



Silicon Planar Zener Diodes: BZX584CxxxAU Series

Rev.1.1

FEATURE

- ◇ Total power dissipation: max 200mW.
- ◇ Small plastic package suitable for surface mounted design.
- ◇ Voltage range includes breakdown voltages from 2.4V to 43V with approximately $\pm 5\%$ for BZX584CxxxAU series.
- ◇ High temperature soldering: 260°C/10s at terminals.
- ◇ AEC-Q101 qualified.



SOD-523



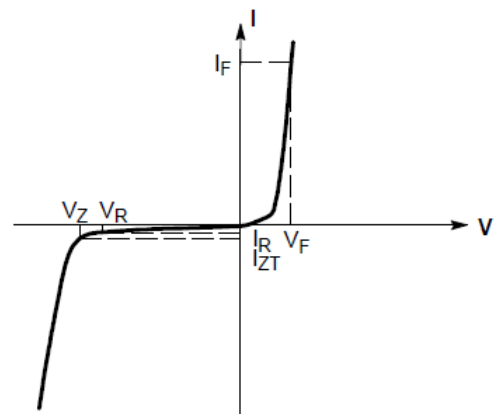
Symbol

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	$^\circ\text{C/W}$
Junction temperature range	T_J	-55 to +150	$^\circ\text{C}$
Storage temperature range	T_{STG}	-55 to +150	$^\circ\text{C}$

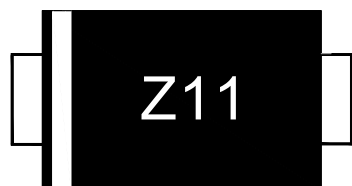
ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$)

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



Z11: Device Marking Code

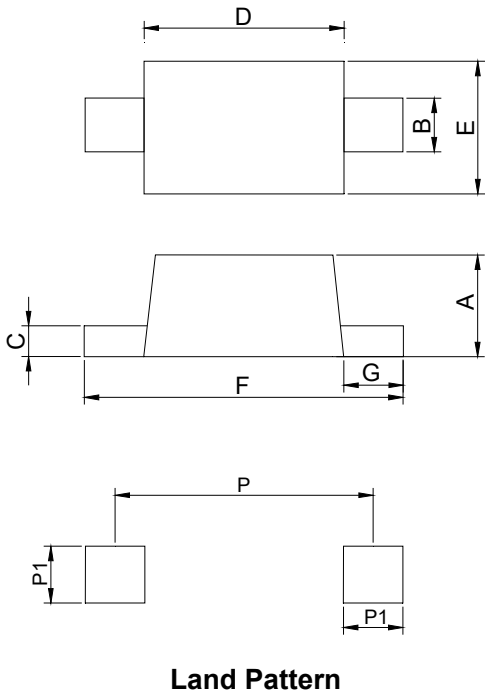
ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)Maximum $V_F=0.9\text{V}$ at $I_F=10\text{mA}$

