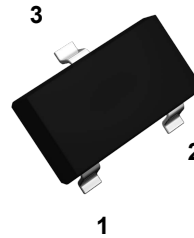
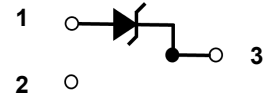


Features

- Total power dissipation: Max. 350 mW
- Working voltage range: Nom. 2.4V to 75V
- Planar die construction
- Small package size



SOT-23



Schematic Diagram

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

Parameter	Symbol	Value	Unit
Forward Voltage @ I _F =10mA	V _F	0.9	V
Power Dissipation ¹	P _D	350	mW
Thermal Resistance, Junction to Ambient Air ¹	R _{θJA}	357	°C/W
Operating Junction Temperature Range	T _J	-65 To +150	°C
Storage Temperature Range	T _{STG}	-65 To +150	°C

Note:

1. Valid provided that device terminals are kept at ambient temperature.

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

Part Number	Marking Code	Zener Voltage Range				Maximum Zener Impedance			Maximum Reverse Current		Temperature Coefficient (mV/°C)		Maximum Diode Capacitance ¹	Non-Repetitive Peak Reverse Current I _{ZPM} (A) ²
		V _Z @I _{ZT}			I _{ZT}	Z _{ZT} @I _{ZT}	Z _{ZK} @I _{ZK}	I _R	V _R	@I _{ZT}		C _d		
		Nom (V)	Min (V)	Max (V)	(mA)	(Ω)	(Ω)	(mA)	(μA)	(V)	Min	Max	(pF)	Max
BZX84C2V4	Z11	2.4	2.2	2.6	5	100	600	1	50	1	-3.5	0.0	450	6.0
BZX84C2V7	Z12	2.7	2.5	2.9	5	100	600	1	20	1	-3.5	0.0	450	6.0
BZX84C3V0	Z13	3	2.8	3.2	5	95	600	1	10	1	-3.5	0.0	450	6.0
BZX84C3V3	Z14	3.3	3.1	3.5	5	95	600	1	5	1	-3.5	0.0	450	6.0
BZX84C3V6	Z15	3.6	3.4	3.8	5	90	600	1	5	1	-3.5	0.0	450	6.0
BZX84C3V9	Z16	3.9	3.7	4.1	5	90	600	1	3	1	-3.5	0.0	450	6.0
BZX84C4V3	Z17	4.3	4	4.6	5	90	600	1	3	1	-3.5	0.0	450	6.0
BZX84C4V7	Z1	4.7	4.4	5	5	80	500	1	3	2	-3.5	0.2	300	6.0
BZX84C5V1	Z2	5.1	4.8	5.4	5	60	480	1	2	2	-2.7	1.2	300	6.0

