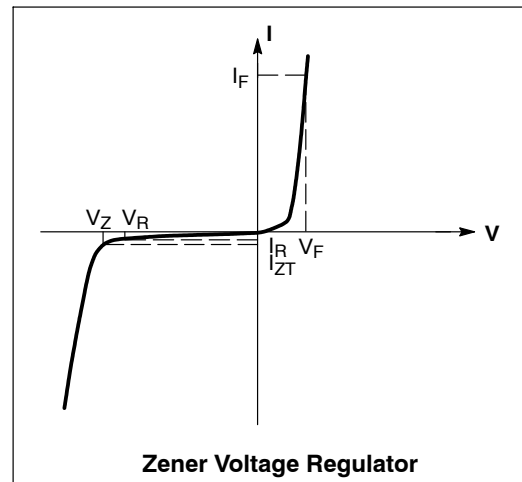


BZX84BxxxLT1, BZX84CxxxLT1 Series, SZBZX84BxxxLT1G, SZBZX84CxxxLT1G Series

ELECTRICAL CHARACTERISTICS

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

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 $f = 1\text{ MHz}$



BZX84BxxxLT1, BZX84CxxxLT1 Series, SZBZX84BxxxLT1G, SZBZX84CxxxLT1G Series

ELECTRICAL CHARACTERISTICS – BZX84CxxxLT1 SERIES (STANDARD TOLERANCE)

(Pinout: 1-Anode, 2-No Connection, 3-Cathode) ($T_A = 25^\circ\text{C}$ unless otherwise noted, $V_F = 0.90\text{ V Max. @ } I_F = 10\text{ mA}$)
(Devices listed in **bold**, *italic* are ON Semiconductor Preferred devices.)

