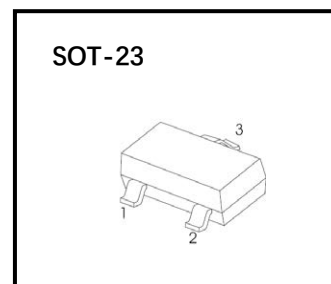


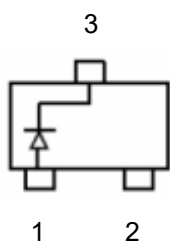
Zener diode

FEATURES

- Planar die construction
- Zener voltages from 2.4V - 43V
- Ultra-small surface mount package with 300mW power dissipation
- AEC-Q101 qualified



EQUIVALENT CIRCUIT



MAXIMUM RATINGS (T<sub>j</sub> = 25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Forward voltage @ I <sub>F</sub> = 10mA	V <sub>F</sub> <sup>1)</sup>	0.9	V
Power dissipation	P <sub>D</sub>	300	mW
Thermal resistance from junction to ambient	R <sub>θJA</sub> <sup>2)</sup>	417	°C/W
Operating junction and storage temperature range	T <sub>j</sub> , T <sub>stg</sub>	-55 ~ 150	°C

## ELECTRICAL CHARACTERISTICS ( $T_j = 25^\circ\text{C}$ unless otherwise specified)

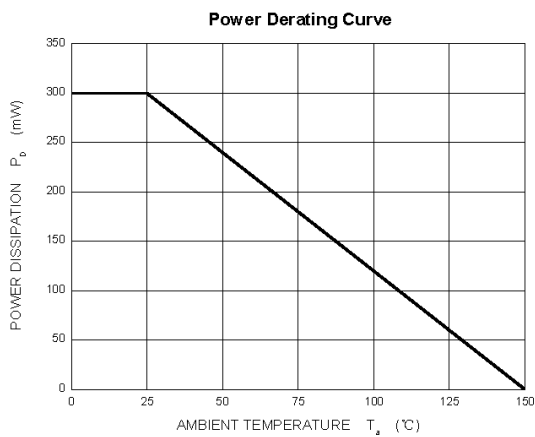
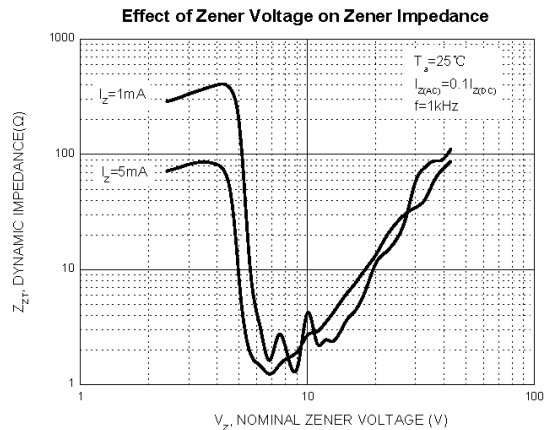
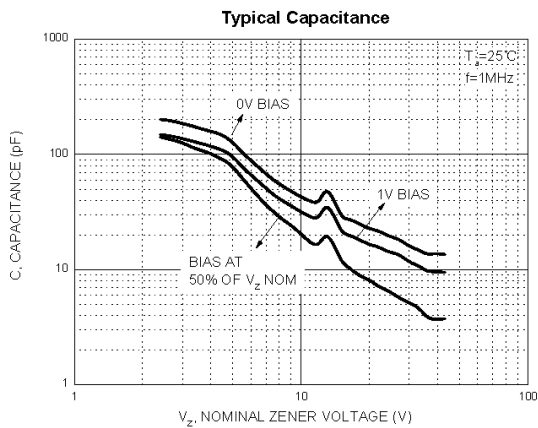
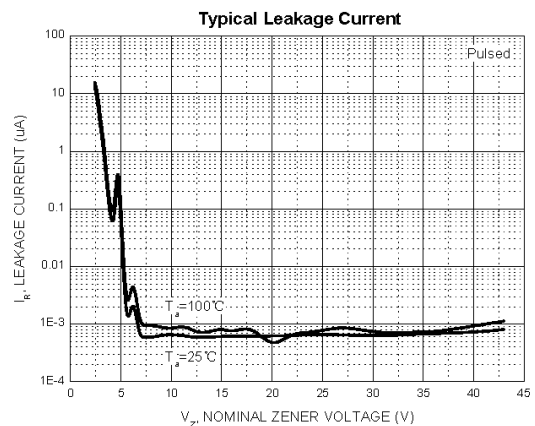
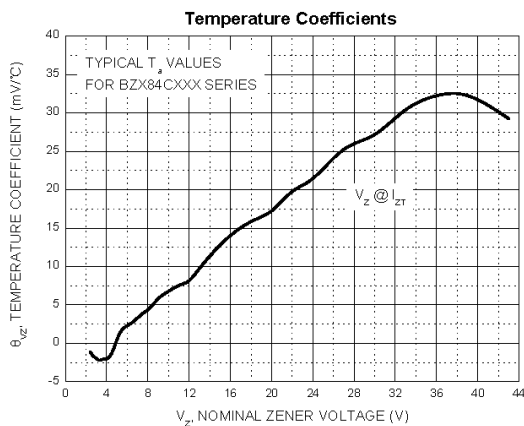
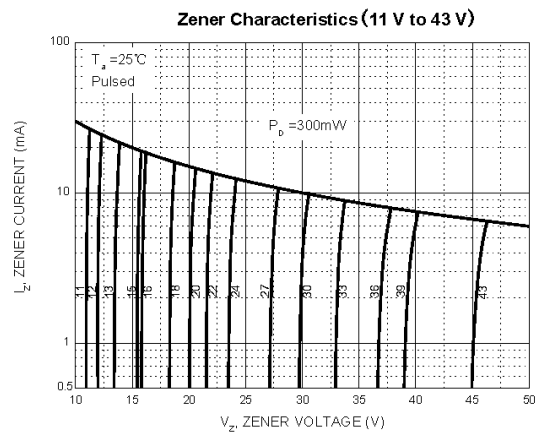
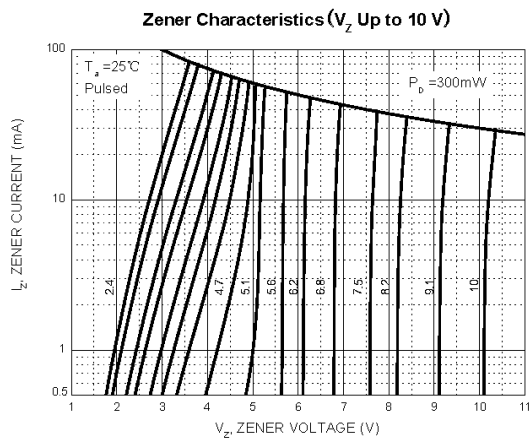
Type number	Marking	Zener voltage range <sup>1)</sup>				Maximum Zener impedance <sup>3)</sup>			Maximum reverse current		Temperature coefficient of Zener voltage @ $I_{ZT} = 5\text{mA}$ (mV/°C)	
		$V_Z @ I_{ZT}$ (V)			$I_{ZT}$ (mA)	$Z_{ZT} @ I_{ZT}$ ( $\Omega$ )	$Z_{ZK} @ I_{ZK}$ ( $\Omega$ )	$I_{ZK}$ (mA)	$I_R$ ( $\mu\text{A}$ )	$V_R$ (V)	Min	Max
		Min	Norm	Max								
AD-BZX84C2V4	$\bar{Z}11$	2.2	2.4	2.6	5	100	600	1.0	50	1.0	-3.5	0
AD-BZX84C2V7	$\bar{Z}12$	2.5	2.7	2.9	5	100	600	1.0	20	1.0	-3.5	0
AD-BZX84C3V0	$\bar{Z}13$	2.8	3.0	3.2	5	95	600	1.0	10	1.0	-3.5	0
AD-BZX84C3V3	$\bar{Z}14$	3.1	3.3	3.5	5	95	600	1.0	5	1.0	-3.5	0
AD-BZX84C3V6	$\bar{Z}15$	3.4	3.6	3.8	5	90	600	1.0	5	1.0	-3.5	0
