

# FrelTec

Mathildenstr. 10A  
82319 Starnberg  
Germany

Zener Diode  
SOT-23

## SOT-23

60B		BZX84C__xx		ST23		E03
Type		Type		Package		Packing
60B: Zener Diode		BXZ84C__		SOT23		E03: tape and Reel(embossed tape)for 3k pc (7'REEL)

All products according to RoHS (2015/863/EU)

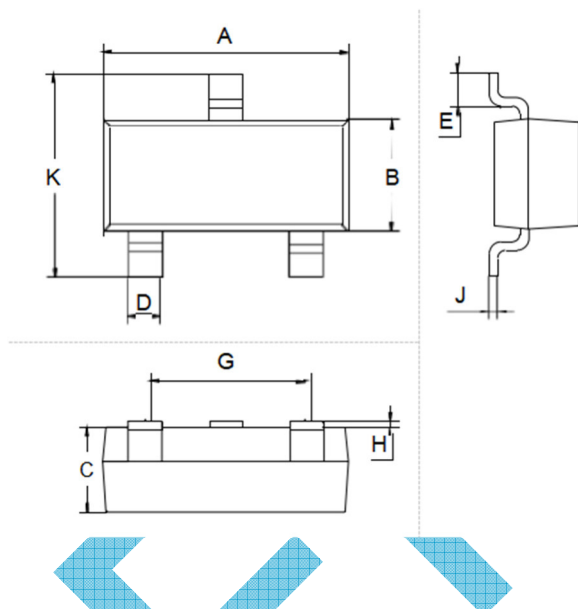
FrelTec

## BZX84C2V4 thru BZX84C75

## PACKAGE OUTLINE



## DIMENSIONS



SOT-23		
Dim	Min	Max
A	2.70	3.10
B	1.10	1.50
C	1.0 Typical	
D	0.4 Typical	
E	0.35	0.48
G	1.80	2.00
H	0.02	0.1
J	0.1 Typical	
K	2.20	2.60
All Dimensions in mm		

# SOT-23

## Maximum Ratings & Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Characteristic	Symbol	Value	Unit
Forward Voltage@I <sub>F</sub> =10mA	V <sub>F</sub>	0.9	V
Power Dissipation	P <sub>d</sub>	350	mW
Thermal Resistance, Junction to Ambient Air	R <sub>θJA</sub>	357	C/W
Operating and Storage Temperature Range	T <sub>j</sub> , T <sub>stg</sub>	-65 to +150	C

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

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

3. f = 1KHz.

# SOT-23

## FrelTec Zener Diode

Type Number	Marking Code	Zener Voltage Range				Maximum Zener Impedance			Maximum Reverse Current		Typical Temperature Coefficient @I <sub>ZT</sub> mV/ °C	
		V <sub>Z</sub> @I <sub>ZT</sub>			I <sub>ZT</sub>	Z <sub>VT</sub> @I <sub>ZT</sub>	Z <sub>ZK</sub> @I <sub>ZK</sub>		I <sub>R</sub>	V <sub>R</sub>	Min	Max
		Nom(V)	Min(V)	Max(V)	(mA)	(Q)	(Q)	(mA)	(uA)	(V)		
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	10	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
BZX84C4V6	Z18	4.6	4.3	4.9	5.0	90	600	1.0	3.0	1.0	-3.5	0
BZX84C4V7	Z1	4.7	4.4	5.0	5.0	80	500	1.0	3.0	2.0	-3.5	0.2
BZX84C5V1	Z2	5.1	4.8	5.4	5.0	60	480	1.0	2.0	2.0	-2.7	1.2
BZX84C5V6	Z3	5.6	5.2	6.0	5.0	40	400	1.0	1.0	2.0	-2.0	2.5
BZX84C6V2	Z4	6.2	5.8	6.6	5.0	10	150	1.0	3.0	4.0	0.4	3.7
BZX84C6V8	Z5	6.8	6.4	7.2	5.0	15	80	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	100	1.0	0.5	6.0	3.8	7.0
BZX84C10	Z9	10	9.4	10.6	5.0	20	150	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

