



Silicon Planar Zener Diodes: BZT55CxxxS Series

Rev.0.4

FEATURE

- ✧ Total power dissipation: max 300mW.
- ✧ Small plastic package suitable for surface mounted design.
- ✧ High reliability.



SOD-323

DESCRIPTION

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



Symbol

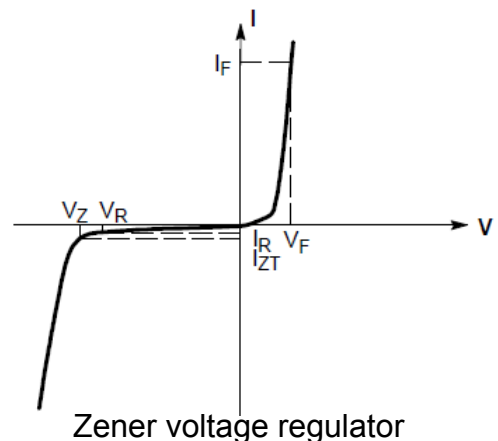
ABSOLUTE MAXIMUM RATINGS AND THERMAL CHARACTERISTICS

Parameter	Symbol	Max Value	Unit
Total power dissipation @ $T_A=25^{\circ}\text{C}$ (Note1)	P_D	300	mW
Thermal resistance junction to ambient (Note1)	$R_{\theta JA}$	625	$^{\circ}\text{C}/\text{W}$
Junction temperature	T_j	150	$^{\circ}\text{C}$
Storage temperature range	T_s	-55 to +150	$^{\circ}\text{C}$
Operating temperature range	T_{op}	-55 to +150	$^{\circ}\text{C}$

Note1: Part mounted on FR-4 PC board with 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



ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

 Maximum $V_F=0.9\text{V}$ at $I_F=10\text{mA}$

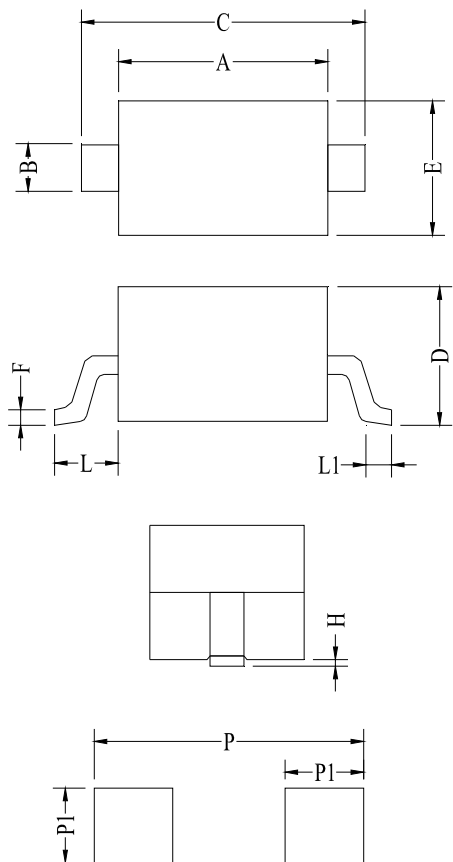
Type number	Zener voltage range at $I_{zt}^{1)}$				Maximum zener impedance			Maximum reverse leakage current	
	Nom (Volts)	Min (Volts)	Max (Volts)	I_{zt} (mA)	Z_{zt} (Ω)	Z_{zk} (Ω)	I_{zk} (mA)	I_R (μA)	V_R (Volts)
BZT55C2V4S	2.4	2.28	2.52	5	100	600	1.0	100	1.0
BZT55C2V7S	2.7	2.57	2.84	5	110	600	1.0	75	1.0
BZT55C3V0S	3.0	2.85	3.15	5	120	600	1.0	50	1.0
BZT55C3V3S	3.3	3.14	3.47	5	120	600	1.0	20	1.0
BZT55C3V6S	3.6	3.42	3.78	5	100	600	1.0	10	1.0
BZT55C3V9S	3.9	3.71	4.10	5	100	600	1.0	5	1.0
BZT55C4V3S	4.3	4.09	4.52	5	100	600	1.0	5	1.0
BZT55C4V7S	4.7	4.47	4.94	5	100	500	1.0	2	1.0
BZT55C5V1S	5.1	4.85	5.36	5	80	480	1.0	2	1.5
BZT55C5V6S	5.6	5.32	5.88	5	60	400	1.0	1	2.5
BZT55C6V2S	6.2	5.89	6.51	5	60	150	1.0	1	3.0
BZT55C6V8S	6.8	6.46	7.14	5	40	80	1.0	0.5	3.5
BZT55C7V5S	7.5	7.13	7.88	5	30	80	1.0	0.5	4.0
BZT55C8V2S	8.2	7.79	8.61	5	30	100	1.0	0.5	5.0
BZT55C9V1S	9.1	8.65	9.56	5	30	150	1.0	0.5	6.0
BZT55C10S	10	9.50	10.50	5	30	150	1.0	0.1	7.0
BZT55C11S	11	10.45	11.55	5	30	150	1.0	0.1	8.0
BZT55C12S	12	11.40	12.60	5	30	150	1.0	0.1	9.0
BZT55C13S	13	12.35	13.65	5	37	170	1.0	0.1	10.0
BZT55C15S	15	14.25	15.75	5	42	200	1.0	0.1	11.0
BZT55C16S	16	15.20	16.80	5	50	200	1.0	0.1	12.0
BZT55C18S	18	17.10	18.90	5	65	225	1.0	0.1	13.0
BZT55C20S	20	19.00	21.00	5	85	225	1.0	0.1	15.0
BZT55C22S	22	20.90	23.10	5	100	250	1.0	0.1	17.0
BZT55C24S	24	22.80	25.20	5	120	250	1.0	0.1	19.0
BZT55C27S	27	25.65	28.35	5	150	300	1.0	0.1	21.0
BZT55C30S	30	28.50	31.50	5	200	300	1.0	0.1	23.0
BZT55C33S	33	31.35	34.65	5	250	325	1.0	0.1	25.0
BZT55C36S	36	34.20	37.80	5	300	350	1.0	0.1	27.0
BZT55C39S	39	37.05	40.95	5	100	350	1.0	0.1	30.0

