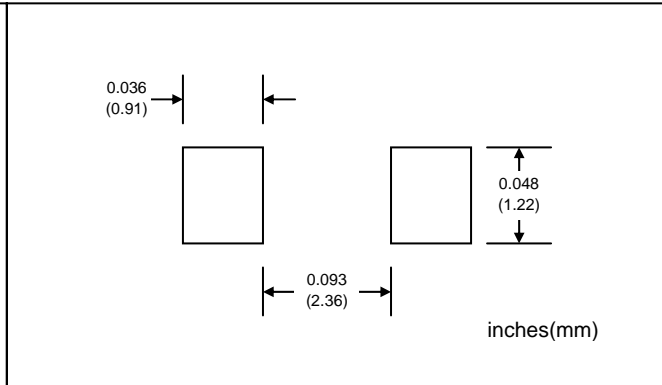
Type Number (Note 1)	Device Marking Code (Note 2)		Zener Voltage Range (Note 3)			Maximum Zener Impedance (Note 4)				Max Reverse Leakage Current		Temp. Coefficient of Zener Voltage @ I <sub>ZT</sub> (mV/°C)	
			V <sub>Z</sub> @ I <sub>ZT</sub>			Z <sub>ZT</sub> @ I <sub>ZT</sub>		Z <sub>ZK</sub> @ I <sub>ZK</sub>		I <sub>R</sub>	@ V <sub>R</sub>		
	TW	CN	Nom (V)	Min (V)	Max (V)	( )	(mA)	( )	(mA)	(μA)	(V)	Min	Max
BZT52C2V0	X1	WY	2.0	1.91	2.09	85	5.0	600	1.0	150	1.0	-9	-4
BZT52C2V4	W1	WX	2.4	2.2	2.6	85	5.0	600	1.0	100	1.0	-9	-4
BZT52C2V7	W2	W1	2.7	2.5	2.9	83	5.0	500	1.0	75	1.0	-9	-4
BZT52C3V0	W3	W2	3.0	2.8	3.2	95	5.0	500	1.0	50	1.0	-9	-3
BZT52C3V3	W4	W3	3.3	3.1	3.5	95	5.0	500	1.0	25	1.0	-8	-3
BZT52C3V6	W5	W4	3.6	3.4	3.8	95	5.0	500	1.0	15	1.0	-8	-3
BZT52C3V9	W6	W5	3.9	3.7	4.1	95	5.0	500	1.0	10	1.0	-7	-3
BZT52C4V3	W7	W6	4.3	4.0	4.6	95	5.0	500	1.0	5.0	1.0	-6	-1
BZT52C4V7	W8	W7	4.7	4.4	5.0	78	5.0	500	1.0	5.0	1.0	-5	+2
BZT52C5V1	W9	W8	5.1	4.8	5.4	60	5.0	480	1.0	0.1	0.8	-3	+4
BZT52C5V6	WA	W9	5.6	5.2	6.0	40	5.0	400	1.0	0.1	1.0	-2	+6
BZT52C6V2	WB	WA	6.2	5.8	6.6	10	5.0	200	1.0	0.1	2.0	-1	+7
BZT52C6V8	WC	WB	6.8	6.4	7.2	8	5.0	150	1.0	0.1	3.0	+2	+7
BZT52C7V5	WD	WC	7.5	7.0	7.9	7	5.0	50	1.0	0.1	5.0	+3	+7
BZT52C8V2	WE	WD	8.2	7.7	8.7	7	5.0	50	1.0	0.1	6.0	+4	+7
BZT52C9V1	WF	WE	9.1	8.5	9.6	10	5.0	50	1.0	0.1	7.0	+5	+8
BZT52C10	WG	WF	10	9.4	10.6	15	5.0	70	1.0	0.1	7.5	+5	+8
BZT52C11	WH	WG	11	10.4	11.6	20	5.0	70	1.0	0.1	8.5	+5	+9
BZT52C12	WI	WH	12	11.4	12.7	20	5.0	90	1.0	0.1	9.0	+6	+9
BZT52C13	WK	WI	13	12.4	14.1	25	5.0	110	1.0	0.1	10	+7	+9
BZT52C15	WL	WJ	15	13.8	15.6	30	5.0	110	1.0	0.1	11	+7	+9
BZT52C16	WM	WK	16	15.3	17.1	40	5.0	170	1.0	0.1	12	+8	+9.5
BZT52C18	WN	WL	18	16.8	19.1	50	5.0	170	1.0	0.1	14	+8	+9.5
BZT52C20	WO	WM	20	18.8	21.2	50	5.0	220	1.0	0.1	15	+8	+10
BZT52C22	WP	WN	22	20.8	23.3	55	5.0	220	1.0	0.1	17	+8	+10
BZT52C24	WR	WO	24	22.8	25.6	80	5.0	220	1.0	0.1	18	+8	+10
BZT52C27	WS	WP	27	25.1	28.9	80	5.0	250	1.0	0.1	20	+8	+10
BZT52C30	WT	WQ	30	28.0	32.0	80	5.0	250	1.0	0.1	22.5	+8	+10
BZT52C33	WU	WR	33	31.0	35.0	80	5.0	250	1.0	0.1	25	+8	+10
BZT52C36	WW	WS	36	34.0	38.0	90	5.0	250	1.0	0.1	27	+8	+10
BZT52C39	WX	WT	39	37.0	41.0	90	5.0	300	1.0	0.1	29	+10	+12
BZT52C43	WY	WU	43	40.0	46.0	100	5.0	700	1.0	0.1	32	+10	+12
BZT52C47	WZ	WV	47	44.0	50.0	100	5.0	750	1.0	0.1	35	+10	+12
BZT52C51	XA	WW	51	48.0	54.0	100	5.0	750	1.0	0.1	38	+10	+12

