WEITRON

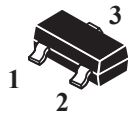
BZX84C2V4 Series

Surface Mount Zener Diodes

SMALL SIGNAL ZENER DIODES 225m WATTS

Features:

*225mw Power Dissipation
*Ideal for Surface Mountted Application
*Zener Breakdown Voltage Range 2.4V to 75V



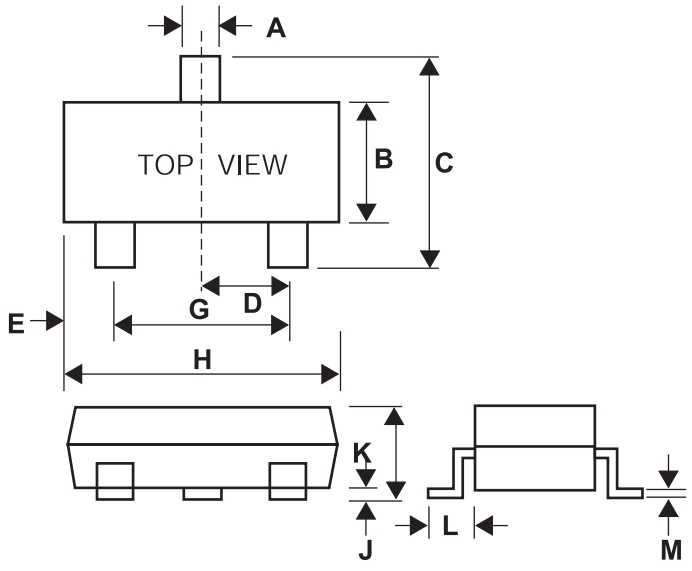
SOT-23

Mechanical Data:

*Case : SOT-23 Molded plastic
*Terminals: Solderable per MIL-STD-202, Method 208
*Polarity: Cathode Indicated by Polarity Band
*Marking: Marking Code (See Table on Page 3)
*Weigh: 0.008grams(approx)

SOT-23 Outline Dimensions

Unit:mm



Dim	Min	Max
A	0.35	0.51
B	1.19	1.40
C	2.10	3.00
D	0.85	1.05
E	0.46	1.00
G	1.70	2.10
H	2.70	3.10
J	0.01	0.13
K	0.89	1.10
L	0.30	0.61
M	0.076	0.25

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Maximum Ratings and Electrical Characteristics (TA=25°C Unless Otherwise Noted)

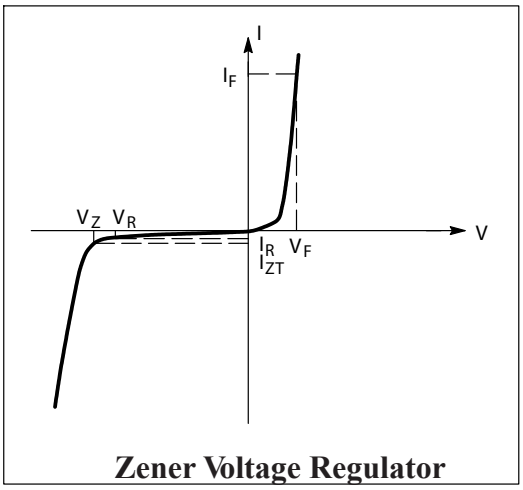
Characteristics	Symbol	Value	Unit
Total Power Dissipation on FR-5 Board(1) @T_A=25°C	PD	225	mW
Thermal Resistance Junction to Ambient Air(1)	RθJA	556	°C/W
Forward Voltage @ IF=10mA	VF	0.9	V
Junction and Storage Temperature Range	Tj,TSTG	-65 to+150	°C

NOTES:1.FR-5=1.0*0.75*0.62in

ELECTRICAL CHARACTERISTICS

(Pinout: 1-Anode, 2-No Connection, 3-Cathode) (T_A = 25°C unless otherwise noted, V_F = 0.9V Max. @ I_F = 10 mA)

Symbol	Parameter
V_Z	Reverse Zener Voltage @ I_{ZT}
I_{ZT}	Reverse Current
Z_{ZT}	Maximum Zener Impedance @ I_{ZT}
I_R	Reverse Leakage Current @ V_R
V_R	Reverse Voltage
I_F	Forward Current
V_F	Forward Voltage @ I_F
ΘV_Z	Maximum Temperature Coefficient of V_Z
C	Max. Capacitance @ V_R = 0 and f = 1 MHz



