



Silicon Planar Zener Diodes: BZT52CxxxSAU Series

Rev.1.3

FEATURE

- ✧ Total power dissipation: max 200mW.
- ✧ Small plastic package suitable for surface mounted design.
- ✧ High reliability.
- ✧ AEC-Q101 qualified.



SOD-323



Symbol

DESCRIPTION

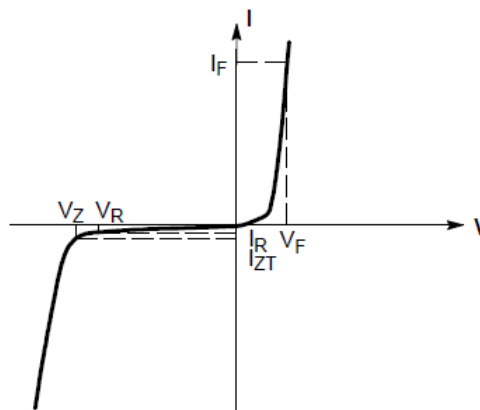
- ✧ Silicon planar zener diode in a small plastic.
- ✧ SMD SOD-323 package.

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_{STG}	-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



W7: Device Marking Code

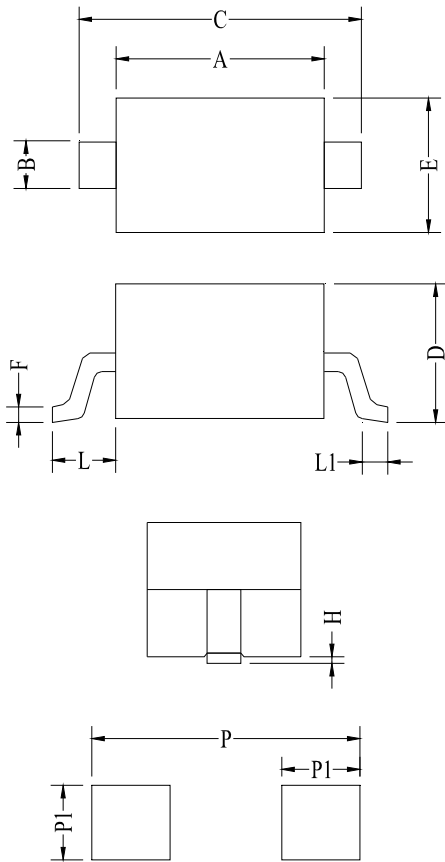
ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ unless otherwise noted)Maximum $V_F=0.9\text{V}$ at $I_F=10\text{mA}$

Type number	Zener voltage range at I_{ZT}				Maximum zener impedance			Maximum reverse leakage current		Marking
	Nom (Volts)	Min (Volts)	Max (Volts)	I_{ZT} (mA)	Z_{ZT} (Ω)	Z_{ZK} (Ω)	I_{ZK} (mA)	I_R (μA)	V_R (Volts)	
BZT52C4V7SAU	4.7	4.4	5.0	5.0	80	500	1.0	3	2.0	W7
BZT52C5V1SAU	5.1	4.8	5.4	5.0	60	480	1.0	2	2.0	W8
BZT52C5V6SAU	5.6	5.2	6.0	5.0	40	400	1.0	1	2.0	W9
BZT52C6V2SAU	6.2	5.8	6.6	5.0	10	150	1.0	3	4.0	WA
BZT52C6V8SAU	6.8	6.4	7.2	5.0	15	80	1.0	2	4.0	WB
BZT52C7V5SAU	7.5	7.0	7.9	5.0	15	80	1.0	1	5.0	WC
BZT52C8V2SAU	8.2	7.7	8.7	5.0	15	80	1.0	0.7	5.0	WD
BZT52C9V1SAU	9.1	8.5	9.6	5.0	15	100	1.0	0.5	6.0	WE
BZT52C10SAU	10.0	9.4	10.6	5.0	20	150	1.0	0.2	7.0	WF
BZT52C11SAU	11.0	10.4	11.6	5.0	20	150	1.0	0.1	8.0	WG
BZT52C12SAU	12.0	11.4	12.7	5.0	25	150	1.0	0.1	8.0	WH
BZT52C13SAU	13.0	12.4	14.1	5.0	30	170	1.0	0.1	8.0	WI
BZT52C15SAU	15.0	13.8	15.6	5.0	30	200	1.0	0.1	10.5	WJ
BZT52C16SAU	16.0	15.3	17.1	5.0	40	200	1.0	0.1	11.2	WK
BZT52C18SAU	18.0	16.8	19.1	5.0	45	225	1.0	0.1	12.6	WL
BZT52C20SAU	20.0	18.8	21.2	5.0	55	225	1.0	0.1	14.0	WM
BZT52C22SAU	22.0	20.8	23.3	5.0	55	250	1.0	0.1	15.4	WN
BZT52C24SAU	24.0	22.8	25.6	5.0	70	250	1.0	0.1	16.8	WO
BZT52C27SAU	27.0	25.1	28.9	2.0	80	300	0.5	0.1	18.9	WP
BZT52C30SAU	30.0	28.0	32.0	2.0	80	300	0.5	0.1	21.0	WQ
BZT52C33SAU	33.0	31.0	35.0	2.0	80	325	0.5	0.1	23.1	WR
BZT52C36SAU	36.0	34.0	38.0	2.0	90	350	0.5	0.1	25.2	WS
BZT52C39SAU	39.0	37.0	41.0	2.0	130	350	0.5	0.1	27.3	WT
BZT52C43SAU	43.0	40.0	46.0	2.0	100	700	1.0	0.1	32.0	WU

