

Small Signal Zener Diodes



SOD323

Features

- Epoxy meets UL-94 V-0 flammability rating and halogen free
- Moisture Sensitivity Level 1
- Zener Voltage 2.4V~47V
- V_z -tolerance $\pm 5\%$ approximately
- Part no. with suffix "Q" means AEC-Q101 qualified

Applications

- General regulation functions
- Automotive

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	mW	300
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 (IF=10mA)	V_F	V	0.9
Thermal Resistance Junction to Ambient Air*	$R_{\theta JA}$	$^\circ\text{C} / \text{W}$	415

■ Ordering Information (Example)

PREFERRED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
BZT52C2V4SQ THRU BZT52C47SQ	F2	Approximate 0.0045	3000	30000	120000	7" reel



BZT52C2V4SQ THRU BZT52C47SQ

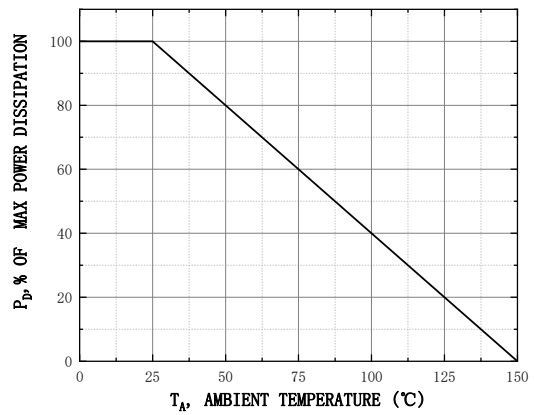
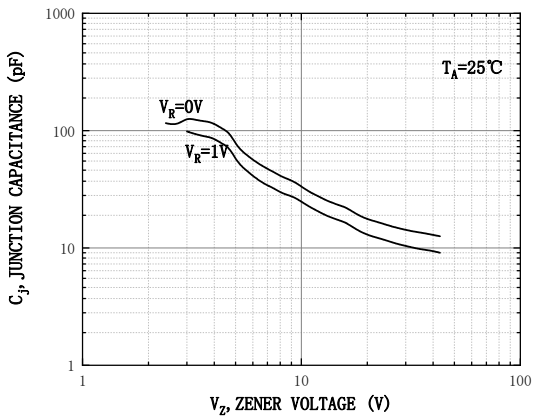
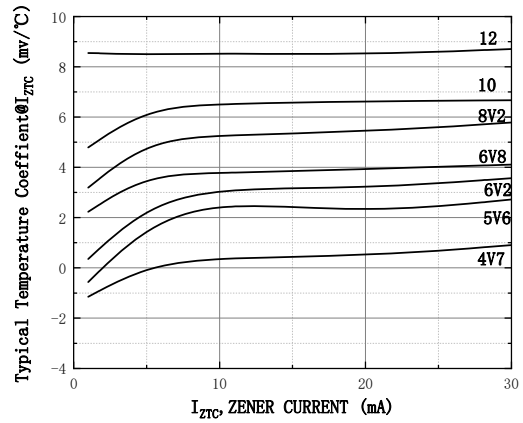
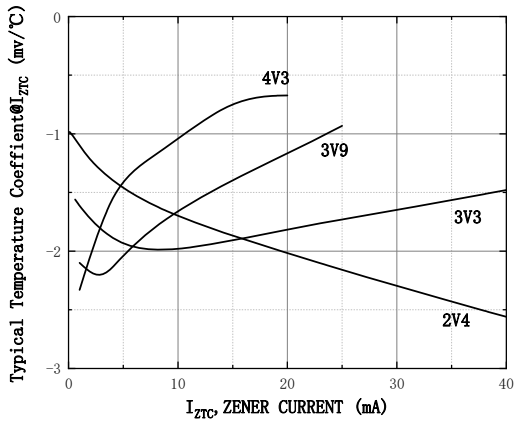
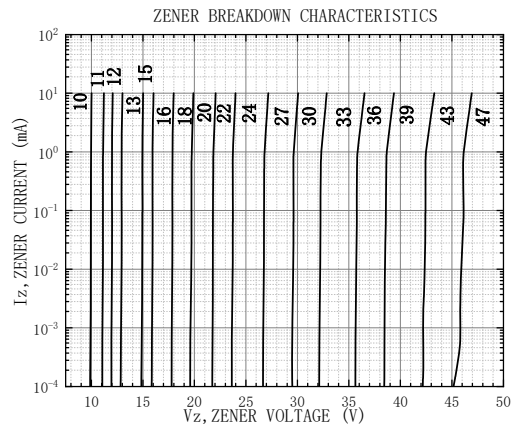
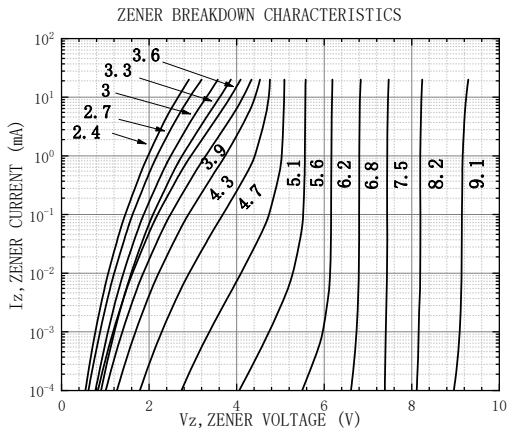
■ Electrical Characteristics (T_a=25°C Unless otherwise specified)