AD-BZX84C3V9	$\bar{Z}16$	3.7	3.9	4.1	5	90	600	1.0	3	1.0	-3.5	0
AD-BZX84C4V3	$\bar{Z}17$	4.0	4.3	4.6	5	90	600	1.0	3	1.0	-3.5	0
AD-BZX84C4V7	$\bar{Z}1$	4.4	4.7	5.0	5	80	500	1.0	3	2.0	-3.5	0.2
AD-BZX84C5V1	$\bar{Z}2$	4.8	5.1	5.4	5	60	480	1.0	2	2.0	-2.7	1.2
AD-BZX84C5V6	$\bar{Z}3$	5.2	5.6	6.0	5	40	400	1.0	1	2.0	-2.0	2.5
AD-BZX84C6V2	$\bar{Z}4$	5.8	6.2	6.6	5	10	150	1.0	3	4.0	0.4	3.7
AD-BZX84C6V8	$\bar{Z}5$	6.4	6.8	7.2	5	15	80	1.0	2	4.0	1.2	4.5
AD-BZX84C7V5	$\bar{Z}6$	7.0	7.5	7.9	5	15	80	1.0	1	5.0	2.5	5.3
AD-BZX84C8V2	$\bar{Z}7$	7.7	8.2	8.7	5	15	80	1.0	0.7	5.0	3.2	6.2
AD-BZX84C9V1	$\bar{Z}8$	8.5	9.1	9.6	5	15	100	1.0	0.5	6.0	3.8	7.0
AD-BZX84C10	$\bar{Z}9$	9.4	10	10.6	5	20	150	1.0	0.2	7.0	4.5	8.0
AD-BZX84C11	$\bar{Y}1\bullet$	10.4	11	11.6	5	20	150	1.0	0.1	8.0	5.4	9.0
AD-BZX84C12	$\bar{Y}2\bullet$	11.4	12	12.7	5	25	150	1.0	0.1	8.0	6.0	10.0
AD-BZX84C13	$\bar{Y}3$	12.4	13	14.1	5	30	170	1.0	0.1	8.0	7.0	11.0
AD-BZX84C15	$\bar{Y}4$	13.8	15	15.6	5	30	200	1.0	0.1	10.5	9.2	13.0
AD-BZX84C16	$\bar{Y}5$	15.3	16	17.1	5	40	200	1.0	0.1	11.2	10.4	14.0
AD-BZX84C18	$\bar{Y}6\bullet$	16.8	18	19.1	5	45	225	1.0	0.1	12.6	12.4	16.0
AD-BZX84C20	$\bar{Y}7$	18.8	20	21.2	5	55	225	1.0	0.1	14.0	14.4	18.0
AD-BZX84C22	$\bar{Y}8$	20.8	22	23.3	5	55	250	1.0	0.1	15.4	16.4	20.0
AD-BZX84C24	$\bar{Y}9$	22.8	24	25.6	5	70	250	1.0	0.1	16.8	18.4	22.0
AD-BZX84C27	$\bar{Y}10$	25.1	27	28.9	2	80	300	0.5	0.1	18.9	21.4	25.3
AD-BZX84C30	$\bar{Y}11\bullet$	28.0	30	32.0	2	80	300	0.5	0.1	21.0	24.4	29.4
AD-BZX84C33	$\bar{Y}12$	31.0	33	35.0	2	80	325	0.5	0.1	23.1	27.4	33.4
AD-BZX84C36	$\bar{Y}13$	34.0	36	38.0	2	90	350	0.5	0.1	25.2	30.4	37.4
AD-BZX84C39	$\bar{Y}14$	37.0	39	41.0	2	130	350	0.5	0.1	27.3	33.4	41.2

