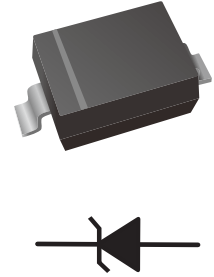


## Silicon Planar Zener Diodes

### Features

- Total power dissipation: Max. 300mW
- Wide zener reverse voltage range 2.0V to 75V
- Small plastic package suitable for surface mounted design
- Tolerance approximately  $\pm 2\%$
- Lead free in comply with EU RoHS 2011/65/EU directives



### Mechanical Data

- Case: SOD-323
- Terminals: Solderable per MIL-STD-750, Method 2026

### Ordering Information

Part Number	Shipping	Reel
LT3Z2V0BS THRU LT3Z75BS-TR3	3000PCS Tape&Reel	7 inches
LT3Z2V0BS THRU LT3Z75BS-TR12	12000PCS Tape&Reel	13 inches

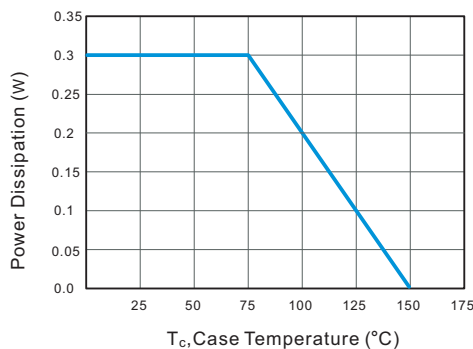
### Absolute Maximum Ratings and characteristics (Ta=25°C)

Parameter	Symbol	Value	Unit
Power Dissipation	$P_{tot}$	300	mW
Forward Voltage at $I_F = 10\text{ mA}$	$V_F$	0.9	V
Typical thermal resistance junction to ambient <sup>(1)</sup>	$R_{\theta JA}$	417	°C/W
Operating and Storage Temperature Range	$T_j, T_{stg}$	-55 ~ +150	°C

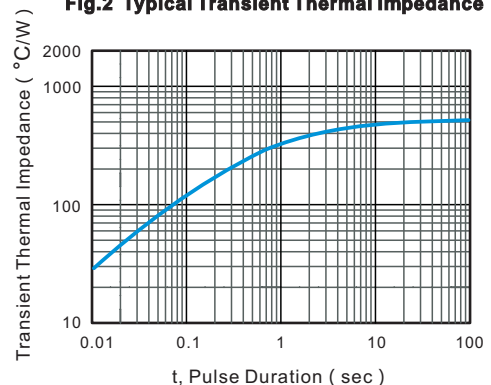
(1) Thermal resistance from junction to ambient at P.C.B. mounted with 2.0" X 2.0" (5 cm X 5 cm) copper areas pads.

