

Surface Mount Zener Diodes

Features:

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

**SMALL SIGNAL
ZENER DIODES
225m WATTS**

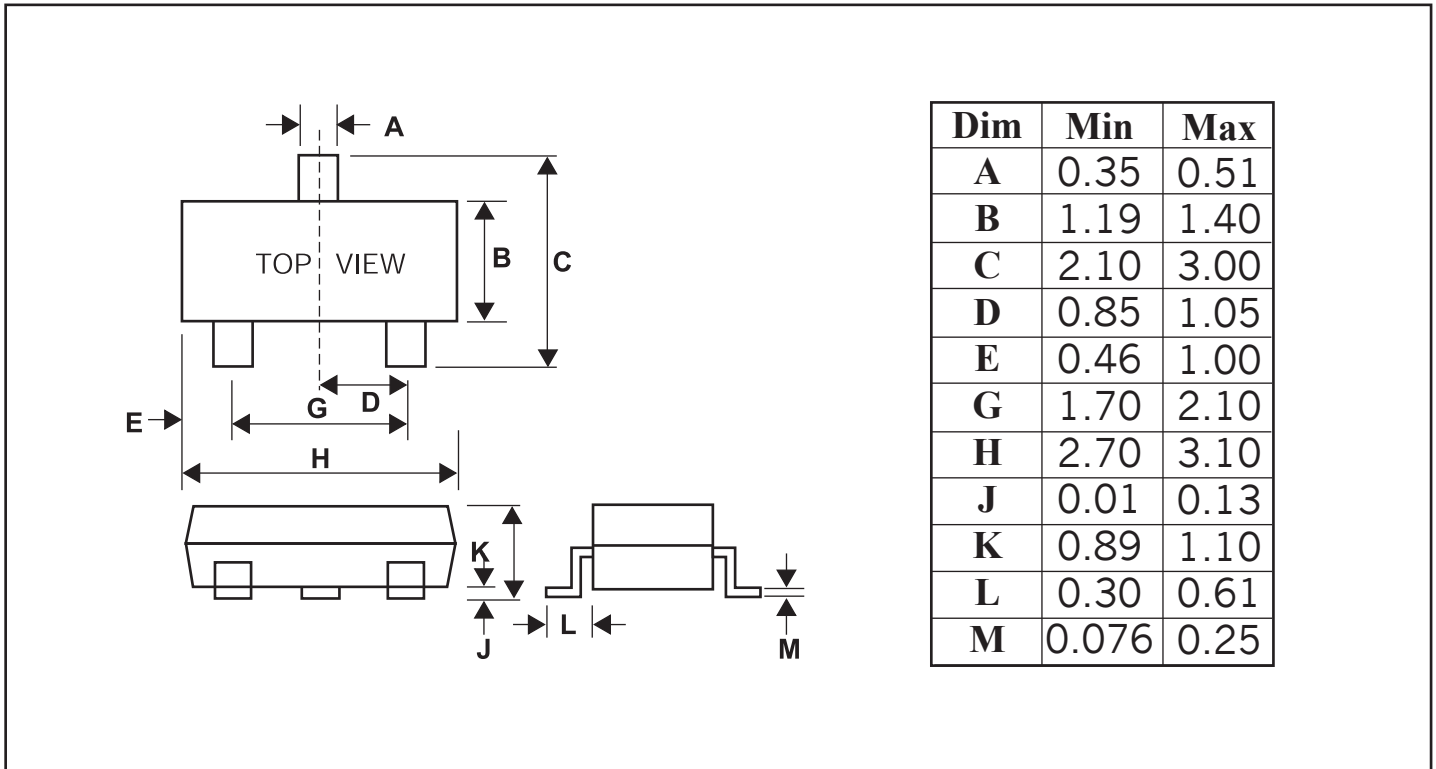
Mechanical Data:

