Silicon Planar Zener Diodes：BZX584BxxxAU Series

Rev.1.0

FEATURE

- ✧ Total power dissipation: max 200mW.
- ✧ Small plastic package suitable for surface mounted design.
- ✧ Voltage range includes breakdown voltages from 5.1V to 43V
- ✧ High temperature soldering: 260℃/10s at terminals.
- ✧ AEC-Q101 qualified.

SOD-523

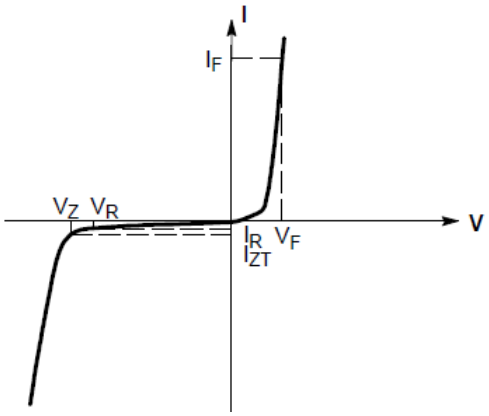
Symbol

ABSOLUTE MAXIMUM RATINGS AND THERMAL CHARACTERISTICS

Parameter	Symbol	Max Value	Unit
Total power dissipation @T_A=25℃	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_{STG}	-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

2Z2: Device Marking Code

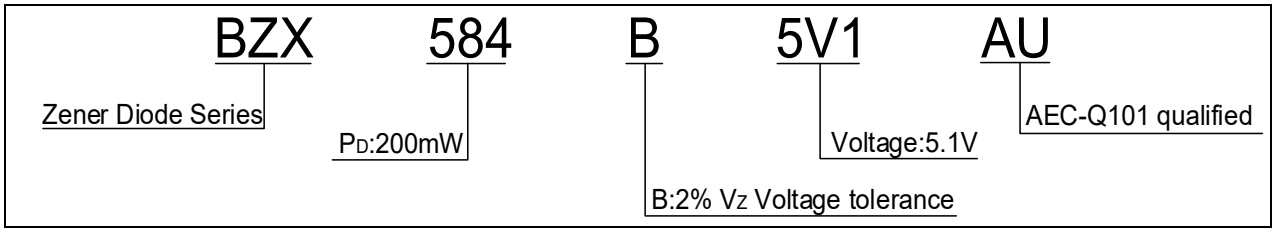
ELECTRICAL CHARACTERISTICS (T_A=25℃ unless otherwise noted)

