

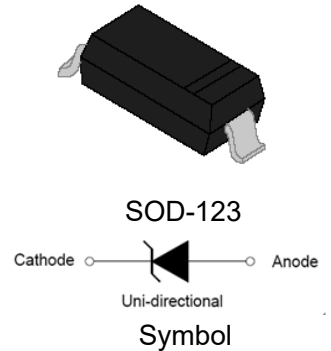


## Zener Diodes: BZT52CxxxAU-UPA Series

Rev.1.1

### FEATURE

- ◇ Silicon power zener diodes.
- ◇ Low zener impedance.
- ◇ 500mW rating on FR-4 or FR-5 board.
- ◇ Voltage range includes breakdown voltages from 3.0V to 4.3V with approximately  $\pm 5\%$  for BZT52CxxxAU-UPA series.
- ◇ Low profile surface-mount package.
- ◇ AEC-Q101 qualified.
- ◇ For use in stabilizing and clamping circuits with high power rating.



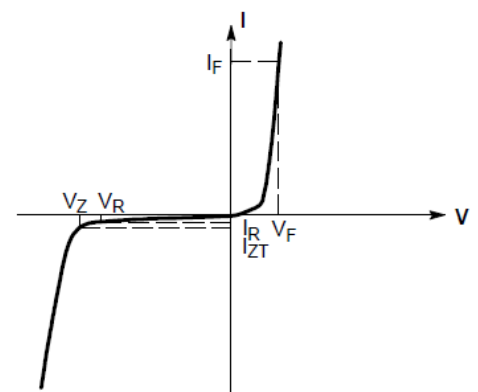
### ABSOLUTE MAXIMUM RATINGS AND THERMAL CHARACTERISTICS

Parameter	Symbol	Max Value	Unit
Total power dissipation @ $T_L=75^\circ\text{C}$	$P_D$	500	mW
Thermal resistance junction to ambient (Note1)	$R_{\theta JA}$	330	$^\circ\text{C}/\text{W}$
Junction temperature range	$T_J$	-55 to +150	$^\circ\text{C}$
Storage temperature range	$T_{STG}$	-55 to +150	$^\circ\text{C}$

Note1: Device mounted on FR-4 PCB with minimum recommended pad layout

### ELECTRICAL CHARACTERISTICS ( $T_A=25^\circ\text{C}$ )

Symbol	Parameter
$V_Z$	Reverse zener voltage at $I_{zt}$
$I_{zt}$	Reverse current
$I_R$	Reverse leakage current at $V_R$
$V_R$	Reverse voltage
$I_F$	Forward current
$V_F$	Forward voltage at $I_F$



