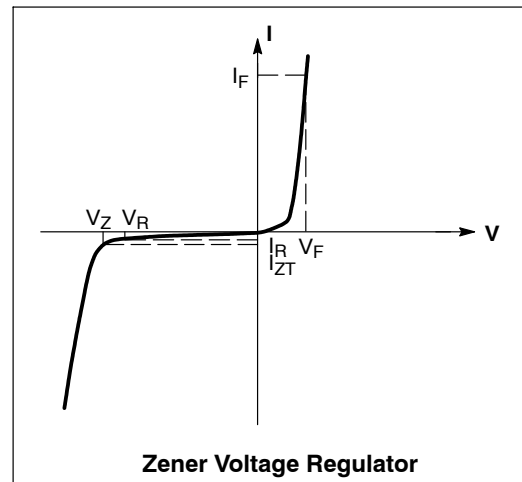


BZX84BxxxLT1, BZX84CxxxLT1 Series, SZBZX84BxxxLT1G, SZBZX84CxxxLT1G Series

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

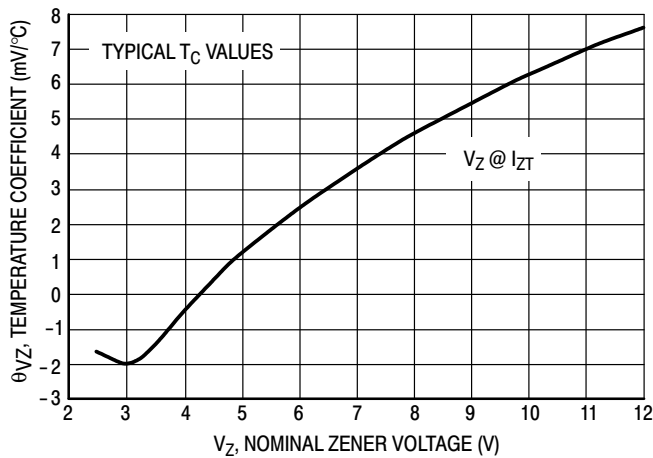


Figure 1. Temperature Coefficients
(Temperature Range -55°C to +150°C)

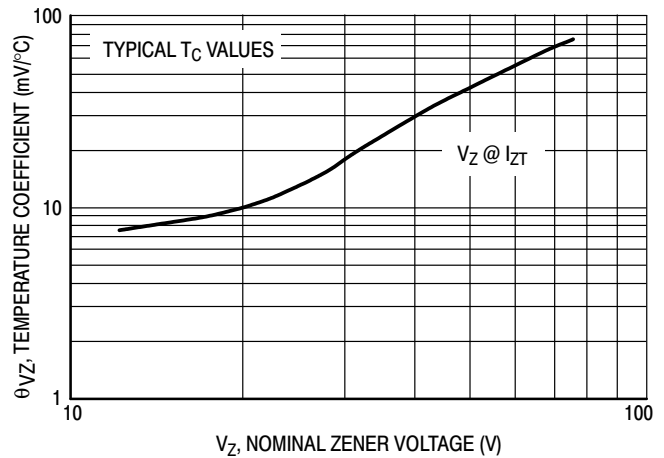


Figure 2. Temperature Coefficients
(Temperature Range -55°C to +150°C)