### Characteristics Curve

**Fig.1 Maximum Continuous Power Derating**



**Fig.2 Typical Transient Thermal Impedance**



## Characteristics at (Ta=25°C)

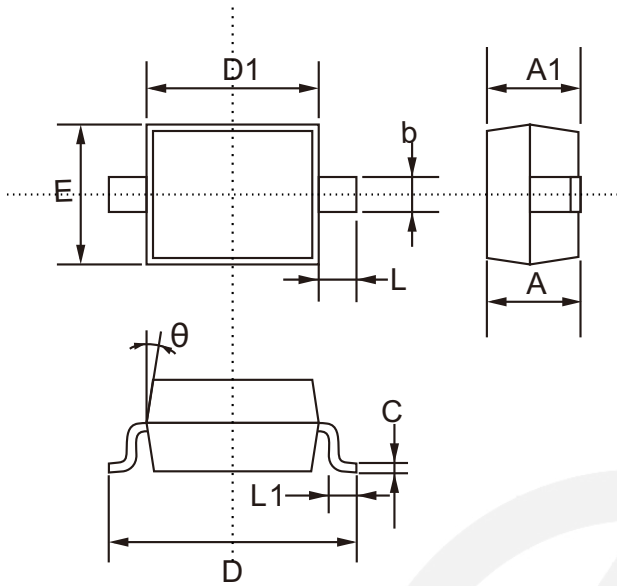
Type	Marking	Zener Voltage Range <sup>(1)</sup>			I <sub>ZT</sub>	Dynamic Impedance	Reverse Current	
		V <sub>ZT</sub> (at I <sub>ZT</sub> )				Z <sub>ZT</sub> (at I <sub>ZT</sub> )	I <sub>R</sub>	at V <sub>R</sub>
		Min (V)	Nom (V)	Max (V)	(mA)	Max (Ω)	Max (μA)	(V)
LT3Z2V0BS	0B	1.96	2.0	2.04	5	100	120	0.5
LT3Z2V2BS	0C	2.16	2.2	2.24	5	100	120	0.7
LT3Z2V4BS	C1	2.35	2.4	2.45	5	100	120	1
LT3Z2V7BS	D1	2.65	2.7	2.75	5	110	120	1
LT3Z3V0BS	E1	2.94	3.0	3.06	5	120	50	1
LT3Z3V3BS	F1	3.23	3.3	3.37	5	130	20	1
LT3Z3V6BS	H1	3.53	3.6	3.67	5	130	10	1
LT3Z3V9BS	J1	3.82	3.9	3.98	5	130	5	1
LT3Z4V3BS	K1	4.21	4.3	4.39	5	130	5	1
LT3Z4V7BS	M1	4.61	4.7	4.79	5	130	2	1
LT3Z5V1BS	N1	5	5.1	5.2	5	130	2	1.5
LT3Z5V6BS	P1	5.49	5.6	5.71	5	80	1	2.5
LT3Z6V2BS	R1	6.08	6.2	6.32	5	50	1	3
LT3Z6V8BS	X1	6.66	6.8	6.94	5	30	0.5	3.5
LT3Z7V5BS	CZ	7.35	7.5	7.65	5	30	0.5	4
LT3Z8V2BS	Z1	8.04	8.2	8.36	5	30	0.5	5
LT3Z9V1BS	A2	8.92	9.1	9.28	5	30	0.5	6
LT3Z10BS	B2	9.8	10	10.2	5	30	0.1	7
LT3Z11BS	C2	10.78	11	11.22	5	30	0.1	8
LT3Z12BS	D2	11.76	12	12.24	5	35	0.1	9
LT3Z13BS	E2	12.74	13	13.26	5	35	0.1	10
LT3Z15BS	F2	14.7	15	15.3	5	40	0.1	11
LT3Z16BS	H2	15.68	16	16.32	5	40	0.1	12
LT3Z18BS	J2	17.64	18	18.36	5	45	0.1	13
LT3Z20BS	K2	19.6	20	20.4	5	50	0.1	15
LT3Z22BS	M2	21.56	22	22.44	5	55	0.1	17
LT3Z24BS	N2	23.52	24	24.48	5	60	0.1	19
LT3Z27BS	P2	26.46	27	27.54	2	70	0.1	21
LT3Z30BS	R2	29.4	30	30.60	2	80	0.1	23
LT3Z33BS	X2	32.34	33	33.66	2	80	0.1	25
LT3Z36BS	Y2	35.28	36	36.72	2	90	0.1	27
LT3Z39BS	Z2	38.22	39	39.78	2	100	0.1	30
LT3Z43BS	A3	42.14	43	43.86	2	130	0.1	33
LT3Z47BS	B3	46.06	47	47.94	2	150	0.1	36
LT3Z51BS	C3	49.98	51	52.02	2	180	0.1	39
LT3Z56BS	D3	54.88	56	57.12	2	200	0.1	43
LT3Z62BS	E3	60.76	62	63.24	2	215	0.1	47
LT3Z68BS	F3	66.64	68	69.36	2	240	0.1	52
LT3Z75BS	H3	73.5	75	76.5	2	265	0.1	56

(1) V<sub>ZT</sub> is tested with pulses (20 ms)



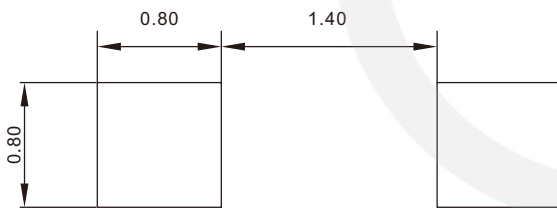
## SOD-323 Package Outline

Unit: mm



SYMBOL	DIMENSIONS	
	MIN.	MAX.
A	0.800	1.100
A1	0.800	0.900
b	0.250	0.400
C	0.080	0.177
D	2.300	2.800
D1	1.400	1.800
E	1.150	1.400
L1	0.100	0.400
L	0.475 TYP.	
$\theta$	8°	