Type number	Zener voltage range at $I_{ZT}^{1)}$				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/ $^{\circ}\text{C}$)	Max (mV/ $^{\circ}\text{C}$)	mA	
BZX584C2V4AU	2.4	2.2	2.6	5.0	100	600	1.0	50	1.0	-3.5	0	5	Z11
BZX584C2V7AU	2.7	2.5	2.9	5.0	100	600	1.0	20	1.0	-3.5	0	5	Z12
BZX584C3V0AU	3.0	2.8	3.2	5.0	95	600	1.0	10	1.0	-3.5	0	5	Z13
BZX584C3V3AU	3.3	3.1	3.5	5.0	95	600	1.0	5	1.0	-3.5	0	5	Z14
BZX584C3V6AU	3.6	3.4	3.8	5.0	90	600	1.0	5	1.0	-3.5	0	5	Z15
BZX584C3V9AU	3.9	3.7	4.1	5.0	90	600	1.0	3	1.0	-3.5	0	5	Z16
BZX584C4V3AU	4.3	4.0	4.6	5.0	90	600	1.0	3	1.0	-3.5	0	5	Z17
BZX584C4V7AU	4.7	4.4	5.0	5.0	80	500	1.0	3	2.0	-3.5	0.2	5	Z1
BZX584C5V1AU	5.1	4.8	5.4	5.0	60	480	1.0	2	2.0	-2.7	1.2	5	Z2
BZX584C5V6AU	5.6	5.2	6.0	5.0	40	400	1.0	1	2.0	-2.0	2.5	5	Z3
BZX584C6V2AU	6.2	5.8	6.6	5.0	10	150	1.0	3	4.0	0.4	3.7	5	Z4
BZX584C6V8AU	6.8	6.4	7.2	5.0	15	80	1.0	2	4.0	1.2	4.5	5	Z5
BZX584C7V5AU	7.5	7.0	7.9	5.0	15	80	1.0	1	5.0	2.5	5.3	5	Z6
BZX584C8V2AU	8.2	7.7	8.7	5.0	15	80	1.0	0.7	5.0	3.2	6.2	5	Z7
BZX584C9V1AU	9.1	8.5	9.6	5.0	15	100	1.0	0.5	6.0	3.8	7.0	5	Z8
BZX584C10AU	10	9.4	10.6	5.0	20	150	1.0	0.2	7.0	4.5	8.0	5	Z9
BZX584C11AU	11	10.4	11.6	5.0	20	150	1.0	0.1	8.0	5.4	9.0	5	Y1
BZX584C12AU	12	11.4	12.7	5.0	25	150	1.0	0.1	8.0	6.0	10.0	5	Y2
BZX584C13AU	13	12.4	14.1	5.0	30	170	1.0	0.1	8.0	7.0	11.0	5	Y3
BZX584C15AU	15	13.8	15.6	5.0	30	200	1.0	0.1	10.5	9.2	13.0	5	Y4
BZX584C16AU	16	15.3	17.1	5.0	40	200	1.0	0.1	11.2	10.4	14.0	5	Y5
BZX584C18AU	18	16.8	19.1	5.0	45	225	1.0	0.1	12.6	12.4	16.0	5	Y6
BZX584C20AU	20	18.8	21.2	5.0	55	225	1.0	0.1	14.0	14.4	18.0	5	Y7
BZX584C22AU	22	20.8	23.3	5.0	55	250	1.0	0.1	15.4	16.4	20.0	5	Y8
BZX584C24AU	24	22.8	25.6	5.0	70	250	1.0	0.1	16.8	18.4	22.0	5	Y9
BZX584C27AU	27	25.1	28.9	2.0	80	300	0.5	0.1	18.9	21.4	25.3	2	Y10
BZX584C30AU	30	28.0	32.0	2.0	80	300	0.5	0.1	21.0	24.4	29.4	2	Y11
BZX584C33AU	33	31.0	35.0	2.0	80	325	0.5	0.1	23.1	27.4	33.4	2	Y12
BZX584C36AU	36	34.0	38.0	2.0	90	350	0.5	0.1	25.2	30.4	37.4	2	Y13
BZX584C39AU	39	37.0	41.0	2.0	130	350	0.5	0.1	27.3	33.4	41.2	2	Y14
BZX584C43AU	43	40.0	46.0	2.0	100	700	1.0	0.1	32.0	10.0	12.0	5	Y15