Zener Voltage Regulator

Device Marking

Item	Marking	Equivalent Circuit Diagram
BZX84C2V4 Series	XX=Specific Device Code (See Table on page3)	3 o—▷—o 1 Cathode Anode

ELECTRICAL CHARACTERISTICS

(Pinout: 1-Anode, 2-No Connection, 3-Cathode) (T_A = 25°C unless otherwise noted, V_F = 0.90 V Max. @ I_F = 10 mA)

Device	Device Marking	V_{Z1} (Volts) @ I_{ZT1} = 5 mA (Note)			Z_{ZT1} (Ohms) @ I_{ZT1} = 5mA	V_{Z2} (Volts) @ I_{ZT2} = 1 mA (Note)		Z_{ZT2} (Ohms) @ I_{ZT2} = 1mA	V_{Z3}(Volts) @ I_{ZT3} = 20 mA (Note)		Z_{ZT3} (Ohms) @ I_{ZT3} = 20mA	Max Reverse Leakage Current		VZ (mV/k) @ I_{ZT1}=5mA		C(pF) @V_R =0 f=1MHz
		Min	Nom	Max		Min	Max		Min	Max		I_R A @	V_R Volts	Min	Max	
BZX84C2V4	Z11	2.2	2.4	2.6	100	1.7	2.1	600	2.6	3.2	50	50	1	±3.5	0	450
BZX84C2V7	Z12	2.5	2.7	2.9	100	1.9	2.4	600	3	3.6	50	20	1	±3.5	0	450
BZX84C3V0	Z13	2.8	3	3.2	95	2.1	2.7	600	3.3	3.9	50	10	1	±3.5	0	450
BZX84C3V3	Z14	3.1	3.3	3.5	95	2.3	2.9	600	3.6	4.2	40	5	1	±3.5	0	450
BZX84C3V6	Z15	3.4	3.6	3.8	90	2.7	3.3	600	3.9	4.5	40	5	1	±3.5	0	450
BZX84C3V9	Z16	3.7	3.9	4.1	90	2.9	3.5	600	4.1	4.7	30	3	1	±3.5	±2.5	450
BZX84C4V3	W9	4	4.3	4.6	90	3.3	4	600	4.4	5.1	30	3	1	±3.5	0	450
BZX84C4V7	*Z1*	*4.4*	*4.7*	*5*	*80*	*3.7*	*4.7*	*500*	*4.5*	*5.4*	*15*	*3*	*2*	*±3.5*	*0.2*	*260*
BZX84C5V1	*Z2*	*4.8*	*5.1*	*5.4*	*60*	*4.2*	*5.3*	*480*	*5*	*5.9*	*15*	*2*	*2*	*±2.7*	*1.2*	*225*
BZX84C5V6	*Z3*	*5.2*	*5.6*	*6*	*40*	*4.8*	*6*	*400*	*5.2*	*6.3*	*10*	*1*	*2*	*±2.0*	*2.5*	*200*
BZX84C6V2	*Z4*	*5.8*	*6.2*	*6.6*	*10*	*5.6*	*6.6*	*150*	*5.8*	*6.8*	*6*	*3*	*4*	*0.4*	*3.7*	*185*
BZX84C6V8	Z5	6.4	6.8	7.2	15	6.3	7.2	80	6.4	7.4	6	2	4	1.2	4.5	155
BZX84C7V5	Z6	7	7.5	7.9	15	6.9	7.9	80	7	8	6	1	5	2.5	5.3	140
BZX84C8V2	Z7	7.7	8.2	8.7	15	7.6	8.7	80	7.7	8.8	6	0.7	5	3.2	6.2	135
BZX84C9V1	Z8	8.5	9.1	9.6	15	8.4	9.6	100	8.5	9.7	8	0.5	6	3.8	7.0	130
BZX84C10	Z9	9.4	10	10.6	20	9.3	10.6	150	9.4	10.7	10	0.2	7	4.5	8.0	130
BZX84C11	Y1	10.4	11	11.6	20	10.2	11.6	150	10.4	11.8	10	0.1	8	5.4	9.0	130
BZX84C12	*Y2*	*11.4*	*12*	*12.7*	*25*	*11.2*	*12.7*	*150*	*11.4*	*12.9*	*10*	*0.1*	*8*	*6.0*	*10.0*	*130*
BZX84C13	Y3	12.4	13	14.1	30	12.3	14	170	12.5	14.2	15	0.1	8	7.0	11.0	120
BZX84C15	Y4	14.3	15	15.8	30	13.7	15.5	200	13.9	15.7	20	0.05	10.5	9.2	13.0	110
BZX84C16	Y5	15.3	16	17.1	40	15.2	17	200	15.4	17.2	20	0.05	11.2	10.4	14.0	105
BZX84C18	*Y6*	*16.8*	*18*	*19.1*	*45*	*16.7*	*19*	*225*	*16.9*	*19.2*	*20*	*0.05*	*12.6*	*12.4*	*16.0*	*100*
BZX84C20	Y7	18.8	20	21.2	55	18.7	21.1	225	18.9	21.4	20	0.05	14	14.4	18.0	85
BZX84C22	Y8	20.8	22	23.3	55	20.7	23.2	250	20.9	23.4	25	0.05	15.4	16.4	20.0	85
BZX84C24	Y9	22.8	24	25.6	70	22.7	25.5	250	22.9	25.7	25	0.05	16.8	18.4	22.0	80

