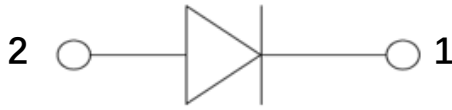


## Small Signal Zener Diodes



**SOD323**

### Features

- Epoxy meets UL-94 V-0 flammability rating and halogen free
- Moisture Sensitivity Level 1
- Zener Voltage 3.6V~36V
- $V_z$ -tolerance  $\pm 2\%$  approximately
- ESD Rating of Class 3 ( $> 16$  kV) per Human Body Model
- Part no. with suffix "Q" means AEC-Q101 qualified

### Applications

- General regulation functions

### Mechanical Data

- **Case:** SOD323
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** Cathode line denotes the cathode end

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

PARAMETER	SYMBOL	UNIT	VALUE
Power Dissipation	$P_D^{(1)}$	mW	300
			$\leq 2.4$ mW/ $^\circ\text{C}$ (Derate above $25^\circ\text{C}$ )
Storage Temperature Range	$T_{stg}$	$^\circ\text{C}$	-55~+150
Junction Temperature	$T_J$	$^\circ\text{C}$	-55~+150
Maximum Regulator Current	$I_{ZM}$	mA	$P_D / V_z$
Maximum Forward Voltage ( $I_F=10\text{mA}_{dc}$ )	$V_F$	V	0.9
Thermal Resistance Junction to Ambient Air*	$R_{thJA}^{(1)}$	$^\circ\text{C} / \text{W}$	415

(1) Device mounted on an FR4 PCB (1.0 x 1.0 x 0.06 inch), single-sided copper, tin-plated and standard footprint.

### ■ Ordering Information (Example)

PREFERRED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
BZT52B3V6SQ THRU BZT52B36SQ	F2	Approximate 0.0045	3000	30000	120000	7" reel



# BZT52B3V6SQ THRU BZT52B36SQ

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

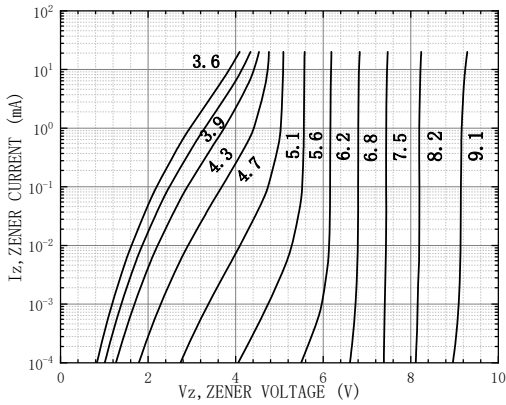
Type Number	Device Marking	V <sub>z</sub> at I <sub>zt</sub> (V)			I <sub>zt</sub>	Z <sub>zt</sub> (Ω)		Z <sub>zk</sub> (Ω)		I <sub>R</sub> (μA)@V <sub>R</sub>		Typical Temperature Coefficient@ I <sub>ZTC</sub> mV/°C		Test Current I <sub>ZTC</sub>
		min.	typ.	max.	mA	I <sub>zt</sub> (mA)	max.	I <sub>zk</sub> (mA)	max.	uA	V <sub>R</sub> (V)	Min	Max	mA
BZT52B3V6SQ	2W4	3.53	3.6	3.67	5	5	90	1.0	600	5	1.0	-3.5	0	5
BZT52B3V9SQ	2W5	3.82	3.9	3.98	5	5	90	1.0	600	3	1.0	-3.5	0	5
BZT52B4V3SQ	2W6	4.21	4.3	4.39	5	5	90	1.0	600	3	1.0	-3.5	0	5
BZT52B4V7SQ	2W7	4.61	4.7	4.79	5	5	80	1.0	500	3	2.0	-3.5	0.2	5
BZT52B5V1SQ	2W8	5.0	5.1	5.2	5	5	60	1.0	480	2	2.0	-2.7	1.2	5
BZT52B5V6SQ	2W9	5.49	5.6	5.71	5	5	40	1.0	400	1	2.0	-2	2.5	5
BZT52B6V2SQ	2WA	6.08	6.2	6.32	5	5	10	1.0	150	3	4.0	0.4	3.7	5
BZT52B6V8SQ	2WB	6.66	6.8	6.94	5	5	15	1.0	80	2	4.0	1.2	4.5	5
BZT52B7V5SQ	2WC	7.35	7.5	7.65	5	5	15	1.0	80	1	5.0	2.5	5.3	5
BZT52B8V2SQ	2WD	8.04	8.2	8.36	5	5	15	1.0	80	0.7	5.0	3.2	6.2	5
BZT52B9V1SQ	2WE	8.92	9.1	9.28	5	5	15	1.0	100	0.5	6.0	3.8	7.0	5
BZT52B10SQ	WG	9.8	10	10.2	5	5	20	1.0	150	0.2	7.0	4.5	8.0	5
BZT52B11SQ	2WG	10.78	11	11.22	5	5	20	1.0	150	0.1	8.0	5.4	9.0	5
BZT52B12SQ	WI	11.76	12	12.24	5	5	25	1.0	150	0.1	8.0	6.0	10.0	5
BZT52B13SQ	2WI	12.74	13	13.3	5	5	30	1.0	170	0.1	8.0	7.0	11.0	5
BZT52B15SQ	WL	14.7	15	15.3	5	5	30	1.0	200	0.1	10.5	9.2	13.0	5
BZT52B16SQ	WM	15.68	16	16.3	5	5	40	1.0	200	0.1	11.2	10.4	14.0	5
BZT52B18SQ	WN	17.6	18	18.4	5	5	45	1.0	225	0.1	12.6	12.4	16.0	5
BZT52B20SQ	2WM	19.6	20	20.4	5	5	55	1.0	225	0.1	14.0	14.4	18.0	5
BZT52B22SQ	2WN	21.56	22	22.44	5	5	55	1.0	250	0.1	15.4	16.4	20.0	5
BZT52B24SQ	WR	23.52	24	24.5	5	5	70	1.0	250	0.1	16.8	18.4	22.0	5
BZT52B27SQ	2WP	26.46	27	27.54	2	2	80	0.5	300	0.1	18.9	21.4	25.3	2
BZT52B30SQ	2WQ	29.4	30	30.6	2	2	80	0.5	300	0.1	21.0	24.4	29.4	2
BZT52B33SQ	2WR	32.34	33	33.7	2	2	80	0.5	325	0.1	23.1	27.4	33.4	2
BZT52B36SQ	2WS	35.28	36	36.72	2	2	90	0.5	350	0.1	25.2	30.4	37.4	2



