



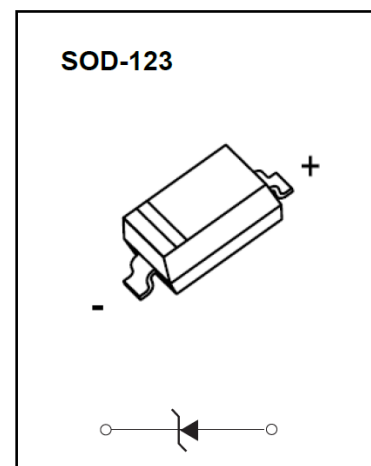
AD-BZT52B* Series Plastic-Encapsulated Diode

AD-BZT52B* series

Zener diode

FEATURES

- Planar die construction
- 350mW power dissipation on ceramic PCB
- General purpose, medium current
- Ideally suited for automated assembly processes
- AEC-Q101 qualified



MAXIMUM RATINGS ($T_j = 25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Value	Unit
Forward voltage ²⁾ @ $I_F = 10\text{mA}$	V_F	0.9	V
Power dissipation ¹⁾	P_D	350	mW
Thermal resistance from junction to ambient	$R_{\theta JA}$	357	$^{\circ}\text{C/W}$
Operating junction and storage temperature range	T_j, T_{stg}	-55 ~ 150	$^{\circ}\text{C}$

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

Type Number	Type Code	Zener Voltage Range ²⁾				Maximum Zener Impedance ³⁾			Maximum Reverse Current		Typical Temperature Coefficient @ I_{ZTC}		Test Current
		$V_Z@I_{ZT}$			I_{ZT}	$Z_{ZT}@I_{ZT}$	$Z_{ZK}@I_{ZK}$	I_{ZK}	I_R	V_R	mV/ $^{\circ}\text{C}$		I_{ZTC}
		Nom(V)	Min(V)	Max(V)	mA	Ω		mA	μA	V	Min	Max	mA
AD-BZT52B2V4	$\bar{2}\text{WX}$	2.4	2.35	2.45	5	100	600	1.0	50	1.0	-3.5	0	5
AD-BZT52B2V7	$\bar{2}\text{W1}$	2.7	2.65	2.75	5	100	600	1.0	20	1.0	-3.5	0	5
AD-BZT52B3V0	$\bar{2}\text{W2}$	3.0	2.94	3.06	5	95	600	1.0	10	1.0	-3.5	0	5
AD-BZT52B3V3	$\bar{2}\text{W3}$	3.3	3.23	3.37	5	95	600	1.0	5	1.0	-3.5	0	5
AD-BZT52B3V6	$\bar{2}\text{W4}$	3.6	3.53	3.67	5	90	600	1.0	5	1.0	-3.5	0	5
AD-BZT52B3V9	$\bar{2}\text{W5}$	3.9	3.82	3.98	5	90	600	1.0	3	1.0	-3.5	0	5
AD-BZT52B4V3	$\bar{2}\text{W6}$	4.3	4.21	4.39	5	90	600	1.0	3	1.0	-3.5	0	5
AD-BZT52B4V7	$\bar{2}\text{W7}$	4.7	4.61	4.79	5	80	500	1.0	3	2.0	-3.5	0.2	5
AD-BZT52B5V1	$\bar{2}\text{W8}$	5.1	5.00	5.20	5	60	480	1.0	2	2.0	-2.7	1.2	5
AD-BZT52B5V6	$\bar{2}\text{W9}$	5.6	5.49	5.71	5	40	400	1.0	1	2.0	-2.0	2.5	5
AD-BZT52B6V2	$\bar{2}\text{WA}$	6.2	6.08	6.32	5	10	150	1.0	3	4.0	0.4	3.7	5
AD-BZT52B6V8	$\bar{2}\text{WB}$	6.8	6.66	6.94	5	15	80	1.0	2	4.0	1.2	4.5	5
AD-BZT52B7V5	$\bar{2}\text{WC}$	7.5	7.35	7.65	5	15	80	1.0	1	5.0	2.5	5.3	5
AD-BZT52B8V2	$\bar{2}\text{WD}$	8.2	8.04	8.36	5	15	80	1.0	0.7	5.0	3.2	6.2	5
AD-BZT52B9V1	$\bar{2}\text{WE}$	9.1	8.92	9.28	5	15	100	1.0	0.5	6.0	3.8	7.0	5
AD-BZT52B10	$\bar{2}\text{WF}$	10	9.80	10.20	5	20	150	1.0	0.2	7.0	4.5	8.0	5
AD-BZT52B11	$\bar{2}\text{WG}$	11	10.78	11.22	5	20	150	1.0	0.1	8.0	5.4	9.0	5
AD-BZT52B12	$\bar{2}\text{WH}$	12	11.76	12.24	5	25	150	1.0	0.1	8.0	6.0	10.0	5
AD-BZT52B13	$\bar{2}\text{WI}$	13	12.74	13.26	5	30	170	1.0	0.1	8.0	7.0	11.0	5
AD-BZT52B15	$\bar{2}\text{WJ}$	15	14.70	15.30	5	30	200	1.0	0.1	10.5	9.2	13.0	5
AD-BZT52B16	$\bar{2}\text{WK}$	16	15.68	16.32	5	40	200	1.0	0.1	11.2	10.4	14.0	5
AD-BZT52B18	$\bar{2}\text{WL}$	18	17.64	18.36	5	45	225	1.0	0.1	12.6	12.4	16.0	5
AD-BZT52B20	$\bar{2}\text{WM}$	20	19.60	20.40	5	55	225	1.0	0.1	14.0	14.4	18.0	5
AD-BZT52B22	$\bar{2}\text{WN}$	22	21.56	22.44	5	55	250	1.0	0.1	15.4	16.4	20.0	5
AD-BZT52B24	$\bar{2}\text{WO}$	24	23.52	24.48	5	70	250	1.0	0.1	16.8	18.4	22.0	5
AD-BZT52B27	$\bar{2}\text{WP}$	27	26.46	27.54	2	80	300	0.5	0.1	18.9	21.4	25.3	2
AD-BZT52B30	$\bar{2}\text{WQ}$	30	29.40	30.60	2	80	300	0.5	0.1	21.0	24.4	29.4	2

