

## Surface Mount Zener Diodes

BZX84C2V4~BZX84C75

2.4 to 75 V

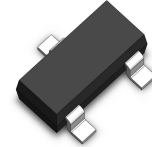
300mW

SOT-23

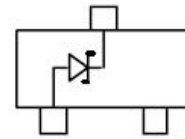
### Features

- ◆ Planar Die construction
- ◆ 300mW Power Dissipation
- ◆ Zener Voltages from 2.4V to 75V
- ◆ RoHS compliant / Green EMC

SOT-23



Pin Configuration - Top View



### Maximum Ratings (Ta = 25 °C)

Parameter	Symbol	Value	Units
Maximum Forward Voltage (Note 2) @ I <sub>F</sub> =10mA	V <sub>F</sub>	0.9	V
Power Dissipation (Note 1)	P <sub>(AV)</sub>	300	mW
Operating and Storage Temperature	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150	°C
Peak Forward Surge Current	I <sub>FSM</sub>	2.0	A
Thermal Resistance Junction to Ambient	R <sub>J</sub>	357	°C/W

Note 1: Valid provided that device terminals are kept at ambient temperature.

Note 2: Tested with pulses, period=5ms, pulse width =300µs.

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**Electrical Characteristics (Ta = 25°C unless otherwise noted)**

Part Number	Zener Voltage Range (Note 2)			Maximum Zener Impedance (Note 3)				Maximum Reverse Leakage Current	
	V <sub>Z</sub> @ I <sub>ZT</sub>			Z <sub>ZT</sub> @ I <sub>ZT</sub>		Z <sub>ZK</sub> @ I <sub>ZK</sub>		I <sub>R</sub> @ V <sub>R</sub>	
	Nom.(V)	Min.(V)	Max.(V)	(Ω)	(mA)	(Ω)	(mA)	(μA)	(V)
BZX84C2V4	2.4	2.2	2.6	100	5	600	1	50	1
BZX84C2V7	2.7	2.5	2.9	100	5	600	1	20	1
BZX84C3V0	3.0	2.8	3.2	95	5	600	1	10	1
BZX84C3V3	3.3	3.1	3.5	95	5	600	1	5	1
BZX84C3V6	3.6	3.4	3.8	90	5	600	1	5	1
BZX84C3V9	3.9	3.7	4.1	90	5	600	1	3	1
BZX84C4V3	4.3	4.0	4.6	90	5	600	1	3	1
BZX84C4V7	4.7	4.4	5.0	80	5	500	1	3	2
BZX84C5V1	5.1	4.8	5.4	60	5	480	1	2	2
BZX84C5V6	5.6	5.2	6.0	40	5	400	1	1	2
BZX84C6V2	6.2	5.8	6.6	10	5	150	1	3	4
BZX84C6V8	6.8	6.4	7.2	15	5	80	1	2	4
BZX84C7V5	7.5	7.0	7.9	15	5	80	1	1	5
BZX84C8V2	8.2	7.7	8.7	15	5	80	1	0.7	5
BZX84C9V1	9.1	8.5	9.6	15	5	100	1	0.5	6
BZX84C10	10	9.4	10.6	20	5	150	1	0.2	7
BZX84C11	11	10.4	11.6	20	5	150	1	0.1	8
BZX84C12	12	11.4	12.7	25	5	150	1	0.1	8
BZX84C13	13	12.4	14.1	30	5	170	1	0.1	8
BZX84C15	15	13.8	15.6	30	5	200	1	0.1	10.5
BZX84C16	16	15.3	17.1	40	5	200	1	0.1	11.2
BZX84C18	18	16.8	19.1	45	5	225	1	0.1	12.6
BZX84C20	20	18.8	21.2	55	5	225	1	0.1	14.0

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Part Number	Zener Voltage Range (Note 2)			Maximum Zener Impedance (Note 3)				Maximum Reverse Leakage Current	
	V <sub>Z</sub> @ I <sub>ZT</sub>			Z <sub>ZT</sub> @ I <sub>ZT</sub>		Z <sub>ZK</sub> @ I <sub>ZK</sub>		I <sub>R</sub> @ V <sub>R</sub>	
	Nom.(V)	Min.(V)	Max.(V)	(Ω)	(mA)	(Ω)	(mA)	(μA)	(V)
BZX84C22	22	20.8	23.3	55	5	250	1	0.1	15.4
BZX84C24	24	22.8	25.6	70	5	250	1	0.1	16.8
BZX84C27	27	25.1	28.9	80	2	300	0.5	0.1	18.9
BZX84C30	30	28.0	32.0	80	2	300	0.5	0.1	21.0
BZX84C33	33	31.0	35.0	80	2	325	0.5	0.1	23.1
BZX84C36	36	34.0	38.0	90	2	350	0.5	0.1	25.2
BZX84C39	39	37.0	41.0	130	2	350	0.5	0.1	27.3
BZX84C43	43	40.0	46.0	100	2	700	1	0.1	32.0
BZX84C47	47	44.0	50.0	170	2	375	1	0.05	32.9
BZX84C51	51	48.0	54.0	180	2	400	1	0.05	35.7
BZX84C62	62	58.0	66.0	215	2	450	0.5	0.05	43.4
BZX84C68	68	64.0	72.0	240	2	1600	0.25	0.05	47.6
BZX84C75	75	70.0	79.0	255	2	1700	0.25	0.05	52.5

