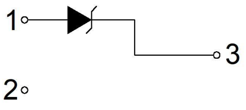
Plastic-Encapsulate Zener Diode

Parameter	Value	Unit
V_Z	2.4~75	V
P_D	300	mW



SOT-23

Features

- Low profile package
- Ideal for automated placement
- Low Zener Impedance
- Power Dissipation of 300mW
- High Stability and High Reliability

Applications

- Surge protection
- Voltage stabilization
- Polarity Protection

Absolute Maximum Ratings (T_A=25ºC, RH=45%-75%, unless otherwise noted)

Parameter	Symbol	Value	Unit
Forward Voltage (Note 1) @ I_F = 10mA	V_F	0.9	V
Power Dissipation(Note 2)	P_D	300	mW
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	417	℃/W
Junction Temperature	T_J	-55~+150	℃
Storage Temperature Range	T_{STG}	-55~+150	℃

Electrical Characteristics (T_A=25℃)

Part Number	Marking	Nominal Zener Voltage @IZT①				Maximum Zener impedance ③			Maximum Reverse Leakage Current		Typical Temperature coefficent @ IZTC=mVrc		lest Current IZTC
		VZ Nom.(V)	VZ Min.(V)	VZ Max.(V)	IZT (mA)	ZZT@IZT (Ω)	ZZK@IZK (Ω)	IZK (mA)	IR@VR (uA)	VR (V)	Min	Max	mA
BZX84B2V4	2Z11	2.4	2.35	2.45	5	100	600	1.0	50	1.0	-3.5	0	5
BZX84B2V7	2Z12	2.7	2.65	2.75	5	100	600	1.0	20	1.0	-3.5	0	5
BZX84B3V0	2Z13	3.0	2.94	3.06	5	95	600	1.0	10	1.0	-3.5	0	5
BZX84BV3	2Z14	3.3	3.23	3.37	5	95	600	1.0	5	1.0	-3.5	0	5
BZX84B3V6	2Z15	3.6	3.53	3.67	5	90	600	1.0	5	1.0	-3.5	0	5
BZX84B3V9	2Z16	3.9	3.82	3.98	5	90	600	1.0	3	1.0	-3.5	0	5
BZX84B4V3	2Z17	4.3	4.21	4.39	5	90	600	1.0	3	1.0	-3.5	0	5
BZX84B4V7	2Z1	4.7	4.61	4.79	5	80	500	1.0	3	2.0	-3.5	0.2	5
BZX84B5V1	2Z2	5.1	5.00	5.20	5	60	480	1.0	2	2.0	-2.7	1.2	5
BZX84B5V6	2Z3	5.6	5.49	5.71	5	40	400	1.0	1	2.0	-2.0	2.5	5
BZX84B6V2	2Z4	6.2	6.08	6.32	5	10	150	1.0	3	4.0	0.4	3.7	5
BZX84B6V8	2Z5	6.8	6.66	6.94	5	15	80	1.0	2	4.0	1.2	4.5	5
BZX84B7V5	2Z6	7.5	7.35	7.65	5	15	80	1.0	1	5.0	2.5	5.3	5
BZX84B8V2	2Z7	8.2	8.04	8.36	5	15	80	1.0	0.7	5.0	3.2	6.2	5
BZX84B9V1	2Z8	9.1	8.92	9.28	5	15	100	1.0	0.5	6.0	3.8	7.0	5
BZX84B10	2Z9	10	9.80	10.20	5	20	150	1.0	0.2	7.0	4.5	8.0	5
BZX84B11	2Y1	11	10.78	11.22	5	20	150	1.0	0.1	8.0	5.4	9.0	5
BZX84B12	2Y2	12	11.76	12.24	5	25	150	1.0	0.1	8.0	6.0	10.0	5
BZX84B13	2Y3	13	12.74	13.26	5	30	170	1.0	0.1	8.0	7.0	11.0	5
BZX84B15	2Y4	15	14.70	15.30	5	30	200	1.0	0.1	10.5	9.2	13.0	5
BZX84B16	2Y5	16	15.68	16.32	5	40	200	1.0	0.1	11.2	10.4	14.0	5
BZX84B18	2Y6	18	17.64	18.36	5	45	225	1.0	0.1	12.6	12.4	16.0	5
BZX84B20	2Y7	20	19.60	20.40	5	55	225	1.0	0.1	14.0	14.4	18.0	5
BZX84B22	2Y8	22	21.56	22.44	5	55	250	1.0	0.1	15.4	16.4	20.0	5
BZX84B24	2Y9	24	23.52	24.48	5	70	250	1.0	0.1	16.8	18.4	22.0	5
BZX84B27	2Y10	27	26.46	27.54	2	80	300	0.5	0.1	18.9	21.4	25.3	2
BZX84B30	2Y11	30	29.40	30.60	2	80	300	0.5	0.1	21.0	24.4	29.4	2
BZX84B33	2Y12	33	32.34	33.66	2	80	325	0.5	0.1	23.1	27.4	33.4	2
BZX84B36	2Y13	36	35.28	36.72	2	90	350	0.5	0.1	25.2	30.4	37.4	2
BZX84B39	2Y14	39	38.22	39.78	2	130	350	0.5	0.1	27.3	33.4	41.2	2
BZX84B43	2Y15	43	41.16	43.84	2	100	700	1.0	0.1	32.0	10.0	12.0	5
BZX84B47	2Y16	47	46.06	47.94	2	100	750	1.0	0.1	35.0	10.0	12.0	5
BZX84B51	2Y17	51	49.98	52.02	2	100	750	1.0	0.1	38.0	10.0	12.0	5
BZX84B56	2Y18	56	54.88	57.12	2	135	700	1.0	0.1	42.0	10.0	12.0	5
BZX84B62	2Y19	62	60.76	63.24	2	200	1000	1.0	0.2	47.0	10.0	12.0	5
BZX84B68	2Y20	68	66.64	69.36	2	250	1000	1.0	0.2	52.0	10.0	12.0	5
BZX84B75	2Y21	75	73.5	76.5	2	300	1000	1.0	0.2	57.0	10.0	12.0	5

