

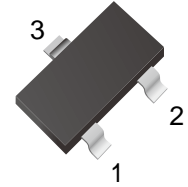
Schottky Barrier Diodes

Features

- Extremely Fast Switching Speed
- Lead free in comply with EU RoHS 2011/65/EU directives

Mechanical Data

- Case: SOT-23
- Approx. Weight: 8.1mg



LTS23KL1	LTS23KL2	LTS23KL3	LTS23KL4	LTS23KL5
MARKING:KL1	MARKING:KL2	MARKING:KL3	MARKING:KL4	MARKING:KL5

Ordering Information

Part Number	Shipping	Reel
LTS23KL1/2/3/4/5-TR3	3000PCS Tape&Reel	7 inches
LTS23KL1/2/3/4/5-TR12	12000PCS Tape&Reel	13 inches

Maximum Ratings (Ta=25 unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	V_{RRM}	30	V
Working Peak Reverse Voltage	V_{RWM}		
DC Blocking Voltage	V_R		
Forward Continuous Current	I_{FM}	200	mA
Non-repetitive Peak Forward Surge Current @ t=8.3ms	I_{FSM}	600	mA
Repetitive Peak Forward Current @ t≤1s, δ≤0.5	I_{FRM}	300	mA
Power Dissipation	P_D	200	mW
Thermal Resistance from Junction to Ambient	R_{thJA}	500	°C/W
Operating Junction Temperature Range	T_j	-40~ +125	°C
Storage Temperature Range	T_{stg}	-55 ~ +150	°C



Electrical Characteristics (Ta=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Reverse voltage	V_{BR}	$I_R=100\mu A$	30			V
Reverse current	I_R	$V_R=25V$			2	μA
Forward voltage	V_F	$I_{F1}=0.1mA$			0.24	V
		$I_{F2}=1mA$			0.32	V
		$I_{F3}=10mA$			0.40	V
		$I_{F4}=30mA$			0.50	V
		$I_{F5}=100mA$			1	V
Diode capacitance	C_D	$V_R=4V, f=1MHz$		10		pF
Reverse recovery time	T_{rr}	$I_F = I_R=10mA,$ $I_{rr}=0.1 \times I_R, R_L=100\Omega$			5	ns

Characteristics Curves

Fig.1 Power Derating Curve

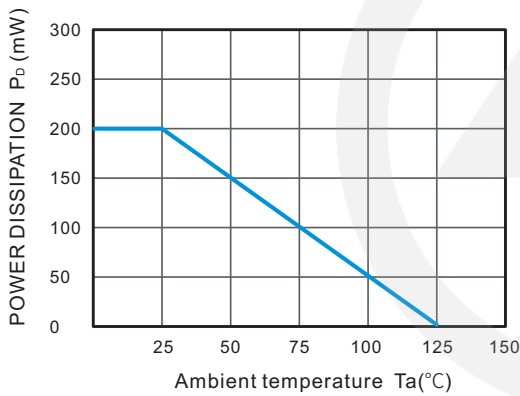


Fig.2 Reverse Characteristics

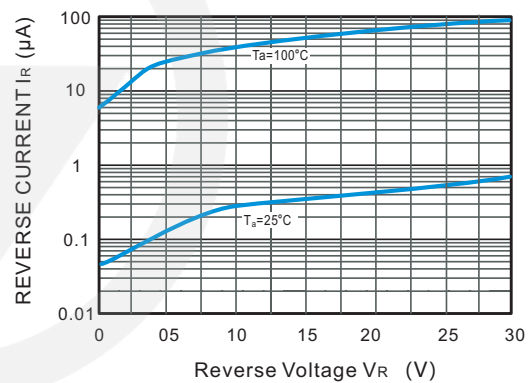


Fig.3 Forward Characteristics

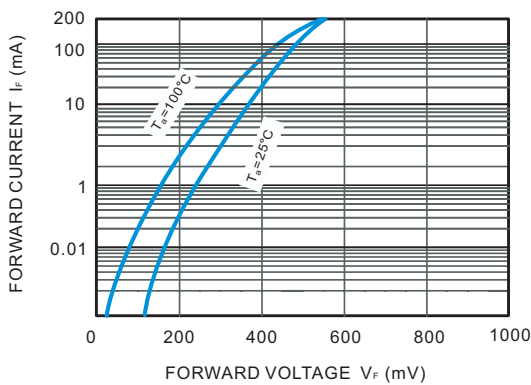
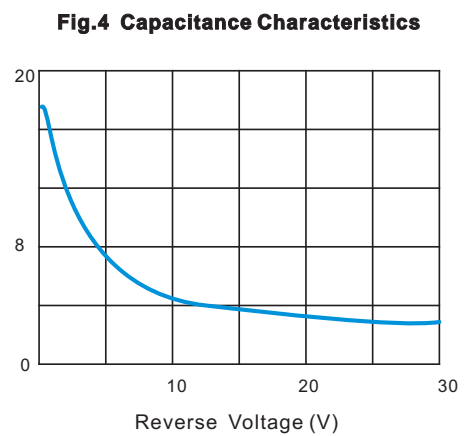
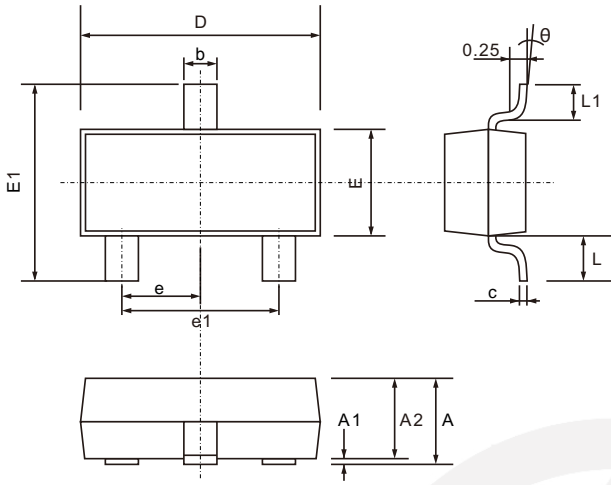


