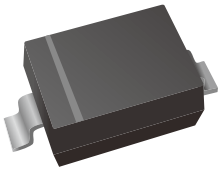
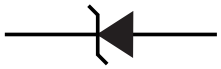
LT52CxxS Series

Zener Diodes

Features



- Low Zener Impedance
- Power Dissipation of 200mW
- High Stability and High Reliability
- Lead free in comply with EU RoHS 2011/65/EU directives



Mechanical Data

- Case:SOD-323
- Polarity: Color band denotes cathode end
- Mounting Position: Any
- Approx. Weight: 4.6mg

Ordering Information

Part Number	Shipping	Reel
LT52CxxS-TR3	3000PCS Tape&Reel	7 inchs
LT52CxxS-TR12	12000PCS Tape&Reel	13 inchs

Maximum Ratings (Ta=25°C unless otherwise Specified)

Parameters	Symbol	Value	Unit
Power Dissipation	Pd	200 1)	mW
Forward Voltage @IF=10mA	Vf	0.9 2)	V
Storage Temperature Range	T_{STG}	-55 to +150	°C
Junction Temperature	T_J	-55 to +150	°C
Operating Temperature Range	T_{OP}	-55 to +150	°C
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	625	°C/W

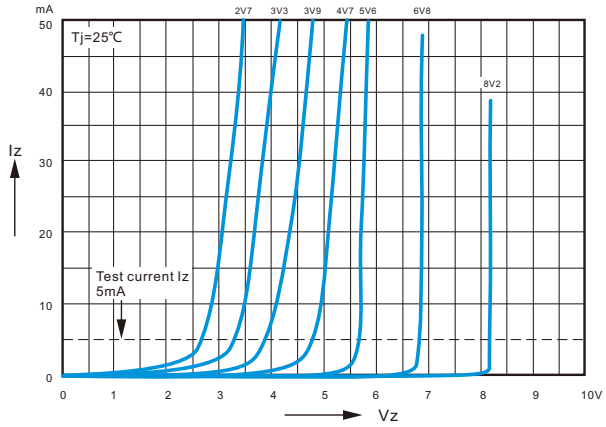
1) Device mounted on ceramic PCB: 7.6mm x 9.4mm x 0.87mm with pad areas 25mm²
2) Short duration test pulse used to minimize self-heating effect

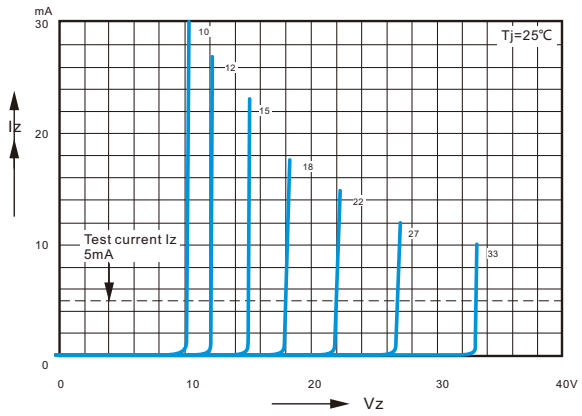
Electrical Characteristics（Ta=25℃ unless otherwise Specified）