Device*	Device Marking	V _{Z1} (Volts) @ I _{ZT1} = 5 mA (Note 3)			Z _{ZT1} (Ω) @ I _{ZT1} = 5 mA	V _{Z2} (V) @ I _{ZT2} = 1 mA (Note 3)		Z _{ZT2} (Ω) @ I _{ZT2} = 1 mA	V _{Z3} (V) @ I _{ZT3} = 20 mA (Note 3)		Z _{ZT3} (Ω) @ I _{ZT3} = 20 mA	Max Reverse Leakage Current		θ _{VZ} (mV/k) @ I _{ZT1} = 5 mA		C (pF) @ V _R = 0 f = 1 MHz
		Min	Nom	Max		Min	Max		Min	Max		I _R μA	V _R Volts	Min	Max	
SZ/BZX84C2V4LT1, G	Z11	2.2	2.4	2.6	100	1.7	2.1	600	2.6	3.2	50	50	1	-3.5	0	450
SZ/BZX84C2V7LT1, G	Z12	2.5	2.7	2.9	100	1.9	2.4	600	3	3.6	50	20	1	-3.5	0	450
SZ/BZX84C3V0LT1, G	Z13	2.8	3	3.2	95	2.1	2.7	600	3.3	3.9	50	10	1	-3.5	0	450
SZ/BZX84C3V3LT1, G	Z14	3.1	3.3	3.5	95	2.3	2.9	600	3.6	4.2	40	5	1	-3.5	0	450
SZ/BZX84C3V6LT1, G	Z15	3.4	3.6	3.8	90	2.7	3.3	600	3.9	4.5	40	5	1	-3.5	0	450
SZ/BZX84C3V9LT1, G	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
SZ/BZX84C4V3LT1, G	W9	4	4.3	4.6	90	3.3	4	600	4.4	5.1	30	3	1	-3.5	0	450
SZ/BZX84C4V7LT1/T3, G	Z1	4.4	4.7	5	80	3.7	4.7	500	4.5	5.4	15	3	2	-3.5	0.2	260
SZ/BZX84C5V1LT1/T3, G	Z2	4.8	5.1	5.4	60	4.2	5.3	480	5	5.9	15	2	2	-2.7	1.2	225
SZ/BZX84C5V6LT1/T3, G	Z3	5.2	5.6	6	40	4.8	6	400	5.2	6.3	10	1	2	-2.0	2.5	200
SZ/BZX84C6V2LT1/T3, G	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
SZ/BZX84C6V8LT1/T3, G	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
SZ/BZX84C7V5LT1, G	Z6	7	7.5	7.9	15	6.9	7.9	80	7	8	6	1	5	2.5	5.3	140
SZ/BZX84C8V2LT1, G	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
SZ/BZX84C9V1LT1/T3, G	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
SZ/BZX84C10LT1, G	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
SZ/BZX84C11LT1, G	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
SZ/BZX84C12LT1, G	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
SZ/BZX84C13LT1, G	Y3	12.4	13	14.1	30	12.3	14	170	12.5	14.2	15	0.1	8	7.0	11.0	120
SZ/BZX84C15LT1/T3, G	Y4	13.8	15	15.6	30	13.7	15.5	200	13.9	15.7	20	0.05	10.5	9.2	13.0	110
SZ/BZX84C16LT1, G	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
SZ/BZX84C18LT1/T3, G	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
SZ/BZX84C20LT1, G	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
SZ/BZX84C22LT1, G	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
SZ/BZX84C24LT1, G	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} = 2 mA	V _{Z2} Below @ I _{ZT2} = 0.1 mA		Z _{ZT2} Below @ I _{ZT2} = 0.5 mA	V _{Z3} Below @ I _{ZT3} = 10 mA		Z _{ZT3} Below @ I _{ZT3} = 10 mA	Max Reverse Leakage Current		θ _{VZ} (mV/k) Below @ I _{ZT1} = 2 mA		C (pF) @ V _R = 0 f = 1 MHz
		Min	Nom	Max		Min	Max		Min	Max		I _R μA	V _R (V)	Min	Max	
SZ/BZX84C27LT1, G	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
SZ/BZX84C30LT1, G	Y11	28	30	32	80	27.8	32	300	28.1	32.4	50	0.05	21	24.4	29.4	70
SZ/BZX84C33LT1/T3, G	Y12	31	33	35	80	30.8	35	325	31.1	35.4	55	0.05	23.1	27.4	33.4	70
SZ/BZX84C36LT1, G	Y13	34	36	38	90	33.8	38	350	34.1	38.4	60	0.05	25.2	30.4	37.4	70
SZ/BZX84C39LT1, G	Y14	37	39	41	130	36.7	41	350	37.1	41.5	70	0.05	27.3	33.4	41.2	45
SZ/BZX84C43LT1, G	Y15	40	43	46	150	39.7	46	375	40.1	46.5	80	0.05	30.1	37.6	46.6	40
SZ/BZX84C47LT1, G	Y16	44	47	50	170	43.7	50	375	44.1	50.5	90	0.05	32.9	42.0	51.8	40
SZ/BZX84C51LT1, G	Y17	48	51	54	180	47.6	54	400	48.1	54.6	100	0.05	35.7	46.6	57.2	40
SZ/BZX84C56LT1, G	Y18	52	56	60	200	51.5	60	425	52.1	60.8	110	0.05	39.2	52.2	63.8	40
SZ/BZX84C62LT1, G	Y19	58	62	66	215	57.4	66	450	58.2	67	120	0.05	43.4	58.8	71.6	35
SZ/BZX84C68LT1, G	Y20	64	68	72	240	63.4	72	475	64.2	73.2	130	0.05	47.6	65.6	79.8	35
SZ/BZX84C75LT1, G	Y21	70	75	79	255	69.4	79	500	70.3	80.2	140	0.05	52.5	73.4	88.6	35

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

*The "G" suffix indicates Pb-Free package available.

BZX84BxxxLT1, BZX84CxxxLT1 Series, SZBZX84BxxxLT1G, SZBZX84CxxxLT1G Series

ELECTRICAL CHARACTERISTICS – BZX84BxxxL (Tight Tolerance Series)

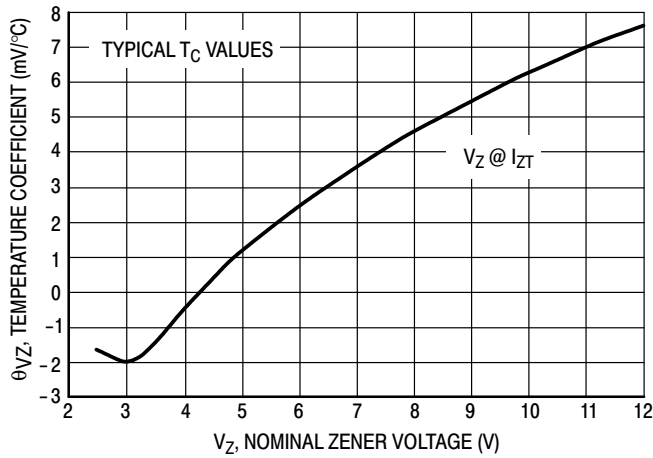
(Pinout: 1-Anode, 2-No Connection, 3-Cathode) ($T_A = 25^\circ\text{C}$ unless otherwise noted, $V_F = 0.90\text{ V Max. @ } I_F = 10\text{ mA}$)