- *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



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

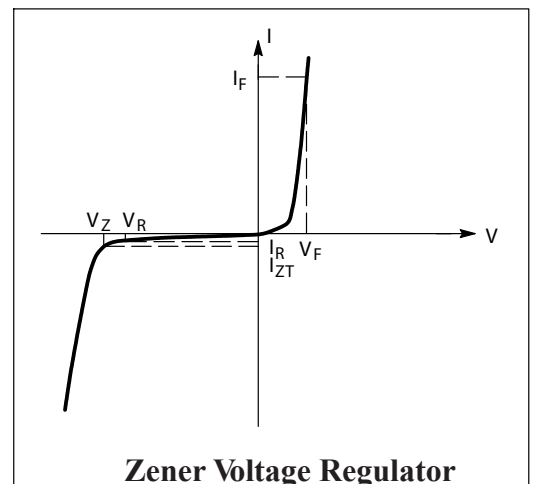
Characteristics	Symbol	Value	Unit
Total Power Dissipation on FR-5 Board ⁽¹⁾ @TA=25°C	PD	225	mW
Thermal Resistance Junction to Ambient Air ⁽¹⁾	RθJA	556	°C/W
Forward Voltage @ IF=10mA	VF	0.9	V
Junction and Storage Temperature Range	Tj, TSTG	-65 to +150	°C

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

ELECTRICAL CHARACTERISTICS

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

Symbol	Parameter
VZ	Reverse Zener Voltage @ IZT
IZT	Reverse Current
ZZT	Maximum Zener Impedance @ IZT
IR	Reverse Leakage Current @ VR
VR	Reverse Voltage
IF	Forward Current
VF	Forward Voltage @ IF
ΘVZ	Maximum Temperature Coefficient of VZ
C	Max. Capacitance @ VR = 0 and f = 1 MHz



Device Marking

Item	Marking	Equivalent Circuit Diagram
BZX84C2V4 Series	XX=Specific Device Code (See Table on page3)	

ELECTRICAL CHARACTERISTICS

(Pinout: 1-Anode, 2-No Connection, 3-Cathode) ($T_A = 25^\circ\text{C}$ unless otherwise noted, $V_F = 0.90\text{ V Max. @ } I_F = 10\text{ mA}$)