ORDERING INFORMATION

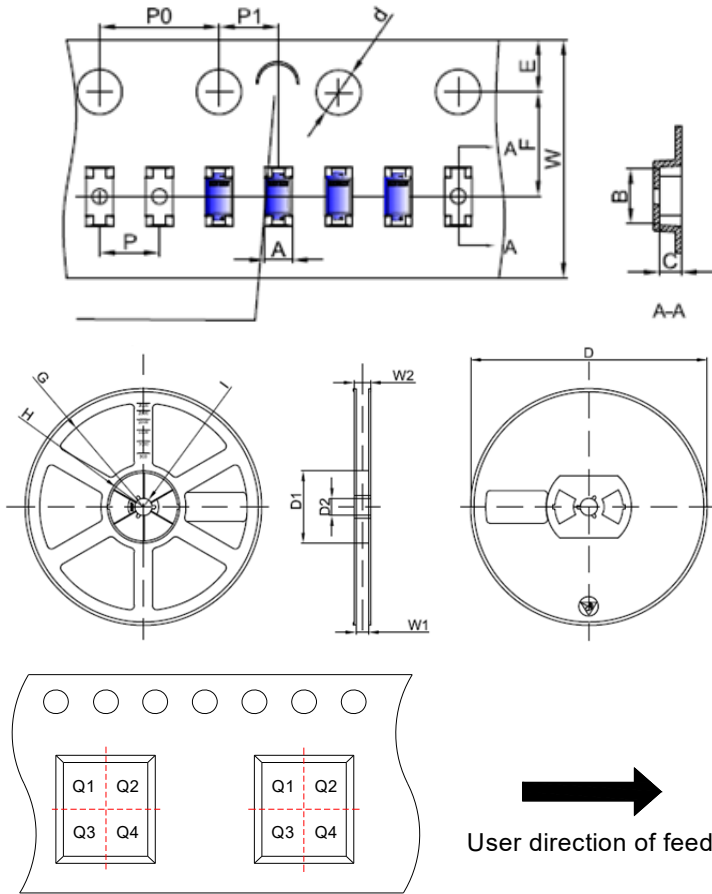
<p>BZX Zener Diode Series</p>	<p>584 Pd:200mW</p>	<p>C C: Approximately 5% Vz Voltage tolerance</p>	<p>2V4 Voltage:2.4V</p>	<p>AU AEC-Q101 qualified</p>
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PACKAGE MECHANICAL DATA



Symbol	Millimeters			Inches		
	Min	Typ	Max	Min	Typ	Max
A	0.50	0.61	0.77	0.020	0.024	0.030
B	0.25	0.30	0.40	0.010	0.012	0.016
C	0.07	0.13	0.20	0.003	0.005	0.008
D	1.10	1.20	1.30	0.043	0.047	0.051
E	0.70	0.80	0.90	0.028	0.031	0.035
F	1.50	1.60	1.70	0.059	0.063	0.067
G	0.15	0.20	0.25	0.006	0.008	0.010
P1	0.60			0.024		
P	1.42			0.056		

TAPE AND REEL SPECIFICATION-SOD-523



Pin 1 quadrant:Q1&Q2

Packaging Description:

SOD-523 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. These reeled parts in standard option are shipped with 8,000 units per 7" or 17.8cm diameter reel. The reels are clear in color and made of polystyrene plastic(anti-static coated).

Symbol	Millimeters	Inches
	Typ.	Typ.
A	0.95	0.037
B	1.92	0.076
C	0.73	0.029
d	Φ1.50	Φ0.059
E	1.75	0.069
F	3.50	0.138
P0	4.00	0.157
P	2.00	0.079
P1	2.00	0.079
W	8.00	0.315
D	Φ178	Φ7.008
D1	54.40	2.142
D2	13.00	0.512
G	R78.00	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 TYPE	QUANTITY(PCS) REEL	DESCRIPTION
BZX584CxxxAU Series	SOD-523	8,000	7 inch reel pack

RATINGS AND CHARACTERISTICS CURVES (T_A=25°C, unless otherwise noted)