Device	Device Marking	V_Z (Volts) @ $I_{ZT} = 5\text{ mA}$ (Note 4)			$Z_{ZT} (\Omega)$ @ $I_{ZT} = 5\text{ mA}$ (Note 4)	Max Reverse Leakage Current		θ_{VZ} (mV/k) @ $I_{ZT} = 5\text{ mA}$		C (pF) @ $V_R = 0$, f = 1 MHz
						I_R	V_R			
		Min	Nom	Max	Max	μA	@ Volts	Min	Max	
BZX84B4V7LT1, G	T10	4.61	4.7	4.79	80	3	2	-3.5	0.2	260
SZ/BZX84B5V1LT1, G	T11	5.00	5.1	5.20	60	2	2	-2.7	1.2	225
SZ/BZX84B5V6LT1, G	T12	5.49	5.6	5.71	40	1	2	-2	2.5	200
SZ/BZX84B6V2LT1, G	T13	6.08	6.2	6.32	10	3	4	0.4	3.7	185
SZ/BZX84B6V8LT1, G	T14	6.66	6.8	6.94	15	2	4	1.2	4.5	155
SZ/BZX84B7V5LT1, G	T15	7.35	7.5	7.65	15	1	5	2.5	5.3	140
BZX84B8V2LT1, G	T16	8.04	8.2	8.36	15	0.7	5	3.2	6.2	135
BZX84B9V1LT1, G	T17	8.92	9.1	9.28	15	0.5	6	3.8	7	130
SZ/BZX84B12LT1, G	T18	11.8	12	12.2	25	0.1	8	6	10	130
BZX84B15LT1, G	T22	14.7	15	15.3	30	0.05	10.5	9.2	13	110
SZ/BZX84B16LT1, G	T19	15.7	16	16.3	40	0.05	11.2	10.4	14	105
BZX84B18LT1, G	T20	17.6	18	18.4	45	0.05	12.6	12.4	16	100
BZX84B22LT1, G	T24	21.6	22	22.4	55	0.05	15.4	16.4	20	85
BZX84B24LT1, G	T25	23.5	24	24.5	70	0.05	16.8	18.4	22	80

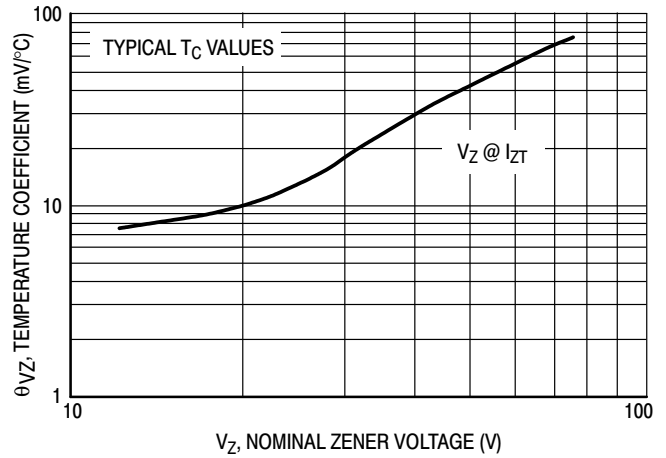
4. Zener voltage is measured with a pulse test current I_Z at an ambient temperature of 25°C .

*The "G" suffix indicates Pb-Free package available.