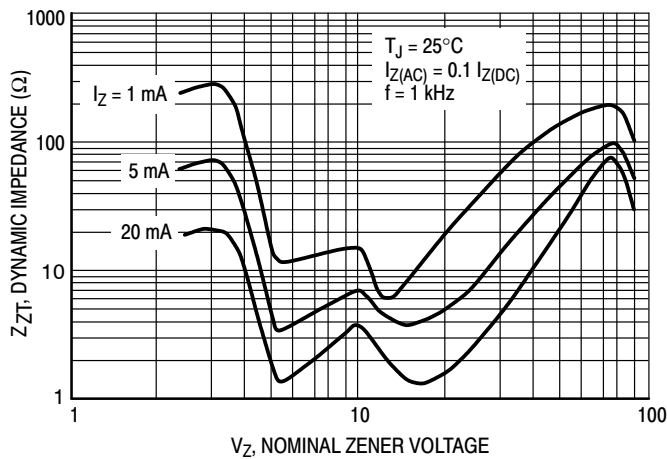


Figure 3. Effect of Zener Voltage on
Zener Impedance

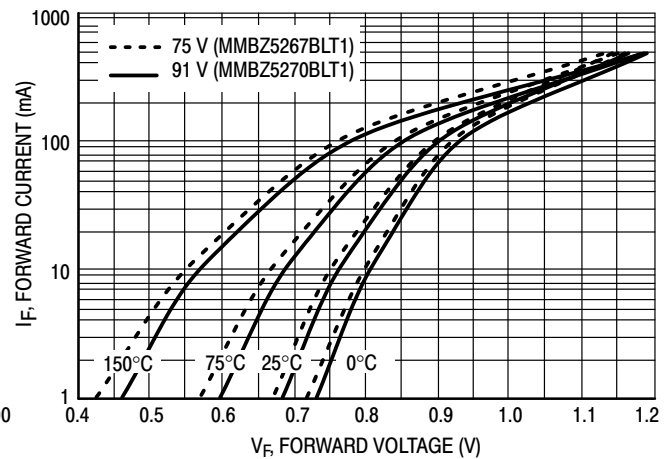


Figure 4. Typical Forward Voltage

TYPICAL CHARACTERISTICS

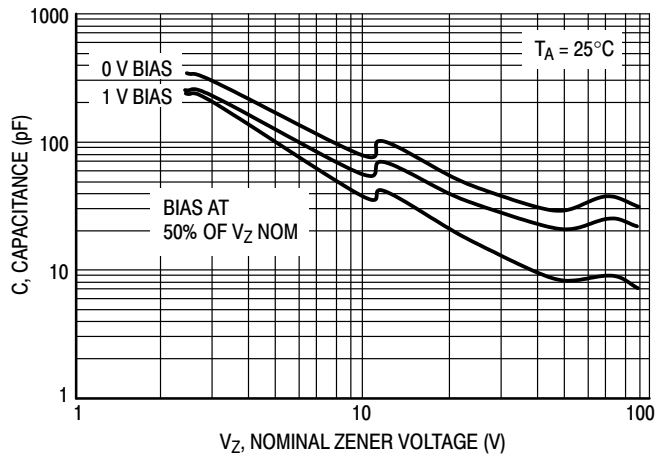


Figure 5. Typical Capacitance

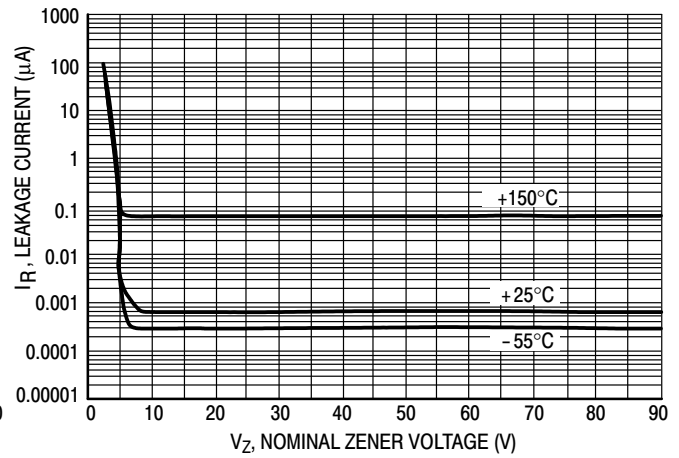


Figure 6. Typical Leakage Current

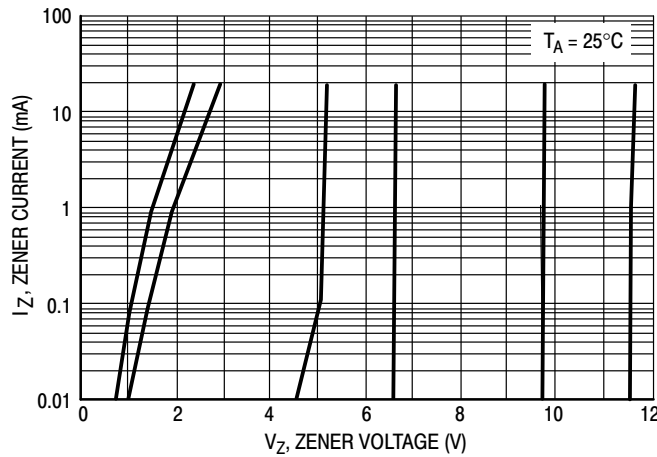


Figure 7. Zener Voltage versus Zener Current
(V_Z Up to 12 V)