Device	Marking	Zener Voltage Range				Maximum Zener Impedance *			Maximum Reverse Current		Typical Temperature coefficent @ IZTC=mV/℃		Test Current IZTC
		Vz@Izt			Izt	Zzt @Izt	Zzk @Izk	Izk	IR	VR			
		Nom(V)	Min(V)	Max(V)	mA	Ω		mA	uA	V	Min	Max	mA
LT52C2V4S	WX	2.4	2.2	2.6	5	100	600	1.0	50	1.0	-3.5	0	5
LT52C2V7S	W1	2.7	2.5	2.9	5	100	600	1.0	20	1.0	-3.5	0	5
LT52C3V0S	W2	3.0	2.8	3.2	5	95	600	1.0	10	1.0	-3.5	0	5
LT52C3V3S	W3	3.3	3.1	3.5	5	95	600	1.0	5	1.0	-3.5	0	5
LT52C3V6S	W4	3.6	3.4	3.8	5	90	600	1.0	5	1.0	-3.5	0	5
LT52C3V9S	W5	3.9	3.7	4.1	5	90	600	1.0	3	1.0	-3.5	0	5
LT52C4V3S	W6	4.3	4.0	4.6	5	90	600	1.0	3	1.0	-3.5	0	5
LT52C4V7S	W7	4.7	4.4	5.0	5	80	500	1.0	3	2.0	-3.5	0.2	5
LT52C5V1S	W8	5.1	4.8	5.4	5	60	480	1.0	2	2.0	-2.7	1.2	5
LT52C5V6S	W9	5.6	5.2	6.0	5	40	400	1.0	1	2.0	-2.0	2.5	5
LT52C6V2S	WA	6.2	5.8	6.6	5	10	150	1.0	3	4.0	0.4	3.7	5
LT52C6V8S	WB	6.8	6.4	7.2	5	15	80	1.0	2	4.0	1.2	4.5	5
LT52C7V5S	WC	7.5	7.0	7.9	5	15	80	1.0	1	5.0	2.5	5.3	5
LT52C8V2S	WD	8.2	7.7	8.7	5	15	80	1.0	0.7	5.0	3.2	6.2	5
LT52C9V1S	WE	9.1	8.5	9.6	5	15	100	1.0	0.5	6.0	3.8	7.0	5
LT52C10S	WF	10	9.4	10.6	5	20	150	1.0	0.2	7.0	4.5	8.0	5
LT52C11S	WG	11	10.4	11.6	5	20	150	1.0	0.1	8.0	5.4	9.0	5
LT52C12S	WH	12	11.4	12.7	5	25	150	1.0	0.1	8.0	6.0	10.0	5
LT52C13S	WI	13	12.4	14.1	5	30	170	1.0	0.1	8.0	7.0	11.0	5
LT52C15S	WJ	15	13.8	15.6	5	30	200	1.0	0.1	10.5	9.2	13.0	5
LT52C16S	WK	16	15.3	17.1	5	40	200	1.0	0.1	11.2	10.4	14.0	5
LT52C18S	WL	18	16.8	19.1	5	45	225	1.0	0.1	12.6	12.4	16.0	5
LT52C20S	WM	20	18.8	21.2	5	55	225	1.0	0.1	14.0	14.4	18.0	5
LT52C22S	WN	22	20.8	23.3	5	55	250	1.0	0.1	15.4	16.4	20.0	5
LT52C24S	WO	24	22.8	25.6	5	70	250	1.0	0.1	16.8	18.4	22.0	5
LT52C27S	WP	27	25.1	28.9	2	80	300	0.5	0.1	18.9	21.4	25.3	2
LT52C30S	WQ	30	28.0	32.0	2	80	300	0.5	0.1	21.0	24.4	29.4	2
LT52C33S	WR	33	31.0	35.0	2	80	325	0.5	0.1	23.1	27.4	33.4	2
LT52C36S	WS	36	34.0	38.0	2	90	350	0.5	0.1	25.2	30.4	37.4	2
LT52C39S	WT	39	37.0	41.0	2	130	350	0.5	0.1	27.3	33.4	41.2	2
LT52C43S	WU	43	40.0	46.0	2	100	700	1.0	0.1	32.0	10.0	12.0	5
LT52C47S	WV	47	44.0	50.0	2	100	750	1.0	0.1	35.0	10.0	12.0	5
LT52C51S	WW	51	48.0	54.0	2	100	750	1.0	0.1	38.0	10.0	12.0	5
LT52C56S	XW	56	52.0	60.0	2	135	700	1.0	0.1	39.0	10.0	12.0	5
LT52C62S	6E	62	58.0	66.0	2	200	1000	1.0	0.2	47.0	10.0	12.0	5
LT52C68S	6F	68	64.0	72.0	2	250	1000	1.0	0.2	52.0	10.0	12.0	5
LT52C75S	6H	75	70.0	79.0	2	300	1000	1.0	0.2	57	10.0	12.0	5

