

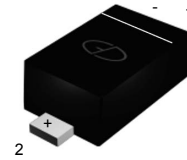
BZX584C2V4 thru BZX584C43

Surface Mount Zener Diodes

V_Z Range: 2.4 to 43V Power Dissipation: 150mW

Features

- Planar die construction
- 150mW power dissipation



SOD-523



Schematic Diagram

Absolute Maximum Ratings (T_A=25°C unless otherwise noted)

Characteristic	Symbol	Value	Unit
Forward Voltage @ I _F =10mA	V _F	0.9	V
Power Dissipation	P _D	150	mW
Thermal Resistance from Junction to Ambient	R _{θJA}	833	°C/W
Junction Temperature	T _J	150	°C
Storage Temperature	T _{STG}	-55 to +150	°C

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Electrical Characteristics (T_A=25°C unless otherwise noted)

Type Number	Marking Code	Zener Voltage Range ¹				Maximum Zener Impedance ²			Maximum Reverse Current		Typical Temperature Coefficient @ I _{ZT} mV/°C	
		V _Z @ I _{ZT}			I _{ZT}	Z _{ZT} @ I _{ZT}	Z _{ZK} @ I _{ZK}		I _R	V _R	Min	Max
		Nom (V)	Min (V)	Max (V)	(mA)	(Ω)	(mA)		(μA)	(V)		
BZX584C2V4	Z11	2.4	2.2	2.6	5	100	600	1.0	50	1.0	-3.5	0
BZX584C2V7	Z12	2.7	2.5	2.9	5	100	600	1.0	20	1.0	-3.5	0
BZX584C3V0	Z13	3.0	2.8	3.2	5	95	600	1.0	10	1.0	-3.5	0
BZX584C3V3	Z14	3.3	3.1	3.5	5	95	600	1.0	5	1.0	-3.5	0
BZX584C3V6	Z15	3.6	3.4	3.8	5	90	600	1.0	5	1.0	-3.5	0
BZX584C3V9	Z16	3.9	3.7	4.1	5	90	600	1.0	3	1.0	-3.5	0
BZX584C4V3	Z17	4.3	4.0	4.6	5	90	600	1.0	3	1.0	-3.5	0
BZX584C4V7	Z1	4.7	4.4	5.0	5	80	500	1.0	3	2.0	-3.5	0.2
BZX584C5V1	Z2	5.1	4.8	5.4	5	60	480	1.0	2	2.0	-2.7	1.2
BZX584C5V6	Z3	5.6	5.2	6.0	5	40	400	1.0	1	2.0	-2.0	2.5
BZX584C6V2	Z4	6.2	5.8	6.6	5	10	150	1.0	3	4.0	0.4	3.7
BZX584C6V8	Z5	6.8	6.4	7.2	5	15	80	1.0	2	4.0	1.2	4.5
BZX584C7V5	Z6	7.5	7.0	7.9	5	15	80	1.0	1	5.0	2.5	5.3
BZX584C8V2	Z7	8.2	7.7	8.7	5	15	80	1.0	0.7	5.0	3.2	6.2
BZX584C9V1	Z8	9.1	8.5	9.6	5	15	100	1.0	0.5	6.0	3.8	7.0
BZX584C10	Z9	10	9.4	10.6	5	20	150	1.0	0.2	7.0	4.5	8.0
BZX584C11	Y1	11	10.4	11.6	5	20	150	1.0	0.1	8.0	5.4	9.0
BZX584C12	Y2	12	11.4	12.7	5	25	150	1.0	0.1	8.0	6.0	10.0
BZX584C13	Y3	13	12.4	14.1	5	30	170	1.0	0.1	8.0	7.0	11.0
BZX584C15	Y4	15	13.8	15.6	5	30	200	1.0	0.1	10.5	9.2	13.0
BZX584C16	Y5	16	15.3	17.1	5	40	200	1.0	0.1	11.2	10.4	14.0
BZX584C18	Y6	18	16.8	19.1	5	45	225	1.0	0.1	12.6	12.4	16.0
BZX584C20	Y7	20	18.8	21.2	5	55	225	1.0	0.1	14.0	14.4	18.0
BZX584C22	Y8	22	20.8	23.3	5	55	250	1.0	0.1	15.4	16.4	20.0
BZX584C24	Y9	24	22.8	25.6	5	70	250	1.0	0.1	16.8	18.4	22.0
BZX584C27	Y10	27	25.1	28.9	2	80	300	0.5	0.1	18.9	21.4	25.3
BZX584C30	Y11	30	28.0	32.0	2	80	300	0.5	0.1	21.0	24.4	29.4
BZX584C33	Y12	33	31.0	35.0	2	80	325	0.5	0.1	23.1	27.4	33.4
BZX584C36	Y13	36	34.0	38.0	2	90	350	0.5	0.1	25.2	30.4	37.4
BZX584C39	Y14	39	37.0	41.0	2	130	350	0.5	0.1	27.3	33.4	41.2
BZX584C43	Y15	43	40.0	46.0	2	100	700	1.0	0.1	32.0	10.0	12.0