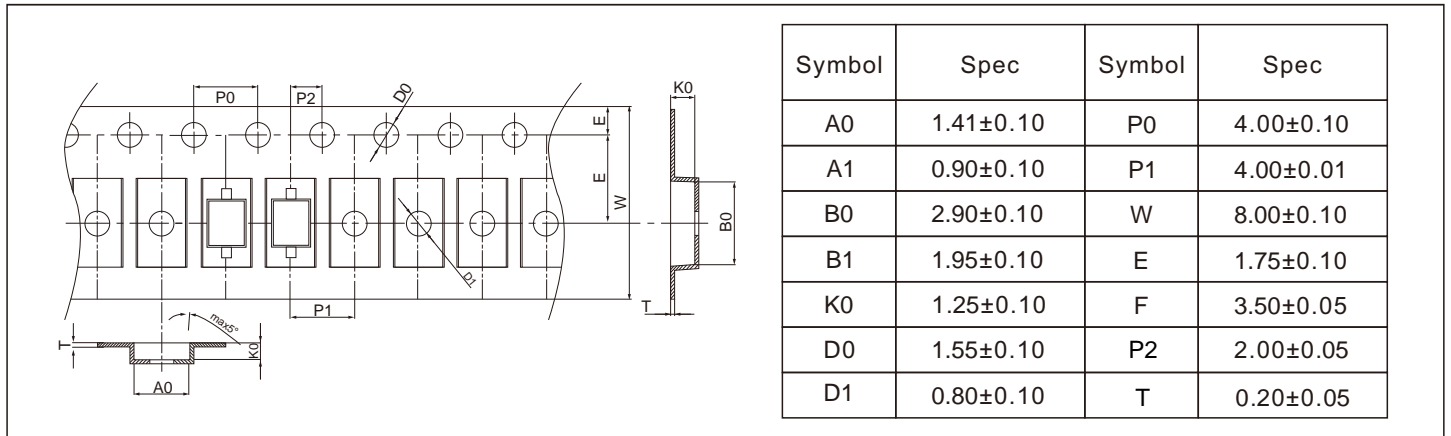
## SOD-323 Suggested Pad Layout



- Note:
1. Controlling dimension: in millimeters.
  2. General tolerance:  $\pm 0.05\text{mm}$
  3. The pad layout is for reference purpose only.

