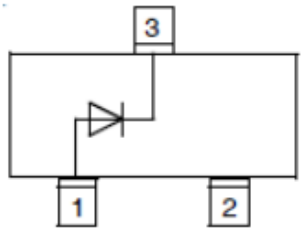
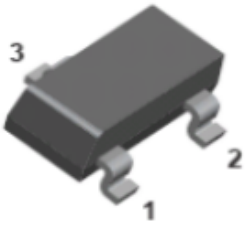
Zener Diodes





SOT-23

Features

- Moisture sensitivity level 1
- Zener voltage 2.4V~75V

Application

- Linear voltage regulator
- DC regulator
- Small-signal surge protection

Mechanical data

- **Package**: SOT-23
- **Terminals**: Tin plated leads, solderable per J-STD-002 and JESD22-B102

■**Limiting** n Rating, Ta=25℃ Unless otherwise specified)

Characteristic	Symbol	Value	Units
Maximum Forward Voltage@I_F=10mA	V_F	0.9	V
Power Dissipation	P_D	350	mW
Peak Forward Surge Current*	I_{FSM}	2.0	A
Thermal Resistance	R_{thJA}	357	℃ /W
Operation Temperature	T_J	-55~+150	℃
Storage Temperature Range	T_{STG}	-55~+150	℃

*Measured on 8.3ms, single half sine-wave

■**Ordering Information** (Example)

PREFERED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
BZX84C2V4 THRU BZX84C75	F2	Approximate 0.008	3000	30000	120000	7” reel
BZX84C2V4 THRU BZX84C75	F4	Approximate 0.008	10000	/	210000	13” reel

■Electrical Characteristics（T_a=25℃ Unless otherwise specified）

Type number	Device marking	V_Z @ I_{ZT} (V)			Z_{ZT}(Ω)		Z_{ZK}(Ω)		I_R(μA) @V_R		Typical temperature coefficient @ I_{ZTC} mV/℃		Diode capacitance Cd (pF)	Non-repetitive peak reverse current Izsm (A)
		min	typ	max	max	I_{ZT} (mA)	max	I_{ZK} (mA)	max	V_R(V)	Min	Max	max	max
BZX84C2V4	Z11.	2.28	2.4	2.52	100	5	600	1	50	1	-3.5	0	450	6
BZX84C2V7	Z12.	2.5	2.7	2.9	100	5	600	1	20	1	-3.5	0	450	6
BZX84C3V0	Z13.	2.8	3.0	3.2	95	5	600	1	10	1	-3.5	0	450	6
BZX84C3V3	Z14.	3.1	3.3	3.5	95	5	600	1	5	1	-3.5	0	450	6
BZX84C3V6	Z15.	3.4	3.6	3.8	90	5	600	1	5	1	-3.5	0	450	4.5
BZX84C3V9	Z16.	3.7	3.9	4.1	90	5	600	1	3	1	-3.5	0	450	4.5
BZX84C4V3	Z17.	4.0	4.3	4.6	90	5	600	1	3	1	-3.5	0	450	3.5