Device	Device Marking	V_{Z1} (Volts) @ $I_{ZT1} = 5\text{ mA}$ (Note)			Z_{ZT1} (Ohms) @ $I_{ZT1} = 5\text{ mA}$	V_{Z2} (Volts) @ $I_{ZT2} = 1\text{ mA}$ (Note)		Z_{ZT2} (Ohms) @ $I_{ZT2} = 1\text{ mA}$	V_{Z3} (Volts) @ $I_{ZT3} = 20\text{ mA}$ (Note)		Z_{ZT3} (Ohms) @ $I_{ZT3} = 20\text{ mA}$	Max Reverse Leakage Current		v_Z (mV/k) @ $I_{ZT1} = 5\text{ mA}$		C (pF) @ $V_R = 0$ f=1MHz
		Min	Nom	Max		Min	Max		Min	Max		I_R A	V_R Volts	Min	Max	
BZX84C2V4LT1	Z11	2.2	2.4	2.6	100	1.7	2.1	600	2.6	3.2	50	50	1	±3.5	0	450
BZX84C2V7LT1	Z12	2.5	2.7	2.9	100	1.9	2.4	600	3	3.6	50	20	1	±3.5	0	450
BZX84C3V0LT1	Z13	2.8	3	3.2	95	2.1	2.7	600	3.3	3.9	50	10	1	±3.5	0	450
BZX84C3V3LT1	Z14	3.1	3.3	3.5	95	2.3	2.9	600	3.6	4.2	40	5	1	±3.5	0	450
BZX84C3V6LT1	Z15	3.4	3.6	3.8	90	2.7	3.3	600	3.9	4.5	40	5	1	±3.5	0	450
BZX84C3V9LT1	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
BZX84C4V3LT1	W9	4	4.3	4.6	90	3.3	4	600	4.4	5.1	30	3	1	±3.5	0	450
BZX84C4V7LT1	Z1	4.4	4.7	5	80	3.7	4.7	500	4.5	5.4	15	3	2	±3.5	0.2	260
BZX84C5V1LT1	Z2	4.8	5.1	5.4	60	4.2	5.3	480	5	5.9	15	2	2	±2.7	1.2	225
BZX84C5V6LT1	Z3	5.2	5.6	6	40	4.8	6	400	5.2	6.3	10	1	2	±2.0	2.5	200
BZX84C6V2LT1	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
BZX84C6V8LT1	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
BZX84C7V5LT1	Z6	7	7.5	7.9	15	6.9	7.9	80	7	8	6	1	5	2.5	5.3	140
BZX84C8V2LT1	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
BZX84C9V1LT1	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
BZX84C10LT1	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
BZX84C11LT1	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
BZX84C12LT1	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
BZX84C13LT1	Y3	12.4	13	14.1	30	12.3	14	170	12.5	14.2	15	0.1	8	7.0	11.0	120
BZX84C15LT1	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
BZX84C16LT1	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
BZX84C18LT1	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
BZX84C20LT1	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
BZX84C22LT1	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
BZX84C24LT1	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
BZX84C27LT1	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
BZX84C30LT1	Y11	28	30	32	80	27.8	32	300	28.1	32.4	50	0.05	21	24.4	29.4	70
BZX84C33LT1	Y12	31	33	35	80	30.8	35	325	31.1	35.4	55	0.05	23.1	27.4	33.4	70
BZX84C36LT1	Y13	34	36	38	90	33.8	38	350	34.1	38.4	60	0.05	25.2	30.4	37.4	70
BZX84C39LT1	Y14	37	39	41	130	36.7	41	350	37.1	41.5	70	0.05	27.3	33.4	41.2	45
BZX84C43LT1	Y15	40	43	46	150	39.7	46	375	40.1	46.5	80	0.05	30.1	37.6	46.6	40
BZX84C47LT1	Y16	44	47	50	170	43.7	50	375	44.1	50.5	90	0.05	32.9	42.0	51.8	40
BZX84C51LT1	Y17	48	51	54	180	47.6	54	400	48.1	54.6	100	0.05	35.7	46.6	57.2	40
BZX84C56LT1	Y18	52	56	60	200	51.5	60	425	52.1	60.8	110	0.05	39.2	52.2	63.8	40
BZX84C62LT1	Y19	58	62	66	215	57.4	66	450	58.2	67	120	0.05	43.4	58.8	71.6	35
BZX84C68LT1	Y20	64	68	72	240	63.4	72	475	64.2	73.2	130	0.05	47.6	65.6	79.8	35
BZX84C75LT1	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

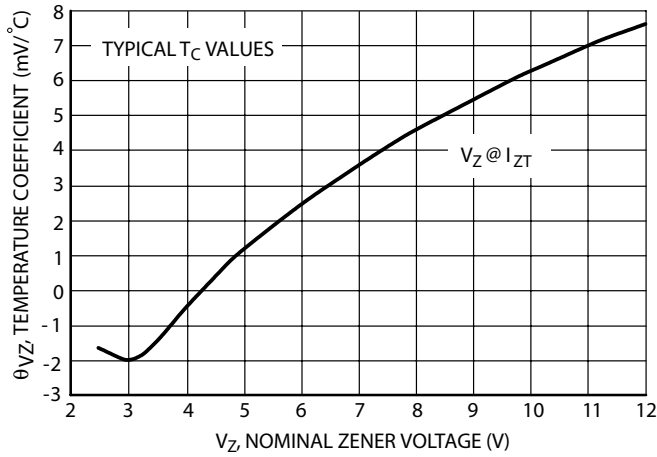


Figure 1. Temperature Coefficients (Temperature Range - 55 °C to +150 °C)

