

RoHS Compliant Product  
A suffix of "-C" specifies halogen & lead-free

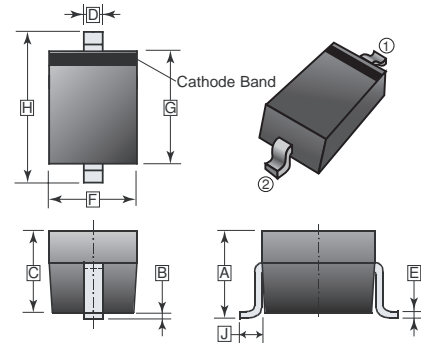
## FEATURES

- Planar die construction
- 350mW power dissipation on ceramic PCB
- General purpose, medium current
- Ideally suited for automated assembly processes
- Available in lead free version

## MECHANICAL DATA

- Case: SOD-123, Void-Free, Transfer-Molded Plastic.
- Finish: All External Surfaces are Corrosion Resistant.
- Maximum Case Temperature for Soldering Purpose: 260°C for 10 Seconds
- Polarity: Cathode Indicated by Polarity Band
- Flammability Rating: UL94V-0
- Mounting Position: Any

### SOD-123



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	0.94	1.35	F	1.40	1.80
B	0.10	REF.	G	2.54	2.85
C	1.00	1.30	H	3.55	3.86
D	0.30	0.78	J	0.50	REF.
E	0.08	0.25			

## PACKAGE INFORMATION

Package	MPQ	Leader Size
SOD-123	3K	7 inch

## ABSOLUTE MAXIMUM RATINGS (T<sub>A</sub>=25°C unless otherwise specified)

Parameter	Symbol	Rating	Unit
Forward Voltage @ I <sub>F</sub> =10mA <sup>2</sup>	V <sub>F</sub>	0.9	V
Power Dissipation <sup>1</sup>	P <sub>D</sub>	350	mW
Thermal Resistance from Junction to Ambient	R <sub>θJA</sub>	357	°C / W
Junction and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	150, -55~150	°C