- Note: 1. Type numbers listed have standard tolerance on the nominal zener voltage of ±5%.  
 2. TW: Marking code for Taiwan plant. CN: Marking code for China plant.  
 3. Measured with pulses t<sub>p</sub> = 5ms.  
 4. f = 1KHz

## MARKING INFORMATION

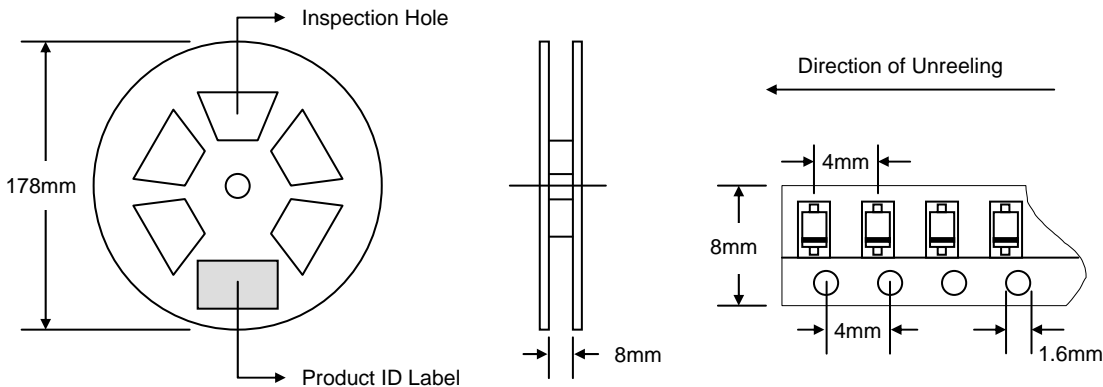


## RECOMMENDED FOOTPRINT



## PACKAGING INFORMATION

### TAPE & REEL




Reel Diameter (mm)	Quantity (PCS)	Inner Box Size L x W x H (mm)	Quantity (PCS)	Carton Size L x W x H (mm)	Quantity (PCS)	Approx. Gross Weight (KG)
178	3,000	187 x 187 x 65	15,000	390 x 240 x 420	150,000	10.0

**Note:** 1. Anti-static plastic reel, white, water clear or blue color. Inspection hole might be varied in different alignment.  
2. Components are packed in accordance with EIA standard 481-1 and 481-2.

## ORDERING INFORMATION

Product No.	Package Type	Shipping Quantity
BZT52Cxx-T1	SOD-123	3000/Tape & Reel

1. Shipping quantity given is for minimum packing quantity only. For minimum order quantity, please consult the Sales Department.
2. **To order RoHS / Lead Free version (with Lead Free finish), add "-LF" suffix to part number above. For example, BZT52C2V0-T1-LF.**

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*We power your everyday.*