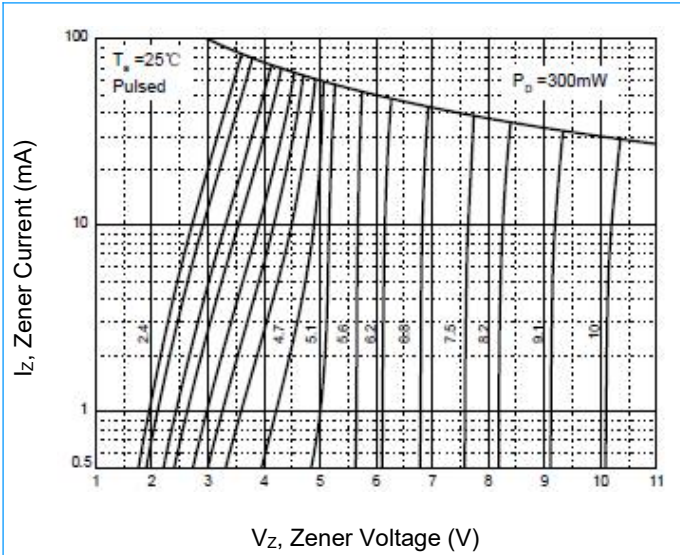
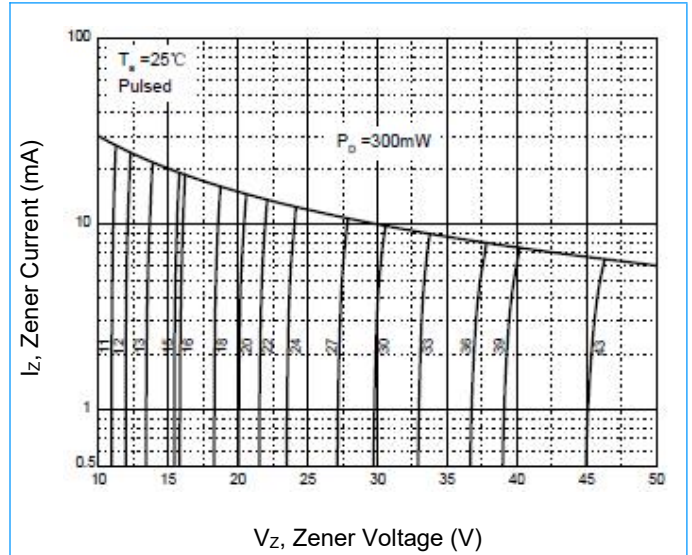
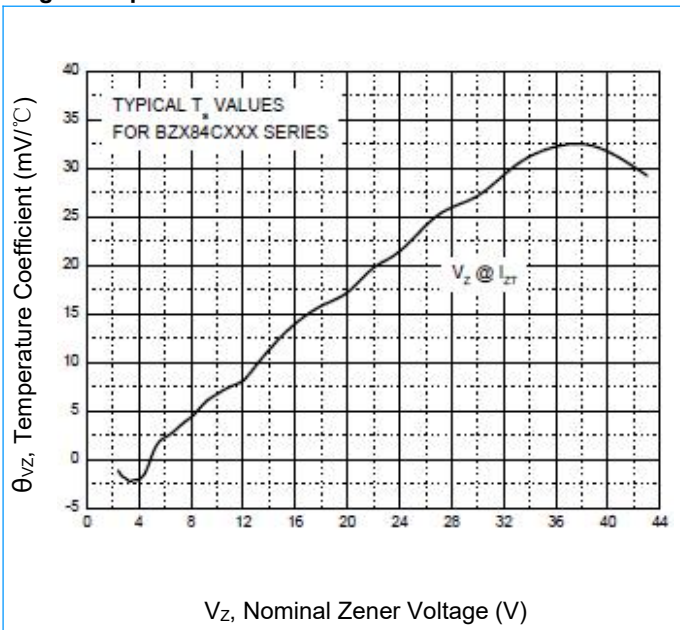
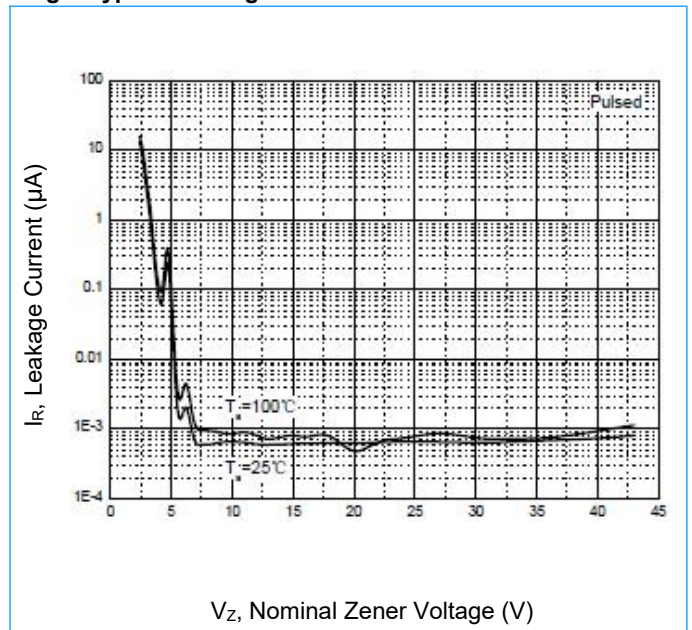
Note 2: Tested with pulses, period=5ms,pulse width =300μs.

