

# BZT52BXXX

Rev.H Jan.-2024

## / Descriptions

SOD-123

Zener Diode in a SOD-123 Plastic Package.

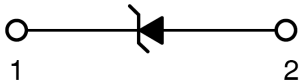
## / Features

500mW power dissipation, medium current, automated assembly processes, HF Product.

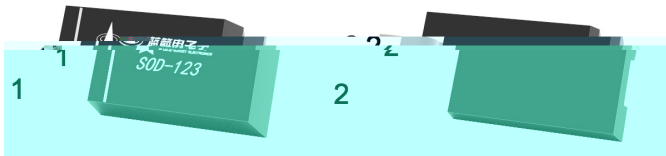
## / Applications

2.4V to 39V wide zener voltage range applications.

## / Equivalent Circuit



## / Pinning



PIN1:Cathode

PIN2:Anode

## / Marking

See Marking Instructions.

**/ Absolute Maximum Ratings(Ta=25 )**

Parameter	Symbol	Rating	Unit
Forward Voltage (Note 2) $I_F=10mA$	$V_F$	0.9	V
Power Dissipation(Note 1)	$P_D$	500	mW
Typical Thermal Resistance Junction to Ambient(Note 1)	$R_{JA}$	305	/W
Junction and Storage Temperature Range	$T_j, T_{stg}$	-65 150	

**/ Electrical Characteristics(Ta=25 )**

Type Number	Marking Code	Zener Voltage Range				Maximum Zener Impedance			Maximum Reverse Current	
		$V_z @ I_{zT}$			$I_{zT}$	$Z_{zT} @ I_{zT}$	$Z_{zK} @ I_{zK}$	$I_{zK}$	$I_R$	@ $V_R$
		Nom (V)	Min (V)	Max (V)	mA			mA	$\mu A$	V
BZT52B2V4	H0Z	2.4	2.35	2.45	5	94	564	1	45	1
BZT52B2V7	H1Z	2.7	2.65	2.75	5	94	564	1	18	1
BZT52B3V0	H2Z	3.0	2.94	3.06	5	89	564	1	9	1
BZT52B3V3	H3Z	3.3	3.23	3.37	5	89	564	1	4.5	1
BZT52B3V6	H4Z	3.6	3.53	3.67	5	84	564	1	4.5	1
BZT52B3V9	H5Z	3.9	3.82	3.96	5	84	564	1	2.7	1
BZT52B4V3	H6Z	4.3	4.21	4.39	5	84	564	1	2.7	1
BZT52B4V7	H7Z	4.7	4.61	4.79	5	75	564	1	2.7	2
BZT52B5V1	H8Z	5.1	5.00	5.20	5	56	470	1	1.8	2
BZT52B5V6	H9Z	5.6	5.49	5.71	5	27	451	1	0.9	2
BZT52B6V2	HAZ	6.2	6.08	6.32	5	9	376	1	2.7	4
BZT52B6V8	HBZ	6.8	6.66	6.94	5	14	141	1	1.8	4
BZT52B7V5	HCZ	7.5	7.35	7.65	5	14	75	1	0.9	5
BZT52B8V2	HDZ	8.2	8.04	8.36	5	14	75	1	0.63	5
BZT52B9V1	HEZ	9.1	8.92	9.28	5	14	94	1	0.45	6
BZT52B10	HFZ	10	9.80	10.20	5	18	141	1	0.18	7
BZT52B11	HGZ	11	10.78	11.22	5	18	141	1	0.09	8

