

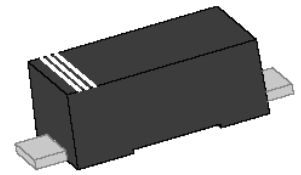


Zener Diodes with Surge Current Specification: BZD55CxxAU

Rev.1.0

FEATURE

- ✧ Silicon power zener diodes.
- ✧ Low zener impedance.
- ✧ 1000mW rating on FR-4 or FR-5 board.
- ✧ Voltage range includes breakdown voltages from 6.8V to 100V with $\pm 5\%$ for BZD55CxxAU series.
- ✧ Low profile surface-mount package.
- ✧ Zener and surge current specification.
- ✧ For use in stabilizing and clamping circuits with high power rating.
- ✧ AEC-Q101 qualified.



SOD-123FL



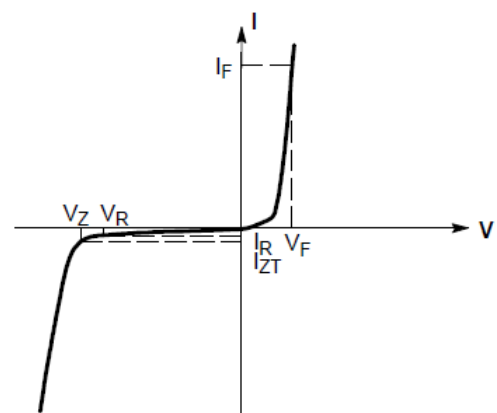
ABSOLUTE MAXIMUM RATINGS AND THERMAL CHARACTERISTICS

Parameter	Symbol	Max Value	Unit
Total power dissipation @ 75°C	P_D	1000	mW
Thermal resistance junction to ambient (Note1)	$R_{\theta JA}$	330	°C/W
Junction temperature	T_j	150	°C
Storage temperature range	T_s	-55 to +150	°C
Operating temperature range	T_{op}	-55 to +150	°C
Peak pulse power dissipation at 10/1000μs waveform	P_{PP}	200	W

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



7W1: Device Marking Code

BZD55CxxAU ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)Maximum $V_F=1.2\text{V}$ at $I_F=200\text{mA}$

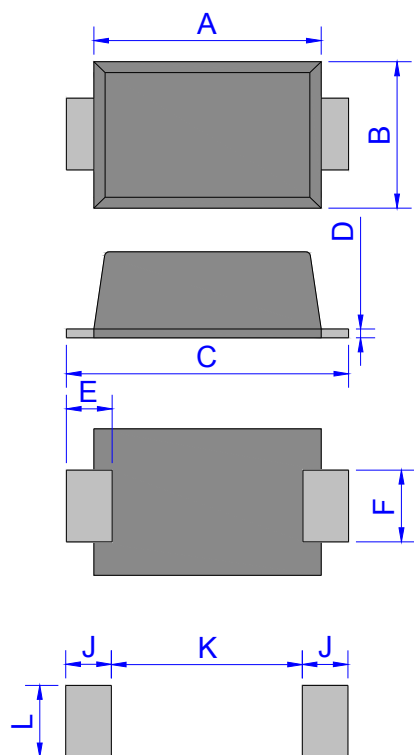
Type number	Zener voltage range at I_{zt}				Maximum zener impedance			Maximum reverse leakage current		Marking code
	Nom (Volts)	Min (Volts)	Max (Volts)	I_{zt} (mA)	Z_{zt} (Ω)	Z_{zk} (Ω)	I_{zk} (mA)	I_R (μA)	V_R (Volts)	
BZD55C6V8AU	6.8	6.46	7.14	100	2.0	700	1.0	10	3	7W1
BZD55C7V5AU	7.5	7.12	7.88	100	2.0	700	0.5	10	3	7X1
BZD55C8V2AU	8.2	7.79	8.61	100	2.0	700	0.5	10	3	7Y1
BZD55C9V1AU	9.1	8.65	9.56	28	5.0	700	0.5	10	5	ZXG
BZD55C10AU	10	9.5	10.5	25	7.0	700	0.25	7	7.5	ZXH
BZD55C11AU	11	10.5	11.6	23	8.0	700	0.25	4	8.2	ZXI
BZD55C12AU	12	11.4	12.6	21	9.0	700	0.25	3	9.1	ZXJ
BZD55C13AU	13	12.4	13.7	19	10	700	0.25	2	9.9	ZXK
BZD55C15AU	15	14.3	15.8	17	14	700	0.25	1	11.4	ZXL
BZD55C16AU	16	15.2	16.8	15.5	16	700	0.25	1	12.2	ZXM
BZD55C18AU	18	17.1	18.9	14	20	750	0.25	1	13.7	ZXN
BZD55C20AU	20	19	21	12.5	22	750	0.25	1	15.2	ZXO
BZD55C22AU	22	20.9	23.1	11.5	23	750	0.25	1	16.7	ZXP
BZD55C24AU	24	22.8	25.2	10.5	25	750	0.25	1	18.2	ZXQ
BZD55C27AU	27	25.7	28.4	9.5	35	750	0.25	1	20.6	ZXR
BZD55C30AU	30	28.5	31.5	8.5	40	1000	0.25	1	22.8	ZXS
BZD55C33AU	33	31.4	34.7	7.5	45	1000	0.25	1	25.1	ZXT
BZD55C36AU	36	34.2	37.8	7.0	50	1000	0.25	1	27.4	ZXU
BZD55C39AU	39	37.1	41.0	6.5	60	1000	0.25	1	29.7	ZXV
BZD55C43AU	43	40.9	45.2	6.0	70	1500	0.25	1	32.7	ZXW
BZD55C47AU	47	44.7	49.4	5.5	80	1500	0.25	1	35.8	ZXX
BZD55C51AU	51	48.5	53.6	5.0	95	1500	0.25	1	38.8	ZXY
BZD55C56AU	56	53.2	58.8	4.5	110	2000	0.25	1	42.6	ZMA
BZD55C62AU	62	58.9	65.1	4.0	125	2000	0.25	1	47.1	ZMB
BZD55C68AU	68	64.6	71.4	3.7	150	2000	0.25	1	51.7	ZMC
BZD55C75AU	75	71.3	78.8	3.3	175	2000	0.25	1	56.0	ZMD

