

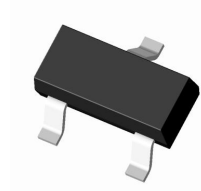
SOT-23 Plastic-Encapsulate Zener Diode

Features

- Planar Die Construction
- 300mW Power Dissipation
- Zener Volt ages from 2.4V - 75 V
- Ultra-Small Surface Mount Package Power Dissipation

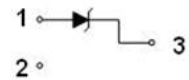


RoHS
COMPLIANT



SOT-23

Equivalent circuit



Absolute Maximum Ratings ($T_A=25^\circ\text{C}$ unless otherwise noted)

Characteristic	Symbol	Value	Unit
Forward Voltage (Note 2) @ $I_F = 10\text{mA}$	V_F	0.9	V
Power Dissipation(Note 1)	P_d	300	mW
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	417	$^\circ\text{C/W}$
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55~+150	$^\circ\text{C}$

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

Type Number	Code	Zener Voltage Range (Note 2)				Maximum Zener Impedance (Note 3)			Maximum Reverse Current	
		VZ @ IZT			IZT (mA)	ZZT@IZT (Ω)	ZZK@IZK (mA)	IZK (mA)	IR (μA)	VR (V)
		Nom(V)	Min(V)	Max(V)						
BZX84C2V4	Z11	2.4	2.2	2.6	5	100	600	1.0	50	1.0
BZX84C2V7	Z12	2.7	2.5	2.9	5	100	600	1.0	20	1.0
BZX84C3V0	Z13	3.0	2.8	3.2	5	95	600	1.0	10	1.0
BZX84C3V3	Z14	3.3	3.1	3.5	5	95	600	1.0	5	1.0
BZX84C3V6	Z15	3.6	3.4	3.8	5	90	600	1.0	5	1.0
BZX84C3V9	Z16	3.9	3.7	4.1	5	90	600	1.0	3	1.0
BZX84C4V3	Z17	4.3	4.0	4.6	5	90	600	1.0	3	1.0
BZX84C4V7	Z1	4.7	4.4	5.0	5	80	500	1.0	3	2.0
BZX84C5V1	Z2	5.1	4.8	5.4	5	60	480	1.0	2	2.0
BZX84C5V6	Z3	5.6	5.2	6.0	5	40	400	1.0	1	2.0
BZX84C6V2	Z4	6.2	5.8	6.6	5	10	150	1.0	3	4.0
BZX84C6V8	Z5	6.8	6.4	7.2	5	15	80	1.0	2	4.0
BZX84C7V5	Z6	7.5	7.0	7.9	5	15	80	1.0	1	5.0
BZX84C8V2	Z7	8.2	7.7	8.7	5	15	80	1.0	0.7	5.0
BZX84C9V1	Z8	9.1	8.5	9.6	5	15	100	1.0	0.5	6.0
BZX84C10	Z9	10	9.4	10.6	5	20	150	1.0	0.2	7.0
BZX84C11	Y1	11	10.4	11.6	5	20	150	1.0	0.1	8.0
BZX84C12	Y2	12	11.4	12.7	5	25	150	1.0	0.1	8.0
BZX84C13	Y3	13	12.4	14.1	5	30	170	1.0	0.1	8.0
BZX84C15	Y4	15	13.8	15.6	5	30	200	1.0	0.1	10.5
BZX84C16	Y5	16	15.3	17.1	5	40	200	1.0	0.1	11.2
BZX84C18	Y6	18	16.8	19.1	5	45	225	1.0	0.1	12.6
BZX84C20	Y7	20	18.8	21.2	5	55	225	1.0	0.1	14.0
BZX84C22	Y8	22	20.8	23.3	5	55	250	1.0	0.1	15.4
BZX84C24	Y9	24	22.8	25.6	5	70	250	1.0	0.1	16.8
BZX84C27	Y10	27	25.1	28.9	2	80	300	0.5	0.1	18.9
BZX84C30	Y11	30	28.0	32.0	2	80	300	0.5	0.1	21.0
BZX84C33	Y12	33	31.0	35.0	2	80	325	0.5	0.1	23.1
BZX84C36	Y13	36	34.0	38.0	2	90	350	0.5	0.1	25.2
BZX84C39	Y14	39	37.0	41.0	2	130	350	0.5	0.1	27.3
BZX84C43	Y15	43	40.0	46.0	2	100	700	1.0	0.1	32
BZX84C47	Y16	47	44.65	49.35	5	170	375	1.0	0.1	32.9
BZX84C51	Y17	51	48.45	53.55	5	100	400	1.0	0.1	35.7
BZX84C62	Y19	62	58	66	2	215	450	0.5	0.05	43.4
BZX84C68	Y20	68	64.6	71.4	2	240	1600	0.25	0.1	52
BZX84C75	Y21	75	71.25	78.75	2	265	1700	0.25	0.1	56