Device	Device Marking	V_{Z1} Below @ I_{ZT1} = 2 mA			Z_{ZT1} Below @ I_{ZT1} = 2mA	V_{Z2} Below @ I_{ZT2} = 0.1 mA		Z_{ZT2} Below @ I_{ZT4} = 0.5mA	V_{Z3} Below @ I_{ZT3} = 10 mA		Z_{ZT3} Below @ I_{ZT3} = 10mA	Max Reverse Leakage Current		VZ (mV/k) Below @ I_{ZT1}=2mA		C(pF) @V_R=0 f=1MHz
		Min	Nom	Max		Min	Max		Min	Max		I_R A @	V_R Volts	Min	Max	
BZX84C27	Y10	25.1	27	28.9	80	25	28.9	300	25.2	29.3	45	0.05	18.9	21.4	25.3	70
BZX84C30	Y11	28	30	32	80	27.8	32	300	28.1	32.4	50	0.05	21	24.4	29.4	70
BZX84C33	Y12	31	33	35	80	30.8	35	325	31.1	35.4	55	0.05	23.1	27.4	33.4	70
BZX84C36	Y13	34	36	38	90	33.8	38	350	34.1	38.4	60	0.05	25.2	30.4	37.4	70
BZX84C39	Y14	37	39	41	130	36.7	41	350	37.1	41.5	70	0.05	27.3	33.4	41.2	45
BZX84C43	Y15	40	43	46	150	39.7	46	375	40.1	46.5	80	0.05	30.1	37.6	46.6	40
BZX84C47	Y16	44	47	50	170	43.7	50	375	44.1	50.5	90	0.05	32.9	42.0	51.8	40
BZX84C51	Y17	48	51	54	180	47.6	54	400	48.1	54.6	100	0.05	35.7	46.6	57.2	40
BZX84C56	Y18	52	56	60	200	51.5	60	425	52.1	60.8	110	0.05	39.2	52.2	63.8	40
BZX84C62	Y19	58	62	66	215	57.4	66	450	58.2	67	120	0.05	43.4	58.8	71.6	35
BZX84C68	Y20	64	68	72	240	63.4	72	475	64.2	73.2	130	0.05	47.6	65.6	79.8	35
BZX84C75	Y21	70	75	79	255	69.4	79	500	70.3	80.2	140	0.05	52.5	73.4	88.6	35

Note: Zener voltage is measured with a pulse test current I_Z at an ambient temperature of 25°C