BZD55CxxAU ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$ unless otherwise noted, continued)Maximum $V_F=1.2\text{V}$ at $I_F=200\text{mA}$

Type number	Zener voltage range at I_{zt}				Maximum zener impedance			Maximum reverse leakage current		Marking code
	Nom (Volts)	Min (Volts)	Max (Volts)	I_{zt} (mA)	Z_{zt} (Ω)	Z_{zk} (Ω)	I_{zk} (mA)	I_R (μA)	V_R (Volts)	
BZD55C82AU	82	77.9	86.1	3.0	200	3000	0.25	1	62.2	ZME
BZD55C91AU	91	86.5	95.6	2.8	250	3000	0.25	1	69.2	ZMF
BZD55C100AU	100	95	105	2.5	350	3000	0.25	1	76.0	ZMG

ORDERING INFORMATION

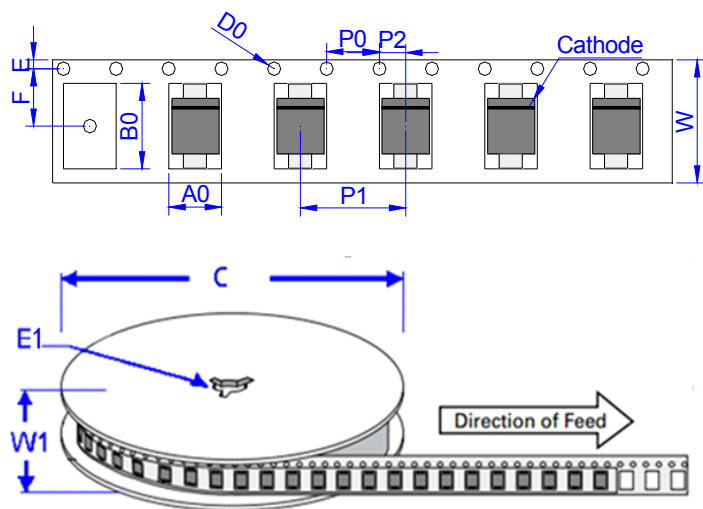
BZD	55	C	9V1	AU
Zener Diode Series	$P_D: 1000\text{mW}$	C: 5% V_Z Voltage tolerance	Voltage: 9.1V	AEC-Q101 qualified

PACKAGE MECHANICAL DATA

SOD-123FL

Ref.	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.60	3.00	0.102	0.118
B	1.60	2.00	0.063	0.079
C	3.45	3.95	0.136	0.156
D	0.10	0.25	0.004	0.01
E	0.3	0.9	0.012	0.035
F	0.80	1.20	0.031	0.047
G	0.95	1.35	0.037	0.053
J	1.30		0.051	
K		1.70		0.067
L	1.30		0.051	

