

**SURFACE MOUNT
ZENER DIODE**

**REVERSE VOLTAGE – 2.4 to 39 Volts
POWER DISSIPATION – 0.3 Watts**

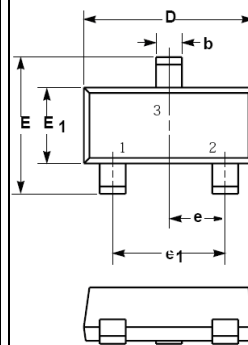
FEATURES

- Planar die construction
- 300mW power dissipation rating
- Ultra-small surface mount package

MECHANICAL DATA

- Case: SOT-23 Plastic
- Case Material: “Green” molding compound, UL flammability classification 94V-0, (No Br. Sb. Cl)
- Moisture Sensitivity: Level 1 per J-STD-020D
- Lead Free in RoHS 2002/95/EC Compliant

SOT-23

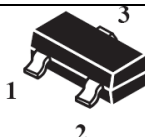


SOT-23		
Dim.	Min.	Max.
A	0.90	1.15
A1	0.00	0.10
b	0.30	0.50
c	0.08	0.15
D	2.80	3.00
E	2.25	2.55
E1	1.20	1.40
e	0.95 Typ.	
e1	1.80	2.00
L	0.55 Ref.	
L1	0.30	0.50
Dimensions in millimeter		

Maximum Ratings & Thermal Characteristics @ $T_A = 25^\circ\text{C}$ unless otherwise specified

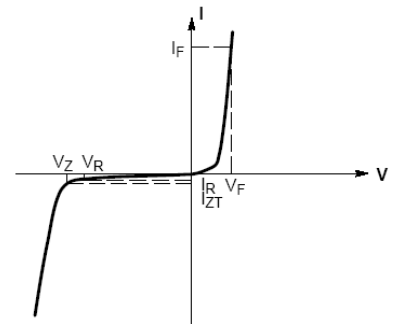
Characteristic	Symbol	Value	Unit
Forward Voltage @ $I_F = 10\text{mA}$	V_F	0.9	V
Power Dissipation	P_D	300	mW
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	417	$^\circ\text{C/W}$
Operating Temperature Range	T_J	150	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-65~+150	$^\circ\text{C}$

Device Marking :

Device P/N	Marking	Pin Diagram	Equivalent Circuit Diagram
BZX84C2V4	XXX=Specific device code (See below table)		

Electrical Characteristics @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Symbol	Parameter
V_Z	Reverse Zener Voltage @ I_{ZT}
I_{ZT}	Reverse Current
Z_{ZT}	Maximum Zener Impedance @ I_{ZT}
I_{ZK}	Reverse Current
Z_{ZK}	Maximum Zener Impedance @ I_{ZK}
I_R	Reverse Leakage Current @ V_R
V_R	Reverse Voltage
I_F	Forward Current
V_F	Forward Voltage @ I_F