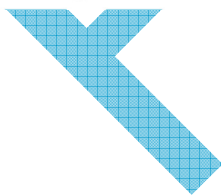
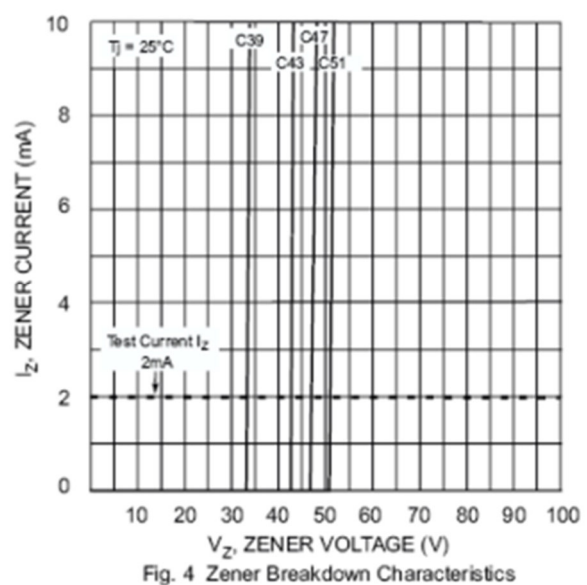
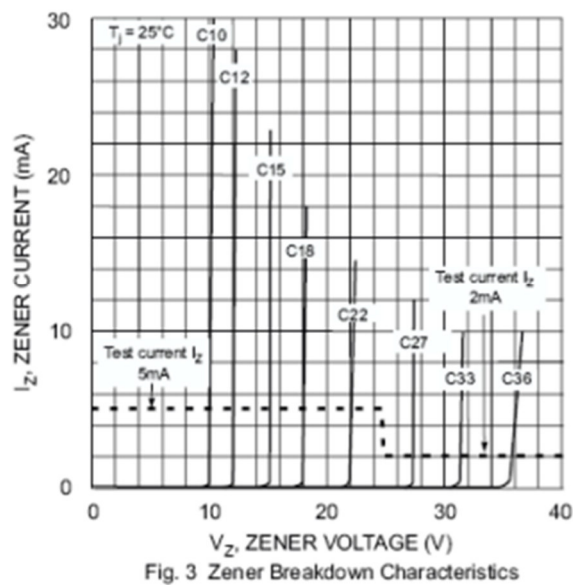
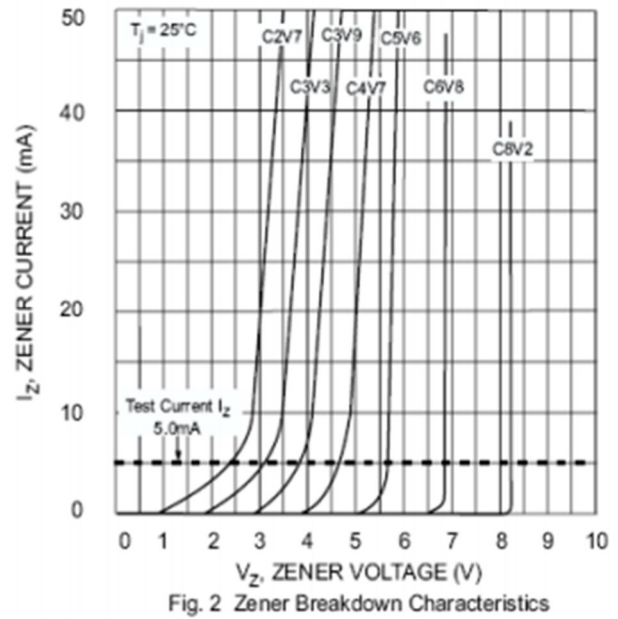
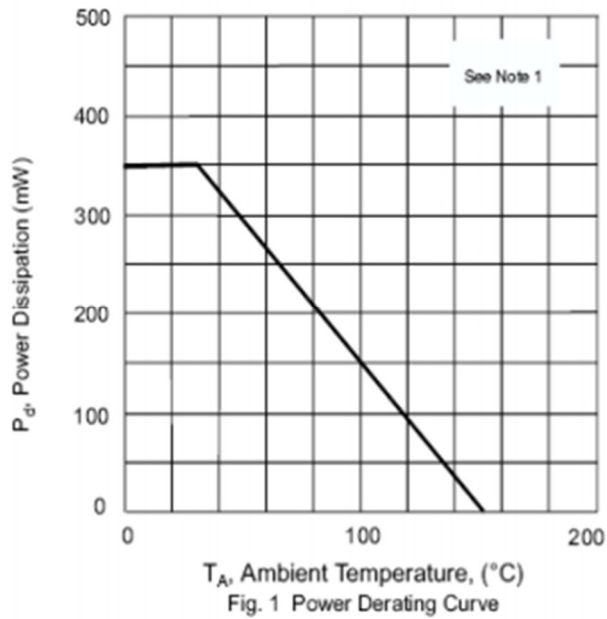
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## FrelTec Zener Diode

Type Number	Marking Code	Zener Voltage Range				Maximum Zener Impedance			Maximum Reverse Current		Typical Temperature Coefficient @I <sub>ZT</sub> mV/ °C	
		V <sub>Z</sub> @I <sub>ZT</sub>			I <sub>ZT</sub>	Z <sub>KT</sub> @I <sub>ZT</sub>	Z <sub>ZK</sub> @I <sub>ZK</sub>		I <sub>R</sub>	V <sub>R</sub>	Min	Max
		Nom(V)	Min(V)	Max(V)	(mA)	(Ω)	(Ω)	(mA)	(μA)	(V)		
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	170	1.0	0.1	8.0	7.0	11.0
BZX84C15	Y4	15	13.8	15.6	5.0	30	200	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	225	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	250	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	300	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	325	0.5	0.1	23.1	27.4	33.4
BZX84C36	Y13	36	34.0	38.0	2.0	90	350	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
BZX84C43	Y15	43	40.0	46.0	2.0	150	375	0.5	0.1	30.1	10.0	12.0
BZX84C47	Y16	47	44.0	50.0	2.0	170	375	0.5	0.1	32.9	10.0	12.0
BZX84C51	Y17	51	48.0	54.0	2.0	180	400	0.5	0.1	35.7	10.0	12.0
BZX84C56	Y18	56.0	52.0	60	2.0	200	425	0.5	0.05	39.2	10.0	12.0
BZX84C62	Y19	62.0	58.0	66.0	2.0	215	450	0.5	0.05	43.4	10.0	12.0
BZX84C68	Y20	68.0	64.0	72.0	2.0	240	475	0.5	0.05	47.6	10.0	12.0
BZX84C75	Y21	75.0	70.0	79.0	2.0	255	500	0.5	0.05	52.5	10.0	12.0