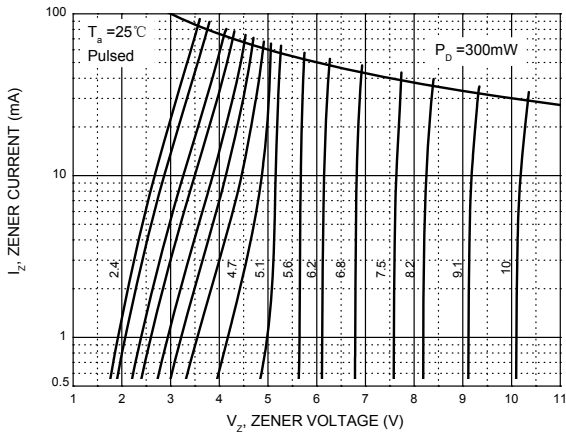
Notes:

1. Valid provided that device terminals are kept at ambient temperature.
2. Tested with pulses, period=5ms,pulse width =300μs.
3. f = 1kHz.

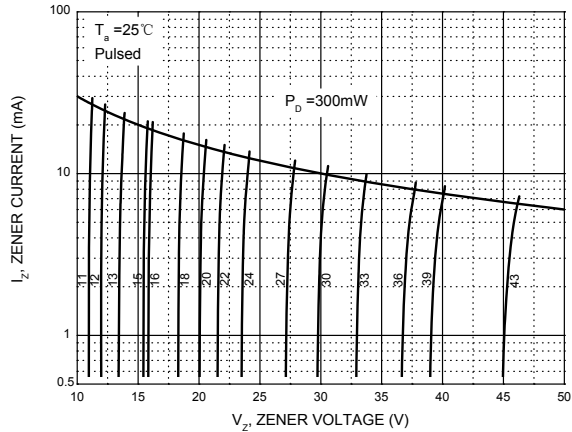
Ratings and Characteristics Curves

($T_a = 25^\circ\text{C}$ unless otherwise noted)

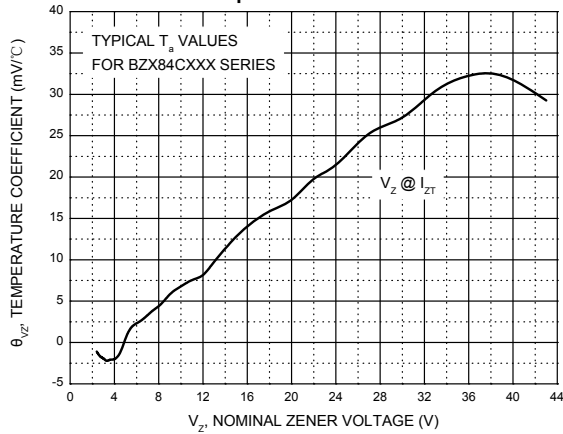
Zener Characteristics (V_z Up to 10 V)



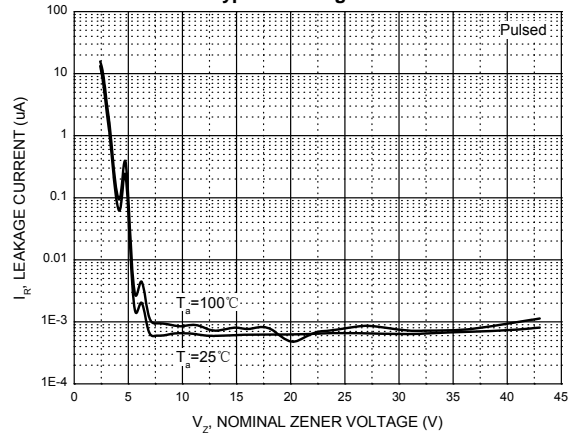
Zener Characteristics (11 V to 43 V)