1) Tested with pulses, period = 5ms, pulse width = 300 $\mu\text{s}$ .

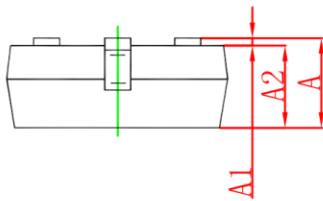
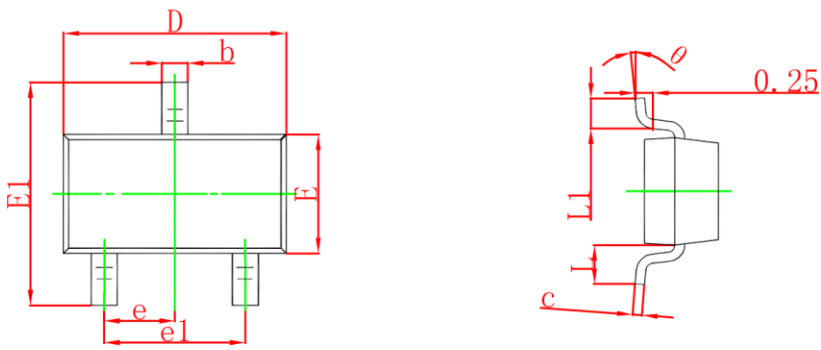
2) Measured with the device mounted on 1 inch<sup>2</sup> FR-4 board with 1oz. single-side copper, in a still air environment with  $T_a = 25^\circ\text{C}$ .

3)  $f = 1\text{kHz}$ .

# TYPICAL CHARACTERISTICS

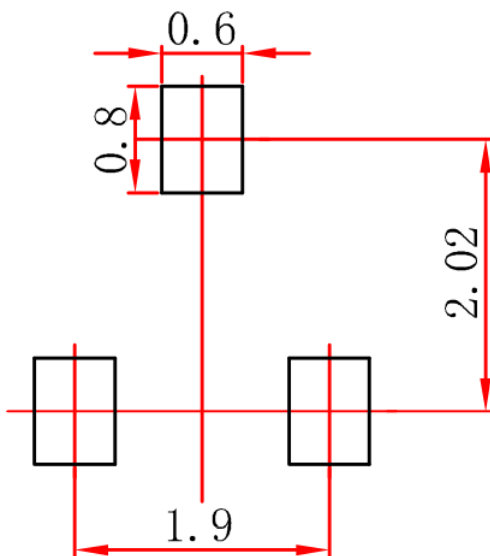


## SOT-23 PACKAGE OUTLINE DIMENSIONS



Symbol	Dimensions in Millimeters		Dimensions in Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP		0.037 TYP	
e1	1.800	2.000	0.071	0.079
L	0.550 REF		0.022 REF	
L1	0.300	0.500	0.012	0.020
$\theta$	0°	8°	0°	8°

## SOT-23 SUGGESTED PAD LAYOUT



### Note:

1. Controlling dimension in millimeters.
2. General tolerance:  $\pm 0.05\text{mm}$ .
3. The pad layout is for reference purpose only.