Maximum V_F=0.9V at I_F=10mA

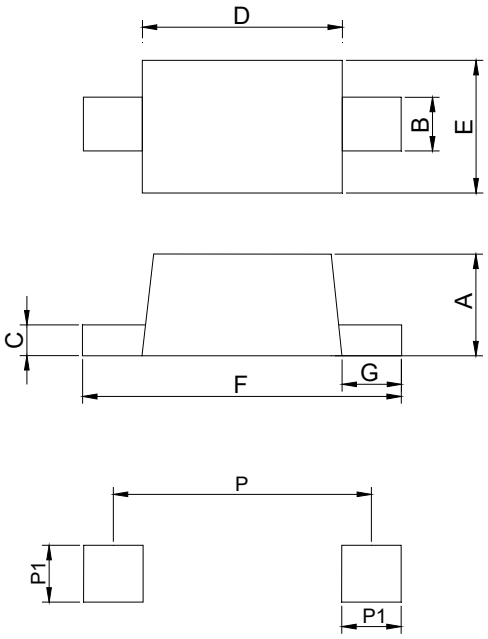
Type number	Zener voltage range at I_{ZT}[1)]				Maximum zener impedance			Maximum reverse leakage current		Marking
	Nom (Volts)	Min (Volts)	Max (Volts)	I_{ZT} (mA)	Z_{ZT} (Ω)	Z_{ZK} (Ω)	I_{ZK} (mA)	I_R (μA)	V_R (Volts)	
BZX584B5V1AU	5.1	5.00	5.20	5.0	60	480	1.0	2	2.0	2Z2
BZX584B5V6AU	5.6	5.49	5.71	5.0	40	400	1.0	1	2.0	2Z3
BZX584B6V2AU	6.2	6.08	6.32	5.0	10	150	1.0	3	4.0	2Z4
BZX584B6V8AU	6.8	6.66	6.94	5.0	15	80	1.0	2	4.0	2Z5
BZX584B7V5AU	7.5	7.35	7.65	5.0	15	80	1.0	1	5.0	2Z6
BZX584B8V2AU	8.2	8.04	8.36	5.0	15	80	1.0	0.7	5.0	2Z7
BZX584B9V1AU	9.1	8.92	9.28	5.0	15	100	1.0	0.5	6.0	2Z8
BZX584B10AU	10	9.80	10.20	5.0	20	150	1.0	0.2	7.0	2Z9
BZX584B11AU	11	10.78	11.22	5.0	20	150	1.0	0.1	8.0	2Y1
BZX584B12AU	12	11.76	12.24	5.0	25	150	1.0	0.1	8.0	2Y2
BZX584B13AU	13	12.74	13.26	5.0	30	170	1.0	0.1	8.0	2Y3
BZX584B15AU	15	14.70	15.30	5.0	30	200	1.0	0.1	10.5	2Y4
BZX584B16AU	16	15.68	16.32	5.0	40	200	1.0	0.1	11.2	2Y5
BZX584B18AU	18	17.64	18.36	5.0	45	225	1.0	0.1	12.6	2Y6
BZX584B20AU	20	19.60	20.40	5.0	55	225	1.0	0.1	14.0	2Y7
BZX584B22AU	22	21.56	22.44	5.0	55	250	1.0	0.1	15.4	2Y8
BZX584B24AU	24	23.52	24.48	5.0	70	250	1.0	0.1	16.8	2Y9
BZX584B27AU	27	26.46	27.54	2.0	80	300	0.5	0.1	18.9	2Y10
BZX584B30AU	30	29.40	30.60	2.0	80	300	0.5	0.1	21.0	2Y11
BZX584B33AU	33	32.34	33.66	2.0	80	325	0.5	0.1	23.1	2Y12
BZX584B36AU	36	35.28	36.72	2.0	90	350	0.5	0.1	25.2	2Y13
BZX584B39AU	39	38.22	39.78	2.0	130	350	0.5	0.1	27.3	2Y14
BZX584B43AU	43	42.14	43.86	2.0	100	700	1.0	0.1	32	2Y15

1）V_Z is tested with pulses(10ms)

ORDERING INFORMATION



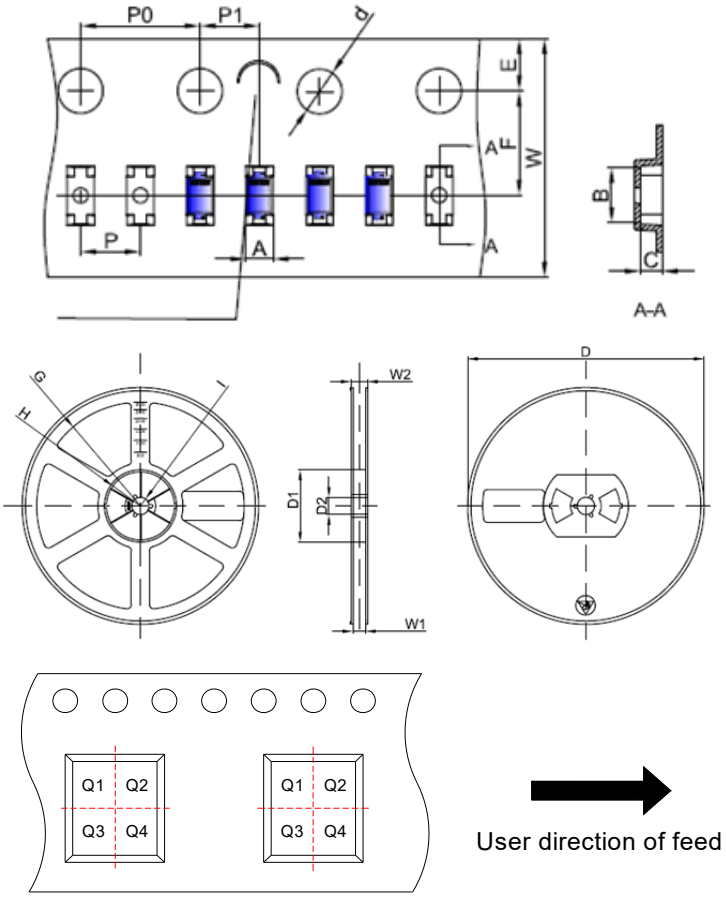
PACKAGE MECHANICAL DATA



Land Pattern

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

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

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).