AD-BZT52B33	$\bar{2}$ WR	33	32.34	33.66	2	80	325	0.5	0.1	23.1	27.4	33.4	2
AD-BZT52B36	$\bar{2}$ WS	36	35.28	36.72	2	90	350	0.5	0.1	25.2	30.4	37.4	2
AD-BZT52B39	$\bar{2}$ WT	39	38.22	39.78	2	130	350	0.5	0.1	27.3	33.4	41.2	2
AD-BZT52B43	$\bar{2}$ WU	43	41.16	42.84	2	130	350	0.5	0.1	29.4	36.4	45.2	2

1) Measured with the device mounted on ceramic PCB: 7.6mm x 9.4mm x 0.87mm with pad area of 25mm².

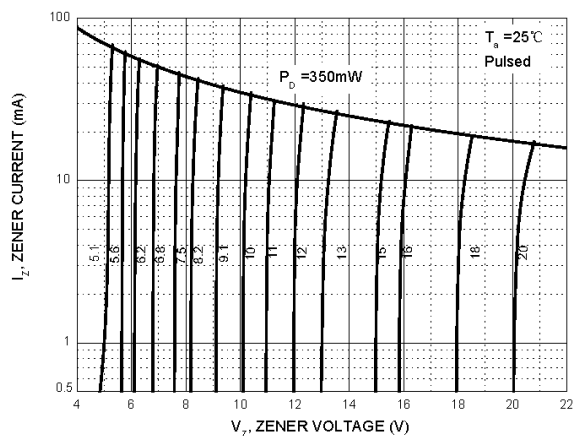
2) Short duration test pulse used to minimize self-heating effect.

3) f = 1kHz.

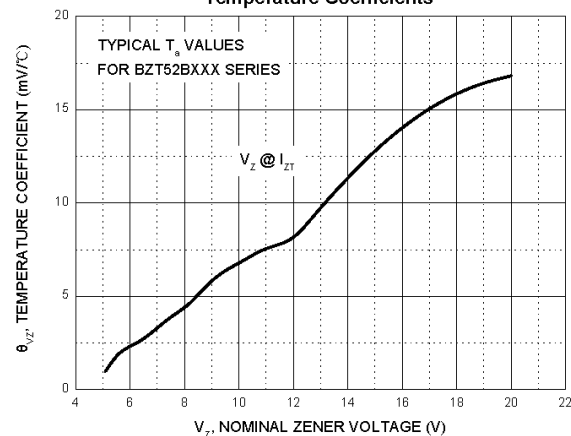
TYPICAL CHARACTERISTICS

Notes: Our company currently provide 5.1 V - 20 V products only

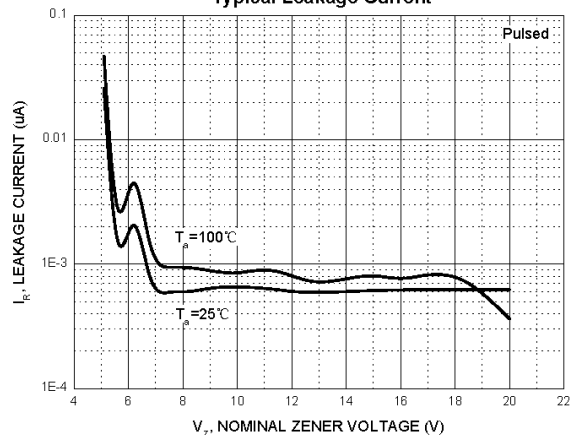
Zener Characteristics (V_Z 5.1V to 20 V)



