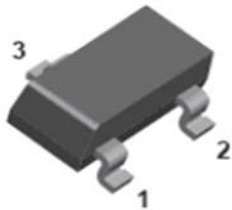
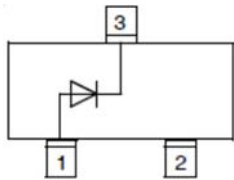


## Zener Diodes



**SOT-23**

### Features

- Moisture sensitivity level 1
- Zener voltage 2.4V~36V

### 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

### ■ Maximum Ratings ( $T_a=25^\circ\text{C}$ Unless otherwise specified)

Characteristic	Symbol	Value	Units
Maximum forward voltage @ $I_F=10\text{mA}$	$V_F$	0.9	V
Power dissipation	$P_D$	350	mW
Peak forward surge current*	$I_{FSM}$	2.0	A
Operation temperature	$T_J$	-55~+150	$^\circ\text{C}$
Storage temperature range	$T_{STG}$	-55~+150	$^\circ\text{C}$



# BZX84B2V4 THRU BZX84B36

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## ■ Electrical Characteristics (T<sub>a</sub>=25°C Unless otherwise specified)

Type number	Marking code	Nominal zener voltage			Maximum zener impedance				Max reverse leakage current		Typical temperature coefficient @I <sub>ZTC</sub>	
		V <sub>Z</sub> (V) at I <sub>ZT</sub> =5mA			Z <sub>ZT</sub> (Ω)@I <sub>ZT</sub>		Z <sub>ZK</sub> (Ω)@I <sub>ZK</sub>		I <sub>R</sub> (uA) @ V <sub>R</sub>			
		Min.	Typ.	Max.	Max	I <sub>ZT</sub> (mA)	Max	I <sub>ZK</sub> (mA)	Max	V <sub>R</sub> (V)	mV/°C	
BZX84B2V4	Z11.	2.34	2.4	2.46	100	5	600	1	45	1	-3.5	0
BZX84B2V7	Z12.	2.63	2.7	2.77	100	5	600	1	20	1	-3.5	0
BZX84B3V0	Z13.	2.92	3.0	3.08	100	5	600	1	10	1	-3.5	0
BZX84B3V3	Z14.	3.21	3.3	3.39	95	5	600	1	15	1	-3.5	0
BZX84B3V6	Z15.	3.52	3.6	3.67	95	5	600	1	15	1	-3.5	0
BZX84B3V9	Z16.	3.82	3.9	3.98	95	5	600	1	10	1	-3.5	0
BZX84B4V3	Z17.	4.21	4.3	4.39	95	5	600	1	3	1	-3.5	0
BZX84B4V7	Z1.	4.61	4.7	4.79	80	5	500	1	3	2	-3.5	0.2
BZX84B5V1	Z2.	5.0	5.1	5.2	60	5	480	1	2	2	-2.7	1.2
BZX84B5V6	Z3.	5.49	5.6	5.71	40	5	400	1	1	2	-2.0	2.5
BZX84B6V2	Z4.	6.08	6.2	6.32	10	5	150	1	3	4	0.4	3.7
BZX84B6V8	Z5.	6.66	6.8	6.94	15	5	80	1	2	4	1.2	4.5
BZX84B7V5	Z6.	7.35	7.5	7.65	15	5	80	1	1	5	2.5	5.3
BZX84B8V2	Z7.	8.04	8.2	8.36	15	5	80	1	0.7	5	3.2	6.2
BZX84B9V1	Z8.	8.92	9.1	9.28	15	5	100	1	0.5	6	3.8	7.0
BZX84B10	Z9.	9.8	10	10.2	20	5	150	1	0.2	7	4.5	8.0
BZX84B11	Y1.	10.78	11	11.22	20	5	150	1	0.1	8	5.4	9.0
BZX84B12	Y2.	11.76	12	12.24	25	5	150	1	0.1	8	6.0	10.0
BZX84B13	Y3.	12.74	13	13.3	30	5	170	1	0.1	8	7.0	11.0
BZX84B15	Y4.	14.7	15	15.3	30	5	200	1	0.1	10.5	9.2	13.0
BZX84B16	Y5.	15.68	16	16.3	40	5	200	1	0.1	11.2	10.4	14.0
BZX84B18	Y6.	17.6	18	18.4	45	5	225	1	0.1	12.6	12.4	16.0
BZX84B20	Y7.	19.6	20	20.4	55	5	225	1	0.1	14	14.4	18.0
BZX84B22	Y8.	21.56	22	22.44	55	5	250	1	0.1	15.4	16.4	20.0
BZX84B24	Y9.	23.52	24	24.5	70	5	250	1	0.1	16.8	18.4	22.0
BZX84B27	Y10.	26.46	27	27.54	80	5	300	1	0.1	18.9	21.4	25.3
BZX84B30	Y11.	29.4	30	30.6	80	5	300	1	0.1	21	24.4	29.4
BZX84B33	Y12.	32.34	33	33.7	80	5	325	1	0.1	23.1	27.4	33.4
BZX84B36	Y13.	35.28	36	36.72	90	5	350	1	0.1	25.2	30.4	37.4