Zener voltage regulator

**MARKING**



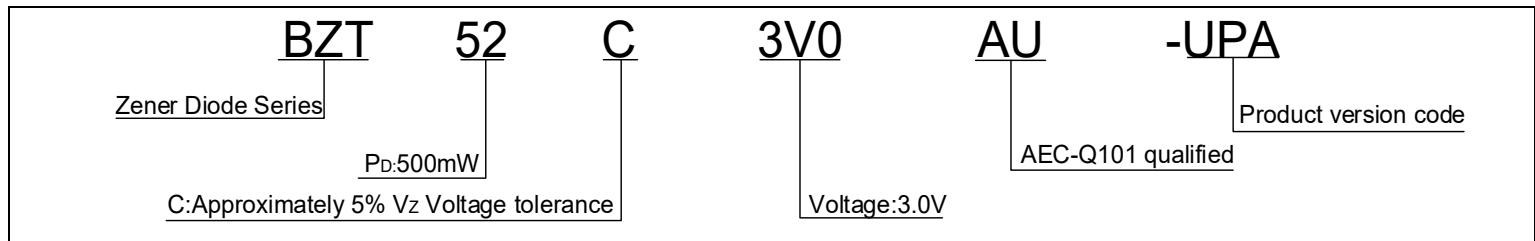
W2: Device Marking Code

**ELECTRICAL CHARACTERISTICS** (T<sub>A</sub>=25°C unless otherwise noted)

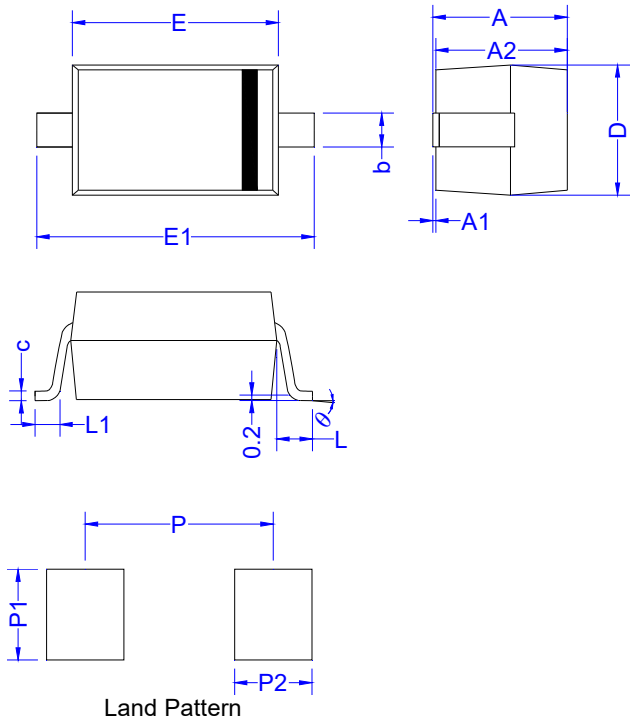
Maximum V<sub>F</sub>=0.9V at I<sub>F</sub>=10mA

Type number	Zener voltage range at I <sub>zt</sub>				Maximum zener impedance			Maximum reverse leakage current		Typical temperature coefficient @I <sub>zTC</sub>		Test current I <sub>zTC</sub>	Marking
	Nom (V)	Min (V)	Max (V)	I <sub>zt</sub> (mA)	Z <sub>zt</sub> (Ω)	Z <sub>zk</sub> (Ω)	I <sub>zk</sub> (mA)	I <sub>R</sub> (μA)	V <sub>R</sub> (V)	Min (mV/°C)	Max (mV/°C)	mA	
BZT52C3V0AU-UPA	3.0	2.8	3.2	5.0	95	600	1.0	1	1.0	-3.5	0	5	W2
BZT52C3V3AU-UPA	3.3	3.1	3.5	5.0	95	600	1.0	1	1.0	-3.5	0	5	W3
BZT52C3V6AU-UPA	3.6	3.4	3.8	5.0	90	600	1.0	1	1.0	-3.5	0	5	W4
BZT52C3V9AU-UPA	3.9	3.7	4.1	5.0	90	600	1.0	1	1.0	-3.5	0	5	W5
BZT52C4V3AU-UPA	4.3	4.0	4.6	5.0	90	600	1.0	1	1.0	-3.5	0	5	W6