BZX84C4V7	Z1.	4.4	4.7	5.0	80	5	500	1	3	2	-3.5	0	300	3.5
BZX84C5V1	Z2.	4.8	5.1	5.4	60	5	480	1	2	2	-2.7	1.2	300	3
BZX84C5V6	Z3.	5.2	5.6	6.0	40	5	400	1	1	2	-2	2.5	200	3
BZX84C6V2	Z4.	5.8	6.2	6.6	10	5	150	1	3	4	0.4	3.7	200	3
BZX84C6V8	Z5.	6.4	6.8	7.2	15	5	80	1	2	4	1.2	4.5	200	2
BZX84C7V5	Z6.	7.0	7.5	7.9	15	5	80	1	1	5	2.5	5.3	150	2
BZX84C8V2	Z7.	7.7	8.2	8.7	15	5	80	1	0.7	5	3.2	6.2	150	2
BZX84C9V1	Z8.	8.5	9.1	9.6	15	5	100	1	0.5	6	3.8	7.0	150	1.8
BZX84C10	Z9.	9.4	10	10.6	20	5	150	1	0.2	7	4.5	8.0	90	1.8
BZX84C11	Y1 ·	10.4	11	11.6	20	5	150	1	0.1	8	5.4	9.0	85	1.8
BZX84C12	Y2 ·	11.4	12	12.7	25	5	150	1	0.1	8	6.0	10.0	85	1.8
BZX84C13	Y3.	12.4	13	14.1	30	5	170	1	0.1	8	7.0	11.0	80	1
BZX84C15	Y4.	14.25	15	15.75	30	5	200	1	0.1	10.5	9.2	13.0	75	1
BZX84C16	Y5.	15.3	16	17.1	40	5	200	1	0.1	11.2	10.4	14.0	75	1
BZX84C18	Y6 ·	16.8	18	19.1	45	5	225	1	0.1	12.6	12.4	16.0	70	1
BZX84C20	Y7.	18.8	20	21.2	55	5	225	1	0.1	14	14.4	18.0	60	1
BZX84C22	Y8.	20.8	22	23.3	55	5	250	1	0.1	15.4	16.4	20.0	60	0.6
BZX84C24	Y9.	22.8	24	25.6	70	5	250	1	0.1	16.8	18.4	22.0	55	0.6
BZX84C27	Y10.	25.1	27	28.9	80	2	300	1	0.1	18.9	21.4	25.3	50	0.6
BZX84C30	Y11 ·	28	30	32	80	2	300	1	0.1	21.0	24.4	29.4	50	0.6
BZX84C33	Y12.	31	33	35	80	2	325	1	0.1	23.1	27.4	33.4	45	0.6
BZX84C36	Y13.	34	36	38	90	2	350	1	0.1	25.2	30.4	37.4	45	0.6
BZX84C39	Y14.	37	39	41	130	2	350	1	0.1	27.3	33.4	41.2	45	0.6
BZX84C43	Y15.	40.85	43	45.15	150	5	375	1	0.1	30.1	37.6	46.6	40	0.6
BZX84C47	Y16.	44.65	47	49.35	170	5	375	1	0.1	32.9	42.0	51.8	40	0.5
BZX84C51	Y17.	48	51	54	180	2	400	0.5	0.05	35.7	46.6	57.2	40	0.4
BZX84C56	Y18.	53	56	59	200	2	425	0.5	0.05	39.2	52.2	63.8	40	0.3
BZX84C62	Y19.	58	62	66	215	2	450	0.5	0.05	43.4	58.8	71.6	35	0.3