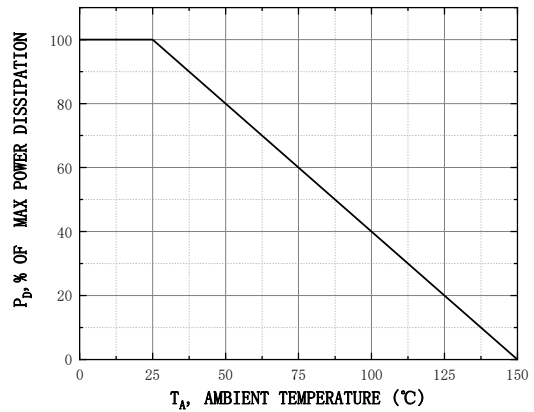
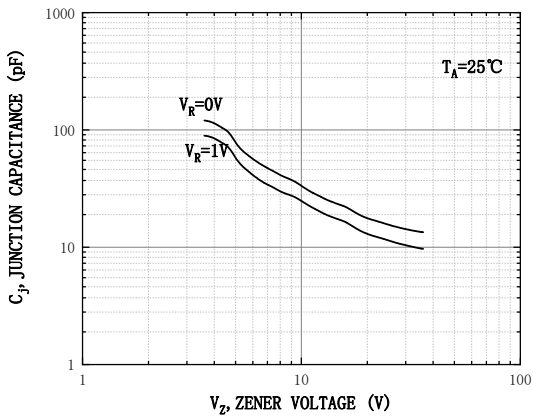
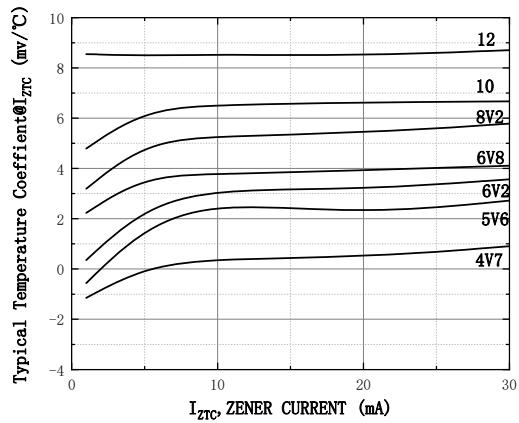
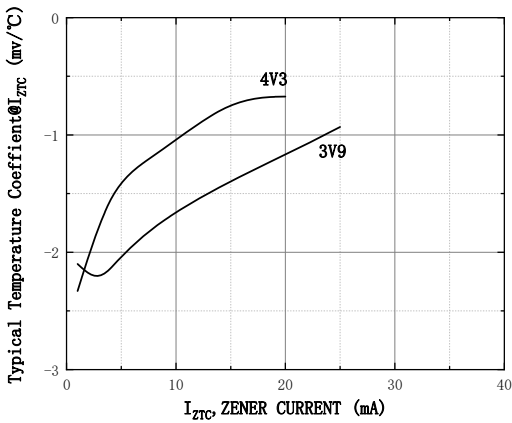
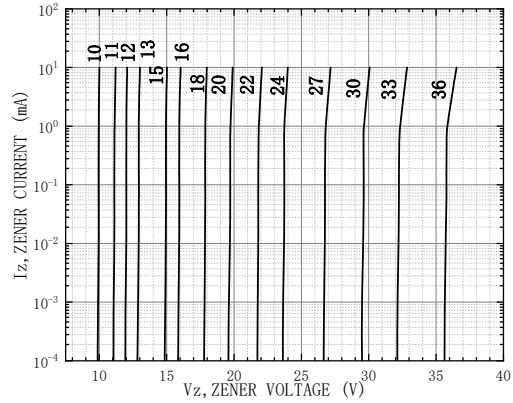
# BZT52B3V6SQ THRU BZT52B36SQ