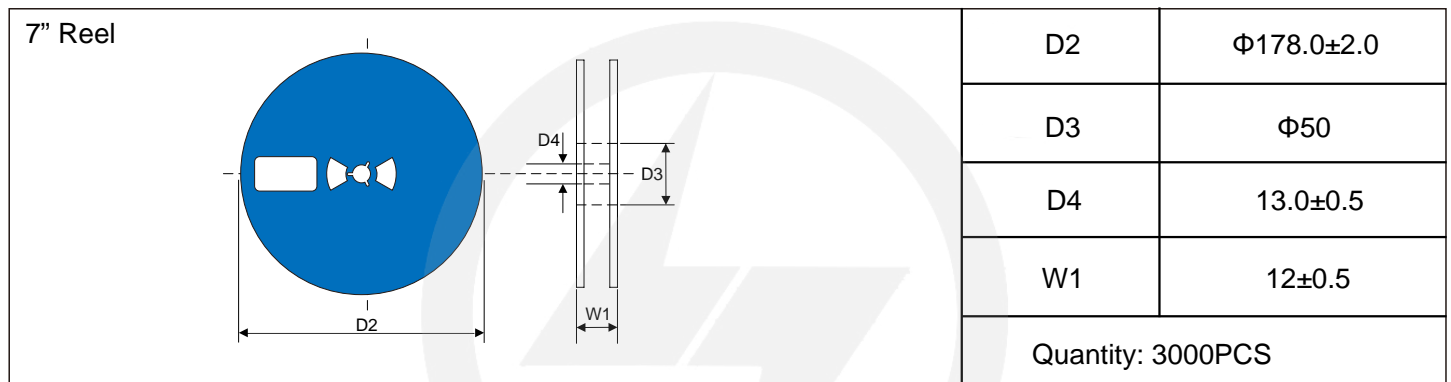
## Carrier Tape Dimensions

Unit : mm



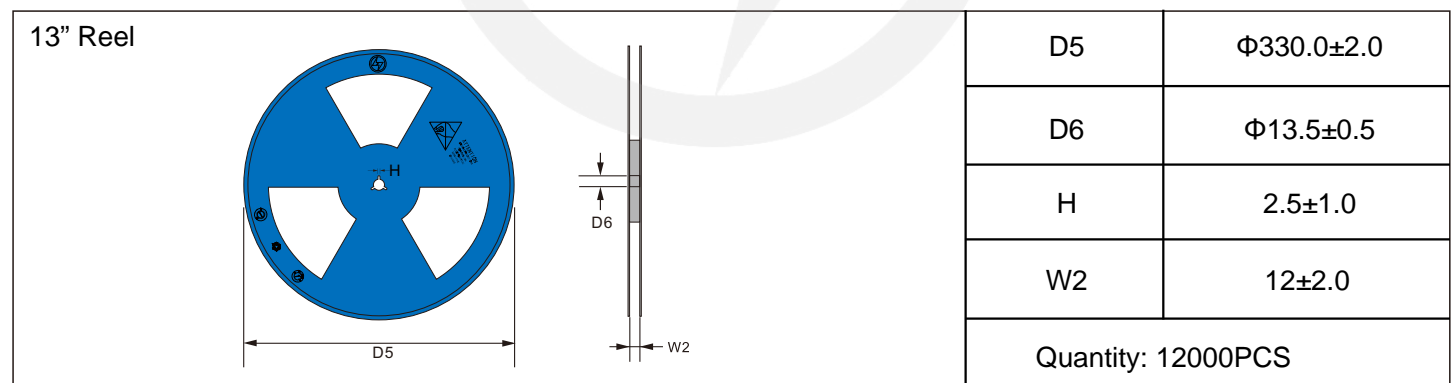
## Reel Dimensions

Unit : mm

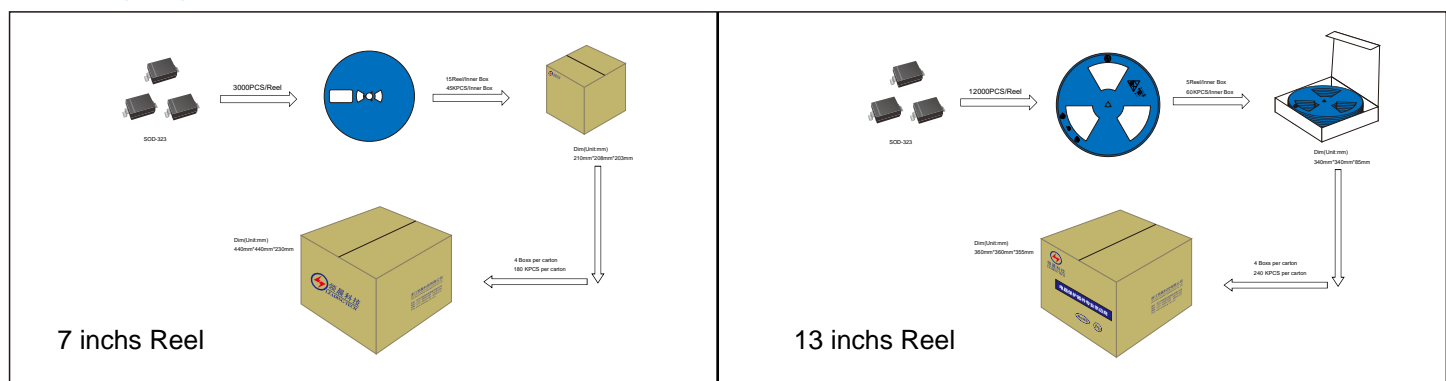


## Reel Dimensions

Unit : mm



## Packaging





Recommended Soldering Conditions



Recommended Conditions

Profile Feature	Pb-Free Assembly
Average ramp-up rate (T <sub>L</sub> to T <sub>P</sub> )	3°C/second max.
Preheat	
-Temperature Min (T <sub>S min</sub> )	150°C
-Temperature Max (T <sub>S max</sub> )	200°C
-Time (min to max) (t <sub>s</sub> )	60-180 seconds
T <sub>S max</sub> to T <sub>L</sub>	
-Ramp-up Rate	3°C/second max.
Time maintained above:	
-Temperature (T <sub>L</sub> )	217°C
-Time (t <sub>L</sub> )	60-150 seconds
Peak Temperature (T <sub>P</sub> )	260°C
Time within 5°C of actual Peak Temperature (t <sub>p</sub> )	20-40 seconds
Ramp-down Rate	6°C/second max.
Time 25°C to Peak Temperature	8 minutes max.

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## Version Update Information

Series NO.	Enactment/Revision Date	Effective Date	Version	Revision content	Revision Reason	Revision Person	Note
01	2024.10.09	2024.10.09	3.0	New File	/	Ding	