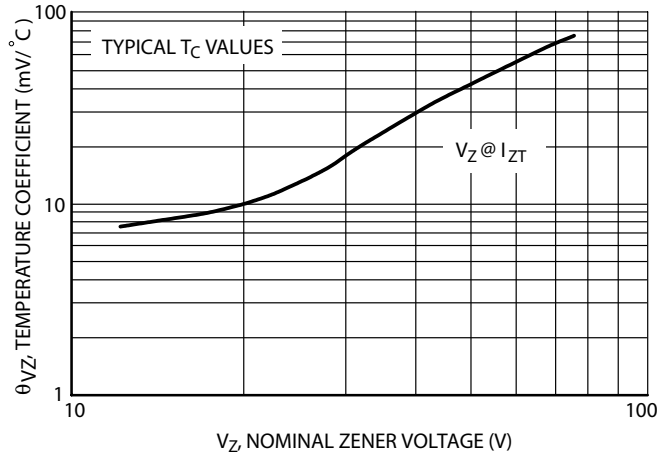


Figure 2. Temperature Coefficients (Temperature Range - 55 °C to +150 °C)

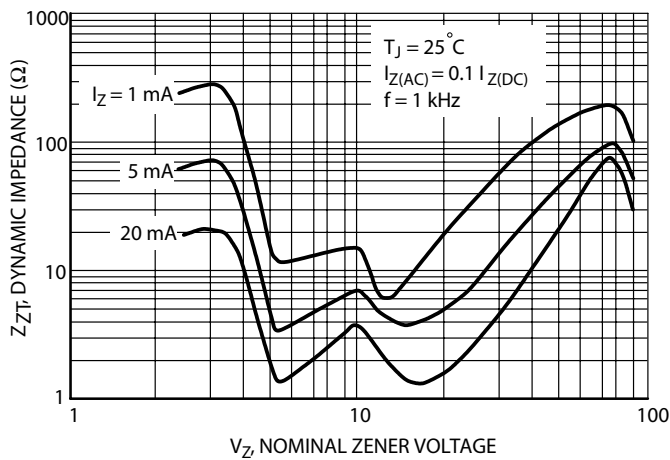


Figure 3. Effect of Zener Voltage on Zener Impedance

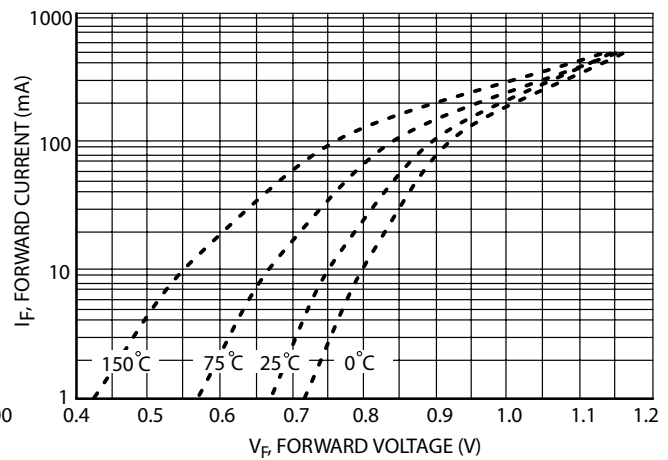


Figure 4. Typical Forward Voltage

TYPICAL CHARACTERISTICS