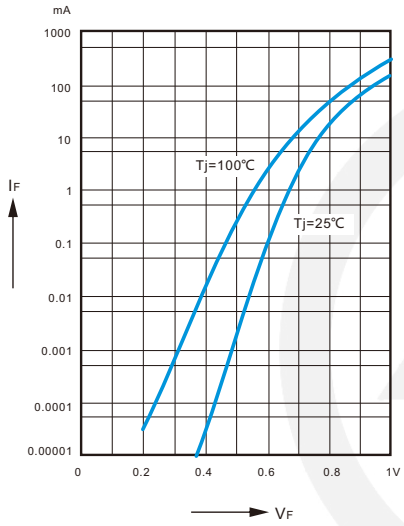
* f=1KHz

Characteristics Curves（Ta=25℃ unless otherwise Specified）

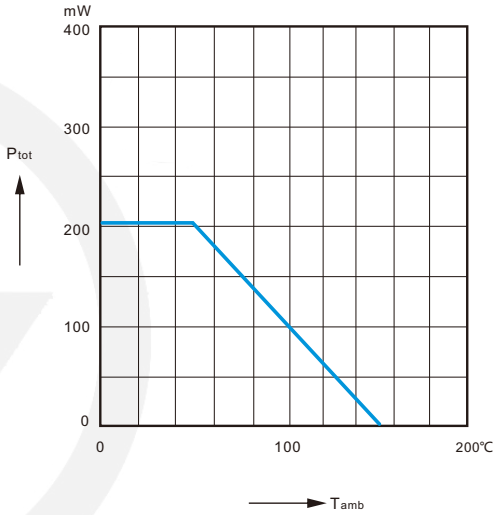




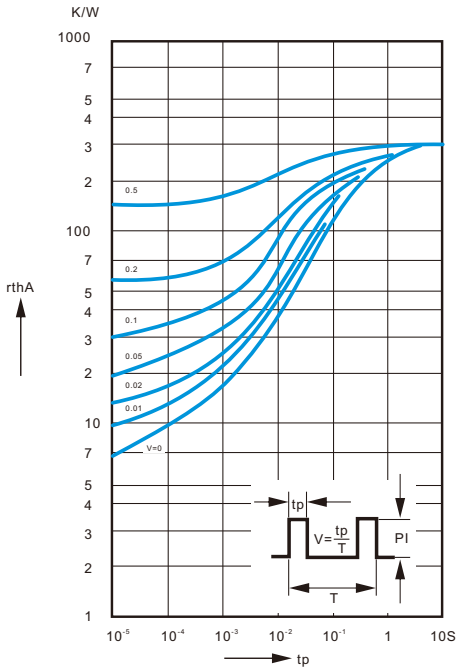
Forward characteristics



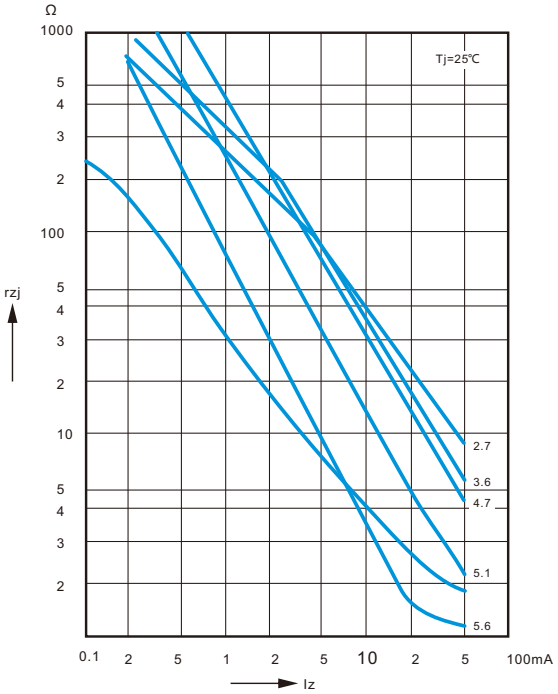
Admissible power dissipation versus ambient temperature