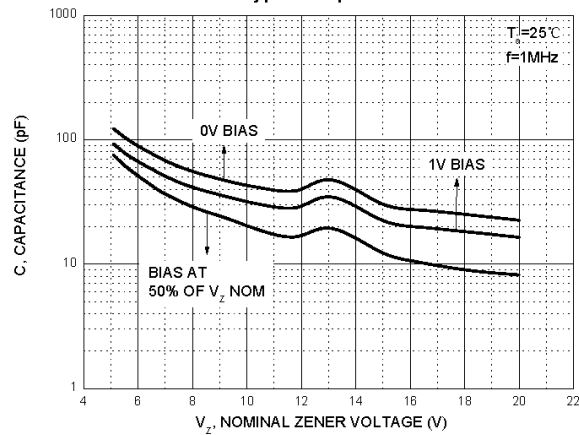
Temperature Coefficients



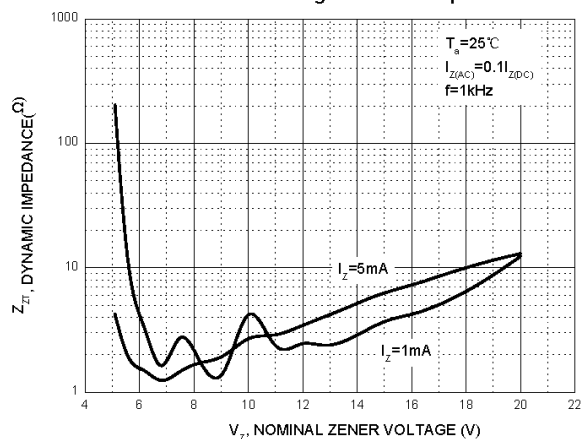
Typical Leakage Current



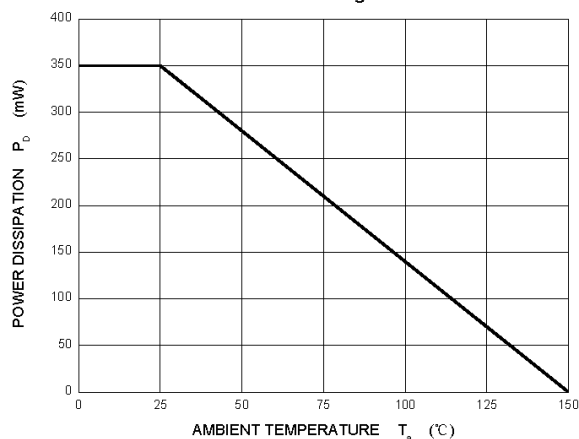
Typical Capacitance



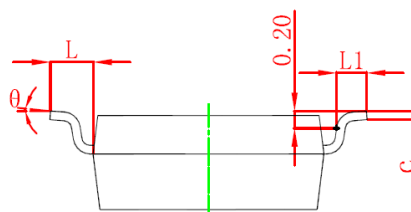
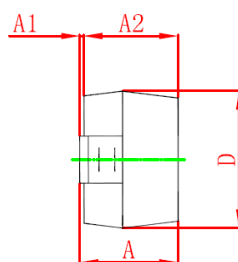
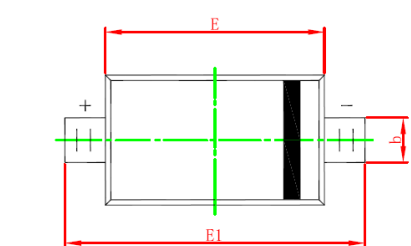
Effect of Zener Voltage on Zener Impedance