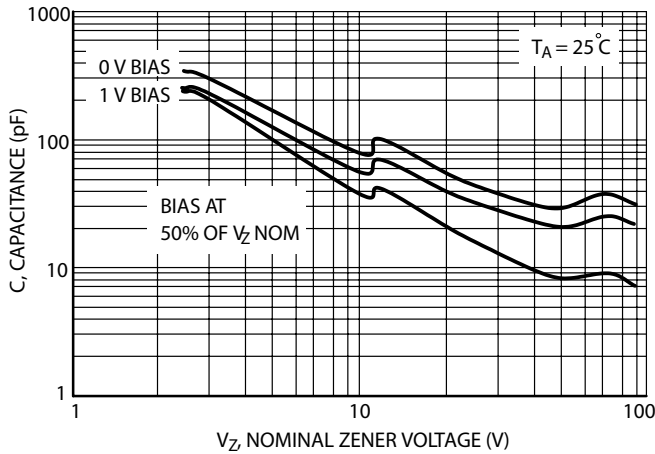


Figure 5. Typical Capacitance

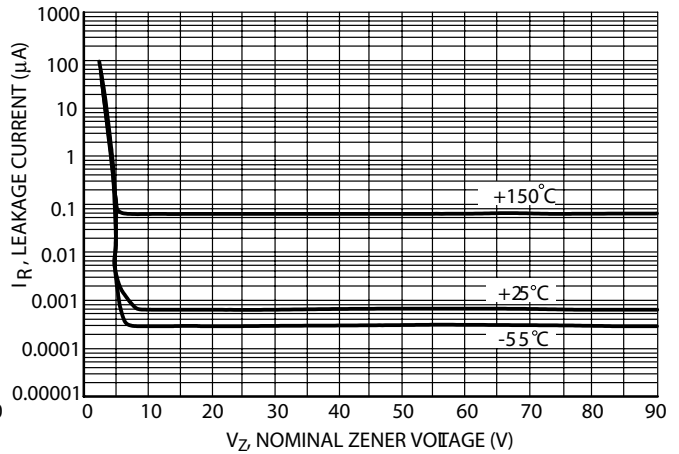
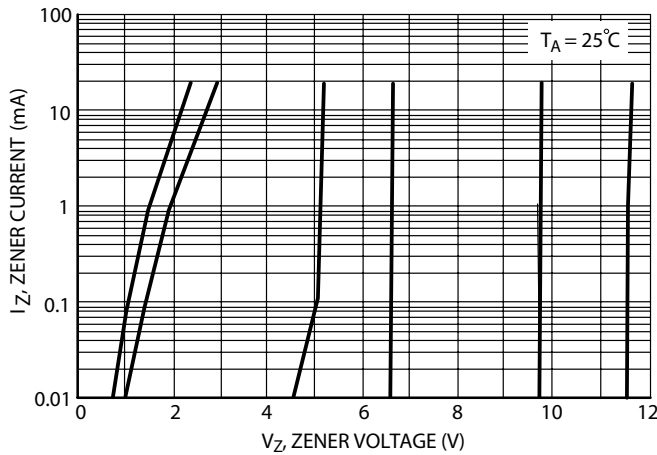
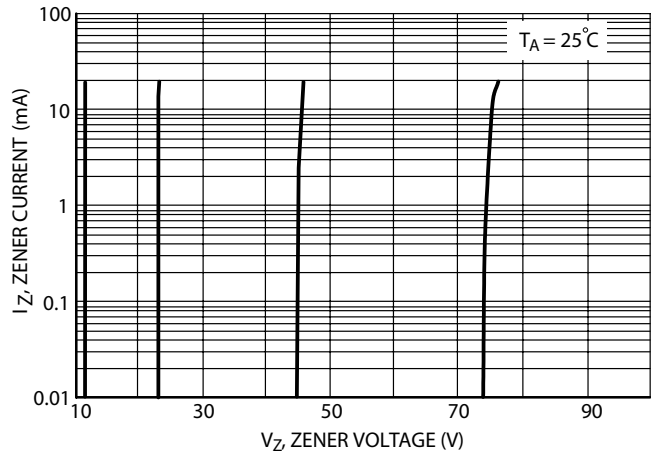


Figure 6. Typical Leakage Current



**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)**