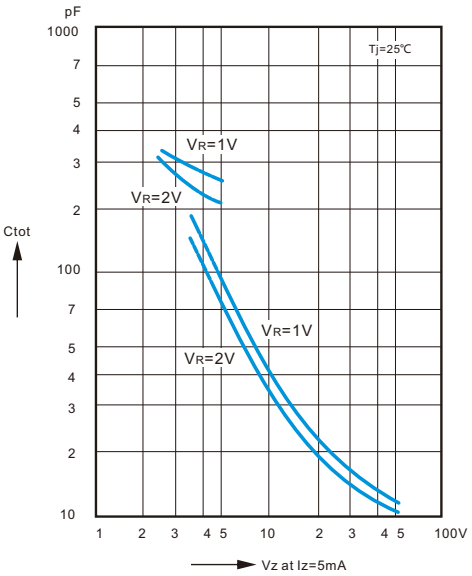
Pulse thermal resistance versus pulse duration



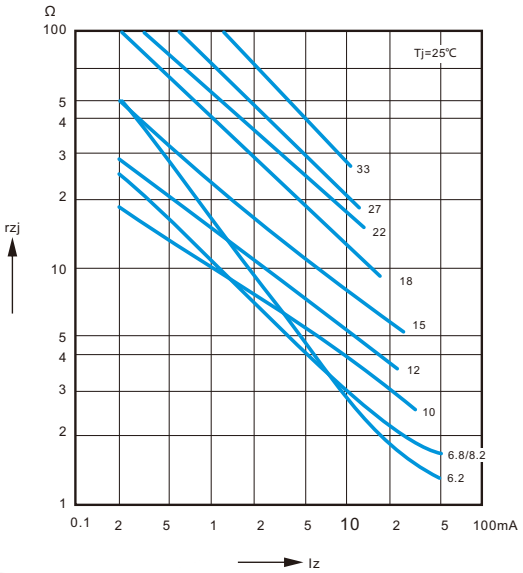
Dynamic resistance versus Zener current



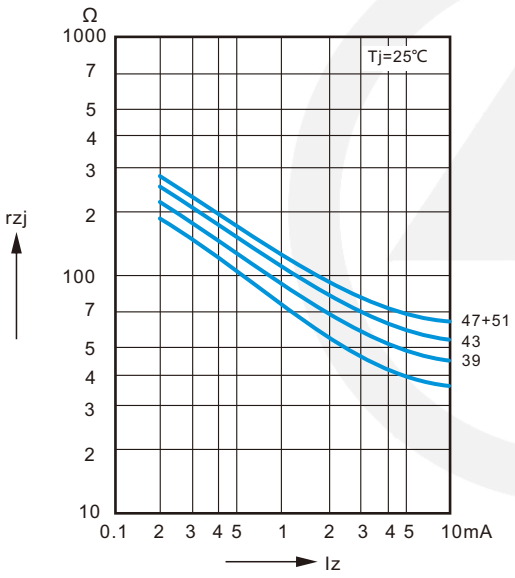
Capacitance versus Zener voltage



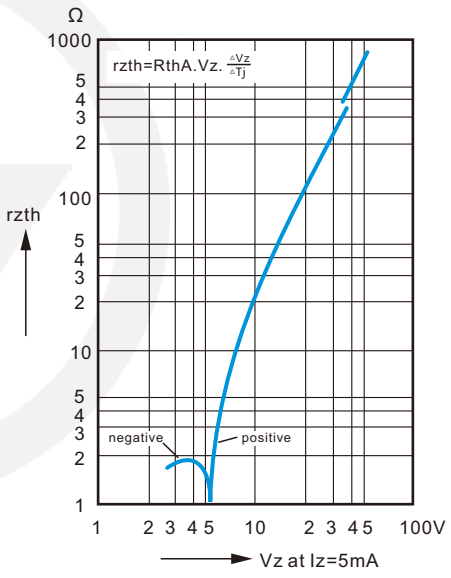
Dynamic resistance versus Zener current



