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 ±5% for BZT52CxxxSAU-UPA series.
- ✧ High reliability.
- ✧ AEC-Q101 qualified.

SOD-323

Symbol

DESCRIPTION

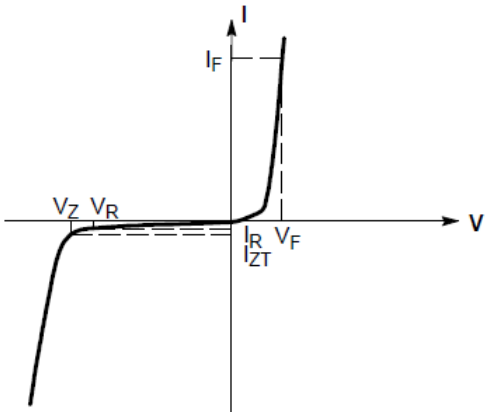
- ✧ Silicon planar zener diode in a small plastic.
- ✧ SMD SOD-323 package.

ABSOLUTE MAXIMUM RATINGS AND THERMAL CHARACTERISTICS

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

ELECTRICAL CHARACTERISTICS (T_A=25℃)

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_A=25℃ unless otherwise noted)

Maximum V_F=0.9V at I_F=10mA

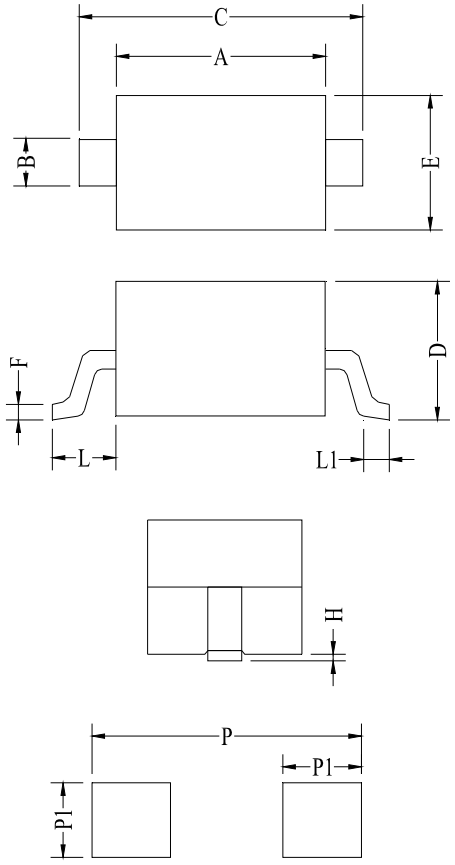
Type number	Zener voltage range at I_{ZT}				Maximum zener impedance			Maximum reverse leakage current		Typical temperature coefficient @I_{ZTC}		Test current I_{ZTC}	Marking
	Nom (V)	Min (V)	Max (V)	I_{zt} (mA)	Z_{zt} (Ω)	Z_{zk} (Ω)	I_{zk} (mA)	I_R (μA)	V_R (V)	Min (mV/°C)	Max (mV/°C)	mA	
BZT52C3V3SAU-UPA	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

BZT 52 C 3V3 S AU -UPA

- BZT: Zener Diode Series
- 52: P_D:200mW
- C: C:Approximately 5% V_Z Voltage tolerance
- 3V3: Voltage:3.3V
- S: Package:SOD-323
- AU: AEC-Q101 qualified
- -UPA: Product version code

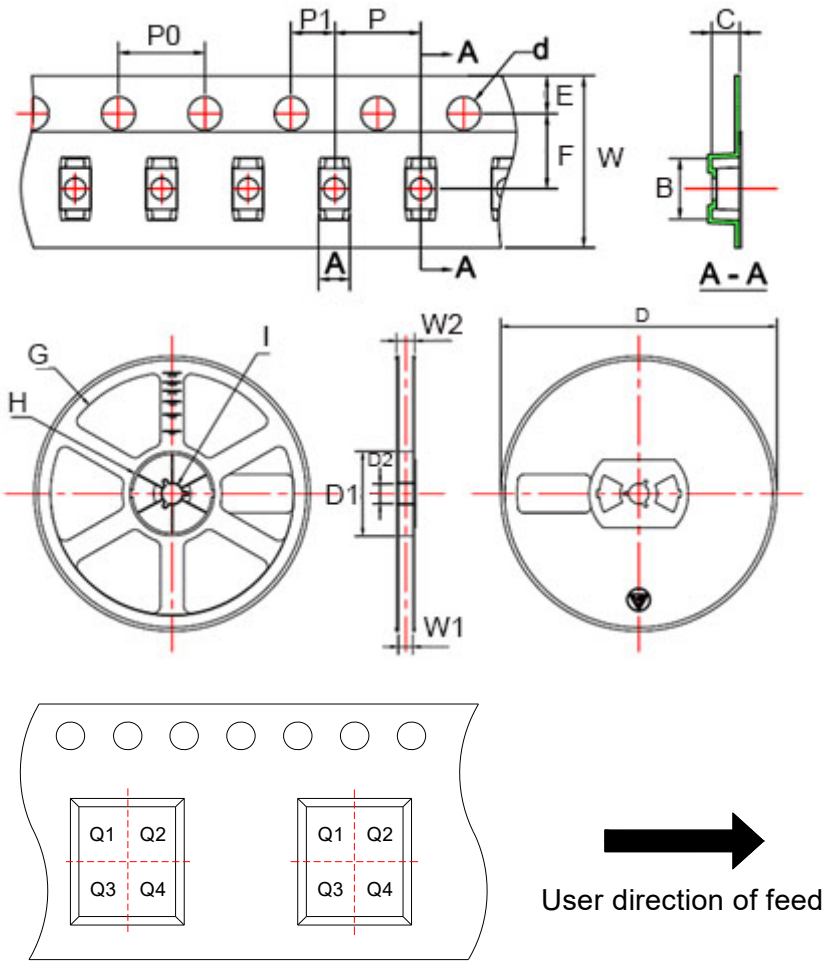
PACKAGE MECHANICAL DATA



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

Symbol	Millimeters	Inches
	Typ	Typ
A	1.46	0.057
B	2.90	0.114
C	1.25	0.049
d	⌀1.50	⌀0.059
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	⌀178.0	⌀7.008
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

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.

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=25ºC, unless otherwise noted)

Fig.1 Power dissipation vs ambient temperature

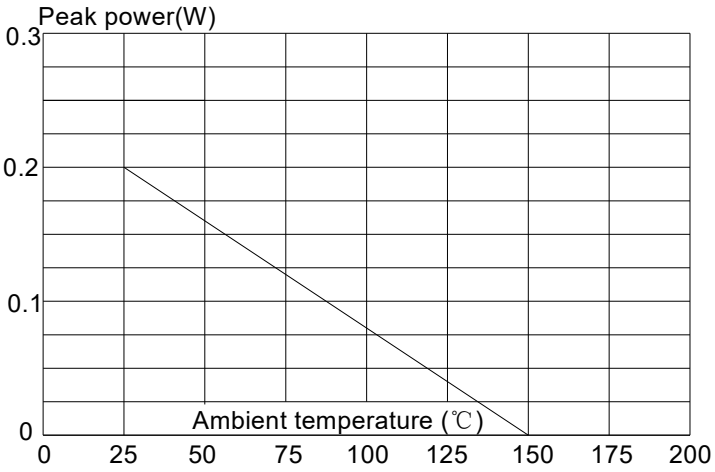


Fig.2 Zener breakdown characteristics