ORDERING INFORMATION

PART No.	PACKAGE TYPE	QUANTITY(PCS) REEL	DESCIPTION
BZX584BxxxAU Series	SOD-523	8,000	7 inch reel pack

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

Fig.1 Power dissipation vs ambient temperature

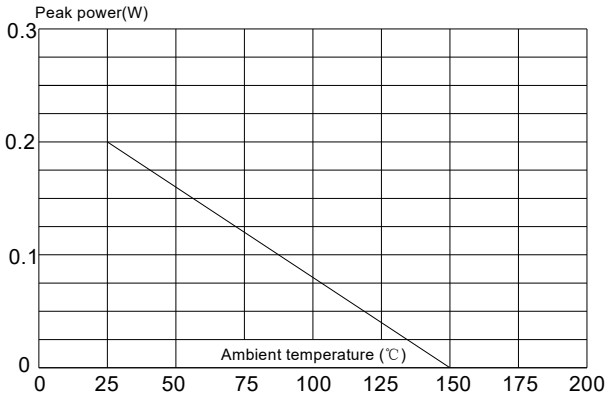


Fig.2 Zener breakdown characteristics

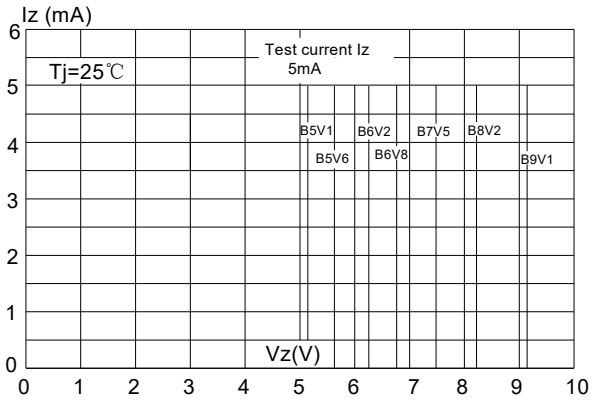


Fig.3 Zener breakdown characteristics

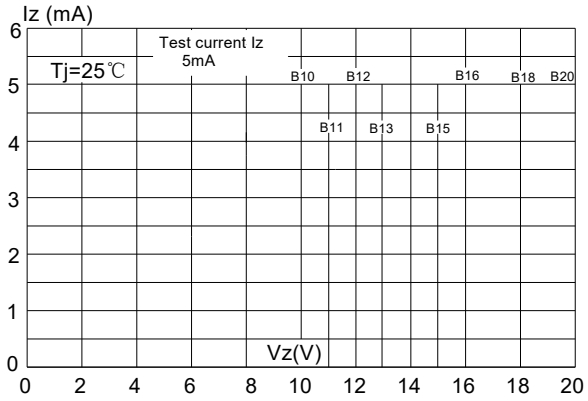
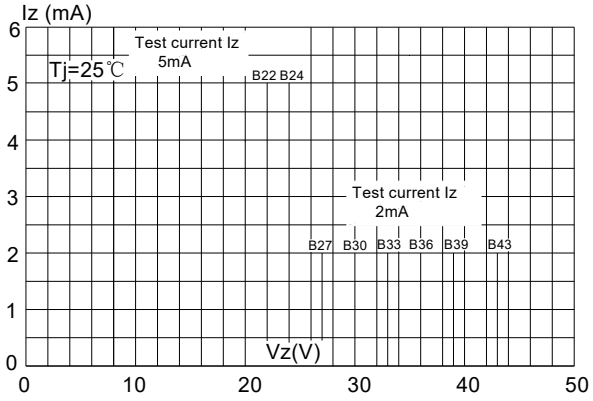


Fig.4 Zener breakdown characteristics



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