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

Part Number	Marking Code	Zener Voltage Range				Maximum Zener Impedance			Maximum Reverse Current		Temperature Coefficient (mV/°C)		Maximum Diode Capacitance ¹	Non-Repetitive Peak Reverse Current I _{ZPM} (A) ²
		V _Z @I _{ZT}			I _{ZT}	Z _{ZT} @I _{ZT}	Z _{ZK} @I _{ZK}		I _R	V _R	@I _{ZT}		C _d	
		Nom (V)	Min (V)	Max (V)	(mA)	(Ω)	(Ω)	(mA)	(μA)	(V)	Min	Max	(pF)	Max
BZX84C5V6	Z3	5.6	5.2	6	5	40	400	1	1	2	-2.0	2.5	300	6.0
BZX84C6V2	Z4	6.2	5.8	6.6	5	10	150	1	3	4	0.4	3.7	200	6.0
BZX84C6V8	Z5	6.8	6.4	7.2	5	15	80	1	2	4	1.2	4.5	200	6.0
BZX84C7V5	Z6	7.5	7	7.9	5	15	80	1	1	5	2.5	5.3	150	4.0
BZX84C8V2	Z7	8.2	7.7	8.7	5	15	80	1	0.7	5	3.2	6.2	150	4.0
BZX84C9V1	Z8	9.1	8.5	9.6	5	15	100	1	0.5	6	3.8	7.0	150	3.0
BZX84C10	Z9	10	9.4	10.6	5	20	150	1	0.2	7	4.5	8.0	90	3.0
BZX84C11	Y1•	11	10.4	11.6	5	20	150	1	0.1	8	5.4	9.0	85	2.5
BZX84C12	Y2•	12	11.4	12.7	5	25	150	1	0.1	8	6.0	10.0	85	2.5
BZX84C13	Y3	13	12.4	14.1	5	30	170	1	0.1	8	7.0	11.0	80	2.5
BZX84C15	Y4	15	13.8	15.6	5	30	200	1	0.1	10.5	9.2	13.0	75	2.0
BZX84C16	Y5	16	15.3	17.1	5	40	200	1	0.1	11.2	10.4	14.0	75	1.5
BZX84C18	Y6	18	16.8	19.1	5	45	225	1	0.1	12.6	12.4	16.0	70	1.5
BZX84C20	Y7	20	18.8	21.2	5	55	225	1	0.1	14	14.4	18.0	60	1.5
BZX84C22	Y8	22	20.8	23.3	5	55	250	1	0.1	15.4	16.4	20.0	60	1.3
BZX84C24	Y9	24	22.8	25.6	5	70	250	1	0.1	16.8	18.4	22.0	55	1.3
BZX84C27	Y10	27	25.1	28.9	2	80	300	0.5	0.1	18.9	21.4	25.3	50	1.0
BZX84C30	Y11	30	28	32	2	80	300	0.5	0.1	21	24.4	29.4	50	1.0
BZX84C33	Y12	33	31	35	2	80	325	0.5	0.1	23.1	27.4	33.4	45	0.9
BZX84C36	Y13	36	34	38	2	90	350	0.5	0.1	25.2	30.4	37.4	45	0.8
BZX84C39	Y14	39	37	41	2	130	350	0.5	0.1	27.3	33.4	41.2	45	0.7
BZX84C43	Y15	43	40	46	2	150	375	0.5	0.1	30.1	37.6	46.6	40	0.6
BZX84C47	Y16	47	44	50	2	170	375	0.5	0.1	32.9	42.0	51.8	40	0.5
BZX84C51	Y17	51	48	54	2	180	400	0.5	0.1	35.7	46.6	57.2	40	0.4
BZX84C56	Y18	56	52	60	2	200	425	0.5	0.05	39.2	52.2	63.8	40	0.3
BZX84C62	Y19	62	58	66	2	215	450	0.5	0.05	43.4	58.8	71.6	35	0.3
BZX84C68	Y20	68	64	72	2	240	475	0.5	0.05	47.6	65.6	79.8	35	0.3
BZX84C75	Y21	75	70	79	2	255	500	0.5	0.05	52.5	73.4	88.6	35	0.2

Note:

1. F=1MHz, V_R=0V.

2. I_{ZPM} tested at t_p=100μs, square wave.

Ratings and Characteristic Curves

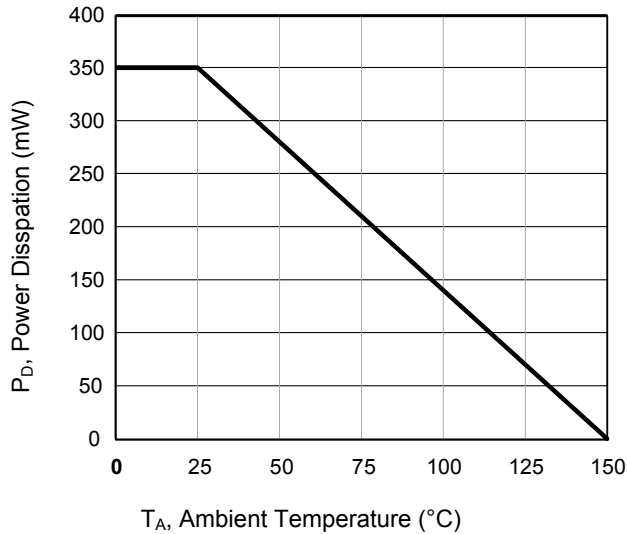


Figure 1. Power Derating Curve

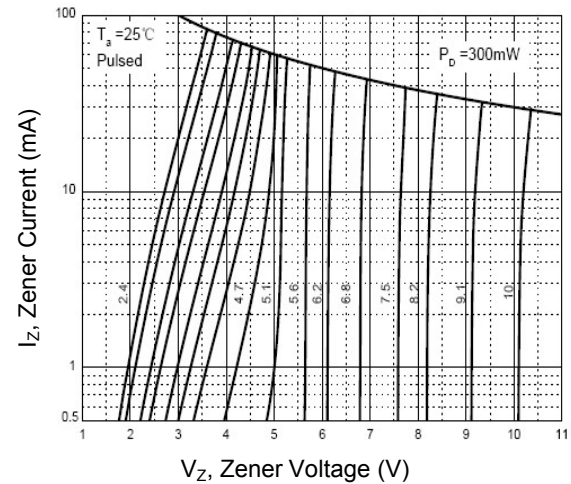


Figure 2. Zener Breakdown Characteristics
(V_Z Up to 10V)

