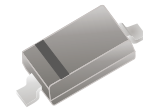


## BZT52B2V0-HF Thru. BZT52B75-HF

**RoHS Device**  
**Halogen Free**

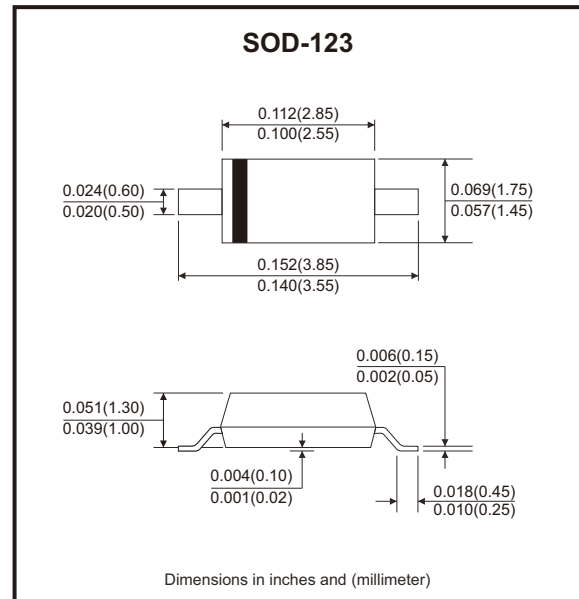


### Features

- Large selection of zener voltages: 2V to 75V.
- Tight voltage tolerance:  $\pm 2\%$ .
- Ultra low-profile package well suited for automated assembly.

### Mechanical data

- Case: SOD-123 package, molded plastic.
- Polarity: Indicated by cathode band.
- Mounting position: Any.



### Circuit Diagram



### Maximum Ratings ( $T_A=25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Forward voltage @ $I_F=10\text{mA}$	$V_F$	0.9	V
Power dissipation	$P_D$	500	mW
Thermal resistance, junction to ambient	$R_{\theta JA}$	250	$^\circ\text{C/W}$
Thermal resistance, junction to case	$R_{\theta JC}$	140	$^\circ\text{C/W}$
Junction temperature range	$T_J$	-55 to +150	$^\circ\text{C}$
Storage temperature range	$T_{STG}$	-65 to +150	$^\circ\text{C}$

Note: These ratings are limiting values above which the serviceability of the diodes may be impaired.

