

SuperDiode – 2.2V~70V, 300mW SOT-23 Plastic-Encapsulate Zener Diode



**1. Features**

- Low Zener impedance
- Power dissipation of 300mW
- High stability and reliability

**2. Mechanical Data**

- SOT-23 Small Outline Plastic Package
- Epoxy UL: 94V-0
- Mounting Position: Any

**3. Outline and Circuit**

Part Number	Outline	Circuit
BZX84Cxx		

**4. Specification**

**Absolute Maximum Rating & Thermal Characteristics**

Ratings at 25 °C ambient temperature unless otherwise specified.

Parameters	Symbol	Value	Unit
Power Dissipation (Note 1)	P <sub>D</sub>	300	mW
Forward Voltage @IF=10mA (Note 2)	V <sub>F</sub>	0.9	V
Storage temperature range	T <sub>STG</sub>	-65~150	°C
Thermal resistance junction to ambient air	R <sub>thA</sub>	417	K/W

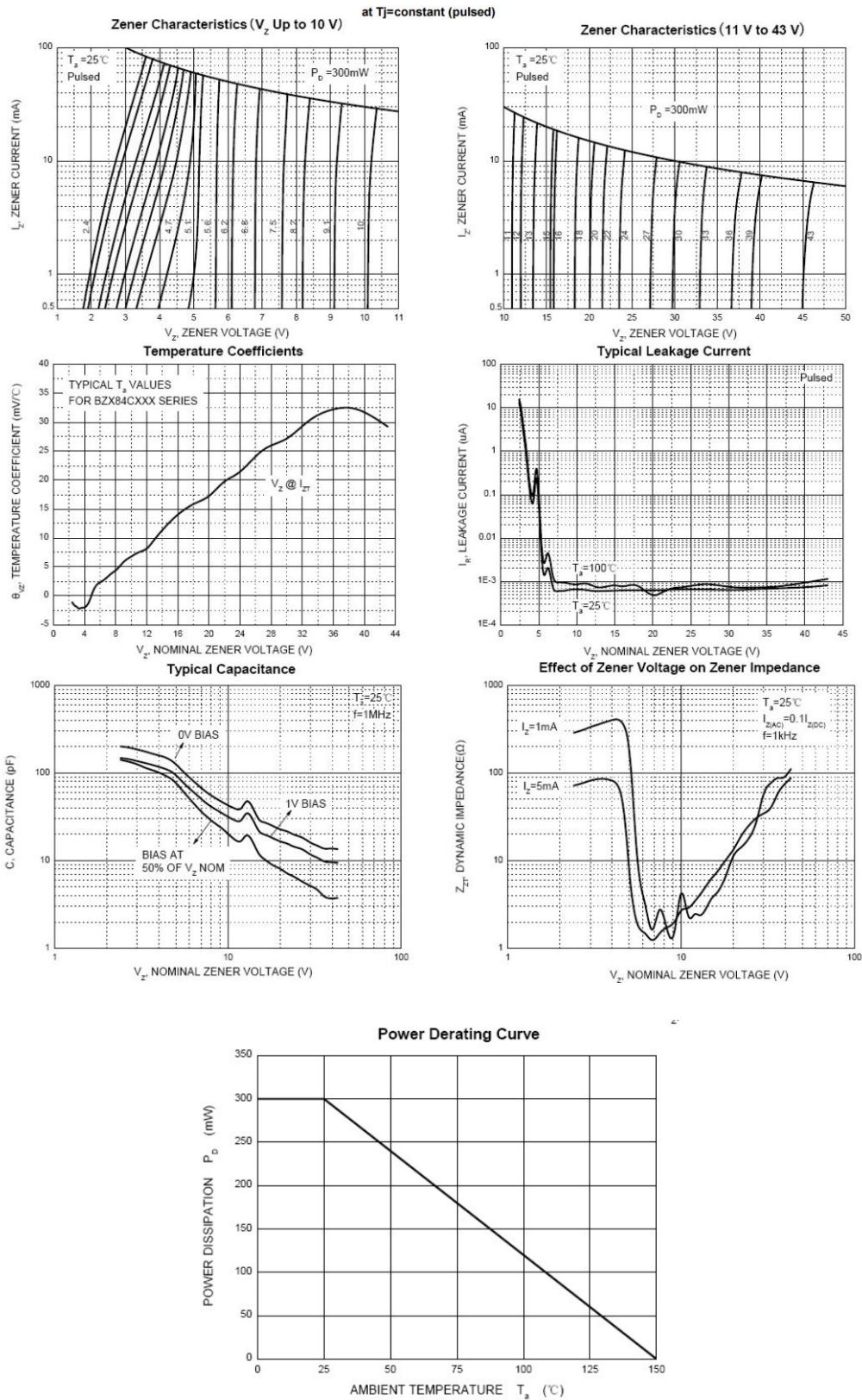
**NOTES:**

1. Valid provided that device terminals are kept at ambient temperature.
2. Test with pulse, period=5ms, pulse width=300us
3. f=1KHz

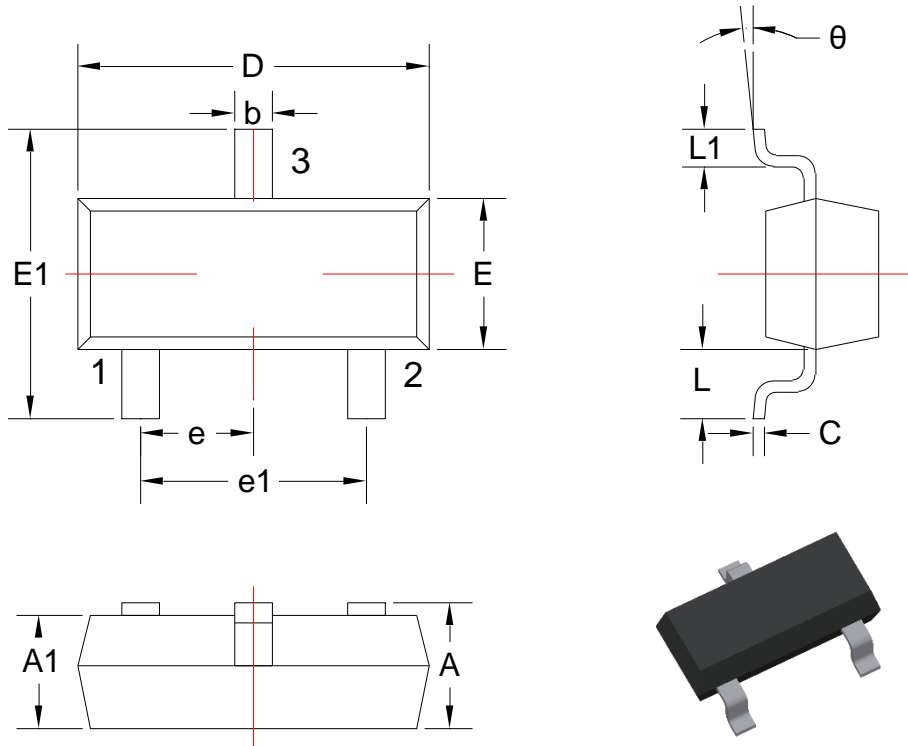
**Electrical Characteristics(At TA = 25°C unless otherwise specified)**