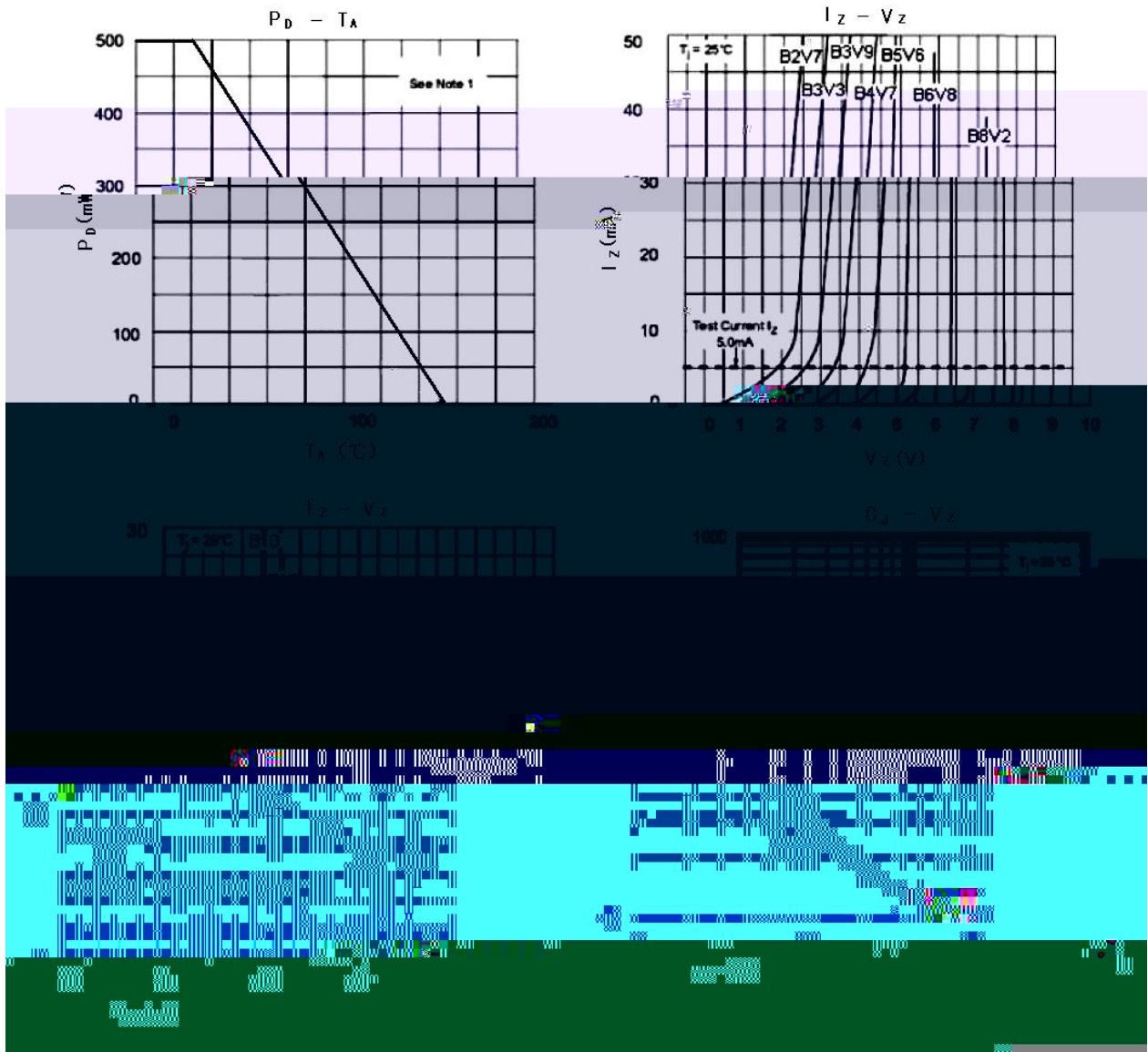
**/ Electrical Characteristics(Ta=25 )**

