

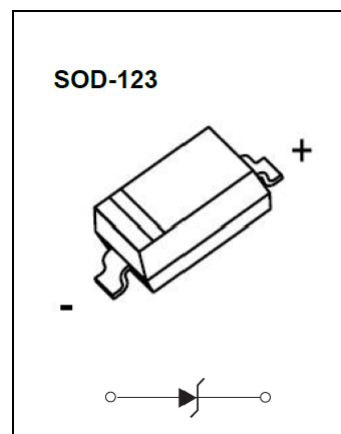


## AD-BZT52C\* Series Plastic-Encapsulated Diode

AD-BZT52C\* series      Zener diode

### FEATURES

- Planar die construction
- 500mW power dissipation on ceramic PCB
- General purpose, medium current
- Ideally suited for automated assembly processes
- Available in lead free version
- AEC-Q101 qualified



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

Parameter	Symbol	Value	Unit
Forward voltage @ $I_F = 10\text{mA}$	$V_F$ <sup>1)</sup>	0.9	V
Power dissipation	$P_D$ <sup>2)</sup>	500	mW
Thermal resistance from junction to ambient	$R_{\theta JA}$ <sup>2)</sup>	250	$^\circ\text{C}/\text{W}$
Operating junction and storage temperature range	$T_j, T_{stg}$	-55 ~ 150	$^\circ\text{C}$

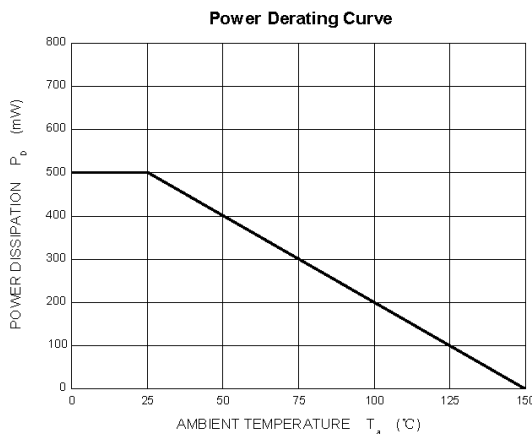
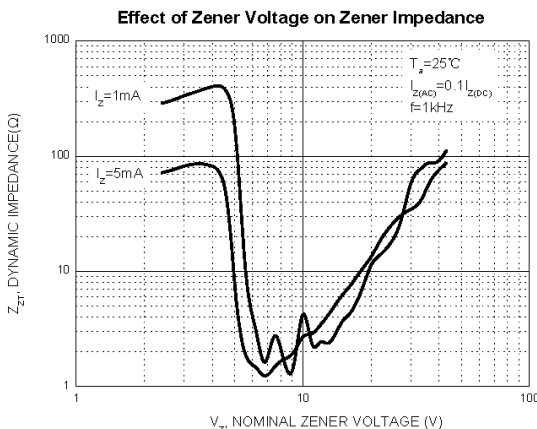
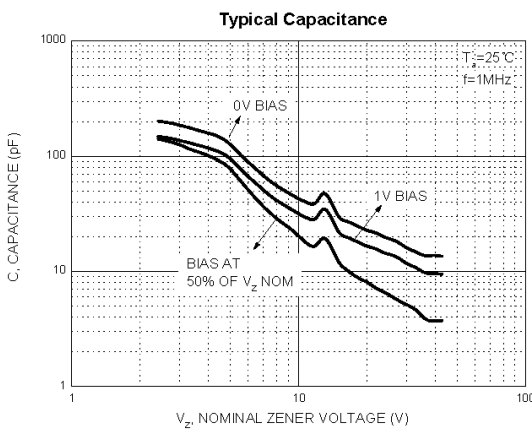
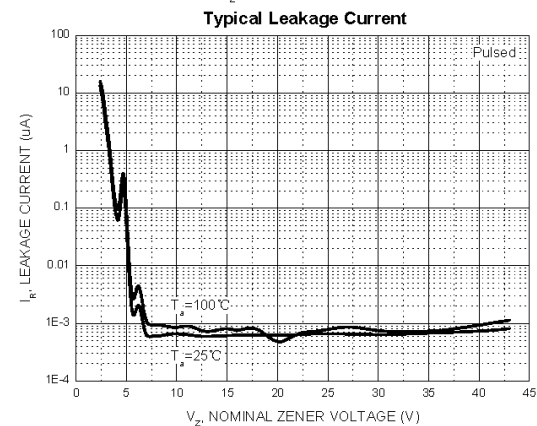
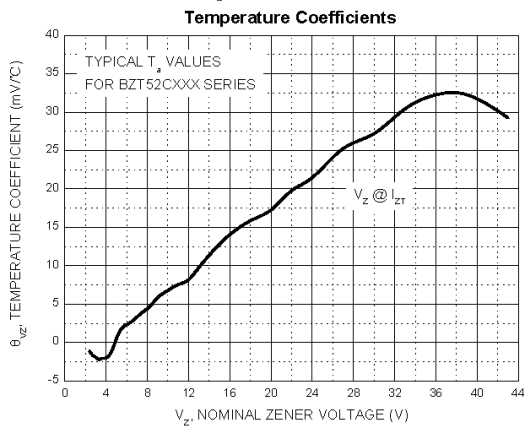
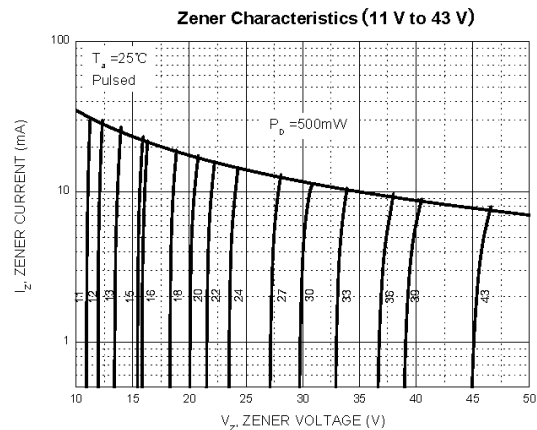
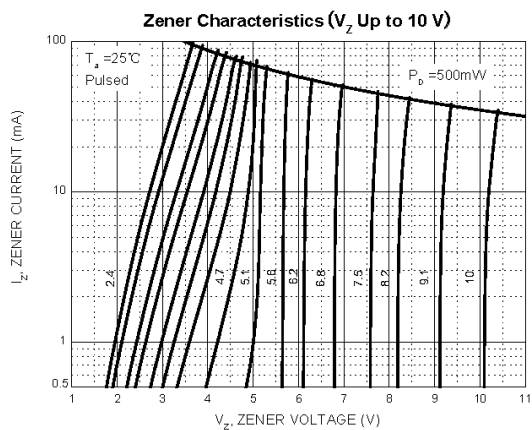
**ELECTRICAL CHARACTERISTICS ( $T_j = 25^\circ\text{C}$  unless otherwise specified)**