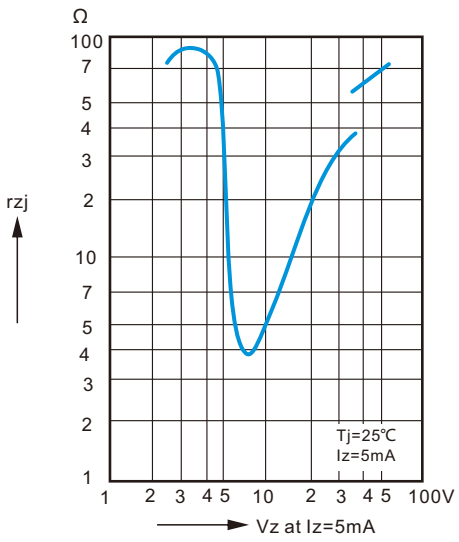
Dynamic resistance versus Zener current



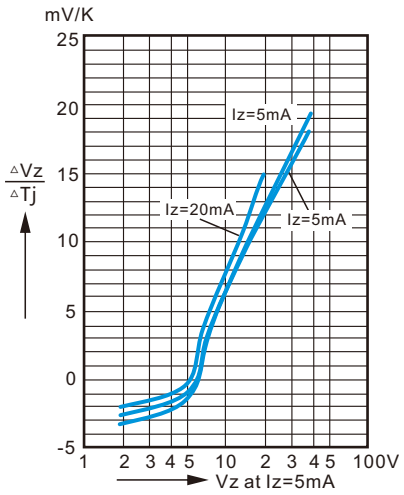
Thermal differential resistance versus Zener voltage



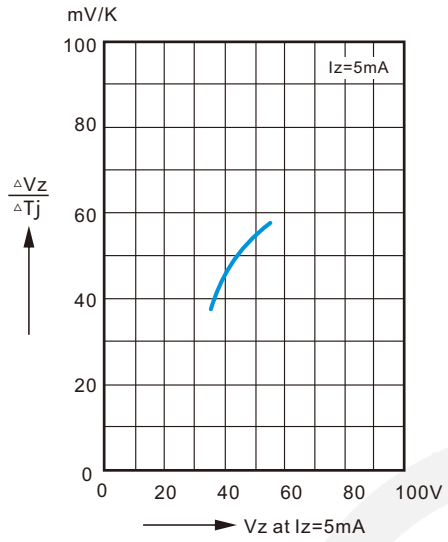
Dynamic resistance versus Zener voltage



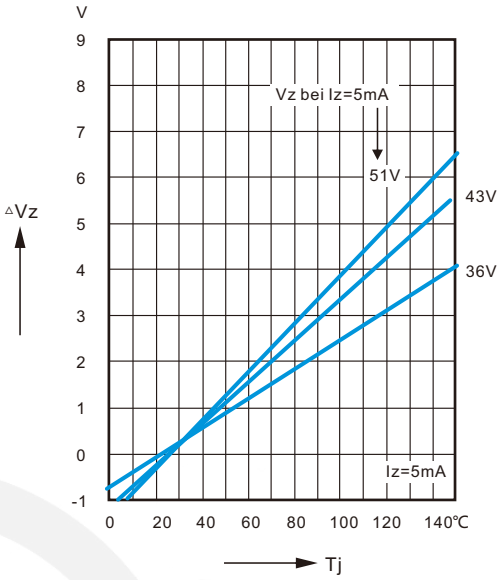
Temperature dependence of Zener voltage versus Zener voltage