Type Number	Device Marking	V _z at I _{zt} (V)			I _{zt} mA	Z _{zt} (Ω)		Z _{zk} (Ω)		I _R (μA)@V _R		Typical Temperature Coefficient@ I _{ZTC} mV/°C		Test Current I _{ZTC} mA
		min.	typ.	max.		I _{zt} (mA)	max.	I _{zk} (mA)	max.	uA	V _R (V)	Min	Max	
BZT52C2V4SQ	WX	2.28	2.4	2.56	5	5	100	1.0	600	50	1.0	-3.5	0	5
BZT52C2V7SQ	W1	2.5	2.7	2.9	5	5	100	1.0	600	20	1.0	-3.5	0	5
BZT52C3V0SQ	W2	2.8	3.0	3.2	5	5	95	1.0	600	10	1.0	-3.5	0	5
BZT52C3V3SQ	W3	3.1	3.3	3.5	5	5	95	1.0	600	5	1.0	-3.5	0	5
BZT52C3V6SQ	W4	3.4	3.6	3.8	5	5	90	1.0	600	5	1.0	-3.5	0	5
BZT52C3V9SQ	W5	3.7	3.9	4.1	5	5	90	1.0	600	3	1.0	-3.5	0	5
BZT52C4V3SQ	W6	4.0	4.3	4.6	5	5	90	1.0	600	3	1.0	-3.5	0	5
BZT52C4V7SQ	W7	4.4	4.7	5.0	5	5	80	1.0	500	3	2.0	-3.5	0.2	5
BZT52C5V1SQ	W8	4.8	5.1	5.4	5	5	60	1.0	480	2	2.0	-2.7	1.2	5
BZT52C5V6SQ	W9	5.2	5.6	6.0	5	5	40	1.0	400	1	2.0	-2	2.5	5
BZT52C6V2SQ	WA	5.8	6.2	6.6	5	5	10	1.0	150	3	4.0	0.4	3.7	5
BZT52C6V8SQ	WB	6.4	6.8	7.2	5	5	15	1.0	80	2	4.0	1.2	4.5	5
BZT52C7V5SQ	WC	7.0	7.5	7.9	5	5	15	1.0	80	1	5.0	2.5	5.3	5
BZT52C8V2SQ	WD	7.7	8.2	8.7	5	5	15	1.0	80	0.7	5.0	3.2	6.2	5
BZT52C9V1SQ	WE	8.5	9.1	9.6	5	5	15	1.0	100	0.5	6.0	3.8	7.0	5
BZT52C10SQ	WF	9.4	10	10.6	5	5	20	1.0	150	0.2	7.0	4.5	8.0	5
BZT52C11SQ	WG	10.4	11	11.6	5	5	20	1.0	150	0.1	8.0	5.4	9.0	5
BZT52C12SQ	WH	11.4	12	12.7	5	5	25	1.0	150	0.1	8.0	6.0	10.0	5
BZT52C13SQ	WI	12.4	13	14.1	5	5	30	1.0	170	0.1	8.0	7.0	11.0	5
BZT52C15SQ	WJ	13.8	15	15.6	5	5	30	1.0	200	0.1	10.5	9.2	13.0	5
BZT52C16SQ	WK	15.3	16	17.1	5	5	40	1.0	200	0.1	11.2	10.4	14.0	5
BZT52C18SQ	WL	16.8	18	19.1	5	5	45	1.0	225	0.1	12.6	12.4	16.0	5
BZT52C20SQ	WM	18.8	20	21.2	5	5	55	1.0	225	0.1	14.0	14.4	18.0	5
BZT52C22SQ	WN	20.8	22	23.3	5	5	55	1.0	250	0.1	15.4	16.4	20.0	5
BZT52C24SQ	WO	22.8	24	25.6	5	5	70	1.0	250	0.1	16.8	18.4	22.0	5
BZT52C27SQ	WP	25.1	27	28.9	2	2	80	0.5	300	0.1	18.9	21.4	25.3	2
BZT52C30SQ	WQ	28	30	32	2	2	80	0.5	300	0.1	21.0	24.4	29.4	2
BZT52C33SQ	WR	31	33	35	2	2	80	0.5	325	0.1	23.1	27.4	33.4	2
BZT52C36SQ	WS	34	36	38	2	2	90	0.5	350	0.1	25.2	30.4	37.4	2
BZT52C39SQ	WT	37	39	41	2	2	130	0.5	350	0.1	27.3	33.4	41.2	2
BZT52C43SQ	WU	40	43	46	2	2	100	0.5	700	0.1	32	37.6	50.6	2
BZT52C47SQ	WV	44	47	50	2	2	100	0.5	750	0.1	35	42.0	55.8	2