Notes:

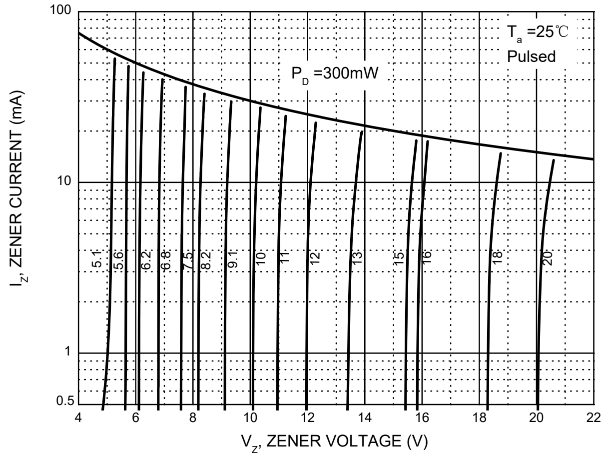
1.The value of $R_{\theta JA}$ is measured with the device mounted on 1 in 2 FR-4 board with 2oz. Copper, in a still air environment with Ta=25 ℃ .

2. Short duration test pulse used to minimize self-heating effect

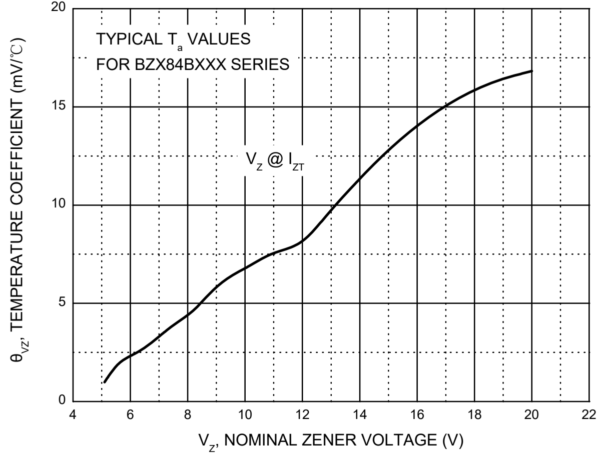
3. f=1kHZ

Typical Characteristics

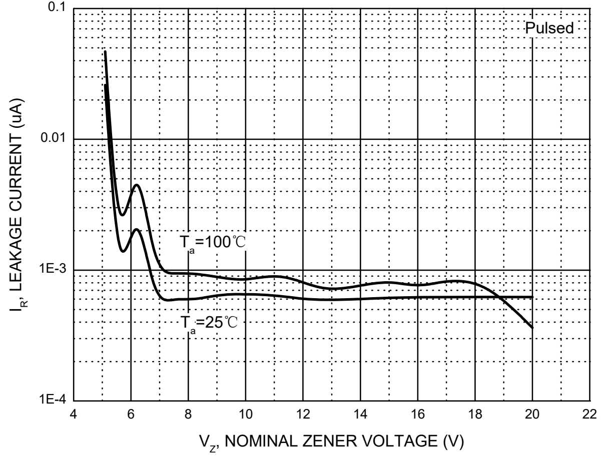
Zener Characteristics（V_Z 5.1V to 20 V）