Type Number	Marking Code	Zener Voltage Range (Note 2)				Maximum Zener Impedance (Note 3)			Maximum Reverse 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>
		Nom (V)	Min (V)	Max (V)	mA			mA	uA	V
BZT52B12	HHZ	12	11.76	12.24	5	23	141	1	0.09	8
BZT52B13	HJZ	13	12.74	13.26	5	28	160	1	0.045	8
BZT52B15	HKZ	15	14.70	15.30	5	28	188	1	0.045	10.5
BZT52B16	HLZ	16	15.68	16.32	5	37	188	1	0.045	11.2
BZT52B18	HMZ	18	17.64	18.36	5	42	212	1	0.045	12.6
BZT52B20	HNZ	20	19.60	20.40	5	51	212	1	0.045	14.0
BZT52B22	HPZ	22	21.56	22.44	5	51	235	1	0.045	15.4
BZT52B24	HRZ	24	23.52	24.48	5	65	235	1	0.045	16.8
BZT52B27	HSZ	27	26.46	27.54	2	75	282	0.5	0.045	18.9
BZT52B30	HTZ	30	29.40	30.60	2	75	282	0.5	0.045	21.0
BZT52B33	HUZ	33	32.34	33.66	2	75	306	0.5	0.045	23.0
BZT52B36	HVZ	36	35.28	36.72	2	84	329	0.5	0.045	25.2
BZT52B39	HWZ	39	38.22	39.78	2	122	329	0.5	0.045	27.3