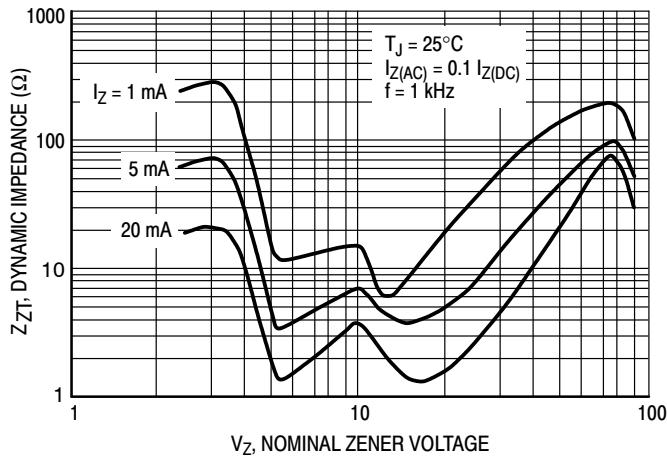
TYPICAL CHARACTERISTICS



**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**

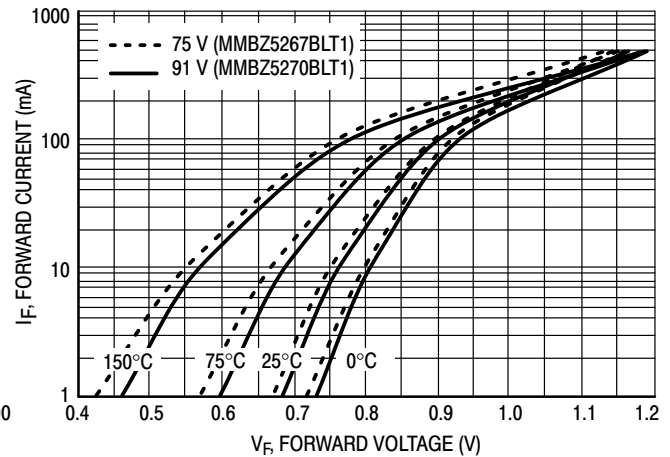


Figure 4. Typical Forward Voltage

TYPICAL CHARACTERISTICS

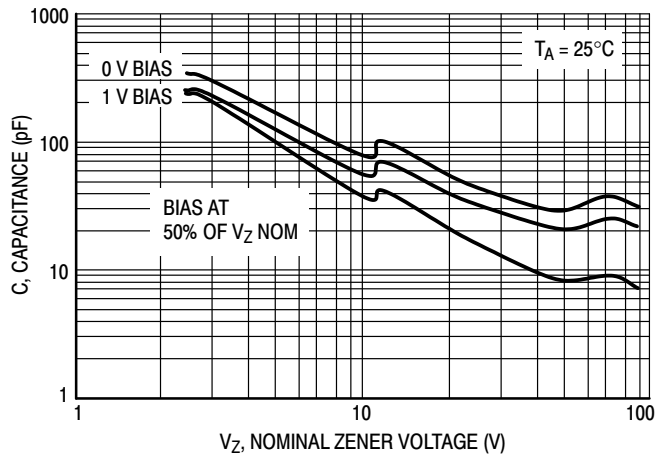


Figure 5. Typical Capacitance

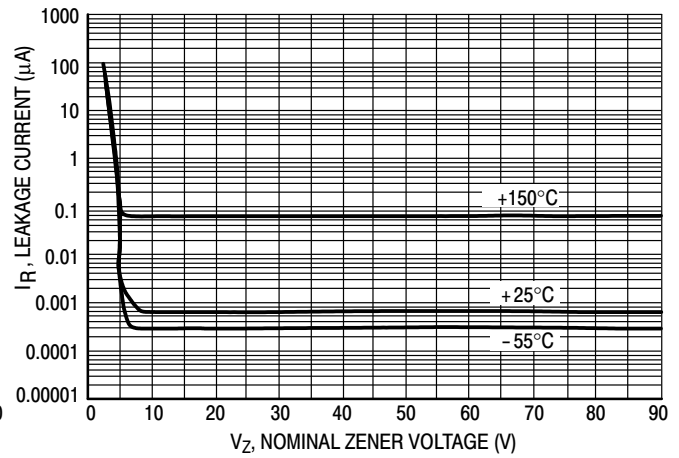


Figure 6. Typical Leakage Current

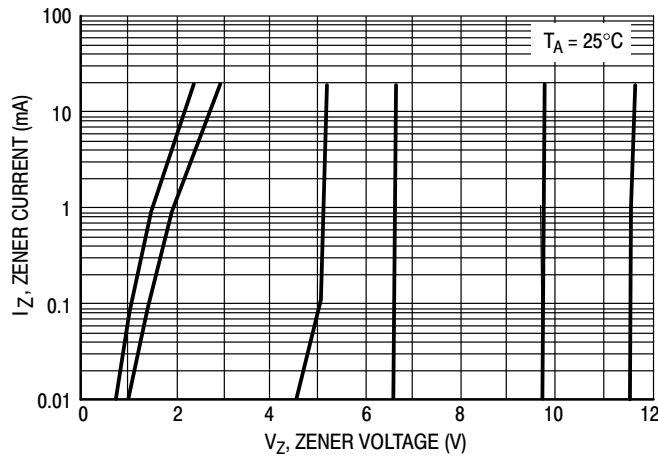


Figure 7. Zener Voltage versus Zener Current (V_Z Up to 12 V)