Type number	Marking	Zener voltage range <sup>1)</sup>				Maximum Zener impedance <sup>3)</sup>			Maximum reverse current		Temperature coefficient of Zener voltage @ $I_{ZT} = 5\text{mA}$ (mV/°C)		Test current
		$V_Z @ I_{ZT}$ (V)			$I_{ZT}$ (mA)	$Z_{ZT} @ I_{ZT}$ ( $\Omega$ )	$Z_{ZK} @ I_{ZK}$ ( $\Omega$ )	$I_{ZK}$ (mA)	$I_R$ ( $\mu\text{A}$ )	$V_R$ (V)	Min	Max	$I_{ZTC}$ (mA)
		Min	Norm	Max									
AD-BZT52C2V4	$\bar{W}X$	2.20	2.4	2.6	5	100	600	1.0	50	1.0	-3.5	0	5
AD-BZT52C2V7	$\bar{W}1$	2.5	2.7	2.9	5	100	600	1.0	20	1.0	-3.5	0	5
AD-BZT52C3V0	$\bar{W}2$	2.8	3.0	3.2	5	95	600	1.0	10	1.0	-3.5	0	5
AD-BZT52C3V3	$\bar{W}3$	3.1	3.3	3.5	5	95	600	1.0	5	1.0	-3.5	0	5
AD-BZT52C3V6	$\bar{W}4$	3.4	3.6	3.8	5	90	600	1.0	5	1.0	-3.5	0	5
AD-BZT52C3V9	$\bar{W}5$	3.7	3.9	4.1	5	90	600	1.0	3	1.0	-3.5	0	5
AD-BZT52C4V3	$\bar{W}6$	4.0	4.3	4.6	5	90	600	1.0	3	1.0	-3.5	0	5
AD-BZT52C4V7	$\bar{W}7$	4.4	4.7	5.0	5	80	500	1.0	3	2.0	-3.5	0.2	5
AD-BZT52C5V1	$\bar{W}8$	4.8	5.1	5.4	5	60	480	1.0	2	2.0	-2.7	1.2	5
AD-BZT52C5V6	$\bar{W}9$	5.2	5.6	6.0	5	40	400	1.0	1	2.0	-2.0	2.5	5
AD-BZT52C6V2	$\bar{W}A$	5.8	6.2	6.6	5	10	150	1.0	3	4.0	0.4	3.7	5
AD-BZT52C6V8	$\bar{W}B$	6.4	6.8	7.2	5	15	80	1.0	2	4.0	1.2	4.5	5
AD-BZT52C7V5	$\bar{W}C$	7.0	7.5	7.9	5	15	80	1.0	1	5.0	2.5	5.3	5
AD-BZT52C8V2	$\bar{W}D$	7.7	8.2	8.7	5	15	80	1.0	0.7	5.0	3.2	6.2	5
AD-BZT52C9V1	$\bar{W}E$	8.5	9.1	9.6	5	15	100	1.0	0.5	6.0	3.8	7.0	5
AD-BZT52C10	$\bar{W}F$	9.4	10	10.6	5	20	150	1.0	0.2	7.0	4.5	8.0	5
AD-BZT52C11	$\bar{W}G$	10.4	11	11.6	5	20	150	1.0	0.1	8.0	5.4	9.0	5
AD-BZT52C12	$\bar{W}H$	11.4	12	12.7	5	25	150	1.0	0.1	8.0	6.0	10.0	5
AD-BZT52C13	$\bar{W}I$	12.4	13	14.1	5	30	170	1.0	0.1	8.0	7.0	11.0	5
AD-BZT52C15	$\bar{W}J$	13.8	15	15.6	5	30	200	1.0	0.1	10.5	9.2	13.0	5
AD-BZT52C16	$\bar{W}K$	15.3	16	17.1	5	40	200	1.0	0.1	11.2	10.4	14.0	5
AD-BZT52C18	$\bar{W}L$	16.8	18	19.1	5	45	225	1.0	0.1	12.6	12.4	16.0	5
AD-BZT52C20	$\bar{W}M$	18.8	20	21.2	5	55	225	1.0	0.1	14.0	14.4	18.0	5
AD-BZT52C22	$\bar{W}N$	20.8	22	23.3	5	55	250	1.0	0.1	15.4	16.4	20.0	5
AD-BZT52C24	$\bar{W}O$	22.8	24	25.6	5	70	250	1.0	0.1	16.8	18.4	22.0	5
AD-BZT52C27	$\bar{W}P$	25.1	27	28.9	2	80	300	0.5	0.1	18.9	21.4	25.3	2
AD-BZT52C30	$\bar{W}Q$	28.0	30	32.0	2	80	300	0.5	0.1	21.0	24.4	29.4	2
AD-BZT52C33	$\bar{W}R$	31.0	33	35.0	2	80	325	0.5	0.1	23.1	27.4	33.4	2
AD-BZT52C36	$\bar{W}S$	34.0	36	38.0	2	90	350	0.5	0.1	25.2	30.4	37.4	2
AD-BZT52C39	$\bar{W}T$	37.0	39	41.0	2	130	350	0.5	0.1	27.3	33.4	41.2	2
AD-BZT52C43	$\bar{W}U$	40.0	43	46.0	5	100	700	1.0	0.1	32	10.0	12.0	5