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### ■ Thermal Characteristics

Parameter	Symbol	Unit	Value
Thermal resistance, junction-to-ambient	$R_{\theta J-A}^{(1)}$	°C/W	357
Thermal resistance, junction-to-case	$R_{\theta J-C}^{(1)}$	°C/W	286

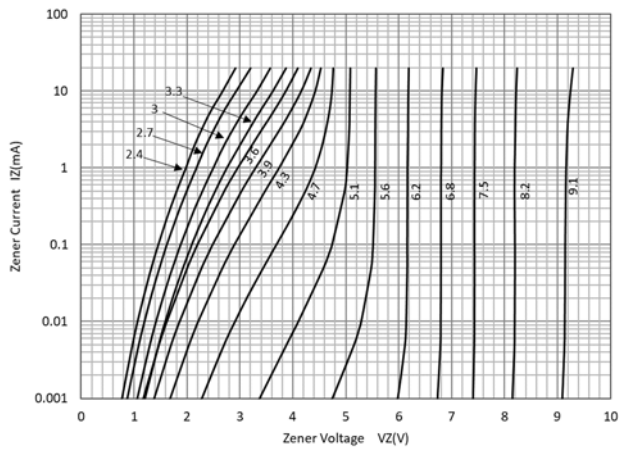
**Note:**

(1) Device mounted on PCB, single-sided copper, with standard footprint

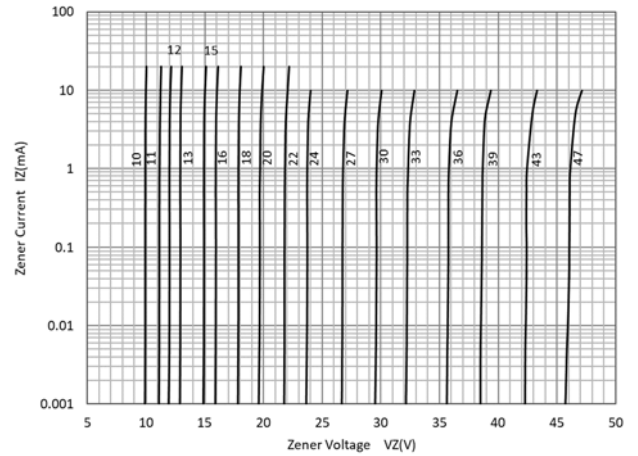


## ■ Characteristics

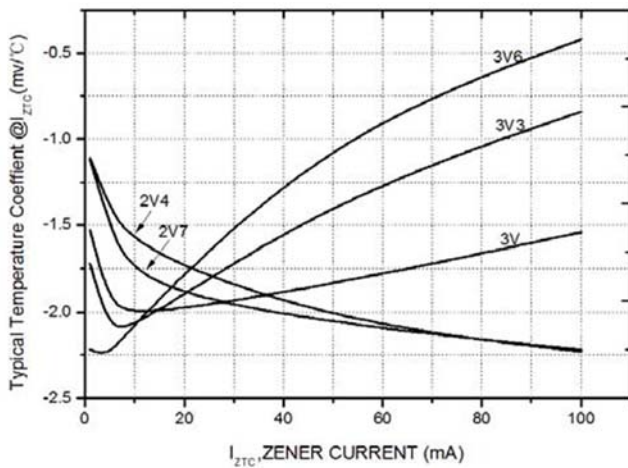
### Fig 1: Zener Breakdown Characteristics



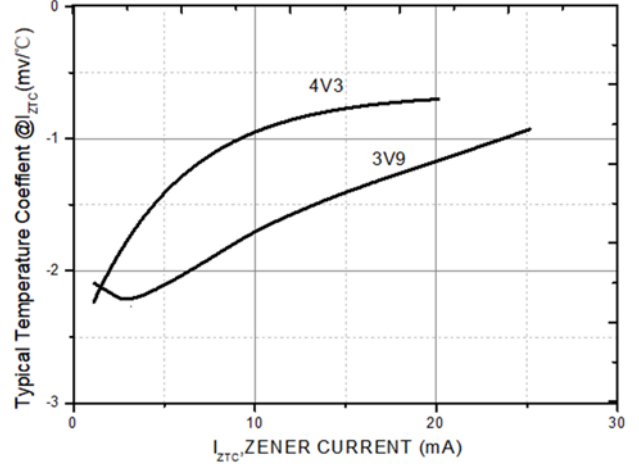
### Fig 2: Zener Breakdown Characteristics