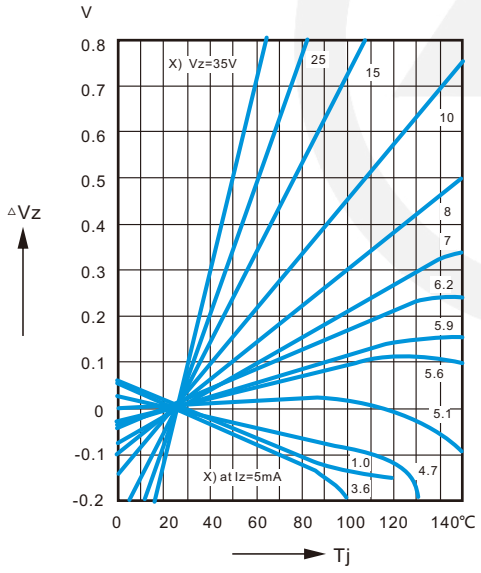
Temperature dependence of Zener voltage versus Zener voltage



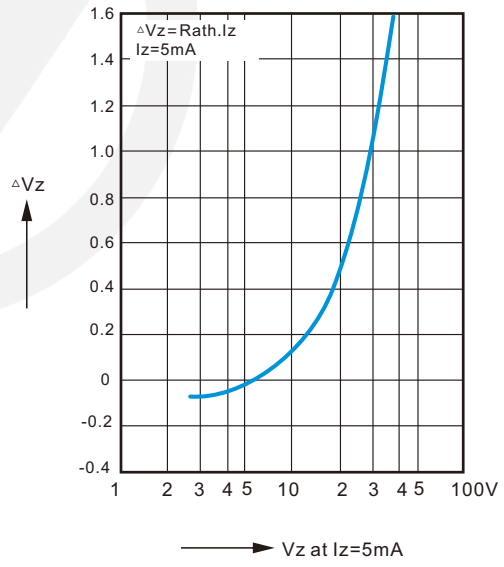
Change of Zener voltage versus junction temperature



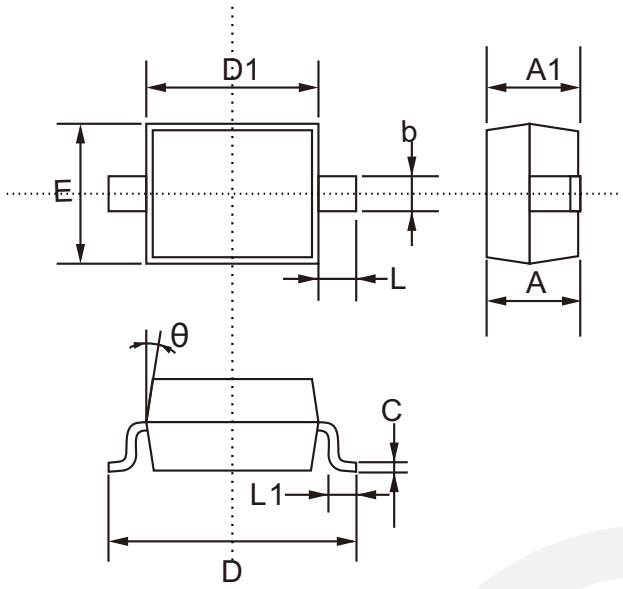
Change of Zener voltage versus junction temperature



Change of Zener voltge from turn-on up to the point of thermal equilibrium versus Zener voltage