Notes:

1. Tested with pulses, period=5ms, pulse width =300μs.

2. F=1kHz.

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V_Z Range: 2.4 to 43V Power Dissipation: 150mW

Typical Electrical Characteristic Curves

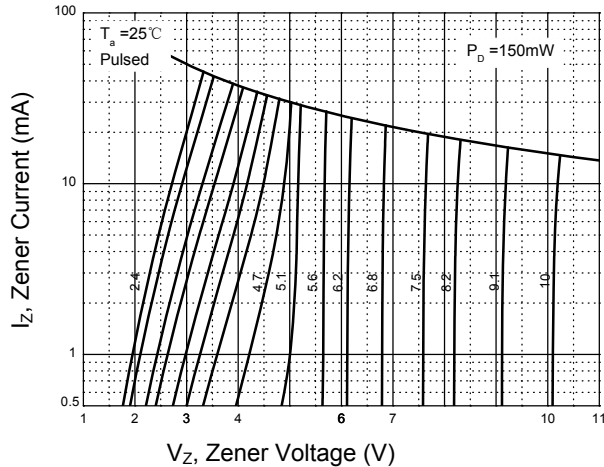


Figure 1. Zener Characteristics (V_Z Up to 10 V)

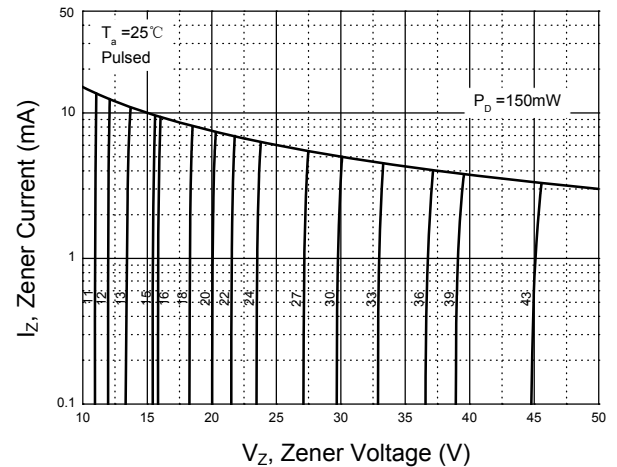


Figure 2. Zener Characteristics (11 V to 43 V)