**ORDERING INFORMATION**

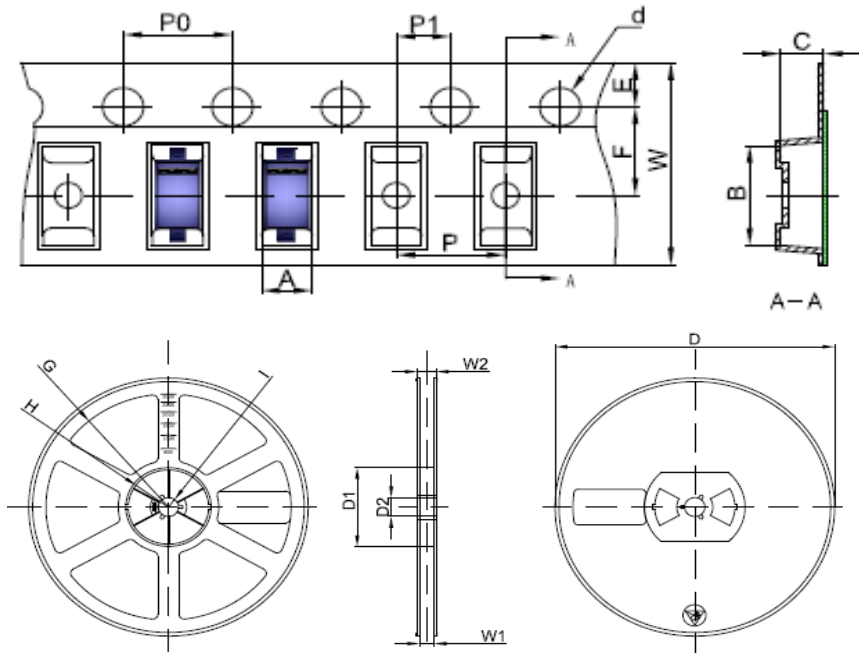


PACKAGE MECHANICAL DATA



Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	1.05	1.25	0.041	0.049
A1	0.00	0.10	0.000	0.004
A2	1.05	1.15	0.041	0.045
b	0.45	0.65	0.018	0.026
c	0.08	0.15	0.003	0.006
D	1.50	1.70	0.059	0.067
E	2.60	2.80	0.102	0.110
E1	3.55	3.85	0.140	0.152
L	0.50REF.		0.020 REF.	
L1	0.25	0.45	0.010	0.018
θ	0°	8°	0°	8°
P	3.24		0.128	
P1	1.00		0.039	
P2	0.80		0.031	

**TAPE AND REEL SPECIFICATION-SOD-123**



Symbol	Millimeters	Inches
	Typ.	Typ.
A	1.85	0.073
B	3.95	0.156
C	1.57	0.062
d	Φ1.55	Φ 0.061
E	1.75	0.069
F	3.50	0.138
P0	4.0	0.157
P	4.0	0.157
P1	2.0	0.079
W	8.00	0.315
D	Φ178.0	Φ7.008
D1	54.40	2.142
D2	13.0	0.512
G	R78.0	R3.071
H	R25.60	R1.008
I	R6.50	R0.256
W1	9.50	0.374
W2	12.30	0.484

**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 made of polystyrene plastic(anti-static coated).

**ORDERING INFORMATION**

OUTLINE	PACKAGE	REEL SIZE	QUANTITY PER REEL
TAPING	SOD-123	7 Inch	3,000PCS

**RATINGS AND CHARACTERISTICS CURVES** ( $T_A=25^{\circ}\text{C}$ , unless otherwise noted)

Fig.1 Power dissipation vs lead temperature

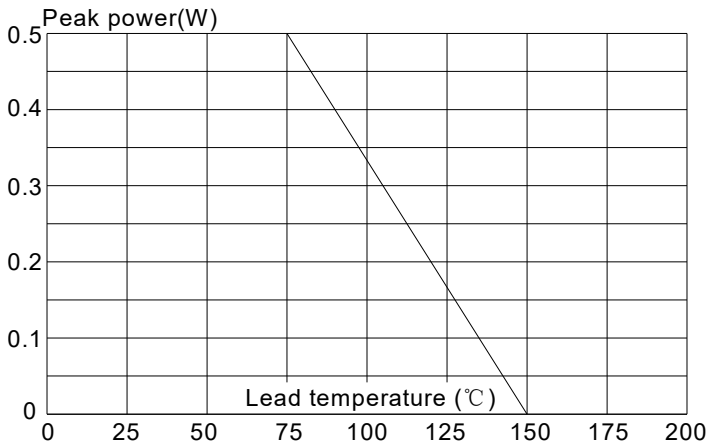
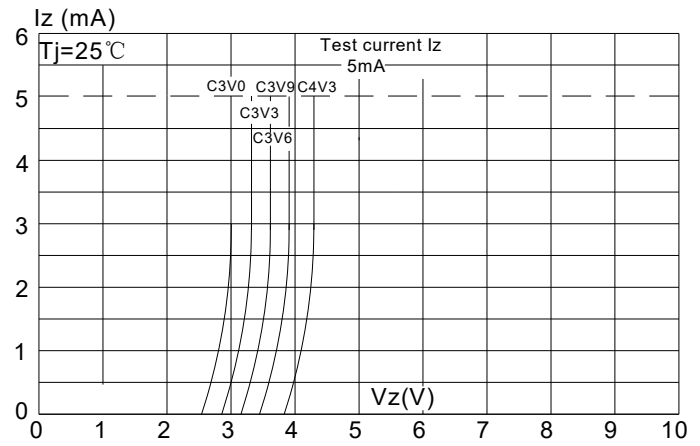


Fig.2 Zener breakdown characteristics



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