Note 3: f=1kHz.

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**300mW**
**SOT-23**

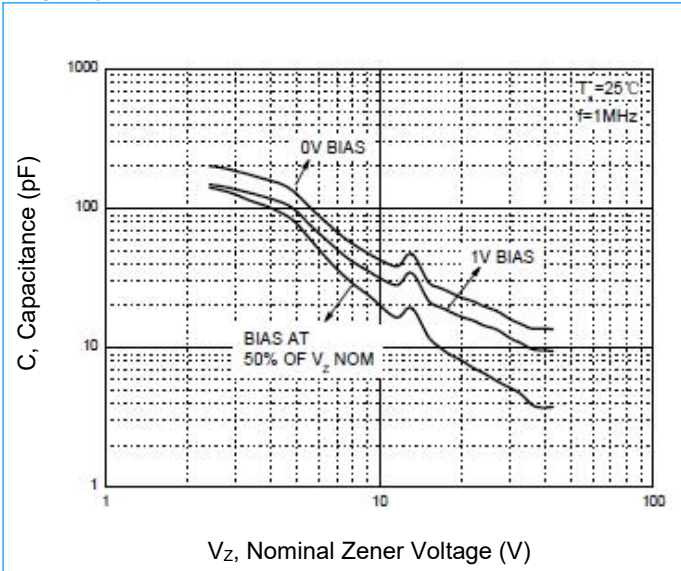
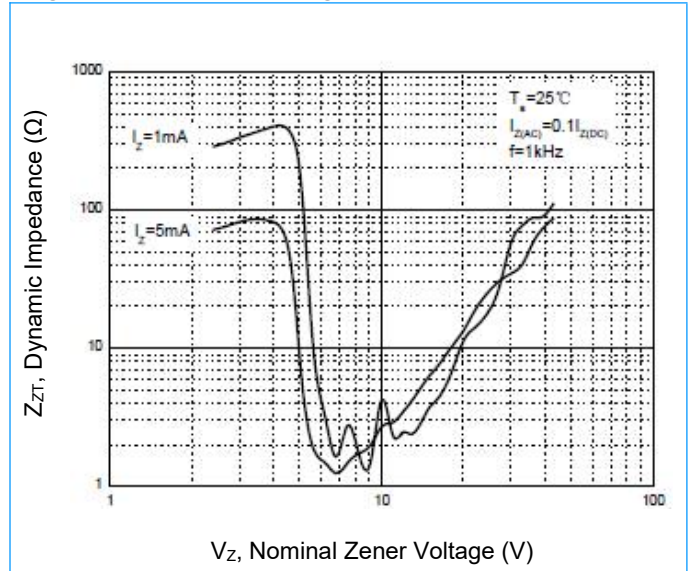
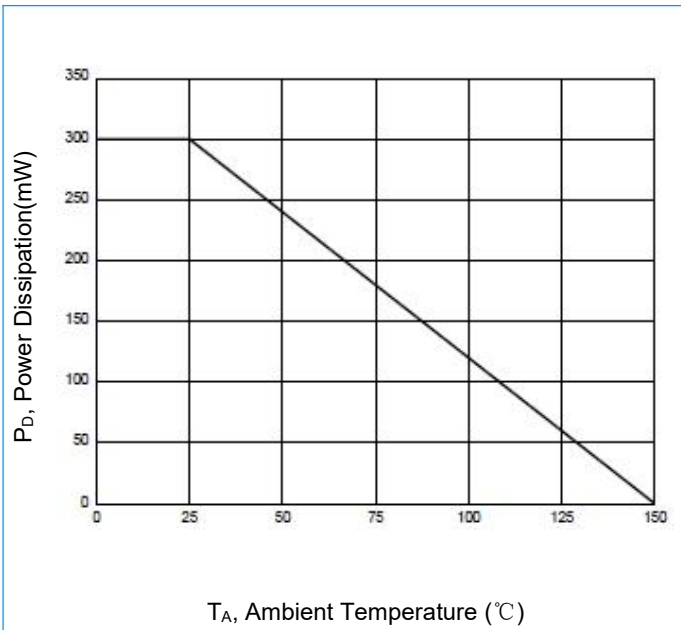
## Rating and Characteristic Curves