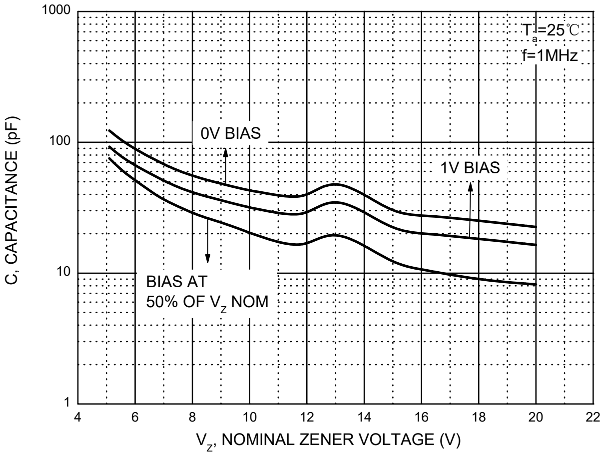
Temperature Coefficients



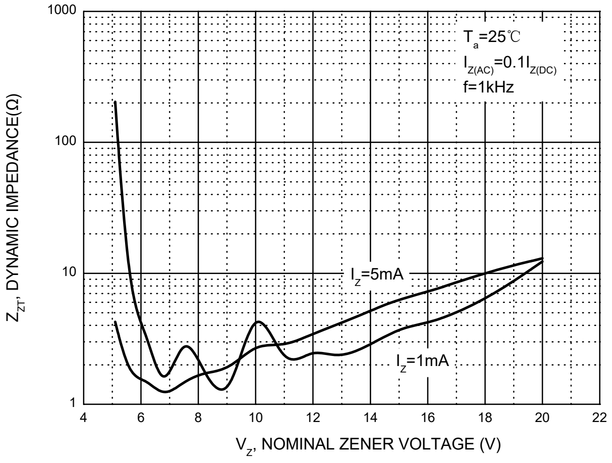
Typical Leakage Current



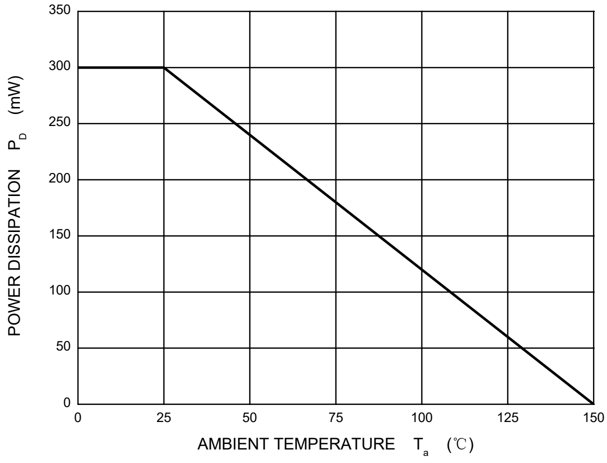
Typical Capacitance



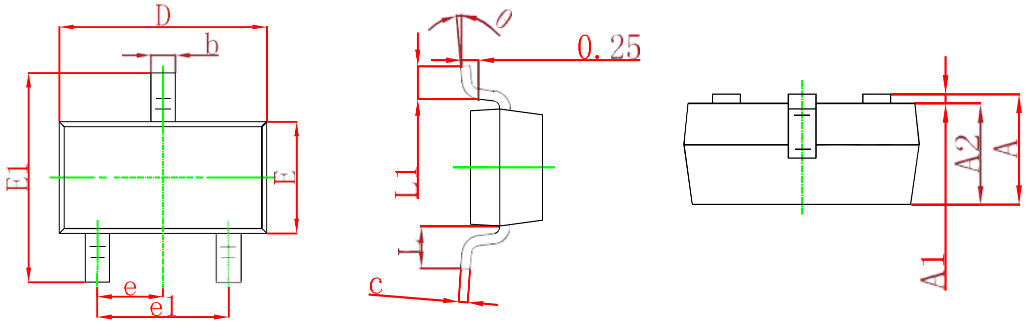
Effect of Zener Voltage on Zener Impedance



Power Derating Curve



Package Outlines (Dimensions in mm)



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°

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