



## Silicon Planar Zener Diodes: BZT52CxxxSAU-UPA Series

Rev.0.2

### FEATURE

- ◇ Total power dissipation : max 200mW.
- ◇ Small plastic package suitable for surface mounted design.
- ◇ Voltage range includes breakdown voltages from 3.3V to 4.3V with approximately  $\pm 5\%$  for BZT52CxxxSAU-UPA series.
- ◇ High reliability.
- ◇ AEC-Q101 qualified.



SOD-323



Symbol

### DESCRIPTION

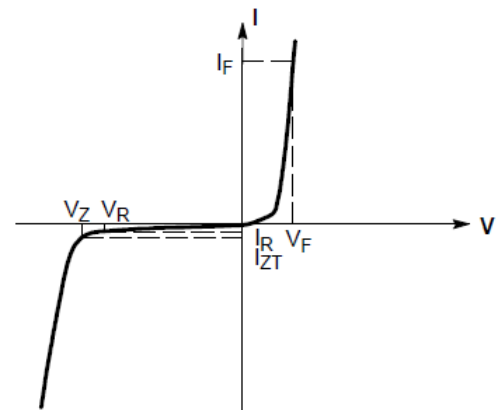
- ◇ Silicon planar zener diode in a small plastic.
- ◇ SMD SOD-323 package.

### ABSOLUTE MAXIMUM RATINGS AND THERMAL CHARACTERISTICS

Parameter	Symbol	Max Value	Unit
Total power dissipation @ $T_A=25^\circ\text{C}$	$P_D$	200	mW
Thermal resistance junction to ambient	$R_{\theta JA}$	625	$^\circ\text{C}/\text{W}$
Junction temperature range	$T_j$	-55 to+150	$^\circ\text{C}$
Storage temperature range	$T_s$	-55 to+150	$^\circ\text{C}$

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

Symbol	Parameter
$V_Z$	Reverse zener voltage at $I_{ZT}$
$I_{ZT}$	Reverse current
$Z_{ZT}$	Maximum zener impedance at $I_{ZT}$
$I_R$	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**



W3: Device Marking Code

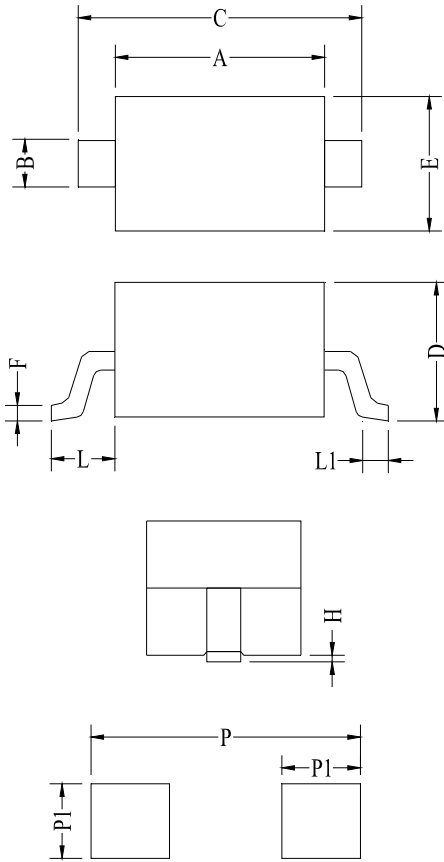
**ELECTRICAL CHARACTERISTICS** (T<sub>A</sub>=25°C unless otherwise noted)

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	
BZT52C3V3SAU-UPA	3.3	3.1	3.5	5.0	95	600	1.0	1	1.0	-3.5	0	5	W3
BZT52C3V6SAU-UPA	3.6	3.4	3.8	5.0	90	600	1.0	1	1.0	-3.5	0	5	W4
BZT52C3V9SAU-UPA	3.9	3.7	4.1	5.0	90	600	1.0	1	1.0	-3.5	0	5	W5
BZT52C4V3SAU-UPA	4.3	4.0	4.6	5.0	90	600	1.0	1	1.0	-3.5	0	5	W6