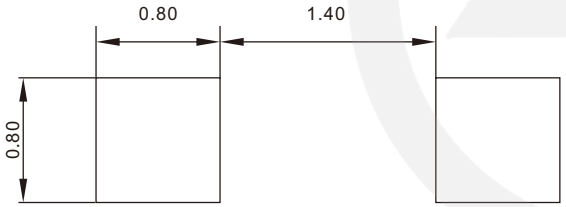
SOD-323 Package Outline



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.	
θ	8°	

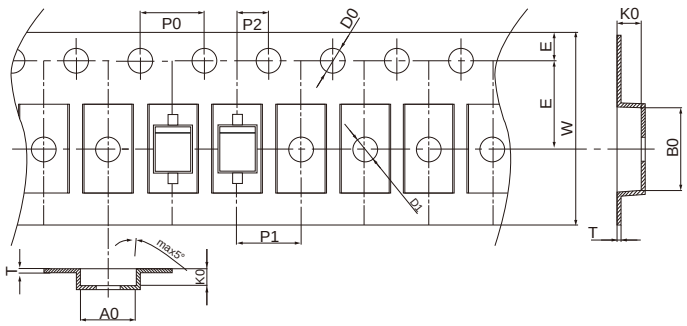
SOD-323 Suggested Pad Layout



Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.05mm
3.The pad layout is for reference purpose only.

Carrier Tape Dimensions

Unit：mm

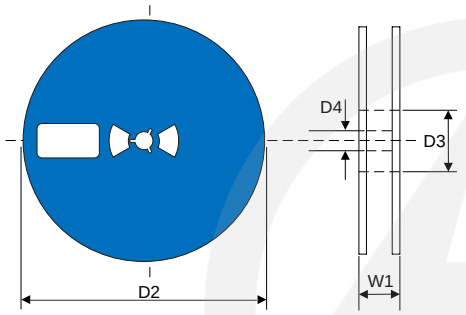


Symbol	Spec	Symbol	Spec
A0	1.41±0.10	P0	4.00±0.10
A1	0.90±0.10	P1	4.00±0.01
B0	2.90±0.10	W	8.00±0.10
B1	1.95±0.10	E	1.75±0.10
K0	1.25±0.10	F	3.50±0.05
D0	1.55±0.10	P2	2.00±0.05
D1	0.80±0.10	T	0.20±0.05