## ■ Characteristics (Typical)

ZENER BREAKDOWN CHARACTERISTICS

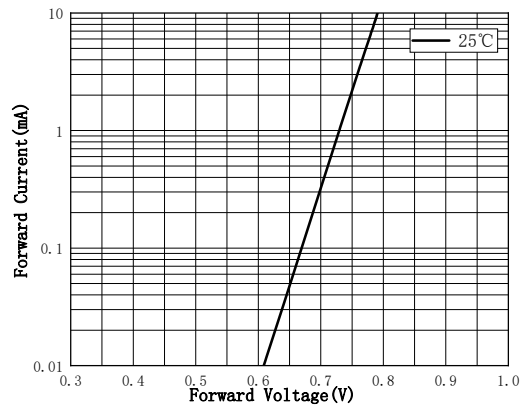
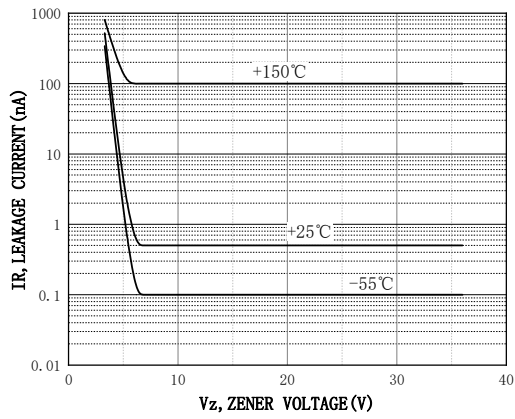


ZENER BREAKDOWN CHARACTERISTICS





# BZT52B3V6SQ THRU BZT52B36SQ

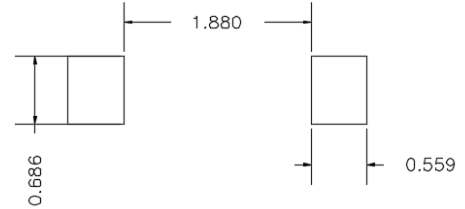
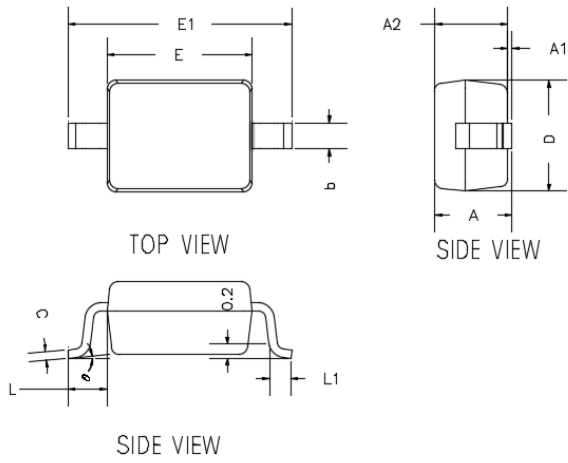




# BZT52B3V6SQ THRU BZT52B36SQ

## ■ Outline Dimensions

SOD-323



UNIT: mm

SUGGESTED SOLDER PAD LAYOUT

DIMENSIONS				
DIM	INCHES		MM	
	MIN	MAX	MIN	MAX
A	---	0.0393	---	1.0000
A1	0.0000	0.0039	0.0000	0.1000
A2	0.0314	0.0354	0.8000	0.9000
b	0.0098	0.0157	0.2500	0.4000
c	0.0031	0.0059	0.0800	0.1500
D	0.0472	0.0551	1.2000	1.4000
E	0.0629	0.0709	1.6000	1.8000
E1	0.0984	0.1063	2.5000	2.7000
L	0.0187TYP		0.475TYP	
L1	0.0098	0.0157	0.250	0.400
θ	0°	8°	0°	8°

## ■ Marking Information



Note:

1. All marking is at middle of the product body
2. All marking is in laser marking
3. XX is Marking Code
4. Body color: Black



## BZT52B3V6SQ THRU BZT52B36SQ

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