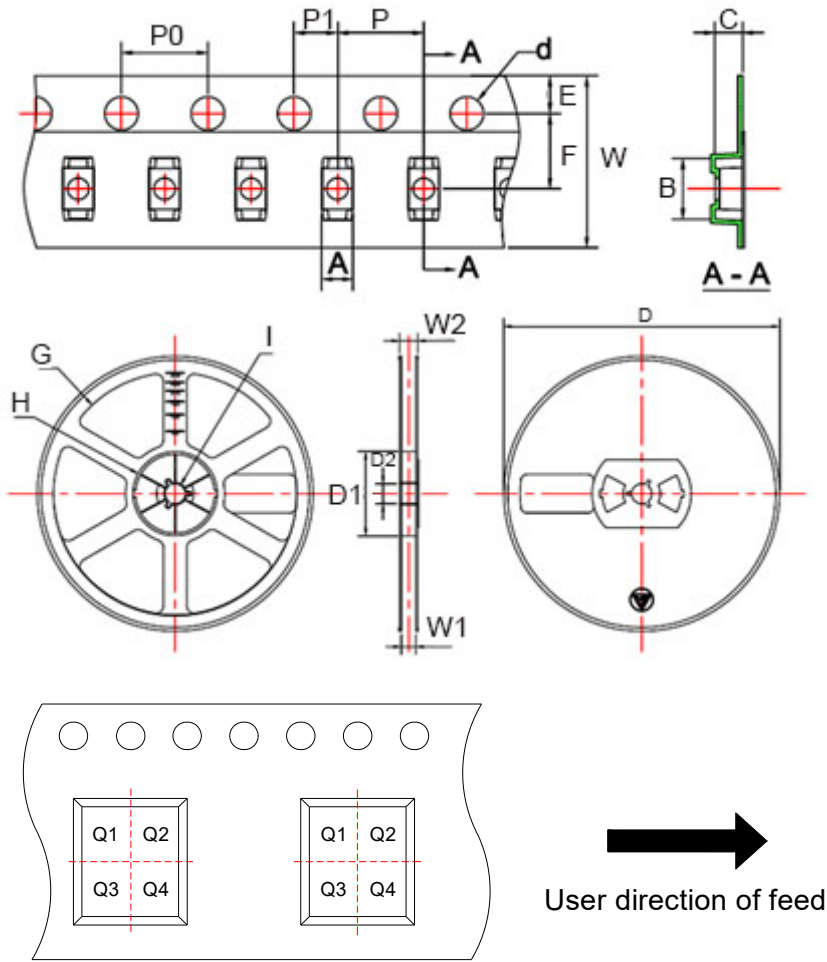
**ORDERING INFORMATION**

<b>BZT</b>	<b>52</b>	<b>C</b>	<b>3V3</b>	<b>S</b>	<b>AU</b>	<b>-UPA</b>
Zener Diode Series	P <sub>D</sub> :200mW	C: Approximately 5% V <sub>Z</sub> Voltage tolerance	Voltage:3.3V	Package:SOD-323	AEC-Q101 qualified	Product version code

**PACKAGE MECHANICAL DATA****Land Pattern**

Symbol	Millimeters			Inches		
	Min	Typ	Max	Min	Typ	Max
A	1.60	1.70	1.80	0.063	0.067	0.071
B	0.25	0.32	0.40	0.010	0.013	0.016
C	2.30	2.60	2.80	0.091	0.102	0.110
D	0.80	0.95	1.10	0.031	0.037	0.043
E	1.20	1.30	1.40	0.047	0.051	0.055
F	0.08	0.13	0.18	0.003	0.005	0.007
L	0.475REF			0.019REF		
L1	0.25	0.33	0.40	0.010	0.013	0.016
H	0.00	0.06	0.14	0.000	0.002	0.006
P	3.00			0.118		
P1	0.80			0.031		

TAPE AND REEL INFORMATION-SOD-323



Pin 1 quadrant:Q1&Q2

Packaging description:

SOD-323 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. The reels are blue in color and made of recyclable plastic.

Symbol	Millimeters	Inches
	Typ	Typ
A	1.46	0.057
B	2.90	0.114
C	1.25	0.049
d	ø1.50	ø0.059
E	1.75	0.069
F	3.50	0.138
P0	4.00	0.157
P	4.00	0.157
P1	2.00	0.079
W	8.00	0.315
D	ø178.0	ø7.008
D1	54.40	2.142
D2	13.00	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

ORDERING INFORMATION

Part No.	Package	Reel Size	Quantity Per Reel
BZT52CxxxSAU-UPA series	SOD-323	7 Inch	3,000 pcs

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

Fig.1 Power dissipation vs ambient temperature

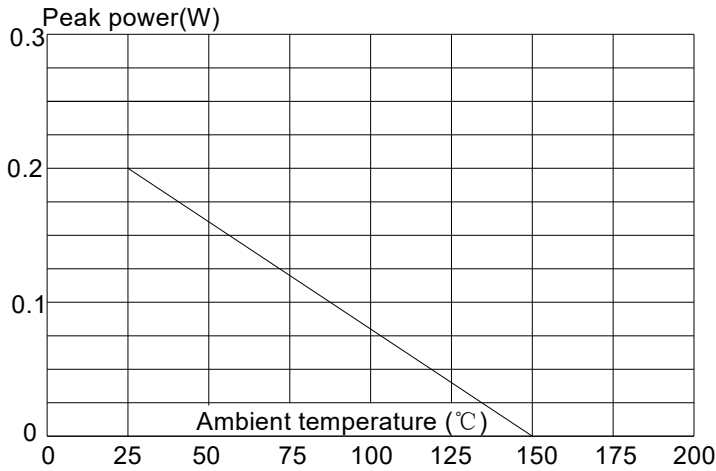
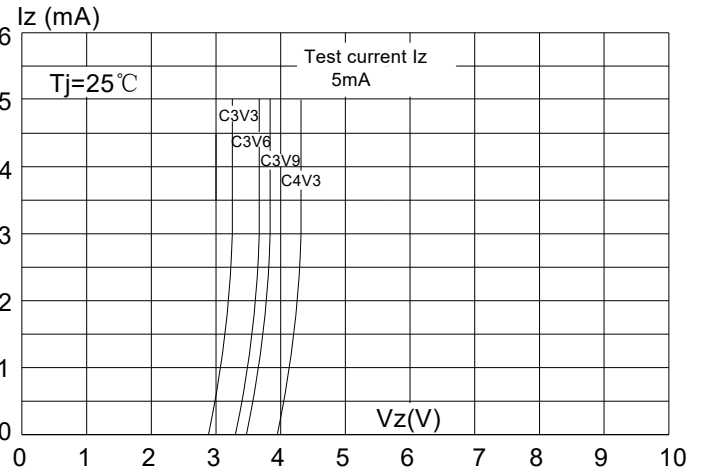


Fig.2 Zener breakdown characteristics



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