TAPE AND REEL SPECIFICATION-SOD-123FL



Ref.	Dimensions	
	Millimeters	Inches
A0	1.95 ± 0.3	0.077 ± 0.012
B0	3.95 ± 0.3	0.156 ± 0.012
C	178	7.0
D0	1.55 ± 0.1	0.061 ± 0.004
E	1.75 ± 0.2	0.069 ± 0.008
E1	13.3 ± 0.3	0.524 ± 0.012
F	3.50 ± 0.2	0.138 ± 0.008
P0	4.00 ± 0.2	0.157 ± 0.008
P1	4.00 ± 0.2	0.157 ± 0.008
P2	2.00 ± 0.2	0.079 ± 0.008
W	8.0 ± 0.2	0.315 ± 0.008
W1	11.5 ± 1.0	0.453 ± 0.039

PART No.	UNIT WEIGHT (g/PCS) typ.	PACKAGE	REEL (PCS)	DESCRIPTION
BZD55CxxAU	0.0138	SOD-123FL	3,000	7 inch reel pack

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

Fig.1 Power dissipation vs lead temperature

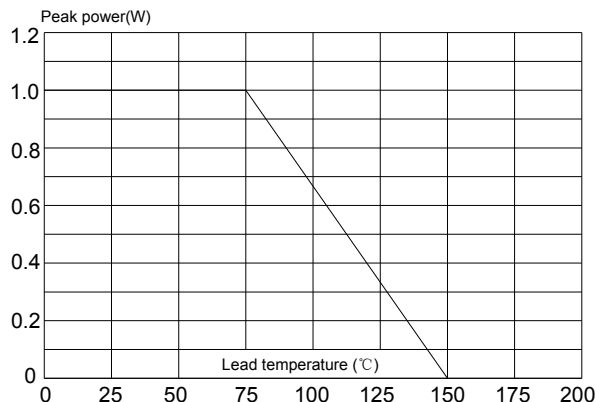


Fig.2 Zener breakdown characteristics

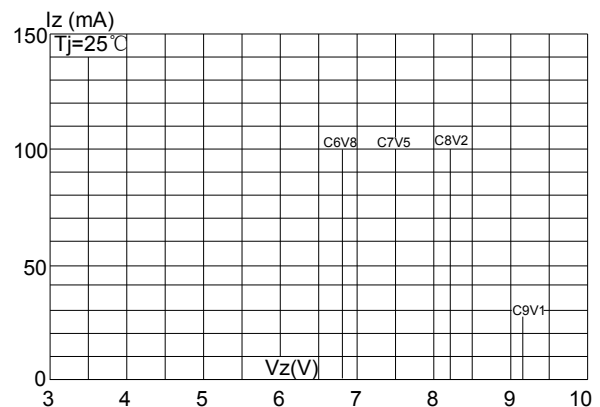


Fig.3 Zener breakdown characteristics

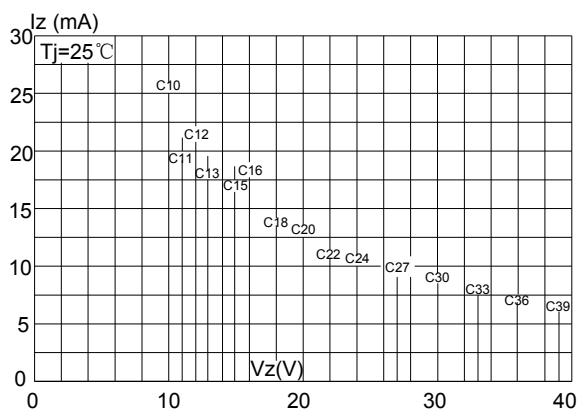
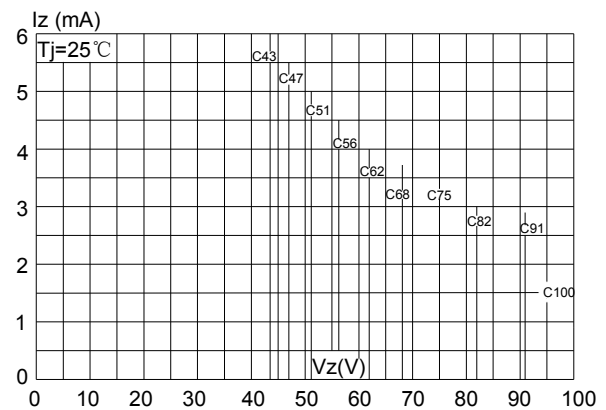


Fig.4 Zener breakdown characteristics



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