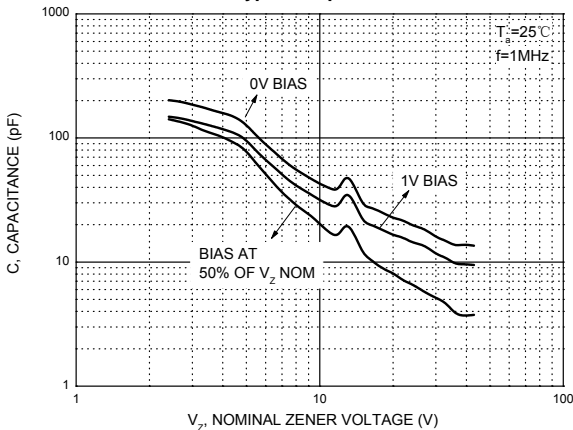
Temperature Coefficients



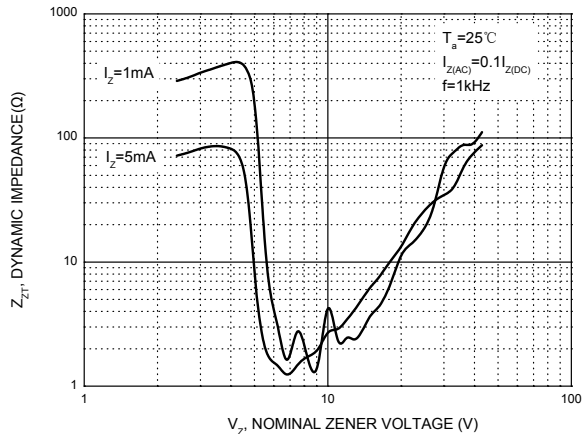
Typical Leakage Current



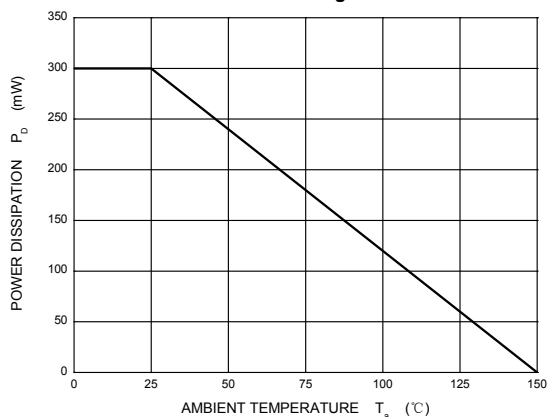
Typical Capacitance



Effect of Zener Voltage on Zener Impedance

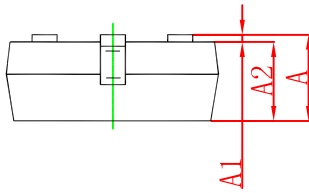
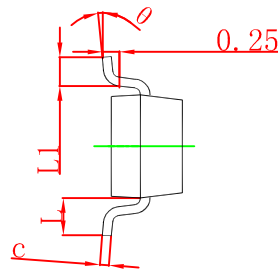
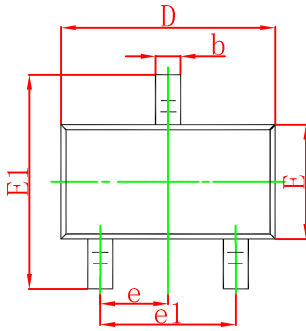


Power Derating Curve



Package Outline Dimensions

millimeters



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP		0.037 TYP	
e1	1.800	2.000	0.071	0.079
L	0.550 REF		0.022 REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°

Revision History

Document Version	Date of release	Description of changes
Rev.A	2022.05.10	First issue

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