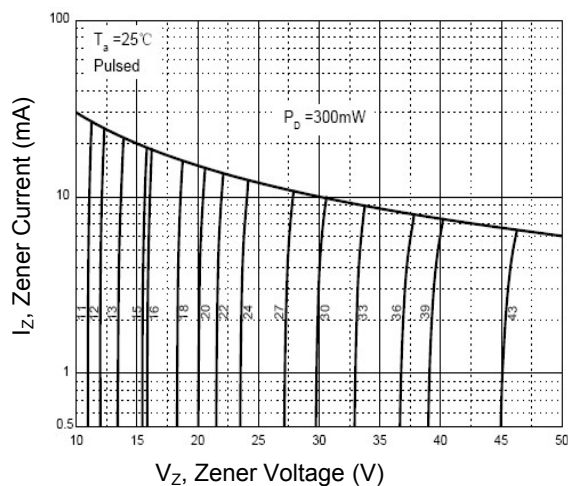


Figure 3. Zener Breakdown Characteristics
(V_Z 11V to 43V)

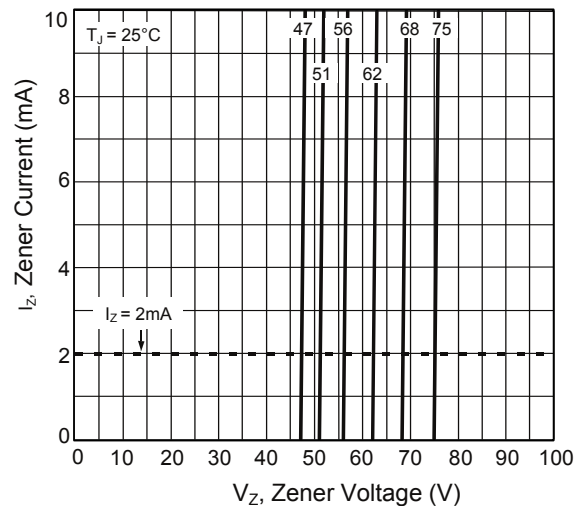


Figure 4. Zener Breakdown Characteristics
(V_Z 47V-75V)