## Electrical Characteristics (T<sub>A</sub>=25°C unless otherwise noted)

Part Number	Zener Voltage			Maximum Zener Impedance			Maximum Reverse Current		Temperature Coefficient @I <sub>ZT</sub>		Marking Code	
	V <sub>Z</sub> (V)			Z <sub>ZT@I<sub>ZT</sub></sub>	Z <sub>ZK</sub>	I <sub>ZK</sub>	I <sub>R</sub> @ V <sub>R</sub>		T <sub>c</sub> (mV/°C)			
	Min	Typ	Max	I <sub>ZT</sub> (mA)	(Ω)	(Ω)	(mA)	(μA)	(V)	Min		Max
BZT52B2V0-HF	1.96	2.0	2.04	5.0	100	1000	0.5	120	0.5	-3.5	0	WX•
BZT52B2V2-HF	2.16	2.2	2.24	5.0	100	1000	0.5	120	0.7	-3.5	0	WY•
BZT52B2V4-HF	2.35	2.4	2.45	5.0	94	564	1.0	45	1.0	-3.5	0	W1•
BZT52B2V7-HF	2.65	2.7	2.75	5.0	94	564	1.0	18	1.0	-3.5	0	W2•
BZT52B3V0-HF	2.94	3.0	3.06	5.0	89	564	1.0	9	1.0	-3.5	0	W3•
BZT52B3V3-HF	3.23	3.3	3.37	5.0	89	564	1.0	4.5	1.0	-3.5	0	W4•
BZT52B3V6-HF	3.53	3.6	3.67	5.0	84	564	1.0	4.5	1.0	-3.5	0	W5•
BZT52B3V9-HF	3.82	3.9	3.98	5.0	84	564	1.0	2.7	1.0	-3.5	0	W6•
BZT52B4V3-HF	4.21	4.3	4.39	5.0	84	564	1.0	2.7	1.0	-3.5	0	W7•
BZT52B4V7-HF	4.61	4.7	4.79	5.0	75	564	1.0	2.7	2.0	-3.5	0.2	W8•
BZT52B5V1-HF	5.00	5.1	5.20	5.0	56	470	1.0	1.8	2.0	-2.7	1.2	W9•
BZT52B5V6-HF	5.49	5.6	5.71	5.0	37	451	1.0	0.9	2.0	-2.0	2.5	WA•
BZT52B6V2-HF	6.08	6.2	6.32	5.0	9	376	1.0	2.7	4.0	0.4	3.7	WB•
BZT52B6V8-HF	6.66	6.8	6.94	5.0	14	141	1.0	1.8	4.0	1.2	4.5	WC•
BZT52B7V5-HF	7.35	7.5	7.65	5.0	14	75	1.0	0.9	5.0	2.5	5.3	WD•
BZT52B8V2-HF	8.04	8.2	8.36	5.0	14	75	1.0	0.63	5.0	3.2	6.2	WE•
BZT52B9V1-HF	8.92	9.1	9.28	5.0	14	94	1.0	0.45	6.0	3.8	7.0	WF•
BZT52B10-HF	9.80	10	10.20	5.0	18	141	1.0	0.18	7.0	4.5	8.0	WG•
BZT52B11-HF	10.78	11	11.22	5.0	18	141	1.0	0.09	8.0	5.4	9.0	WH•
BZT52B12-HF	11.76	12	12.24	5.0	23	141	1.0	0.09	8.0	6.0	10.0	WI•
BZT52B13-HF	12.74	13	13.26	5.0	28	160	1.0	0.09	8.0	7.0	11.0	WJ•
BZT52B15-HF	14.70	15	15.30	5.0	28	188	1.0	0.045	10.5	9.2	13.0	WK•
BZT52B16-HF	15.68	16	16.32	5.0	37	188	1.0	0.045	11.2	10.4	14.0	WL•
BZT52B18-HF	17.64	18	18.36	5.0	42	212	1.0	0.045	12.6	12.4	16.0	WM•
BZT52B20-HF	19.60	20	20.40	5.0	51	212	1.0	0.045	14.0	14.4	18.0	WN•
BZT52B22-HF	21.56	22	22.44	5.0	51	235	1.0	0.045	15.4	16.4	20.0	WO•
BZT52B24-HF	23.52	24	24.48	5.0	65	235	1.0	0.045	16.8	18.4	22.0	WP•
BZT52B27-HF	26.46	27	27.54	2.0	75	282	0.5	0.045	18.9	21.4	25.3	WQ•
BZT52B30-HF	29.40	30	30.60	2.0	75	282	0.5	0.045	21.0	24.4	29.4	WR•
BZT52B33-HF	32.34	33	33.66	2.0	75	306	0.5	0.045	23.0	27.4	33.4	WS•

## Electrical Characteristics (T<sub>A</sub>=25°C unless otherwise noted)

Part Number	Zener Voltage			Maximum Zener Impedance			Maximum Reverse Current		Temperature Coefficient @I <sub>ZT</sub>		Marking Code	
	V <sub>Z</sub> (V)			Z <sub>ZT</sub> @I <sub>ZT</sub>	Z <sub>ZK</sub>	I <sub>ZK</sub>	I <sub>R</sub> @ V <sub>R</sub>		T <sub>C</sub> (mV/°C)			
	Min	Typ	Max	(mA)	(Ω)	(Ω)	(mA)	(μA)	(V)	Min		Max
BZT52B36-HF	35.28	36	36.72	2.0	84	329	0.5	0.045	25.2	30.4	37.4	WT •
BZT52B39-HF	38.22	39	39.78	2.0	122	329	0.5	0.045	27.3	33.4	41.2	WU •
BZT52B43-HF	42.14	43	43.86	2.0	141	353	0.5	0.045	30.1	37.6	46.6	WV •
BZT52B47-HF	46.06	47	47.94	2.0	160	353	0.5	0.045	33.0	42.0	51.8	WW •
BZT52B51-HF	49.98	51	52.02	2.0	169	376	0.5	0.045	35.7	46.6	57.2	X1 •
BZT52B56-HF	54.88	56	57.12	2.0	200	400	0.5	0.045	39.2	52.2	63.8	X2 •
BZT52B62-HF	60.76	62	63.24	2.0	215	423	0.5	0.045	43.4	58.8	71.6	X3 •
BZT52B68-HF	66.64	68	69.36	2.0	240	447	0.5	0.045	47.6	65.6	79.8	X4 •
BZT52B75-HF	73.50	75	76.50	2.0	255	470	0.5	0.045	52.5	73.4	88.6	X5 •