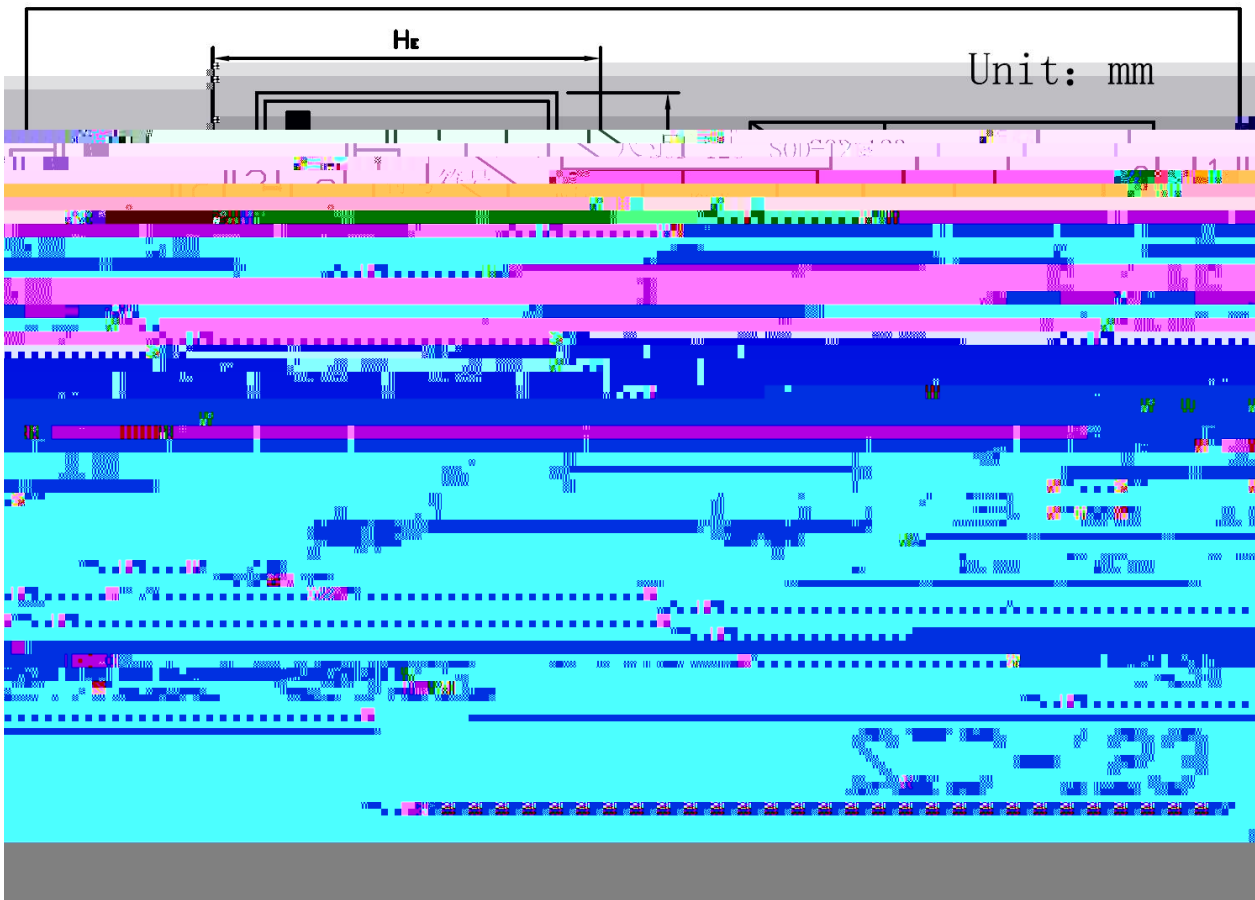
**Notes:**

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.

/ Electrical Characteristic Curve



**/ Package Dimensions**



/ Marking Instructions

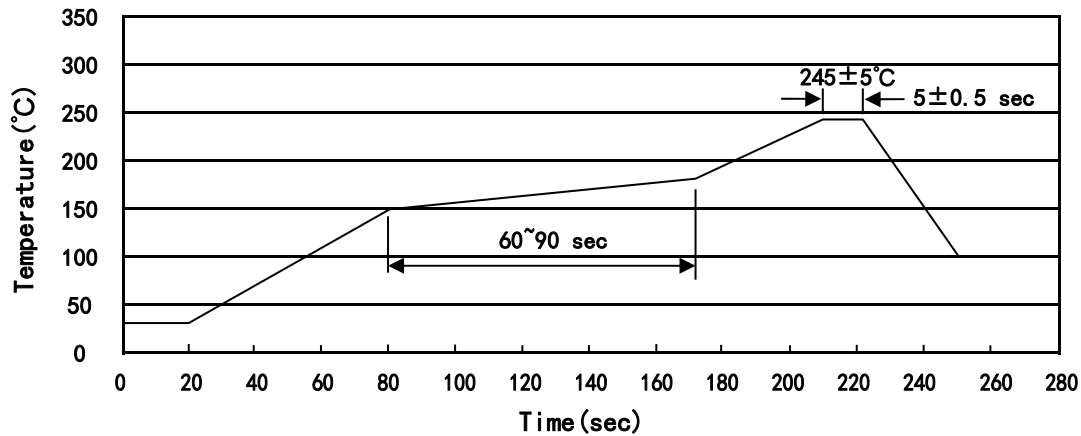


Note:

H: Company Code

0Z: Product Type Code

( ) / Temperature Profile for IR Reflow Soldering(Pb-Free)



Note:

- |   |     |     |    |          |   |
|---|-----|-----|----|----------|---|
| 1 | 150 | 180 | 60 | 90sec;   | 1.Preheating:150~180 , Time:60~90sec.   |
| 2 | 245 | 5   | 5  | 0.5sec;  | 2.Peak Temp.:245 5 , Duration:5 0.5sec. |
| 3 |     |     | 2  | 10 /sec. | 3. Cooling Speed: 2~10 /sec.            |

/ Resistance to Soldering Heat Test Conditions

260 5                      10 1 sec.                      Temp.:260±5                      Time:10±1 sec

/ Packaging SPEC.

/ REEL

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm <sup>3</sup> )		
	Units/Reel 只/卷盘	Reels/Inner Box 卷盘/盒	Units/Inner Box 只/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Reel	Inner Box 盒	Outer Box 箱
SOD-123	3,000	10	30,000	6	180,000	7 x8	180x120x180	390x385x205

/ Notices