 1) V_z is tested with pulses(10ms)

ORDERING INFORMATION

BZT	55	C	2V4	S
Zener Diode Series	$P_D: 300mW$	C:5% V_z Voltage tolerance	Voltage:2.4V	Package:SOD-323

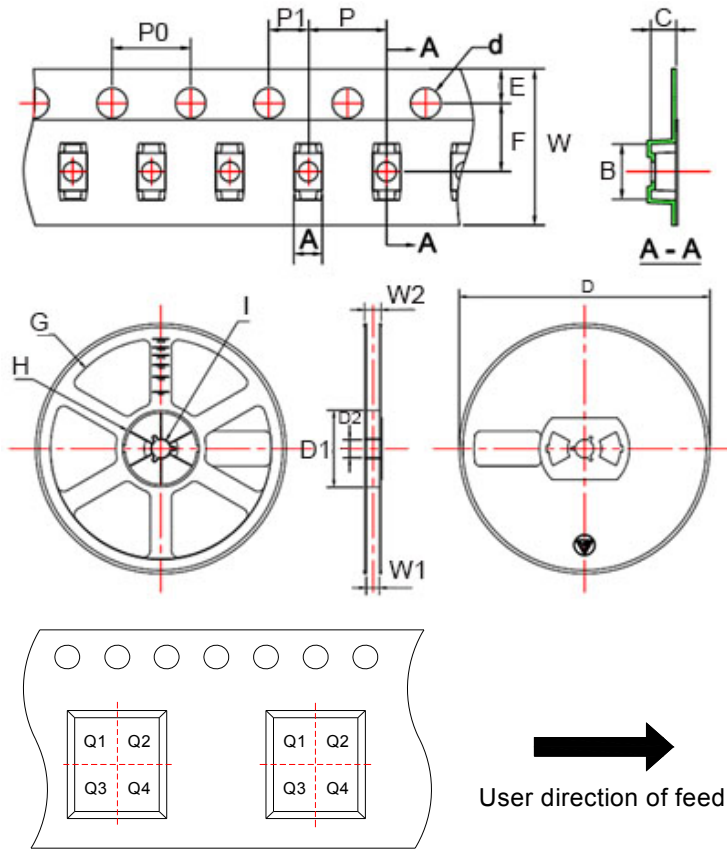
PACKAGE MECHANICAL DATA



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 Number	Package	Reel Size	Quantity Per Reel
BZT55CxxxS	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

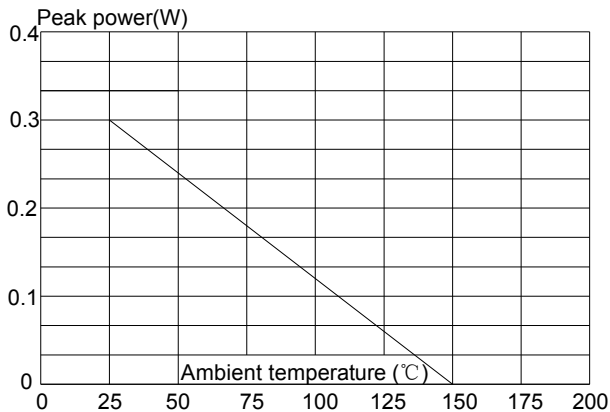


Fig.2 Zener breakdown characteristics

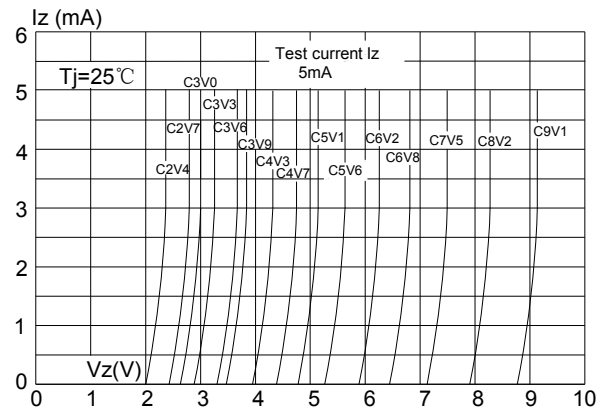
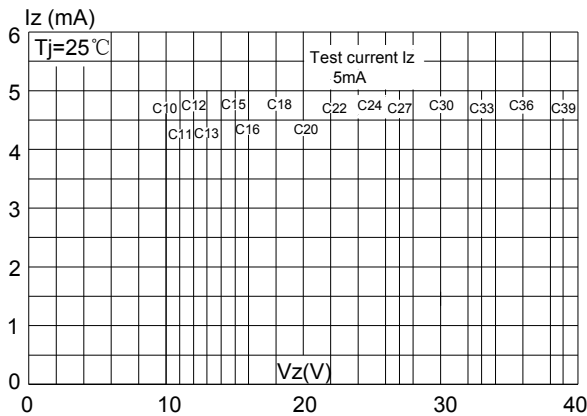


Fig.3 Zener breakdown characteristics




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