## Typical Rating and Characteristic Curves (BZT52B2V0-HF Thru. BZT52B75-HF)

Fig.1 - Power Derating Curve

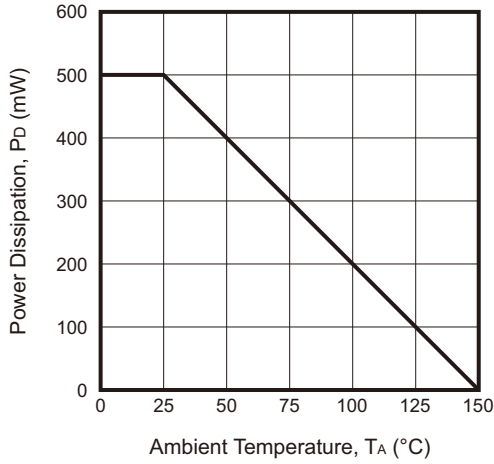


Fig.2 - Typical Zener Breakdown Characteristics

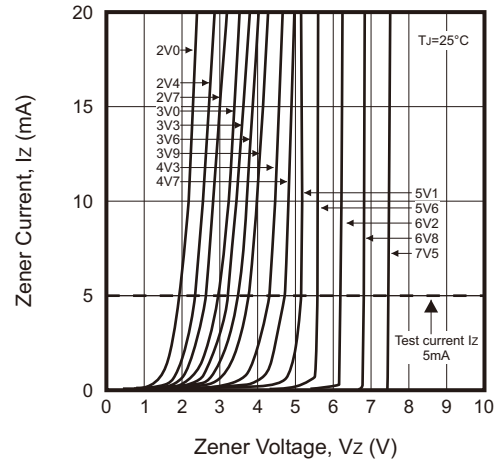


Fig.3 - Typical Zener Breakdown Characteristics

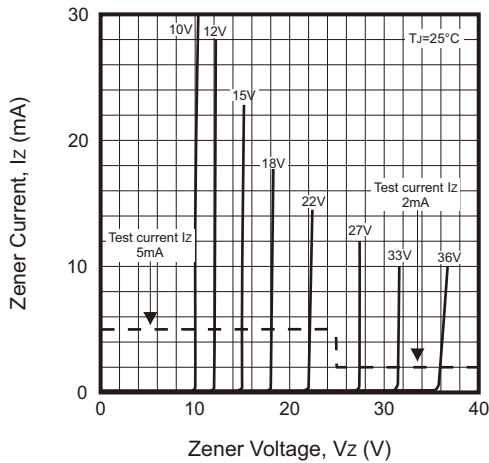


Fig.4 - Typical Zener Breakdown Characteristics

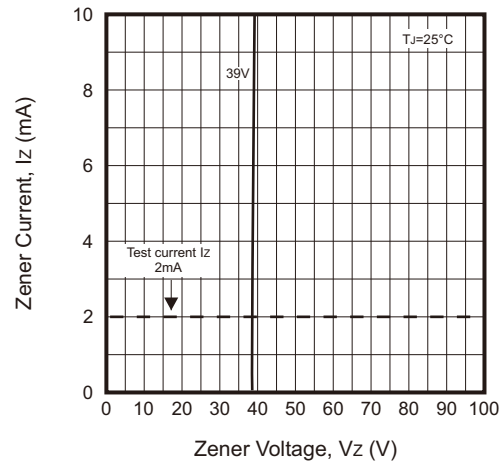


Fig.5 - Typical Temperature Coefficient of Zener Voltage

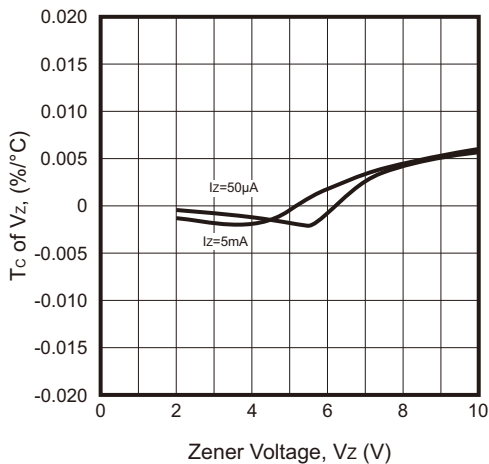
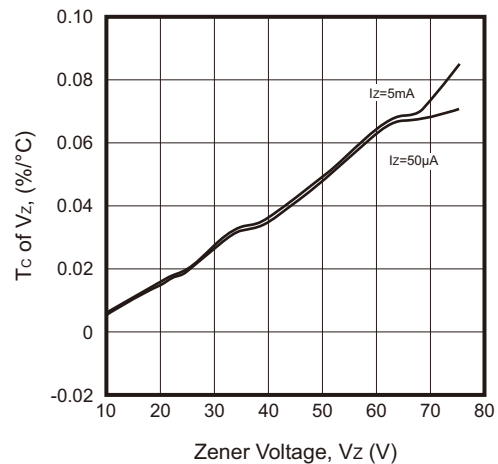
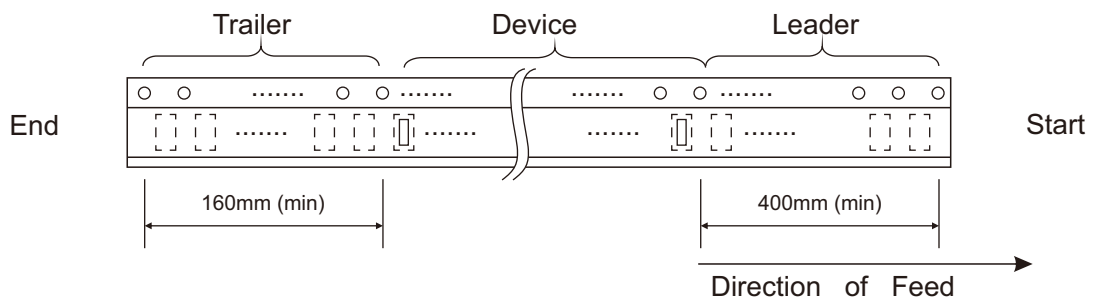
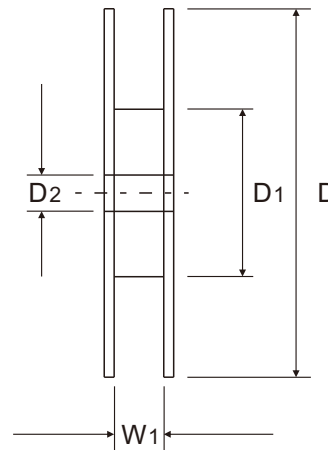
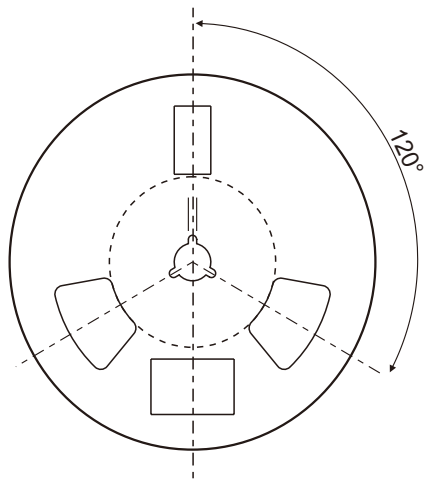