TYPICAL CHARACTERISTICS

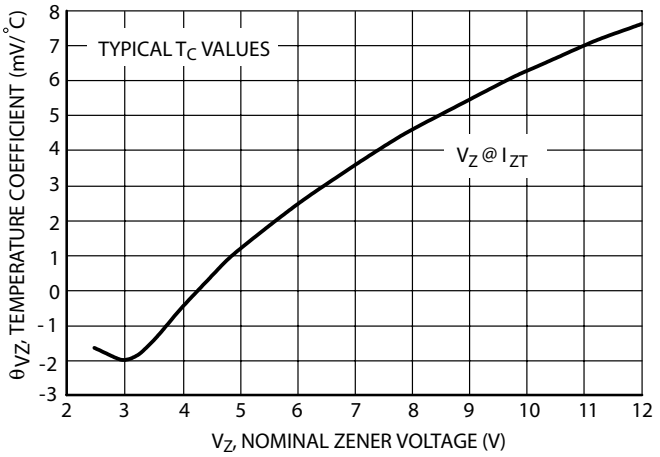


Figure 1. T emperature Coefficients (Temperature Range - 55°C to +150°C)

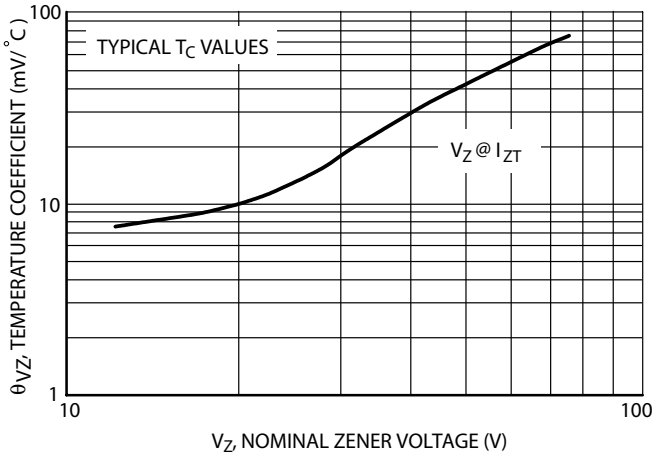


Figure 2. Temperature Coefficients (Temperature Range - 55°C to +150°C)