Fig.1 Power dissipation vs ambient temperature

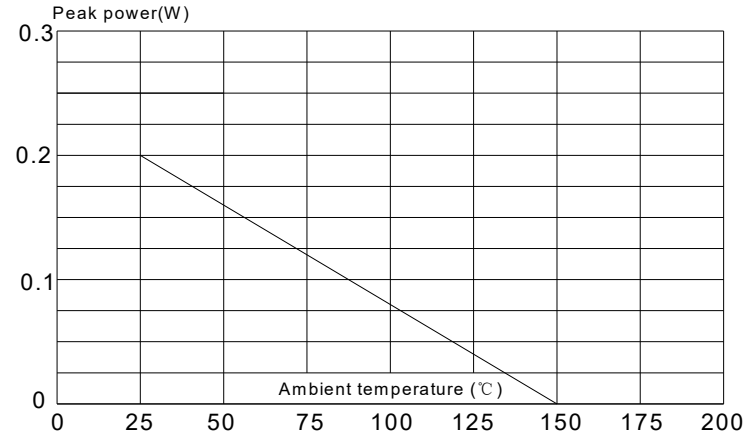


Fig.2 Zener breakdown characteristics

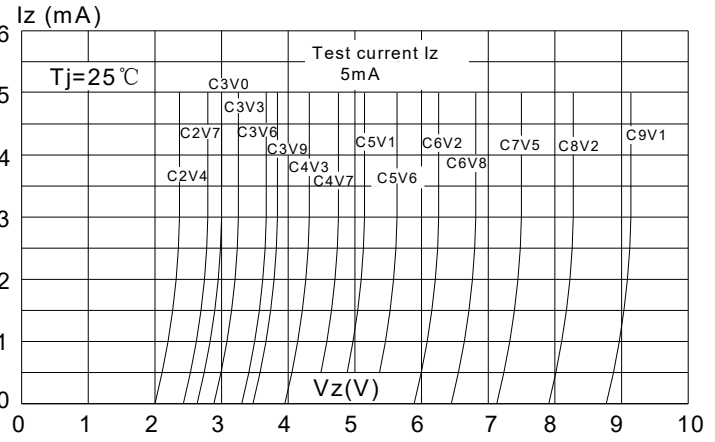


Fig.3 Zener breakdown characteristics

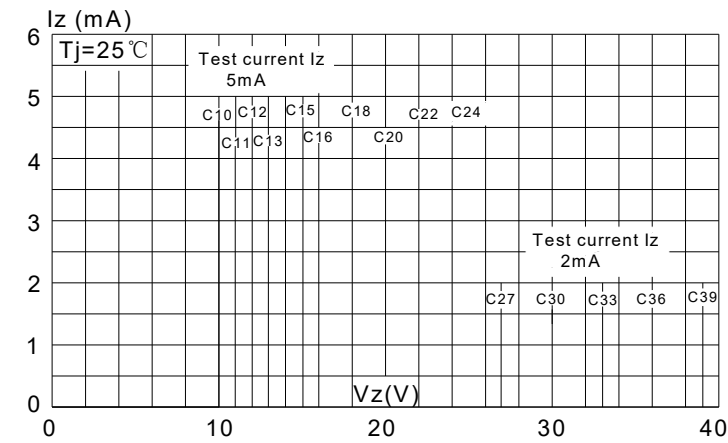
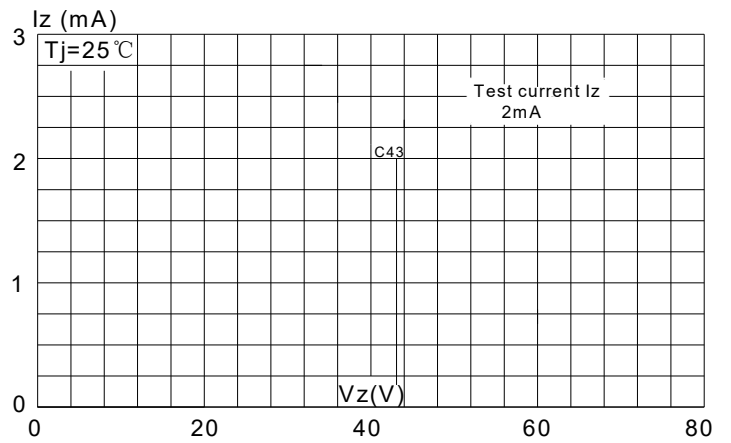


Fig.4 Zener breakdown characteristics



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