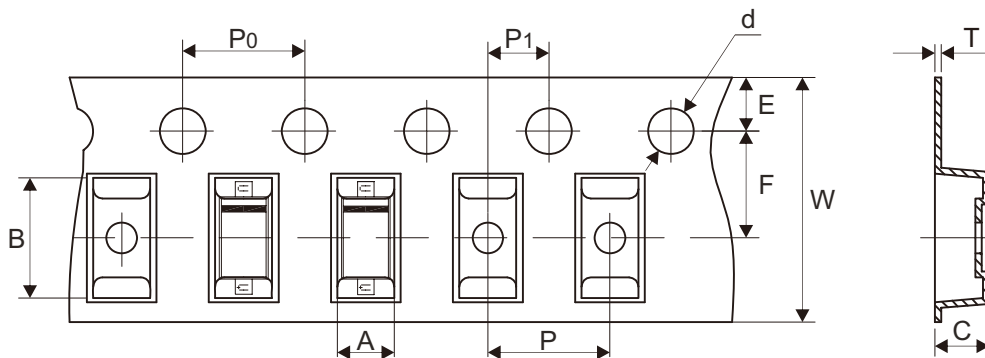


Fig.6 - Typical Temperature Coefficient of Zener Voltage



## Reel Taping Specification



SOD-123	SYMBOL	A	B	C	d	D	D1	D2
	(mm)	1.85 ± 0.10	3.94 ± 0.10	1.57 ± 0.10	1.55 ± 0.05	178.00 ± 1.00	54.00 ± 0.50	13.00 ± 0.50
	(inch)	0.073 ± 0.004	0.155 ± 0.004	0.062 ± 0.004	0.061 ± 0.002	7.008 ± 0.039	2.126 ± 0.020	0.512 ± 0.020

SOD-123	SYMBOL	E	F	P	P0	P1	T	W	W1
	(mm)	1.75 ± 0.10	3.50 ± 0.05	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.05	0.203 ± 0.013	8.00 + 0.30 - 0.10	9.50 ± 1.00
	(inch)	0.069 ± 0.004	0.138 ± 0.002	0.157 ± 0.004	0.157 ± 0.004	0.079 ± 0.002	0.008 ± 0.001	0.315 + 0.012 - 0.004	0.374 ± 0.039