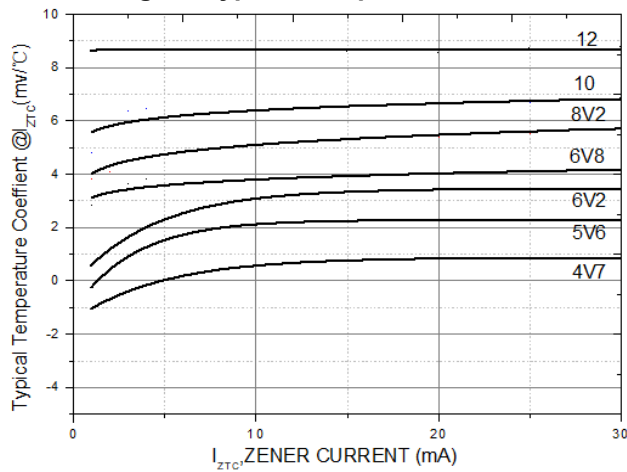
### Fig 3 Typical Temperature Coefficient



### Fig 4: Typical Temperature Coefficient



### Fig 5: Typical Temperature Coefficient





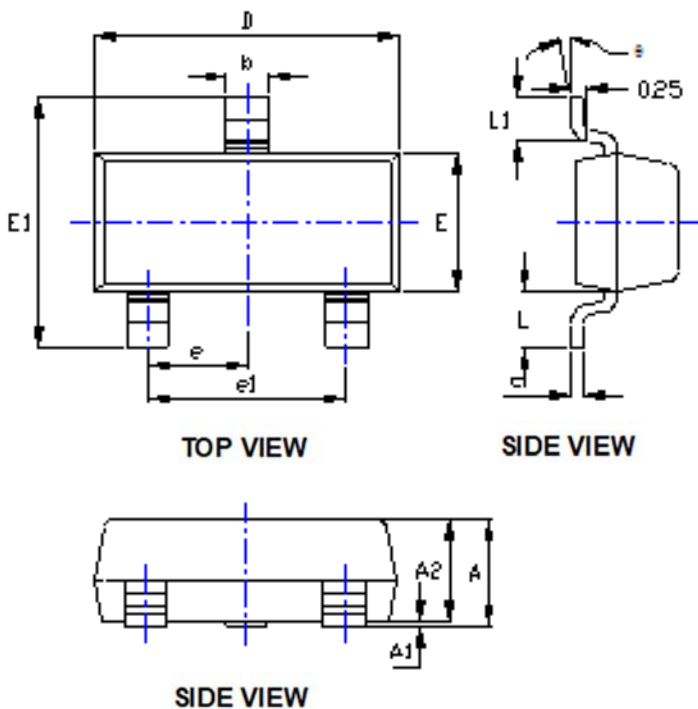
# BZX84B2V4 THRU BZX84B36

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## Ordering Information

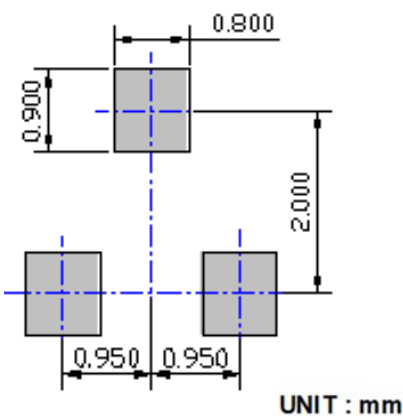
Preferred P/N	Packing code	Unit weight(g)	Minimum package(pcs)	Inner box quantity(pcs)	Outer carton quantity(pcs)	Delivery mode
BZX84B2V4 THRU BZX84B36	F2	Approximate 0.008	3000	30000	120000	7" reel
BZX84B2V4 THRU BZX84B36	F4	Approximate 0.008	10000	/	210000	13" reel

## Outline Dimensions



SYMBOL	DIMENSIONS			
	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	0.020	0.300	0.500
θ	0°	8°	0°	8°

## Suggested Pad Layout





## BZX84B2V4 THRU BZX84B36

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