

BZT52C2V0SL THRU BZT52C47SL

Zener Diodes



Features

- Moisture sensitivity level 1
- Zener voltage 2V~47V

Application

- Linear voltage regulator
- DC regulator
- Small-signal surge protection

Mechanical data

- **Package:** SOD-323
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102

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

Parameter	Symbol	Unit	Value
Forward voltage @ $I_F=100\text{mA}$	V_F	V	1
Power dissipation	P_D	mW	200
Maximum regulator current	I_{ZM}	mA	P_D / V_Z
Junction temperature	T_J	$^{\circ}\text{C}$	-55 to +150
Storage temperature	T_{STG}	$^{\circ}\text{C}$	-55 to +150

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

Type number	Device marking	V _Z @ I _{ZT} (V)			Z _{VT} (Ω)		Z _{ZK} (Ω)		I _R (μA) @V _R		C _j @V _R =0V (pF)
		Min.	Typ.	Max.	I _{ZT} (mA)	Max.	I _{ZK} (mA)	Max.	Max	V _R (V)	MAX
BZT52C2V0SL	L1	1.9	2.0	2.1	5	100	1	600	90	1.0	/
BZT52C2V2SL	L2	2.09	2.2	2.31	5	100	1	600	90	1.0	/
BZT52C2V4SL	L3	2.28	2.4	2.52	5	85	1	600	50	1.0	/
BZT52C2V7SL	LT1	2.57	2.7	2.84	5	85	1	600	10	1.0	/
BZT52C3V0SL	LT2	2.85	3.0	3.15	5	85	1	600	4	1.0	/
BZT52C3V3SL	LT3	3.14	3.3	3.47	5	85	1	600	2	1.0	/
BZT52C3V6SL	LT4	3.42	3.6	3.78	5	85	1	600	2	1.0	/
BZT52C3V9SL	LT5	3.71	3.9	4.10	5	85	1	600	2	1.0	/
BZT52C4V3SL	LT6	4.09	4.3	4.52	5	80	1	600	1	1.0	/
BZT52C4V7SL	LT7	4.47	4.7	4.94	5	70	1	500	0.5	1.0	/
BZT52C5V1SL	LT8	4.85	5.1	5.36	5	50	1	480	0.1	1.0	/
BZT52C5V6SL	LT9	5.32	5.6	5.88	5	30	1	400	0.1	1.0	25
BZT52C6V2SL	L09	5.89	6.2	6.51	5	10	1	150	0.1	2.0	25
BZT52C6V8SL	L10	6.46	6.8	7.14	5	8	1	80	0.1	3.0	25
BZT52C7V5SL	L11	7.13	7.5	7.88	5	7	1	50	0.1	5.0	25
BZT52C8V2SL	L13	7.79	8.2	8.61	5	7	1	50	0.1	6.1	25
BZT52C9V1SL	L14	8.65	9.1	9.56	5	10	1	50	0.1	6.8	25
BZT52C10SL	L15	9.50	10.0	10.50	5	15	1	70	0.1	7.5	25
BZT52C11SL	L16	10.45	11.0	11.55	5	20	1	70	0.1	8.2	25
BZT52C12SL	L17	11.40	12.0	12.60	5	20	1	90	0.1	9.0	25
BZT52C13SL	L18	12.40	13.0	13.65	5	26	1	110	0.1	9.7	25
BZT52C15SL	L19	14.25	15.0	15.60	5	30	1	110	0.1	11.0	25
BZT52C16SL	L20	15.30	16.0	16.80	5	40	1	170	0.1	12.0	25
BZT52C18SL	L21	17.10	18.0	18.90	5	45	1	170	0.1	14.0	25