Device	Device marking	Zener Voltage				Maximum Zener Impedance			Maximum Reverse Current		Temperature Coefficient of Zener Voltage @IZT=5mA	
		VZ@IZT			IZT	ZZT@IZT	ZZK@IZK	IZK	IR	VR	mV/°C	
		Nom	Min	Max	mA	Ω	Ω	mA	uA	V	Min	Max
BZX84C2V4	Z11	2.4	2.2	2.6	5.0	100	600	1.0	50	1.0	-3.5	0
BZX84C2V7	Z12	2.7	2.5	2.9	5.0	100	600	1.0	20	1.0	-3.5	0
BZX84C3V0	Z13	3.0	2.8	3.2	5.0	95	600	1.0	20	1.0	-3.5	0
BZX84C3V3	Z14	3.3	3.1	3.5	5.0	95	600	1.0	5.0	1.0	-3.5	0
BZX84C3V6	Z15	3.6	3.4	3.8	5.0	90	600	1.0	5.0	1.0	-3.5	0
BZX84C3V9	Z16	3.9	3.7	4.1	5.0	90	600	1.0	3.0	1.0	-3.5	0
BZX84C4V3	Z17	4.3	4.0	4.6	5.0	90	600	1.0	3.0	1.0	-3.5	0
BZX84C4V7	Z1	4.7	4.4	5.0	5.0	80	600	1.0	3.0	2.0	-3.5	0.2
BZX84C5V1	Z2	5.1	4.8	5.4	5.0	60	500	1.0	2.0	2.0	-2.7	1.2
BZX84C5V6	Z3	5.6	5.2	6.0	5.0	40	480	1.0	1.0	2.0	-2.0	2.5
BZX84C6V2	Z4	6.2	5.8	6.6	5.0	10	400	1.0	3.0	4.0	0.4	3.7
BZX84C6V8	Z5	6.8	6.4	7.2	5.0	15	150	1.0	2.0	4.0	1.2	4.5
BZX84C7V5	Z6	7.5	7.0	7.9	5.0	15	80	1.0	1.0	5.0	2.5	5.3
BZX84C8V2	Z7	8.2	7.7	8.7	5.0	15	80	1.0	0.7	5.0	3.2	6.2
BZX84C9V1	Z8	9.1	8.5	9.6	5.0	15	80	1.0	0.5	6.0	3.8	7.0
BZX84C10	Z9	10	9.4	10.6	5.0	20	100	1.0	0.2	7.0	4.5	8.0
BZX84C11	Y1	11	10.4	11.6	5.0	20	150	1.0	0.1	8.0	5.4	9.0
BZX84C12	Y2	12	11.4	12.7	5.0	25	150	1.0	0.1	8.0	6.0	10.0
BZX84C13	Y3	13	12.4	14.1	5.0	30	150	1.0	0.1	8.0	7.0	11.0
BZX84C15	Y4	15	13.8	15.6	5.0	30	170	1.0	0.1	10.5	9.2	13.0
BZX84C16	Y5	16	15.3	17.1	5.0	40	200	1.0	0.1	11.2	10.4	14.0
BZX84C18	Y6	18	16.8	19.1	5.0	45	200	1.0	0.1	12.6	12.4	16.0
BZX84C20	Y7	20	18.8	21.2	5.0	55	225	1.0	0.1	14.0	14.4	18.0
BZX84C22	Y8	22	20.8	23.3	5.0	55	225	1.0	0.1	15.4	16.4	20.0
BZX84C24	Y9	24	22.8	25.6	5.0	70	250	1.0	0.1	16.8	18.4	22.0
BZX84C27	Y10	27	25.1	28.9	2.0	80	250	0.5	0.1	18.9	21.4	25.3
BZX84C30	Y11	30	28.0	32.0	2.0	80	300	0.5	0.1	21.0	24.4	29.4
BZX84C33	Y12	33	31.0	35.0	2.0	80	300	0.5	0.1	23.1	27.4	33.4
BZX84C36	Y13	36	34.0	38.0	2.0	90	325	0.5	0.1	25.2	30.4	37.4
BZX84C39	Y14	39	37.0	41.0	2.0	130	350	0.5	0.1	27.3	33.4	41.2

REV. 2, Oct-2010, KSJR06

Notes:

1. Valid provided that device terminals are kept at ambient temperature.
2. Tested with pulses, 300^μs pulse width, 2% duty cycle.
3. f = 1KHz.
4. No purposefully added lead.