BZX84C68	Y20.	64	68	72	240	2	475	0.5	0.05	47.6	65.6	79.8	35	0.25
BZX84C75	Y21.	70	75	79	255	2	500	0.5	0.05	52.5	73.4	88.6	35	0.25

■ Characteristics (Typical)

Fig 1：P_D-Ta Curve

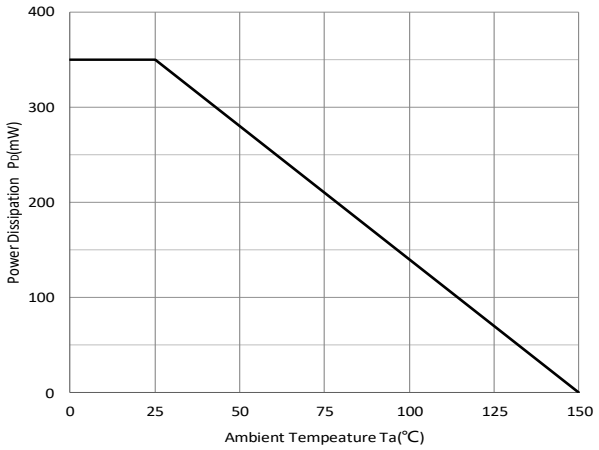


Fig 2：Zener Breakdown Characteristics

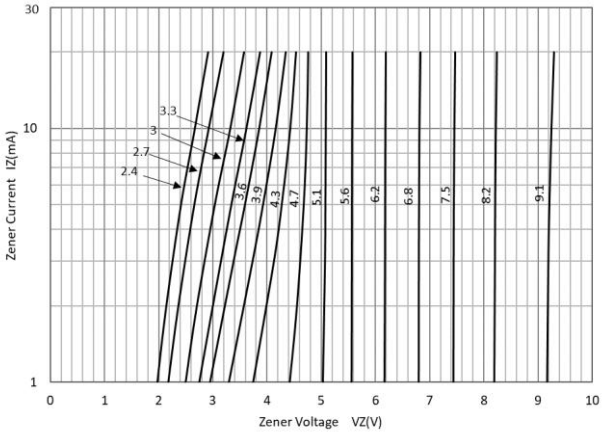


Fig 3：Zener Breakdown Characteristics

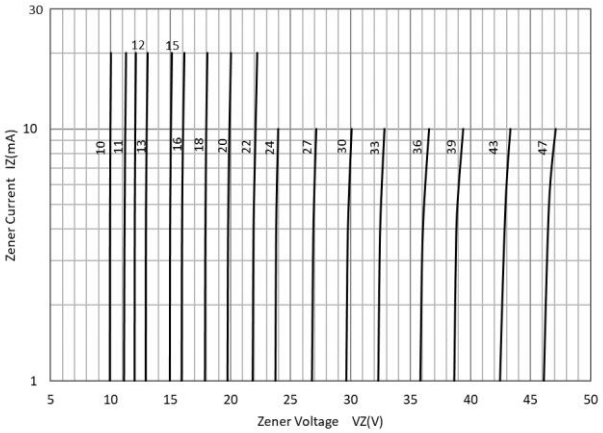


Fig 4：Zener Breakdown Characteristics

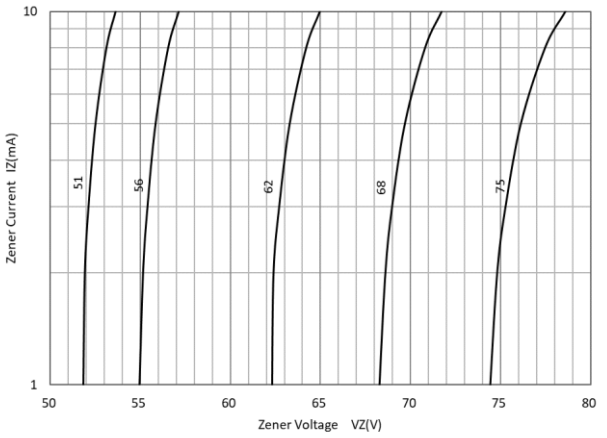


Fig 5：Typical Temperature Coeffient

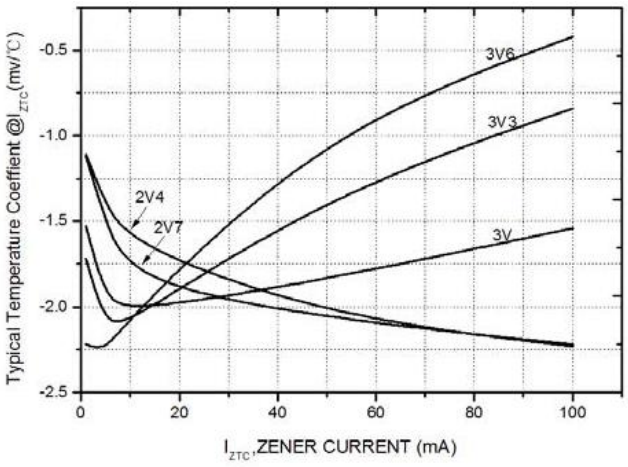


Fig 6：Typical Temperature Coeffient

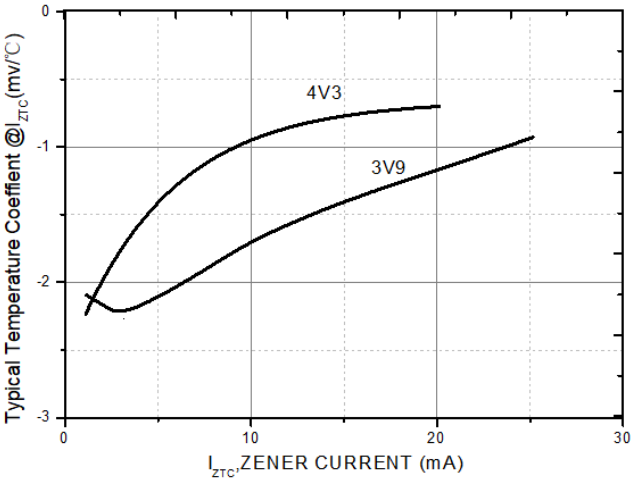


Fig 7：Typical Temperature Coeffient

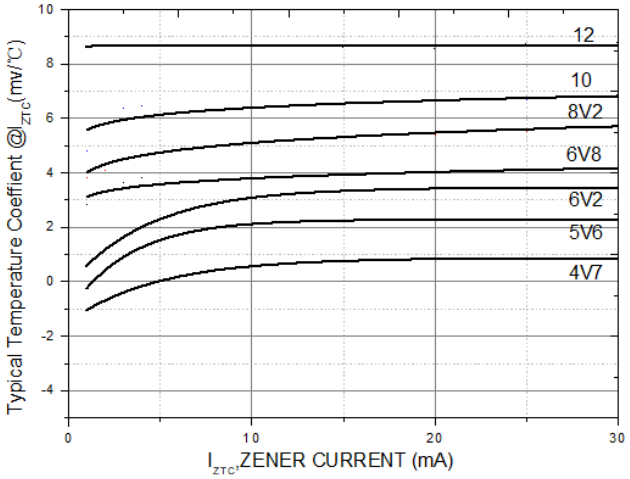


Fig 8：Typical Temperature Coeffient

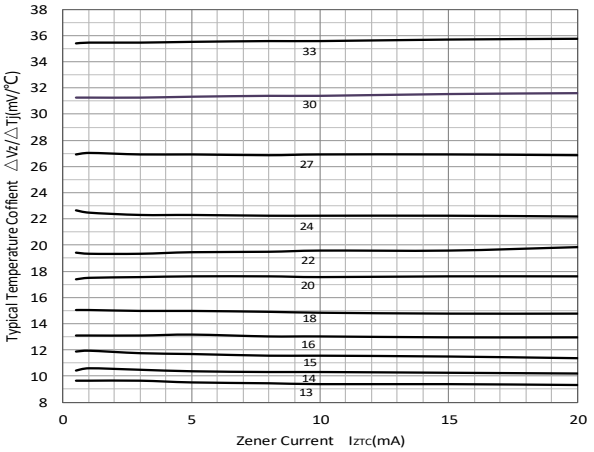


Fig 9：Typical Temperature Coeffient

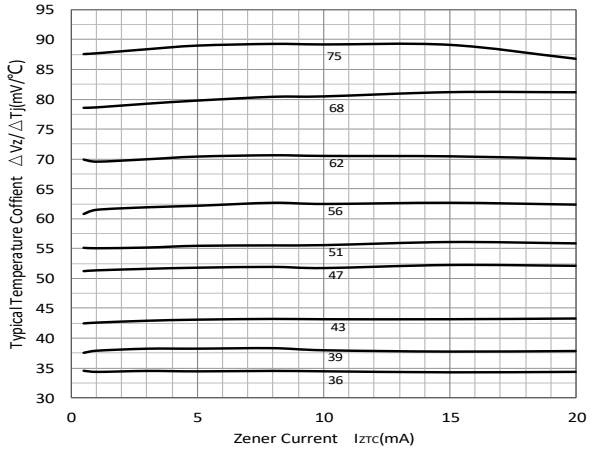


Fig 10：Typical Forward Voltage

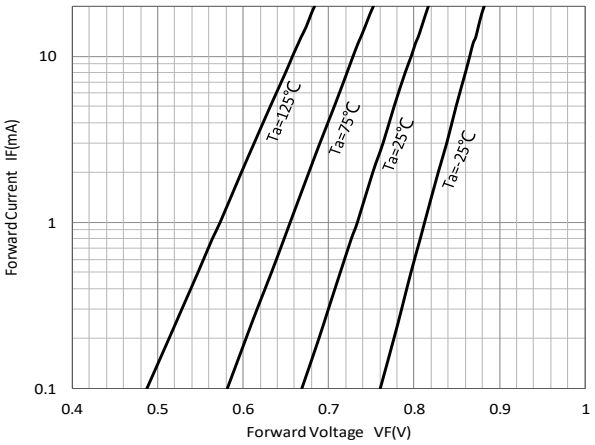