Reel Dimensions

Unit：mm

7” Reel

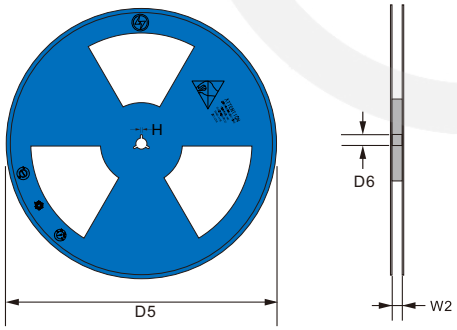


D2	Φ178.0±2.0
D3	Φ50
D4	13.0±0.5
W1	12±0.5
Quantity: 3000PCS	

Reel Dimensions

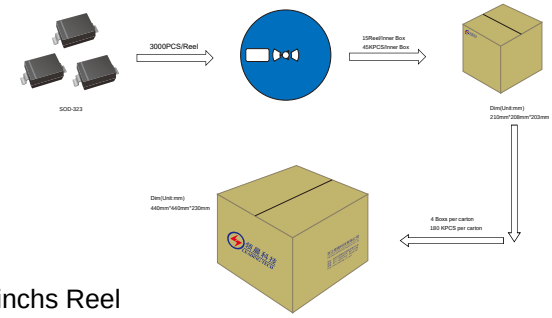
Unit：mm

13” Reel

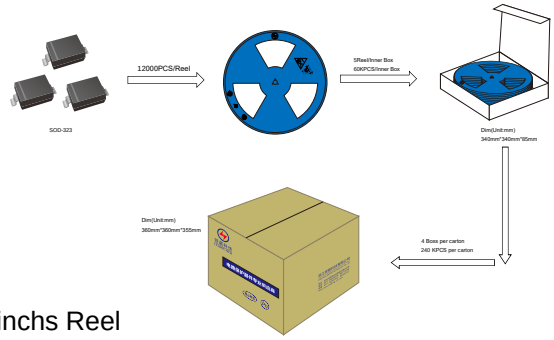


D5	Φ330.0±2.0
D6	Φ13.5±0.5
H	2.5±1.0
W2	12±2.0
Quantity: 12000PCS	

Packaging



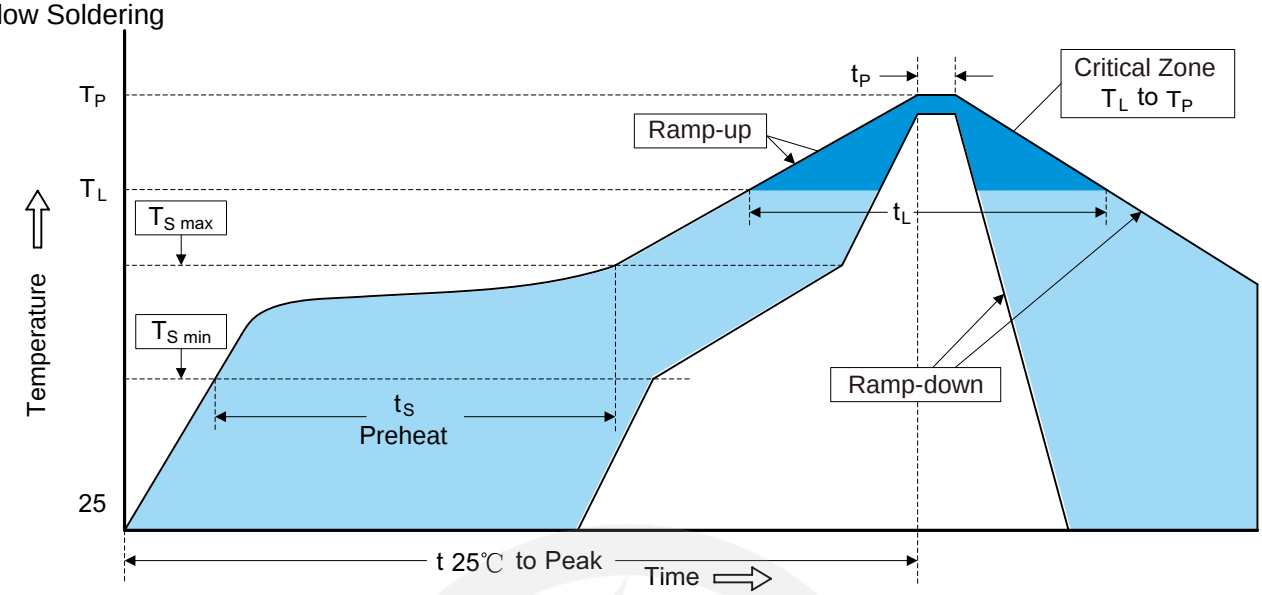
7 inchs Reel



13 inchs Reel

Recommended Soldering Conditons

Reflow Soldering



Recommended Conditions

Profile Feature	Pb-Free Assembly
Average ramp-up rate (T_L to T_P)	3℃/second max.
Preheat -Temperature Min ($T_{S\ min}$) -Temperature Max ($T_{S\ max}$) -Time (min to max) (t_S)	 150℃ 200℃ 60-180 seconds
$T_{S\ max}$ to T_L -Ramp-up Rate	 3℃/second max.
Time maintained above: -Temperature (T_L) -Time (t_L)	 217℃ 60-150 seconds
Peak Temperature (T_P)	260℃
Time within 5℃ of actual Peak Temperature (t_P)	20-40 seconds
Ramp-down Rate	6℃/second max.
Time 25℃ 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	2024.05.16	2024.05.16	3.0	New file	/	Ding	
02	2025.01.16	2025.01.16	3.1	Supplement the Maximum Ratings parameter	/	Ding	