BZX84Cx Series Typical Characteristics

Fig.1 Power Derating Curve

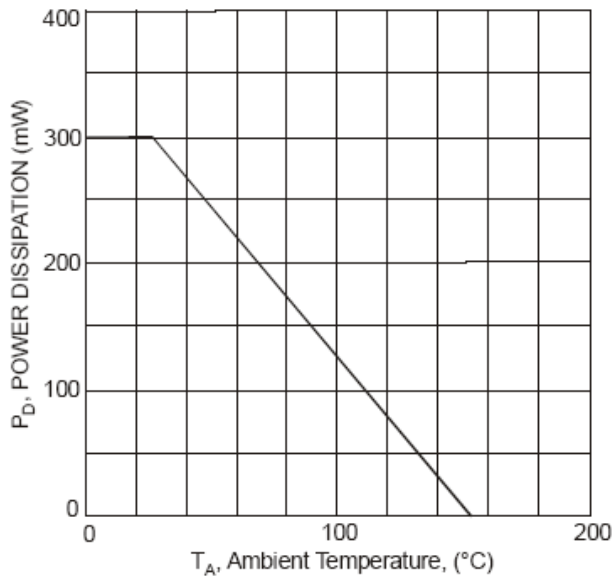


Fig.2 Typical Zener Breakdown Characteristics

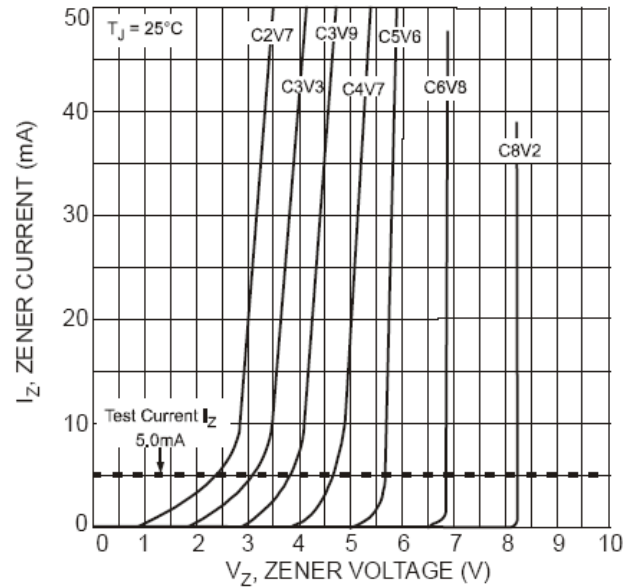


Fig.3 Typical Zener Breakdown Characteristics

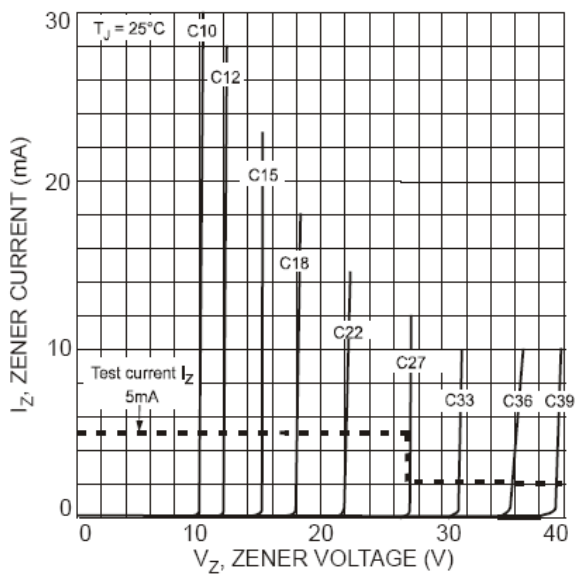
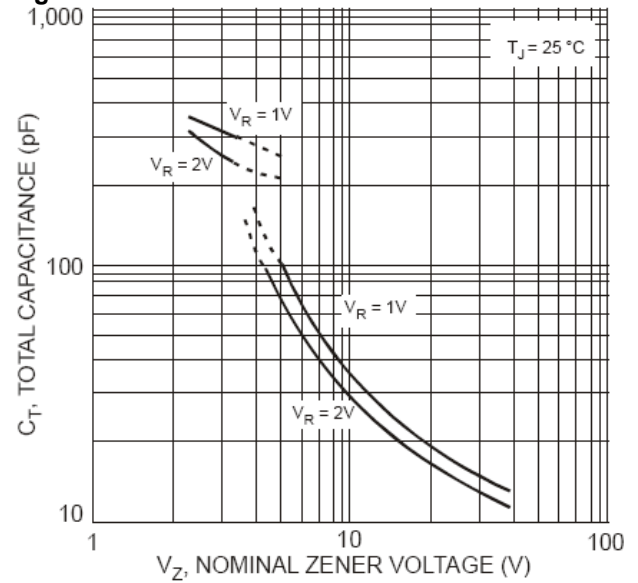


Fig.4 Typical Total Capacitance vs. Nominal Zener Voltage



Important Notice and Disclaimer

LSC reserves the right to make changes to this document and its products and specifications at any time without notice. Customers should obtain and confirm the latest product information and specifications before final design, purchase or use.

LSC makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does LSC assume any liability for application assistance or customer product design. LSC does not warrant or accept any liability with products which are purchased or used for any unintended or unauthorized application.

No license is granted by implication or otherwise under any intellectual property rights of LSC.

LSC products are not authorized for use as critical components in life support devices or systems without express written approval of LSC.