Fig 11：Typical Reverse Current

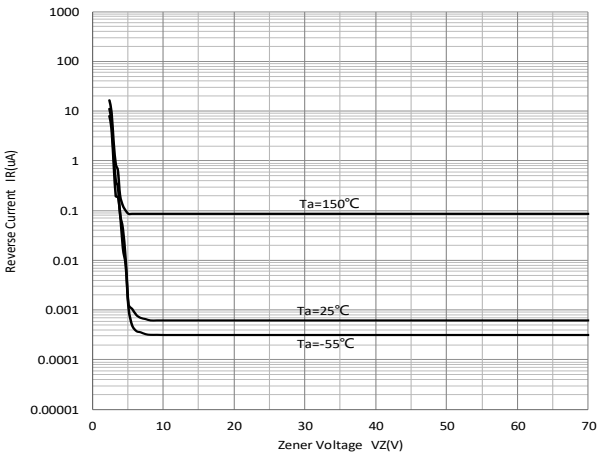
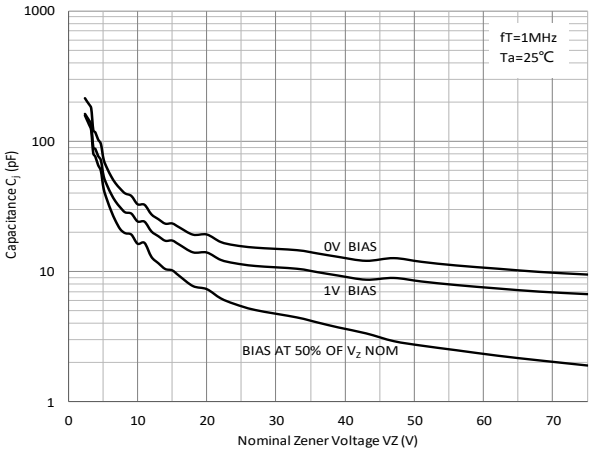
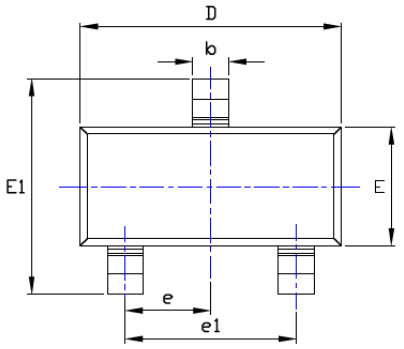


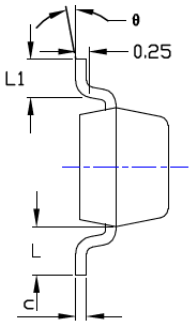
Fig 12：Typical Capacitance



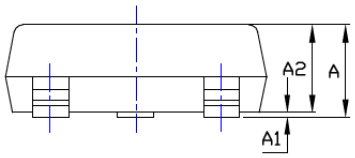
■SOT-23 Package Outline Dimensions



TOP VIEW



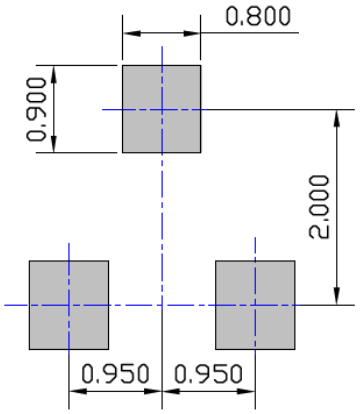
SIDE VIEW



SIDE VIEW

DIMENSIONS				
SYMBOL	INCHES		Millimeter	
	MIN.	MAX.	MIN.	MAX.
A	0.035	0.045	0.900	1.150
A1	0.000	0.004	0.000	0.100
A2	0.035	0.041	0.900	1.050
b	0.012	0.020	0.300	0.500
c	0.004	0.008	0.100	0.200
D	0.110	0.118	2.800	3.000
E	0.047	0.055	1.200	1.400
E1	0.089	0.100	2.250	2.550
e	0.037TYP		0.950TYP	
e1	0.071	0.079	1.800	2.000
L	0.022REF		0.550REF	
L1	0.012	0.200	0.300	0.500
θ	0°	8°	0°	8°

■SOT-23 Suggested Pad Layout



UNIT：mm

Disclaimer

The information presented in this document is for reference only. Yangzhou Yangjie Electronic Technology Co., Ltd. reserves the right to make changes without notice for the specification of the products displayed herein to improve reliability, function or design or otherwise.

The product listed herein is designed to be used with ordinary electronic equipment or devices, and not designed to be used with equipment or devices which require high level of reliability and the malfunction of with would directly endanger human life (such as medical instruments, transportation equipment, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), Yangjie or anyone on its behalf, assumes no responsibility or liability for any damages resulting from such improper use of sale.

This publication supersedes & replaces all information previously supplied. For additional information, please visit our website http:// www.21yangjie.com , or consult your nearest Yangjie's sales office for further assistance.