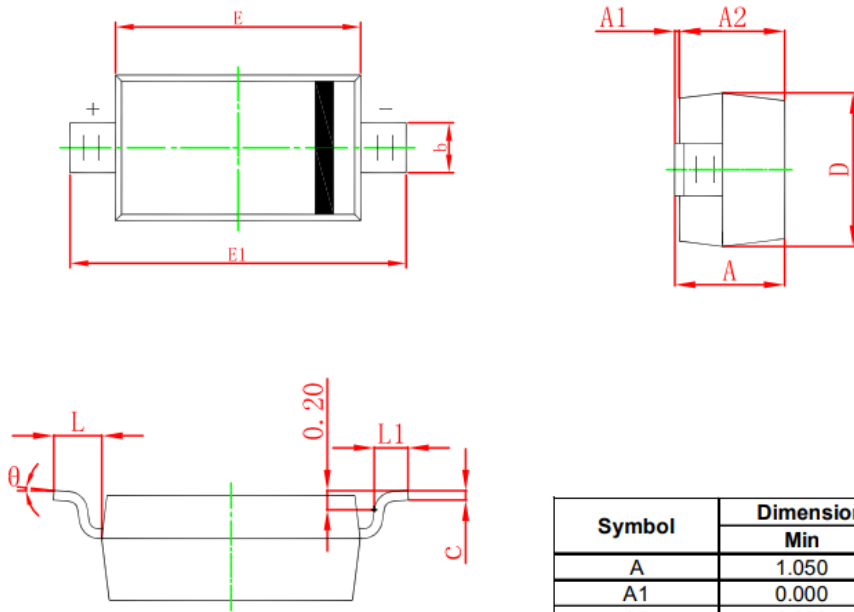
1) Short duration test pulse used to minimize self-heating effect.

2) Measured with the device mounted on 1 inch<sup>2</sup> FR-4 board with 2oz. copper, in a still air environment with  $T_a = 25^\circ\text{C}$ .3)  $f = 1\text{kHz}$ .