Ratings and Characteristic Curves

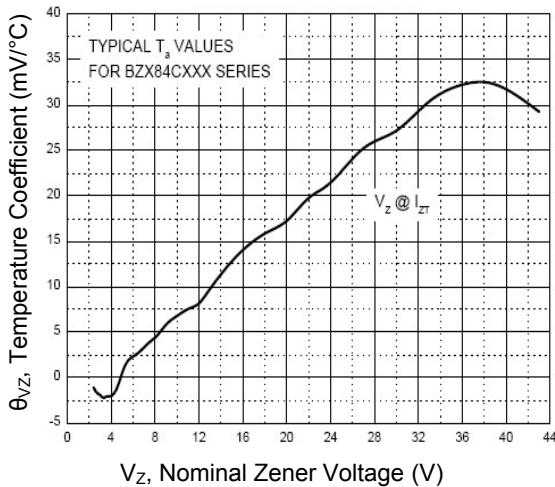


Figure 5. Temperature Coefficients

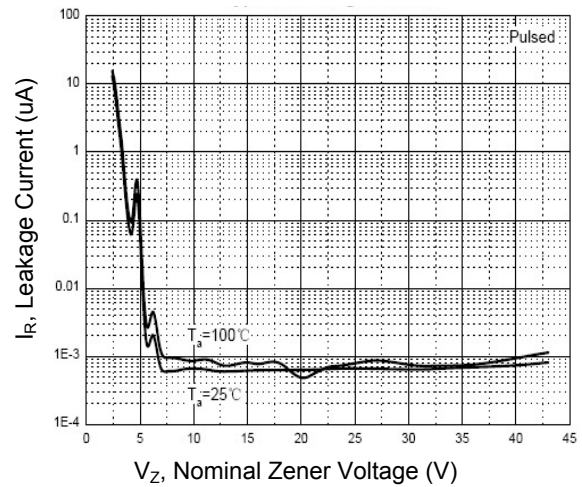


Figure 6. Typical Leakage Current

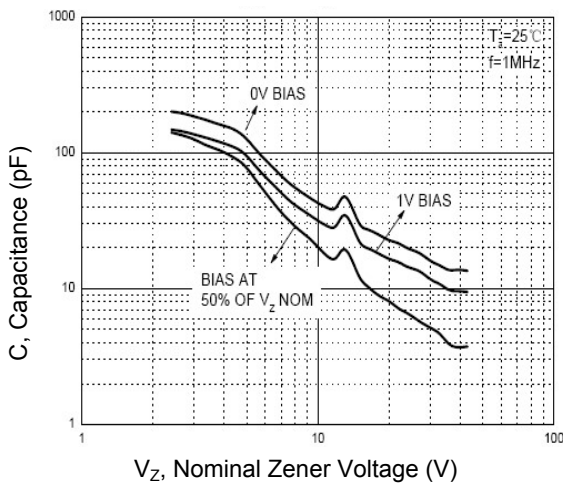


Figure 7. Typical Capacitance

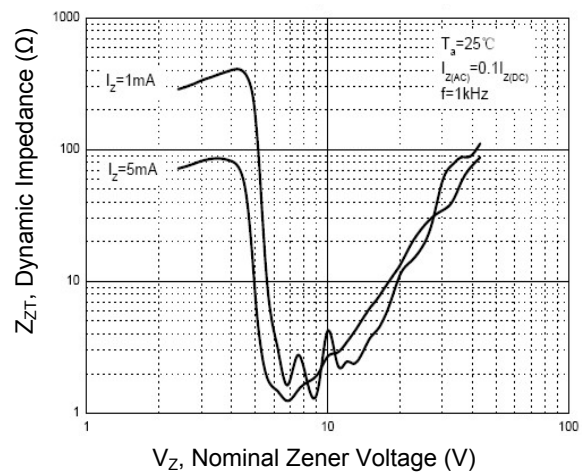
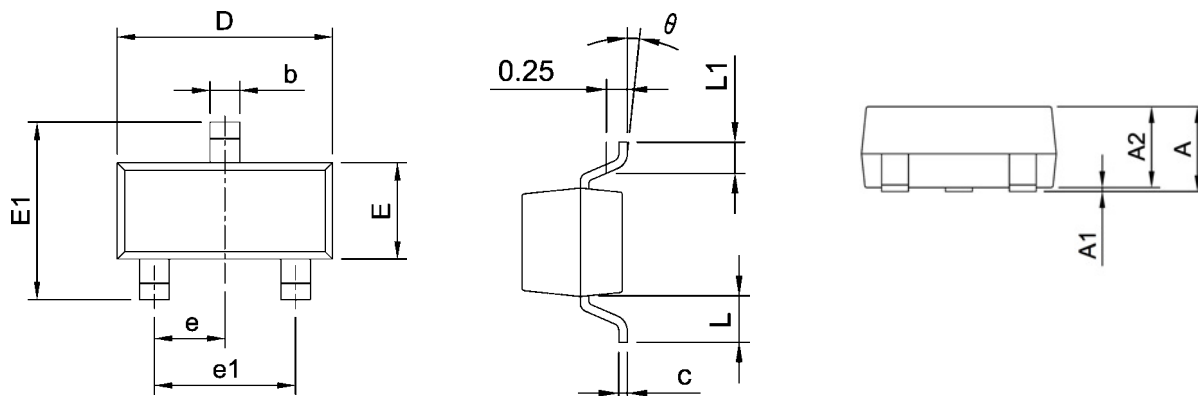


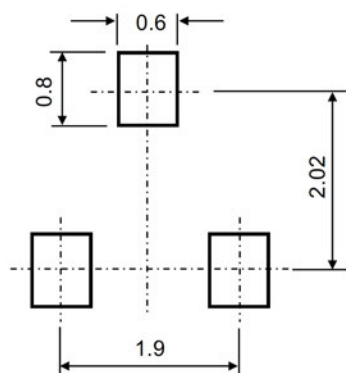
Figure 8. Effect of Zener Voltage on Zener Impedance

Package Outline Dimensions (SOT-23)



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°

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