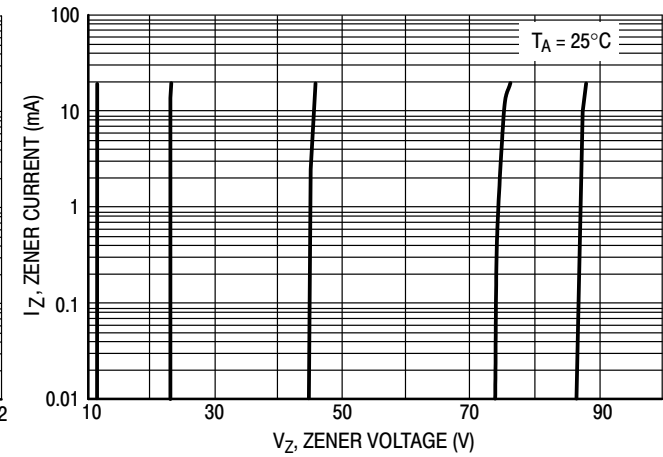
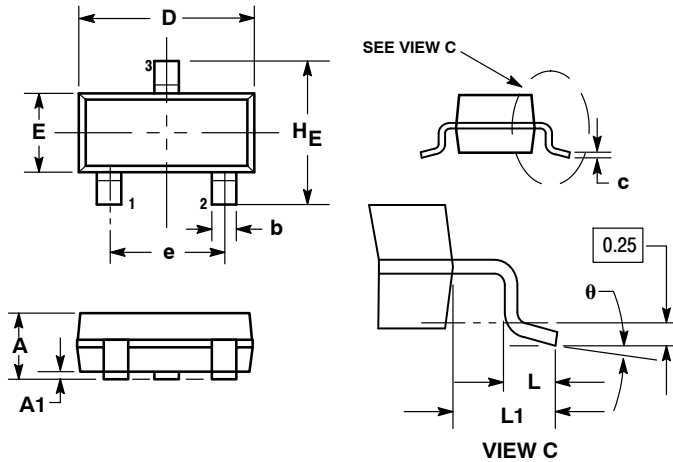


Figure 8. Zener Voltage versus Zener Current (12 V to 91 V)

BZX84BxxxLT1, BZX84CxxxLT1 Series, SZBZX84BxxxLT1G, SZBZX84CxxxLT1G Series

PACKAGE DIMENSIONS

SOT-23 (TO-236) CASE 318-08 ISSUE AP



NOTES:

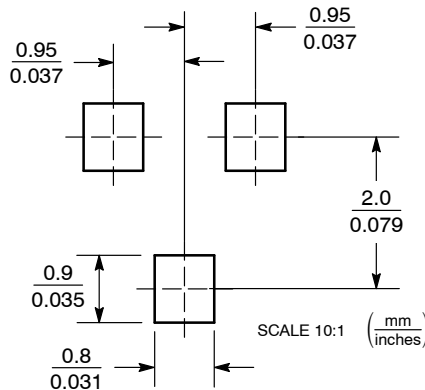
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH THICKNESS. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.
4. DIMENSIONS D AND E DO NOT INCLUDE MOLD FLASH, PROTRUSIONS, OR GATE BURRS.

DIM	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.89	1.00	1.11	0.035	0.040	0.044
A1	0.01	0.06	0.10	0.001	0.002	0.004
b	0.37	0.44	0.50	0.015	0.018	0.020
c	0.09	0.13	0.18	0.003	0.005	0.007
D	2.80	2.90	3.04	0.110	0.114	0.120
E	1.20	1.30	1.40	0.047	0.051	0.055
e	1.78	1.90	2.04	0.070	0.075	0.081
L	0.10	0.20	0.30	0.004	0.008	0.012
L1	0.35	0.54	0.69	0.014	0.021	0.029
HE	2.10	2.40	2.64	0.083	0.094	0.104
θ	0°	---	10°	0°	---	10°

STYLE 8:

- PIN 1: ANODE
2: NO CONNECTION
3: CATHODE

SOLDERING FOOTPRINT*



*For additional information on our Pb-Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

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