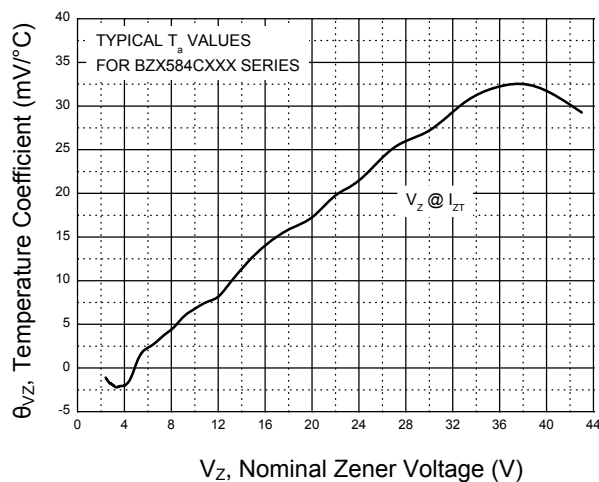


Figure 3. Temperature Coefficients

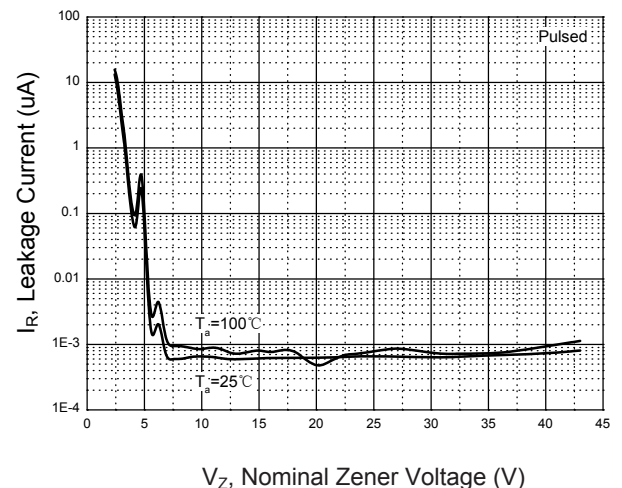


Figure 4. Typical Leakage Current

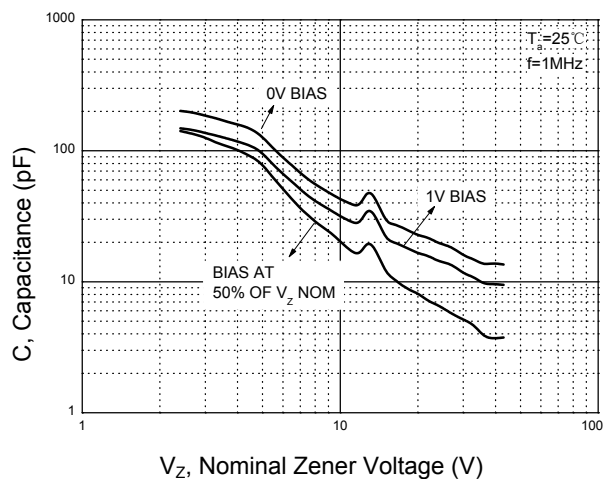


Figure 5. Typical Capacitance

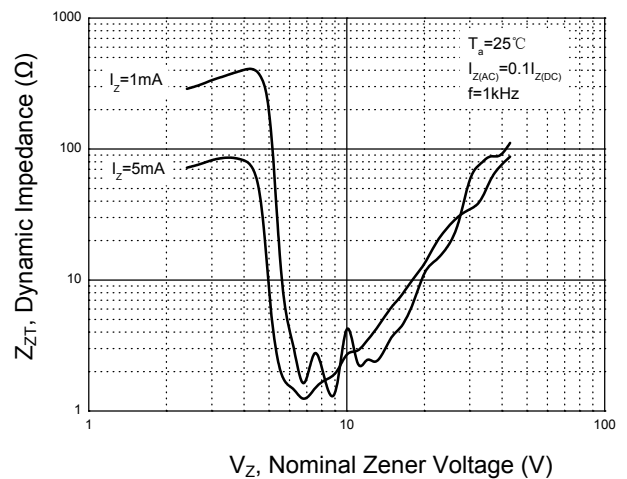


Figure 6. Effect of Zener Voltage on Zener Impedance

Typical Electrical Characteristic Curves

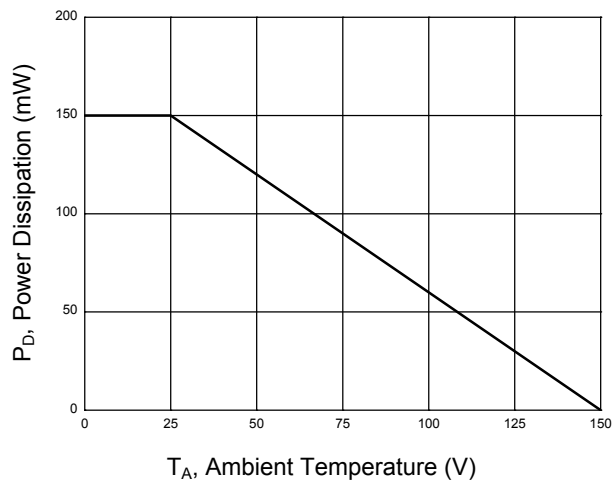


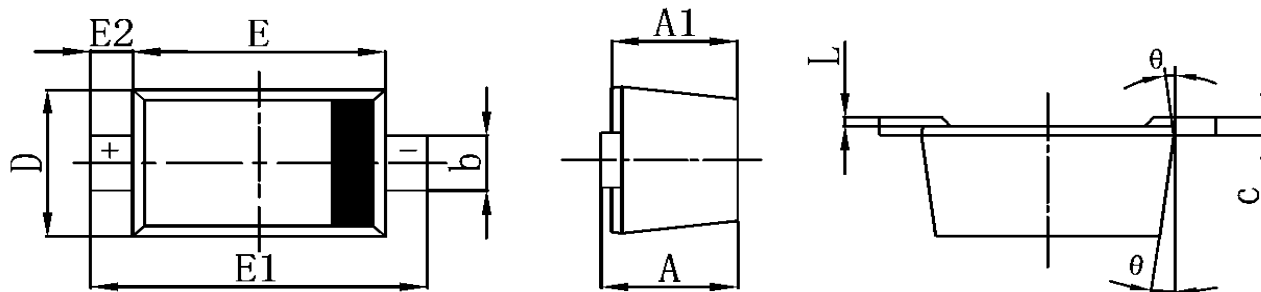
Figure 7. Power Derating Curve

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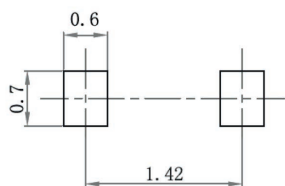
Vz Range: 2.4 to 43V Power Dissipation: 150mW

Package Outline Dimensions (SOD-523)



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.510	0.770	0.020	0.031
A1	0.500	0.700	0.020	0.028
b	0.250	0.350	0.010	0.014
c	0.080	0.150	0.003	0.006
D	0.750	0.850	0.030	0.033
E	1.100	1.300	0.043	0.051
E1	1.500	1.700	0.059	0.067
E2	0.200 REF		0.008 REF	
L	0.010	0.070	0.001	0.003
θ	7° REF		7° REF	

Recommended Pad Layout



Note:

1. Controlling dimension: in millimeters
2. General tolerance: $\pm 0.05\text{mm}$
3. The pad layout is for reference purposes only

Order Information

Device	Package	Reel Size	Carrier	Quantity	HSF Status
BZX584Cxxx	SOD-523	7 inch	Tape & Reel	3,000pcs / Reel	RoHS compliant