**ELECTRICAL CHARACTERISTICS** ( $T_A=25^\circ\text{C}$  unless otherwise specified)

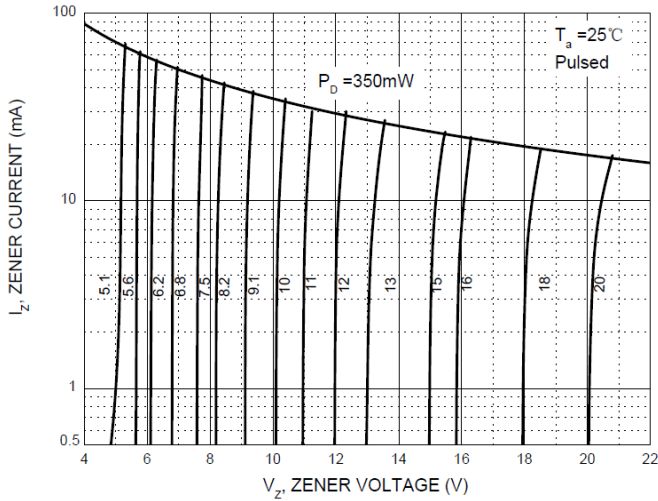
Part Number	Marking Code	Zener Voltage <sup>2</sup>				Maximum Zener Impedance <sup>3</sup>			Maximum Reverse Current		Typical Temperature Coefficient		Test Current
		V <sub>Z</sub> @I <sub>ZT</sub>			I <sub>ZT</sub>	Z <sub>ZT</sub> @I <sub>ZT</sub>	Z <sub>ZK</sub> @I <sub>ZK</sub>	I <sub>ZK</sub>	I <sub>R</sub>	V <sub>R</sub>	I <sub>ZTC</sub>		I <sub>ZTC</sub>
		Nom	Min	Max							Min	Max	
		V	V	V	mA	Ω	mA	μA	V	mV/°C		mA	
BZT52B2V4	2WX	2.4	2.35	2.45	5	100	600	1	50	1	-3.5	0	5
BZT52B2V7	2W1	2.7	2.65	2.75	5	100	600	1	20	1	-3.5	0	5
BZT52B3V0	2W2	3	2.94	3.06	5	95	600	1	10	1	-3.5	0	5
BZT52B3V3	2W3	3.3	3.23	3.37	5	95	600	1	5	1	-3.5	0	5
BZT52B3V6	2W4	3.6	3.53	3.67	5	90	600	1	5	1	-3.5	0	5
BZT52B3V9	2W5	3.9	3.82	3.98	5	90	600	1	3	1	-3.5	0	5
BZT52B4V3	2W6	4.3	4.21	4.39	5	90	600	1	3	1	-3.5	0	5
BZT52B4V7	2W7	4.7	4.61	4.79	5	80	500	1	3	2	-3.5	0.2	5
BZT52B5V1	2W8	5.1	5	5.2	5	60	480	1	2	2	-2.7	1.2	5
BZT52B5V6	2W9	5.6	5.49	5.71	5	40	400	1	1	2	-2	2.5	5
BZT52B6V2	2WA	6.2	6.08	6.32	5	10	150	1	3	4	0.4	3.7	5
BZT52B6V8	2WB	6.8	6.66	6.94	5	15	80	1	2	4	1.2	4.5	5
BZT52B7V5	2WC	7.5	7.35	7.65	5	15	80	1	1	5	2.5	5.3	5
BZT52B8V2	2WD	8.2	8.04	8.36	5	15	80	1	0.7	5	3.2	6.2	5
BZT52B9V1	2WE	9.1	8.92	9.28	5	15	100	1	0.5	6	3.8	7	5
BZT52B10	2WF	10	9.8	10.2	5	20	150	1	0.2	7	4.5	8	5
BZT52B11	2WG	11	10.78	11.22	5	20	150	1	0.1	8	5.4	9	5
BZT52B12	2WH	12	11.76	12.24	5	25	150	1	0.1	8	6	10	5
BZT52B13	2WI	13	12.74	13.26	5	30	170	1	0.1	8	7	11	5
BZT52B15	2WJ	15	14.7	15.3	5	30	200	1	0.1	10.5	9.2	13	5
BZT52B16	2WK	16	15.68	16.32	5	40	200	1	0.1	11.2	10.4	14	5
BZT52B18	2WL	18	17.64	18.36	5	45	225	1	0.1	12.6	12.4	16	5
BZT52B20	2WM	20	19.6	20.4	5	55	225	1	0.1	14	14.4	18	5
BZT52B22	2WN	22	21.56	22.44	5	55	250	1	0.1	15.4	16.4	20	5
BZT52B24	2WO	24	23.52	24.48	5	70	250	1	0.1	16.8	18.4	22	5
BZT52B27	2WP	27	26.46	27.54	2	80	300	0.5	0.1	18.9	21.4	25.3	2
BZT52B30	2WQ	30	29.4	30.6	2	80	300	0.5	0.1	21	24.4	29.4	2
BZT52B33	2WR	33	32.34	33.66	2	80	325	0.5	0.1	23.1	27.4	33.4	2
BZT52B36	2WS	36	35.28	36.72	2	90	350	0.5	0.1	25.2	30.4	37.4	2
BZT52B39	2WT	39	38.22	39.78	2	130	350	0.5	0.1	27.3	33.4	41.2	2

Notes:

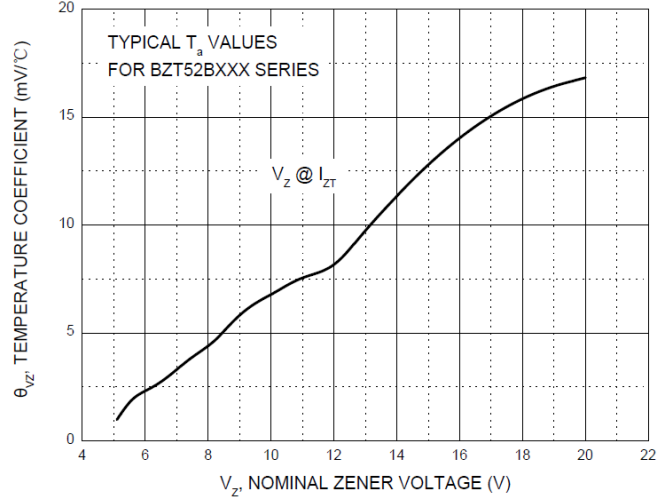
1. The device is mounted on a ceramic PCB: 7.6mm x 9.4 mm x 0.87mm with 25mm<sup>2</sup> pad areas.
2. Short duration test pulse is used to minimize self-heating effect.
3. f=1KHz.