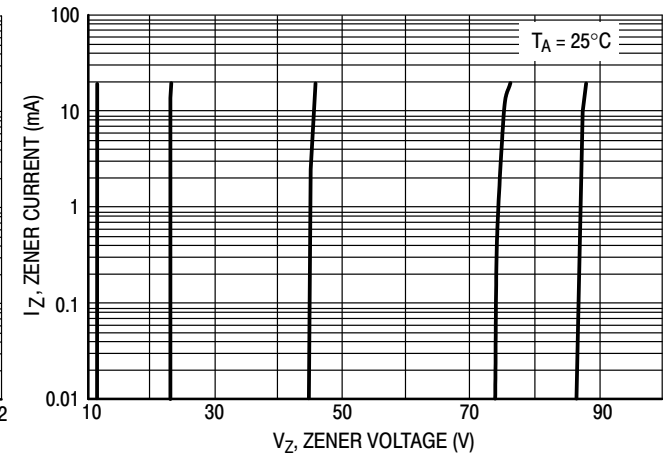
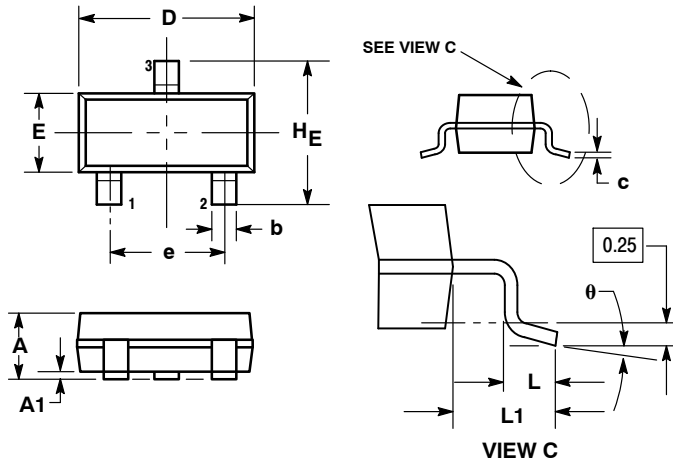


Figure 8. Zener Voltage versus Zener Current
(12 V to 91 V)

BZX84BxxxLT1, BZX84CxxxLT1 Series, SZBZX84BxxxLT1G, SZBZX84CxxxLT1G Series

PACKAGE DIMENSIONS

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



NOTES:

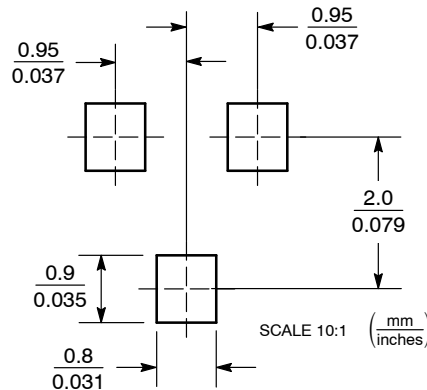
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH THICKNESS. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.
4. DIMENSIONS D AND E DO NOT INCLUDE MOLD FLASH, PROTRUSIONS, OR GATE BURRS.

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.

ON Semiconductor and  are registered trademarks of Semiconductor Components Industries, LLC (SCILLC). SCILLC reserves the right to make changes without further notice to any products herein. SCILLC makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does SCILLC assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages. "Typical" parameters which may be provided in SCILLC data sheets and/or specifications can and do vary in different applications and actual performance may vary over time. All operating parameters, including "Typicals" must be validated for each customer application by customer's technical experts. SCILLC does not convey any license under its patent rights nor the rights of others. SCILLC products are not designed, intended, or authorized for use as components in systems intended for surgical implant into the body, or other applications intended to support or sustain life, or for any other application in which the failure of the SCILLC product could create a situation where personal injury or death may occur. Should Buyer purchase or use SCILLC products for any such unintended or unauthorized application, Buyer shall indemnify and hold SCILLC and its officers, employees, subsidiaries, affiliates, and distributors harmless against all claims, costs, damages, and expenses, and reasonable attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized use, even if such claim alleges that SCILLC was negligent regarding the design or manufacture of the part. SCILLC is an Equal Opportunity/Affirmative Action Employer. This literature is subject to all applicable copyright laws and is not for resale in any manner.

PUBLICATION ORDERING INFORMATION

LITERATURE FULFILLMENT:

Literature Distribution Center for ON Semiconductor
P.O. Box 5163, Denver, Colorado 80217 USA
Phone: 303-675-2175 or 800-344-3860 Toll Free USA/Canada
Fax: 303-675-2176 or 800-344-3867 Toll Free USA/Canada
Email: orderlit@onsemi.com

N. American Technical Support: 800-282-9855 Toll Free
USA/Canada

Europe, Middle East and Africa Technical Support:
Phone: 421 33 790 2910

Japan Customer Focus Center
Phone: 81-3-5817-1050

ON Semiconductor Website: www.onsemi.com

Order Literature: <http://www.onsemi.com/orderlit>

For additional information, please contact your local
Sales Representative

BZX84C2V4LT1/D