Device	Marking	Zener Voltage Range			Maximum Zener Impedance			Reverse Current		Temp. Coefficient of Zener voltage@Izt=5mA	
		Vz@Izt			Zzt@Izt	Zzk@Izk		IR@VR			
		Min	Max	Izt	Max	Max	Izk	Max	VR	Min	Max
		(V)	(V)	(mA)	(Ω)	(Ω)	(mA)	(uA)	(V)	mV/°C	mV/°C
BZX84C2V4	Z11	2.2	2.6	5	100	600	1.0	50	1.0	-3.5	0.0
BZX84C2V7	Z12	2.5	2.9	5	100	600	1.0	20	1.0	-3.5	0.0
BZX84C3V0	Z13	2.8	3.2	5	95	600	1.0	10	1.0	-3.5	0.0
BZX84C3V3	Z14	3.1	3.5	5	95	600	1.0	5	1.0	-3.5	0.0
BZX84C3V6	Z15	3.4	3.8	5	90	600	1.0	5	1.0	-3.5	0.0
BZX84C3V9	Z16	3.7	4.1	5	90	600	1.0	3	1.0	-3.5	0.0
BZX84C4V3	Z17	4.0	4.6	5	90	600	1.0	3	1.0	-3.5	0.0
BZX84C4V7	Z1	4.4	5.0	5	80	500	1.0	3	2.0	-3.5	0.2
BZX84C5V1	Z2	4.8	5.4	5	60	480	1.0	2	2.0	-2.7	1.2
BZX84C5V6	Z3	5.2	6.0	5	40	400	1.0	1	2.0	-2.0	2.5
BZX84C6V2	Z4	5.8	6.6	5	10	150	1.0	3	4.0	0.4	3.7
BZX84C6V8	Z5	6.4	7.2	5	15	80	1.0	2	4.0	1.2	4.5
BZX84C7V5	Z6	7.0	7.9	5	15	80	1.0	1	5.0	2.5	5.3
BZX84C8V2	Z7	7.7	8.7	5	15	80	1.0	0.7	5.0	3.2	6.2
BZX84C9V1	Z8	8.5	9.6	5	15	100	1.0	0.5	6.0	3.8	7.0
BZX84C10	Z9	9.4	10.6	5	20	150	1.0	0.2	7.0	4.5	8.0
BZX84C11	Y1•	10.4	11.6	5	20	150	1.0	0.1	8.0	5.4	9.0
BZX84C12	Y2•	11.4	12.7	5	25	150	1.0	0.1	8.0	6.0	10.0
BZX84C13	Y3	12.4	14.1	5	30	170	1.0	0.1	8.0	7.0	11.0
BZX84C15	Y4	13.8	15.6	5	30	200	1.0	0.1	10.5	9.2	13.0
BZX84C16	Y5	15.3	17.1	5	40	200	1.0	0.1	11.2	10.4	14.0
BZX84C18	Y6•	16.8	19.1	5	45	225	1.0	0.1	12.6	12.4	16.0
BZX84C20	Y7	18.8	21.2	5	55	225	1.0	0.1	14.0	14.4	18.0
BZX84C22	Y8	20.8	23.3	5	55	250	1.0	0.1	15.4	16.4	20.0
BZX84C24	Y9	22.8	25.6	5	70	250	1.0	0.1	16.8	18.4	22.0
BZX84C27	Y10	25.1	28.9	2	80	300	0.5	0.1	18.9	21.4	25.3
BZX84C30	Y11•	28	32	2	80	300	0.5	0.1	21.0	24.4	29.4
BZX84C33	Y12	31	35	2	80	325	0.5	0.1	23.1	27.1	33.4
BZX84C36	Y13	34	38	2	90	350	0.5	0.1	25.2	30.4	37.4
BZX84C39	Y14	37	41	2	130	350	0.5	0.1	27.3	33.4	41.2
BZX84C43	Y15	40	46	2	100	700	1.0	0.1	32.0	10.0	12.0
BZX84C47	Y16	44	50	2	100	750	1.0	0.1	35.0	10.0	12.0
BZX84C51	Y17	48	54	2	125	750	1.0	0.1	38.0	10.0	12.0
BZX84C56	Y18	52	60	2	135	700	1.0	0.1	39.0	10.0	12.0
BZX84C62	Y19	58	66	2	200	1000	1.0	0.2	47.0	10.0	12.0
BZX84C68	Y20	64	72	2	250	1000	1.0	0.2	52.0	10.0	12.0
BZX84C75	Y21•	70	79	2	300	1000	1.0	0.2	57.0	10.0	12.0

5. Typical Characteristic

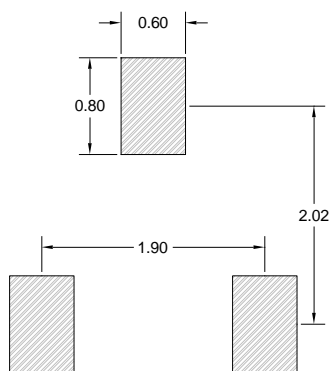


**6. Dimension and Patterns (SOT-23)**



Units: mm

Symbol	Dimensions		Symbol	Dimensions	
	Min.	Max.		Min.	Max.
A	0.900	1.150	E1	2.250	2.550
A1	0.900	1.050	e	0.950TYP	
b	0.300	0.500	e1	1.800	2.000
c	0.080	0.150	L	0.550REF	
D	2.800	3.000	L1	0.300	0.500
E	1.200	1.400	θ	0°	8°



**Note:**

1. Controlling dimension: in millimeters
2. General tolerance: ±0.05mm
3. The pad layout is for reference only
4. Unit: mm

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