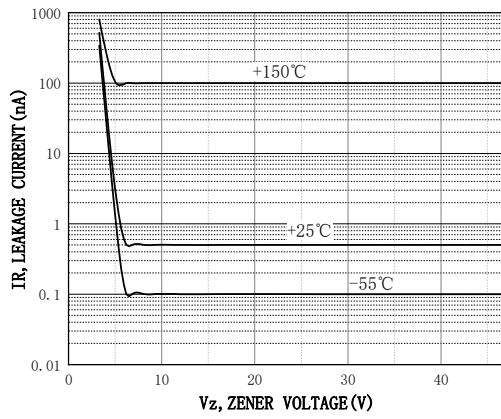
BZT52C2V4SQ THRU BZT52C47SQ

■ Characteristics (Typical)





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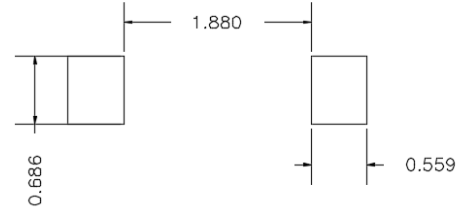
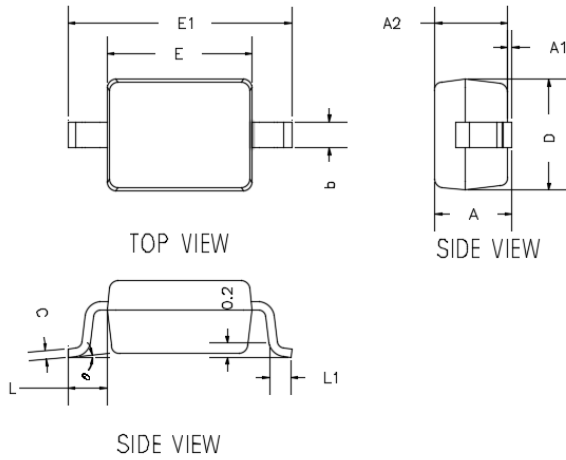




BZT52C2V4SQ THRU BZT52C47SQ

■ 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



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