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Type number	Device marking	$V_Z @ I_{ZT} (V)$			$Z_{ZT}(\Omega)$		$Z_{ZK}(\Omega)$		$I_R(\mu A) @ V_R$		$C_j @ V_R=0V (pF)$
		Min.	Typ.	Max.	$I_{ZT}(mA)$	Max.	$I_{ZK}(mA)$	Max.	Max	$V_R(V)$	MAX
BZT52C20SL	L22	19.00	20.0	21.00	5	55	1	220	0.1	15.0	25
BZT52C22SL	L23	20.90	22.0	23.10	5	55	1	220	0.1	17.0	25
BZT52C24SL	L24	22.80	24.0	25.20	5	70	1	220	0.1	18.0	25
BZT52C27SL	L25	25.65	27.0	28.35	5	80	1	220	0.1	20.0	25
BZT52C30SL	L26	28.50	30.0	31.50	5	80	1	220	0.1	22.0	25
BZT52C33SL	L27	31.35	33.0	34.65	5	80	1	220	0.1	24.0	25
BZT52C36SL	L28	34.20	36.0	37.80	5	80	1	220	0.1	27.0	25
BZT52C39SL	L29	37.05	39.0	40.95	2.5	90	0.5	500	0.1	29.0	25
BZT52C43SL	L30	40.85	43.0	45.15	2.5	90	0.5	600	0.1	32.0	25
BZT52C47SL	L31	44.65	47.0	49.35	2.5	110	0.5	700	0.1	35.0	25

■ Thermal Characteristics

Parameter	Symbol	Unit	Value
Thermal resistance, junction-to-ambient	$R_{\theta J-A}^{(1)}$	$^{\circ}C/W$	625
Thermal resistance, junction-to-case	$R_{\theta J-C}^{(1)}$	$^{\circ}C/W$	500

Note:

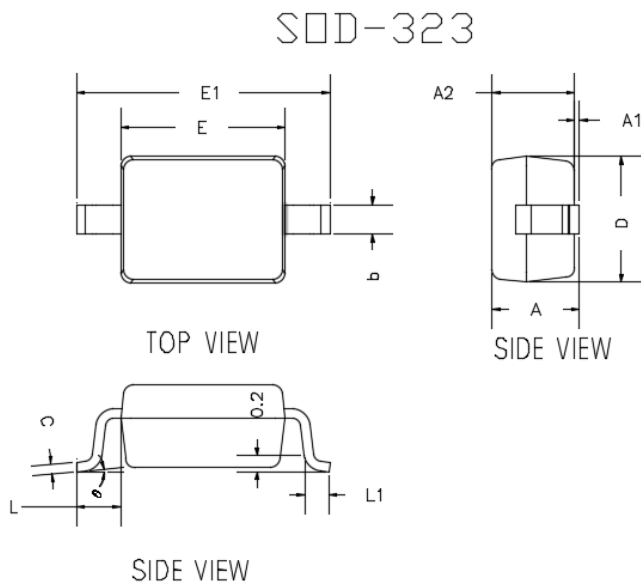
(1) Thermal resistance from junction to ambient and from junction to case mounted on P.C.B. with 8mm*9mm copper pad areas

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■ Ordering Information

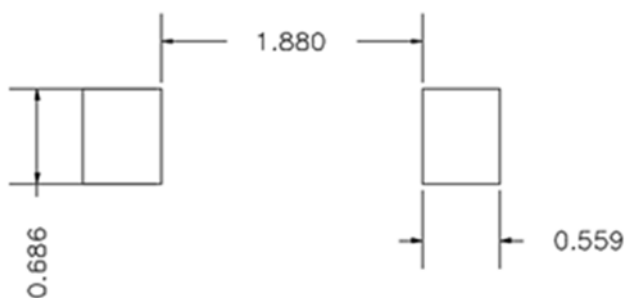
Preferred P/N	Packing code	Unit weight(g)	Minimum package(pcs)	Inner box quantity(pcs)	Outer carton quantity(pcs)	Delivery mode
BZT52C2V0SL THRU BZT52C47SL	F2	Approximate 0.0048	3000	30000	120000	7" reel
BZT52C2V0SL THRU BZT52C47SL	F3	Approximate 0.0048	10000	/	210000	13" reel

■ Outline Dimensions



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°

■ Soldering Footprint



UNIT: mm

SUGGESTED SOLDER PAD LAYOUT

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