ORDERING INFORMATION

BZT	52	C	4V7	S	AU
Zener diode series	Pd:200mW	C: Approximately 5% Vz Voltage tolerance	Voltage: 4.7V	Package: SOD-323	For AEC-Q101 qualified

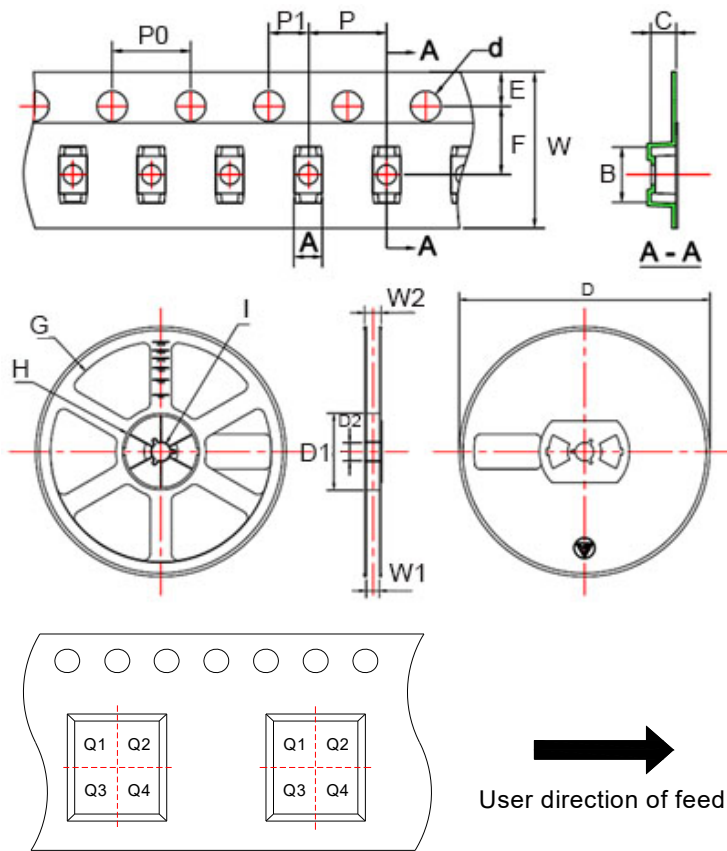
PACKAGE MECHANICAL DATA



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	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

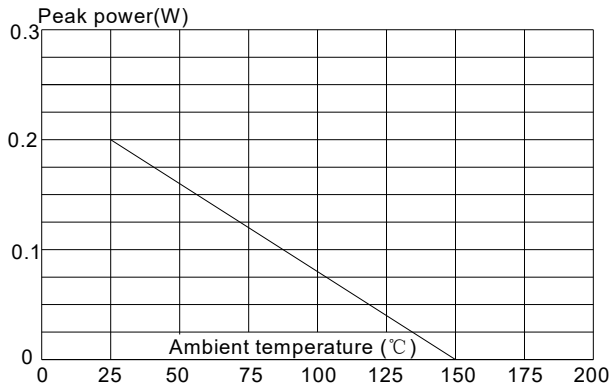


Fig.2 Zener breakdown characteristics

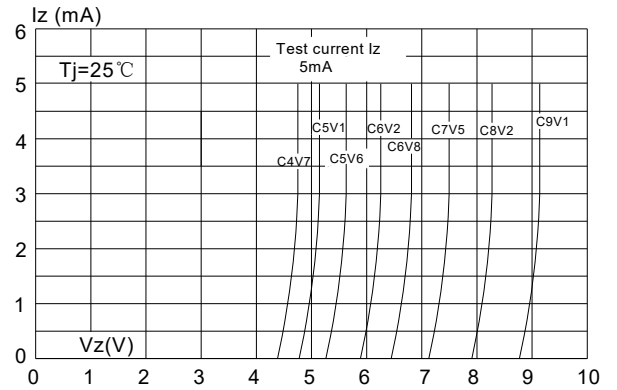


Fig.3 Zener breakdown characteristics

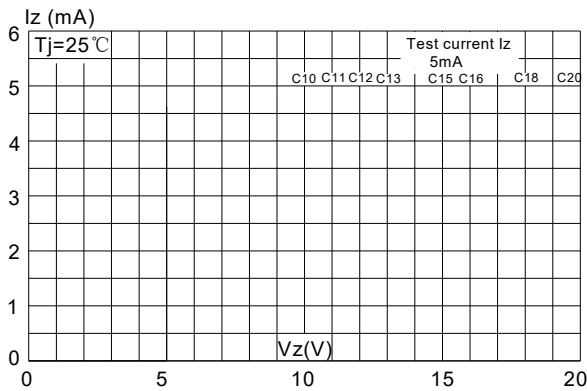
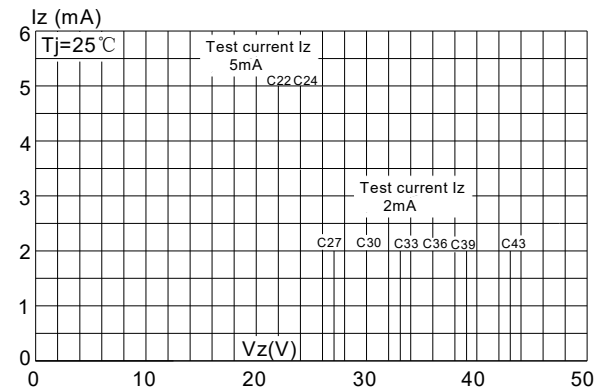


Fig.4 Zener breakdown characteristics




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