# TYPICAL CHARACTERISTICS

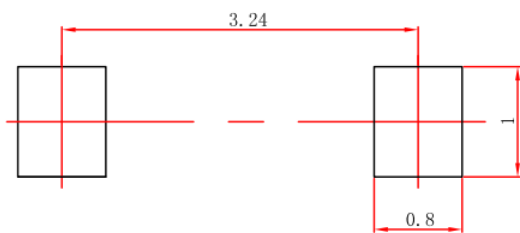


### SOD-123 PACKAGE OUTLINE DIMENSIONS



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

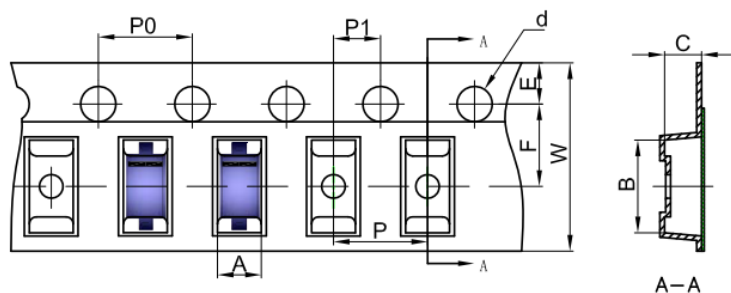


Note:

1. Controlling dimension in millimeters.
2. General tolerance: ±0.05mm.
3. The pad layout is for reference purpose only.

### SOD-123 TAPE AND REEL

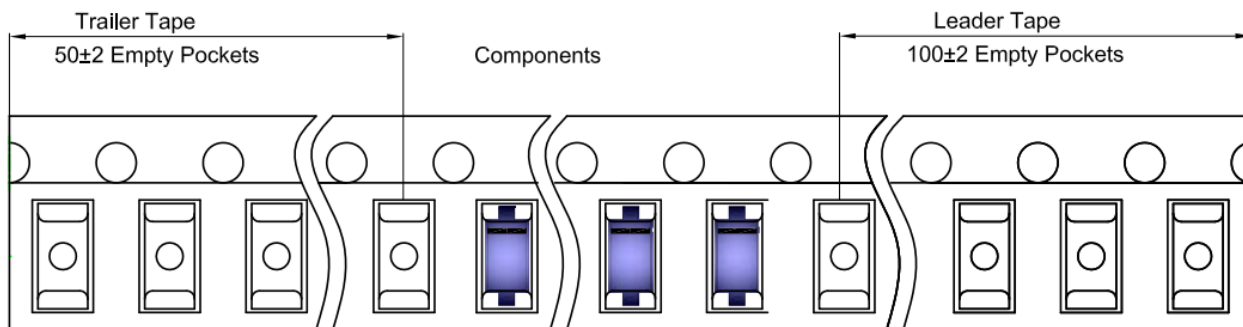
#### SOD-123 Embossed Carrier Tape



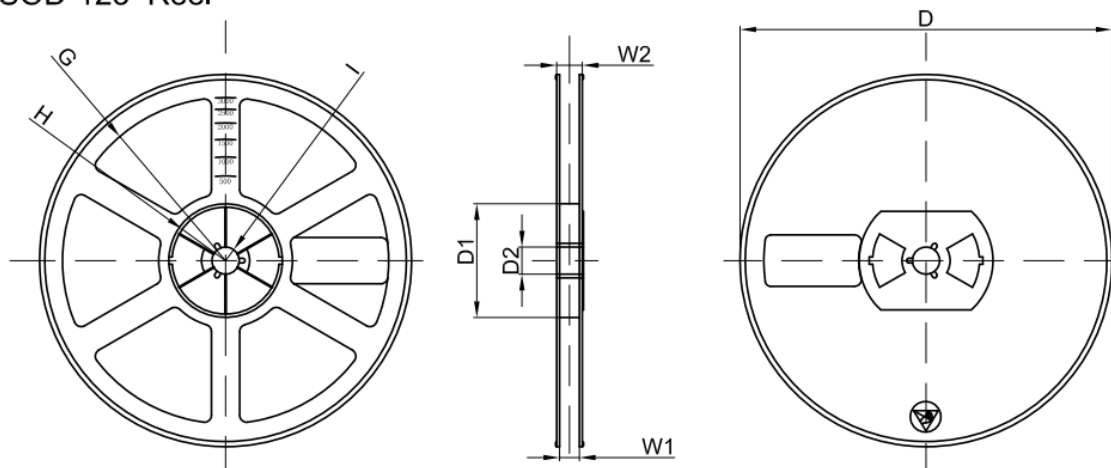
**Packaging Description:**  
 SOD-123 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed 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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