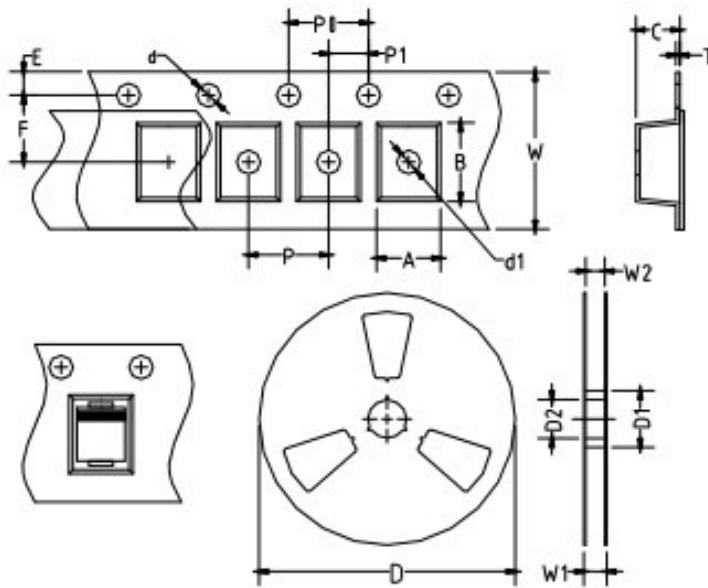
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TYPICAL CHARACTERISTICS @  $T_a=25^\circ\text{C}$  unless otherwise specified



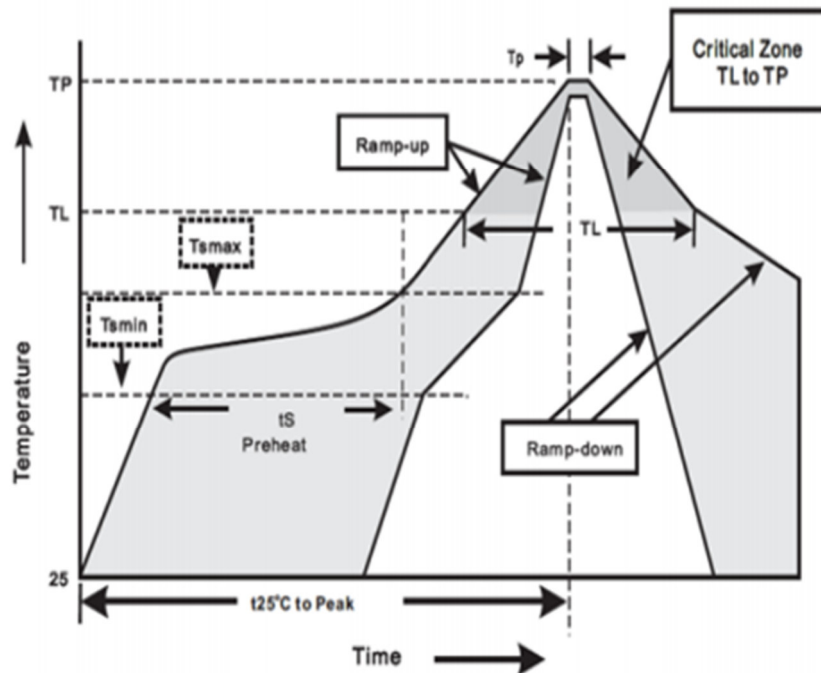
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Size (Unit:mm)



Item	Symbol	SOT-23
Carrier width	A	3.15±0.10
Carrier length	B	2.77±0.10
Carrier depth	C	1.22±0.10
Sprocket hole	d	1.50±0.10
Carrier hole	d1	1.00±0.10
Reel outside diameter	D	177.8±1.0
Reel inner diameter	D1	50±1.0
Feed hole diameter	D2	13.0±1.0
Strocket hole position	E	1.75±0.10
Punch hole position	F	3.50±0.05
Punch hole pitch	P	4.00±0.10
Sprocket hole pitch	P0	4.00±0.10
Embossment center	P1	2.00±0.10
Total tape thickness	T	0.20±0.10
Tape width	W	7.95±0.15
Reel width	W1	11.4±1.5
Reel width	W2	9.4±1.0



**Soldering Parameters****Stock period**

The performance of these products, including the solderability, is guaranteed for 12 month, provided that they remain packed as they were when delivered and stored at a temperature of 0-35°C and a relative humidity 35-75%RH

2/7/2023

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Please read cautions and warnings and important notes at the end of this document.

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Zener Diode

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