Power Derating Curve

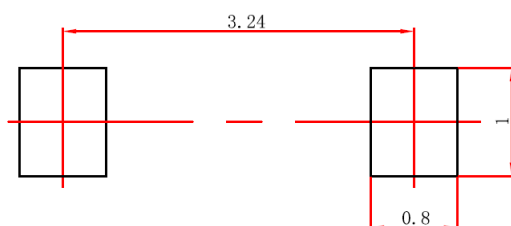


SOD-123 PACKAGE OUTLINE DIMENSIONS



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.450	0.650	0.018	0.026
c	0.080	0.150	0.003	0.006
D	1.500	1.700	0.059	0.067
E	2.600	2.800	0.102	0.110
E1	3.550	3.850	0.140	0.152
L	0.500 REF		0.020 REF	
L1	0.250	0.450	0.010	0.018
θ	0°	8°	0°	8°

SOD-123 SUGGESTED PAD LAYOUT

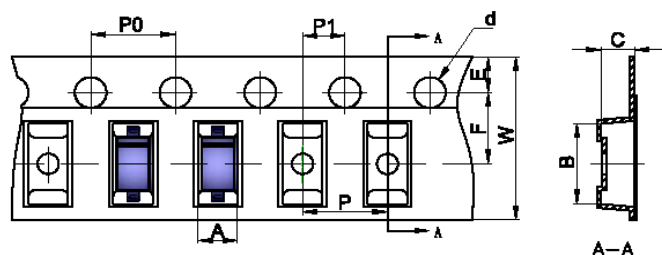


Note:

1. Controlling dimension in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purpose only.

SOD-123 TAPE AND REEL

SOD-123 Embossed Carrier Tape

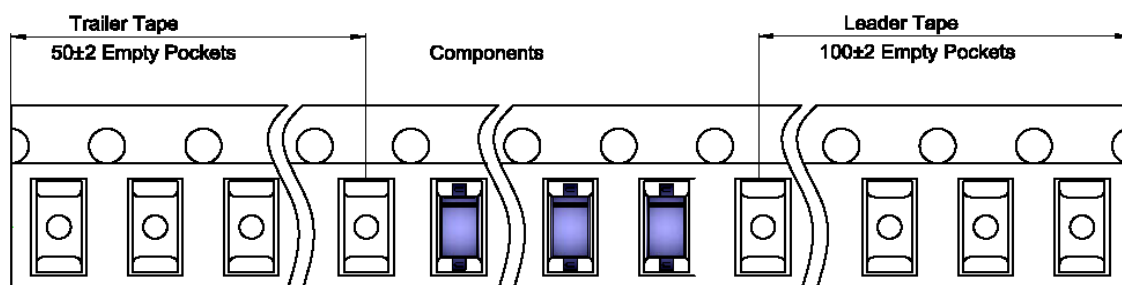


Packaging Description:

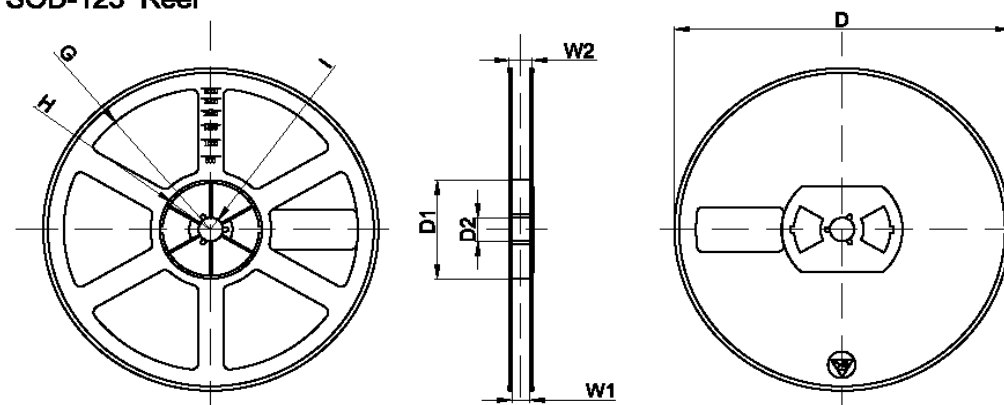
SOD-123 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive In nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 3,000 units per 7" or 17.8cm diameter reel. The reels are clear in color and is made of polystyrene plastic (anti-static coated).

Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOD-123	1.85	3.95	1.57	Ø1.55	1.75	3.50	4.00	4.00	2.00	8.00

SOD-123 Tape Leader and Trailer



SOD-123 Reel



Dimensions are in millimeter								
Reel Option	D	D1	D2	G	H	I	W1	W2
7" Dia	Ø178.00	54.40	13.00	R78.00	R25.60	R6.50	9.50	12.30

REEL	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)	G.W.(kg)
3000 pcs	7 inch	45,000 pcs	203×203×195	180,000 pcs	438×438×220	

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