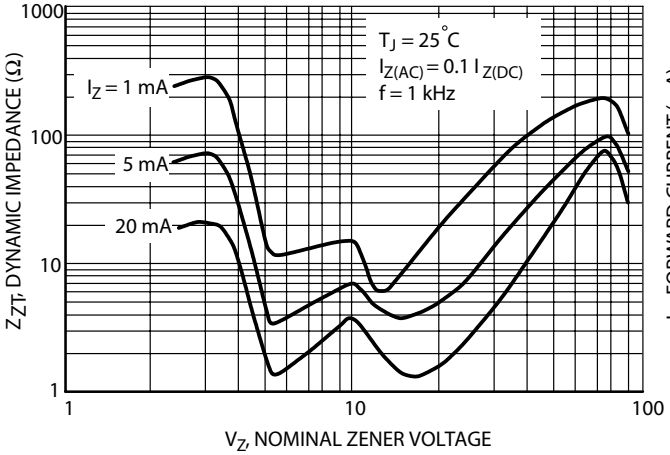


Figure 3. Effect of Zener Voltage on Zener Impedance

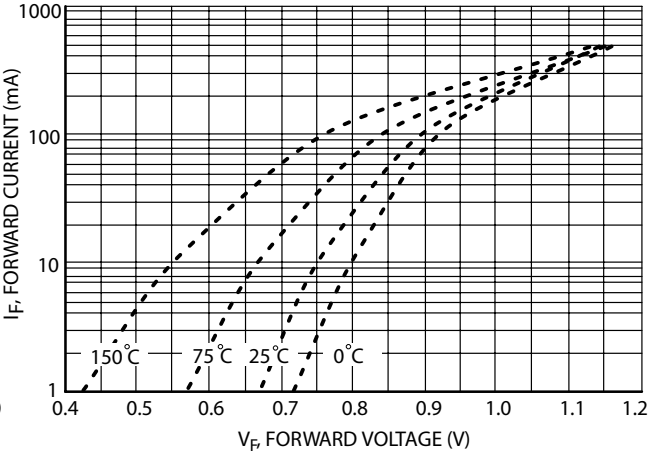


Figure 4. Typical Forward Voltage

TYPICAL CHARACTERISTICS

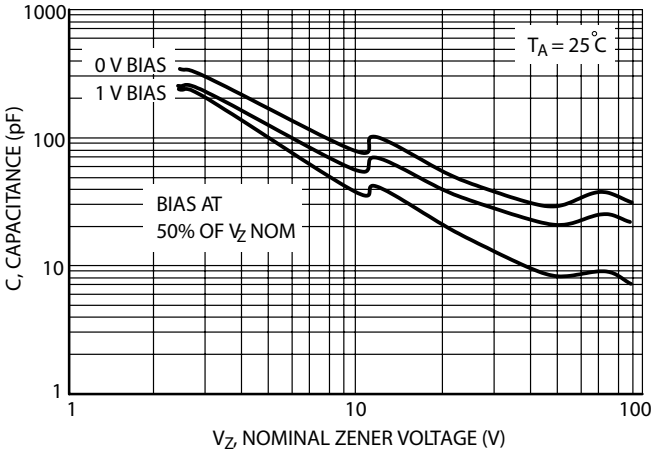


Figure 5. Typical Capacitance

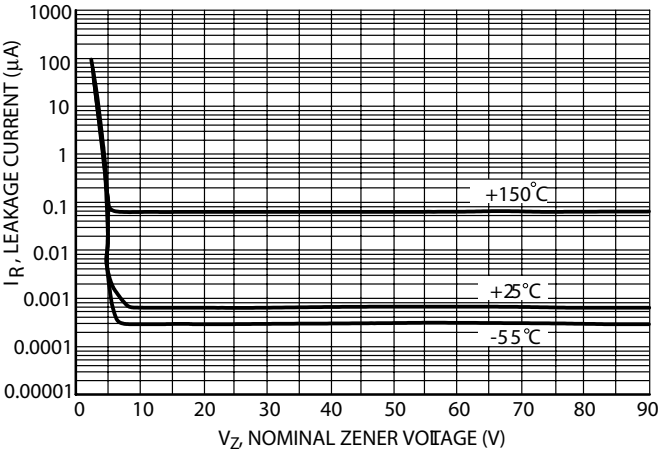


Figure 6. Typical Leakage Current

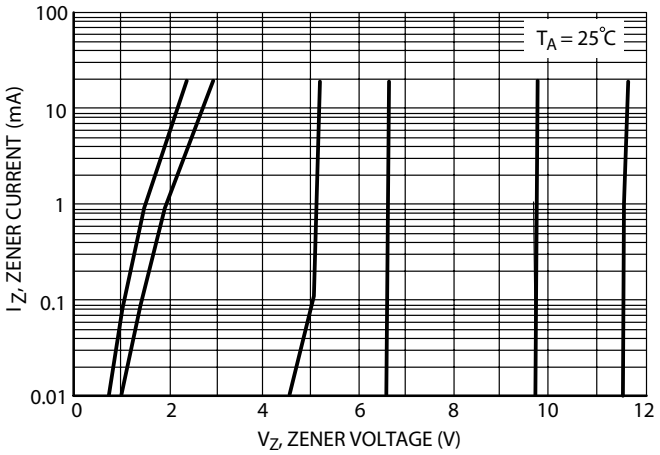


Figure 7. Zener Voltage versus Zener Current (V_Z Up to 12 V)

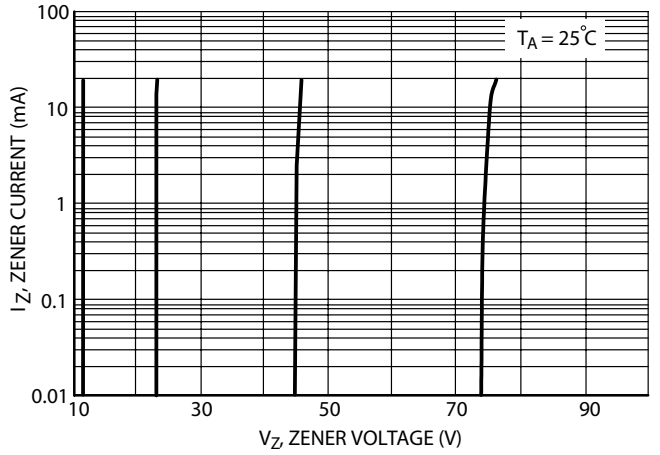


Figure 8. Zener Voltage versus Zener Current (12 V to 75 V)