**CHARACTERISTIC CURVES**

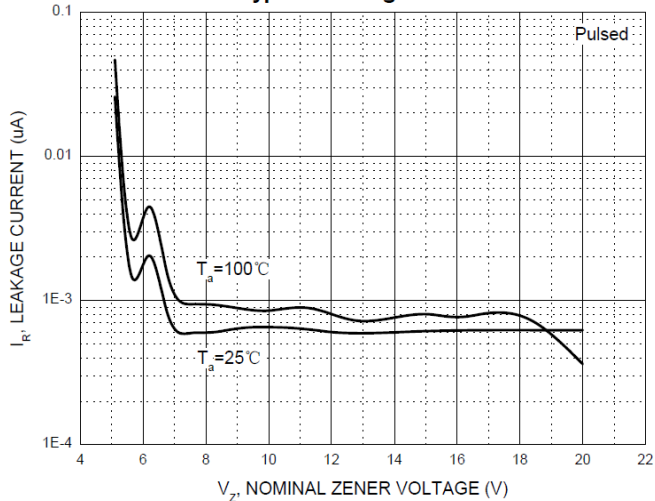
Zener Characteristics ( $V_z$  5.1V to 20 V)



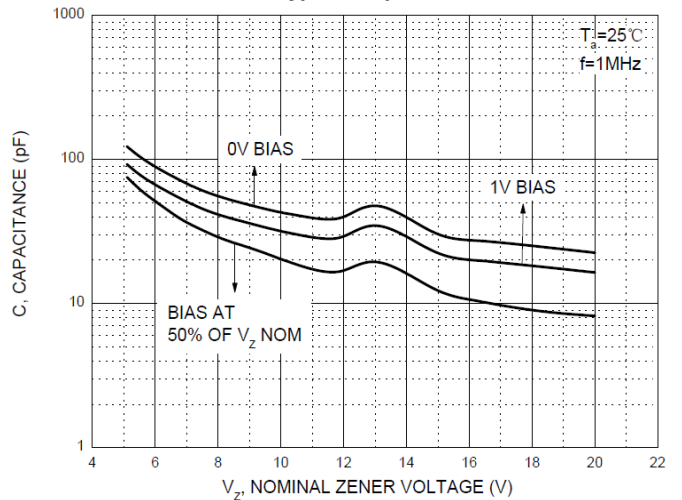
Temperature Coefficients



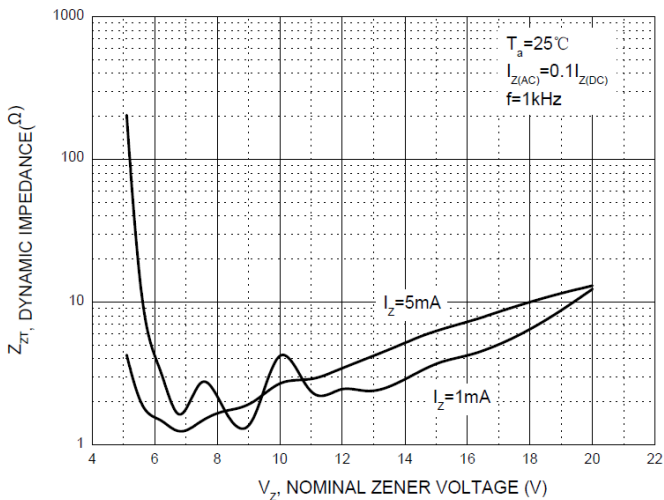
Typical Leakage Current



Typical Capacitance



Effect of Zener Voltage on Zener Impedance



Power Derating Curve