**Fig1. Zener Characteristics ( $V_Z$  Up to 10V)**

**Fig2. Zener Characteristics (11V to 43V)**

**Fig3. Temperature Coefficients**

**Fig4. Typical Leakage Current**


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## Rating and Characteristic Curves (Continue)

**Fig5. Typical Capacitance**

**Fig6. Effect of Zener Voltage on Zener Impedance**

**Fig7. Power Derating Curve**


## Surface Mount Zener Diodes

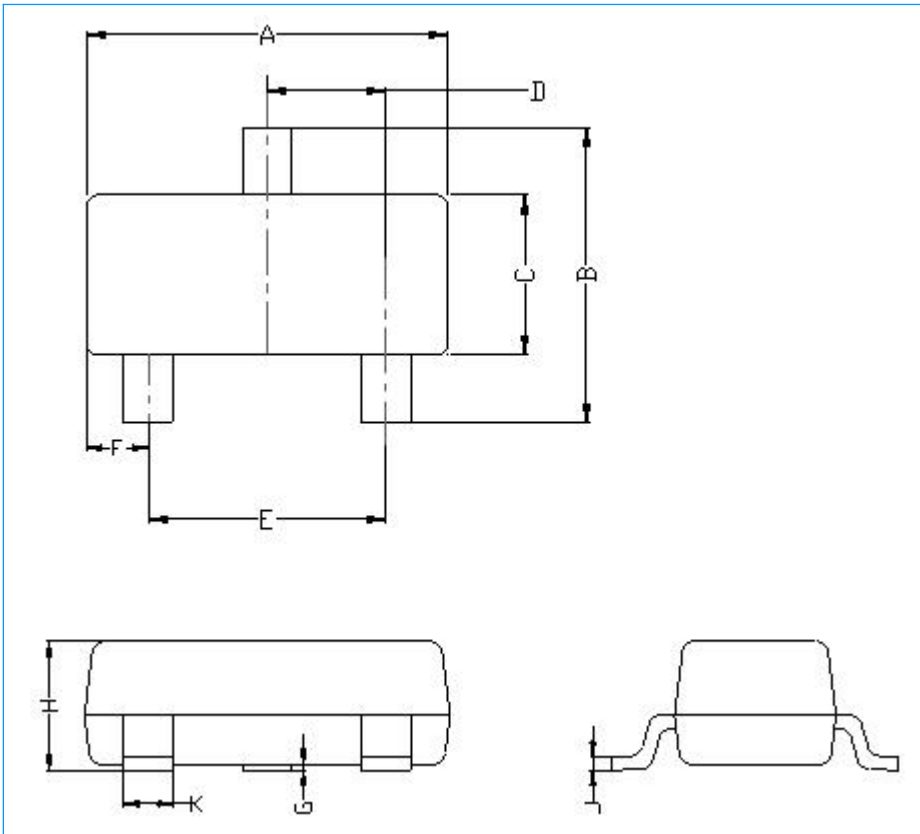
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### SOT-23 Package Outline



Symbol	Dimensions in mm	
	Min.	Max.
A	2.80	3.04
B	2.10	2.64
C	1.20	1.40
D	0.89	1.03
E	1.78	2.05
F	0.45	0.60
G	0.013	0.100
H	0.90	1.11
J	0.09	0.18
K	0.37	0.51

#### Notes:

1. Halogen free, EMC.
2. Pb free solder.
3. Lead thickness solder plating.
4. Lead frame CAC-5.
5. Other tolerance  $\pm 0.05$ .
6. Dimensions are exclusive of Burrs Mold Flash and Tie Bar extrusions.

### Ordering Information

Part Number	Component Package	Quantity
BZX84C2V4~BZX84C75	SOT-23	Tape & Reel 3000 PCS / 7" Reel