Fig.4 Capacitance Characteristics



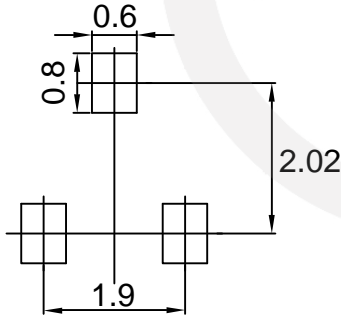
SOT-23 Package Outline

Unit: mm



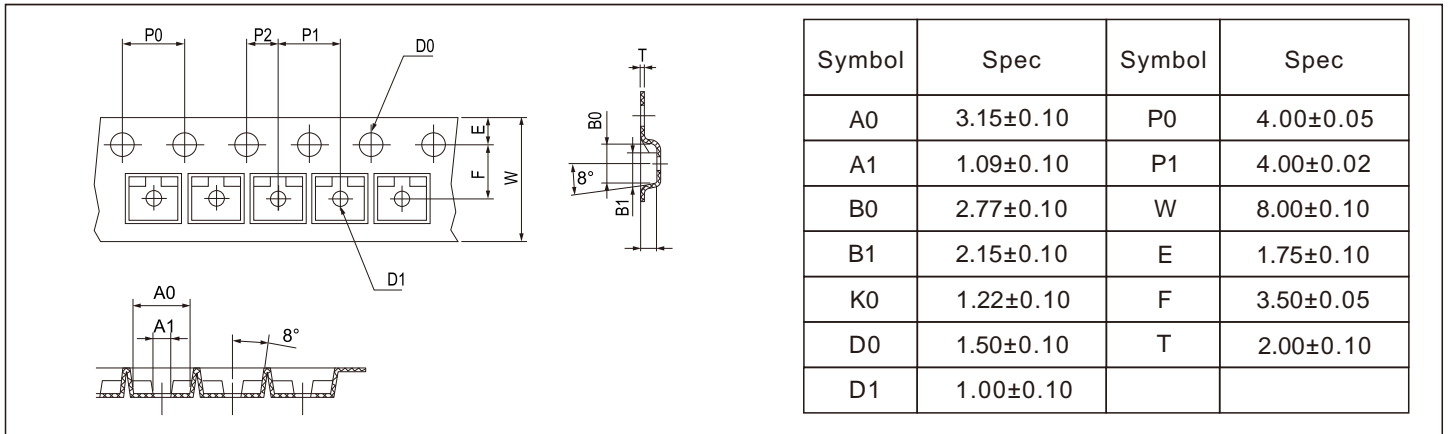
SYMBOL	DIMENSIONS	
	MIN.	MAX.
A	0.900	1.200
A1	0.000	0.100
A2	0.900	1.050
b	0.300	0.500
c	0.080	0.200
D	2.700	3.100
E	1.200	1.400
E1	2.200	2.600
e	0.950 TYP.	
e1	1.750	2.050
L	0.550 TYP.	
L1	0.300	0.500
θ	0°	8°

SOT-23 Suggested Pad Layout



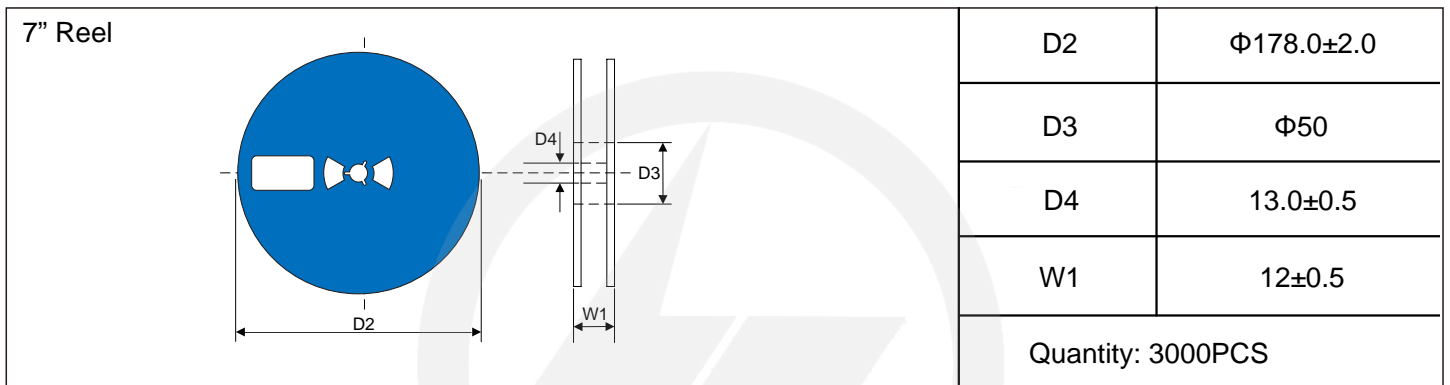
- Note:
1. Controlling dimension: in millimeters.
 2. General tolerance: $\pm 0.05\text{mm}$
 3. The pad layout is for reference purpose only.

Carrier Tape Dimensions



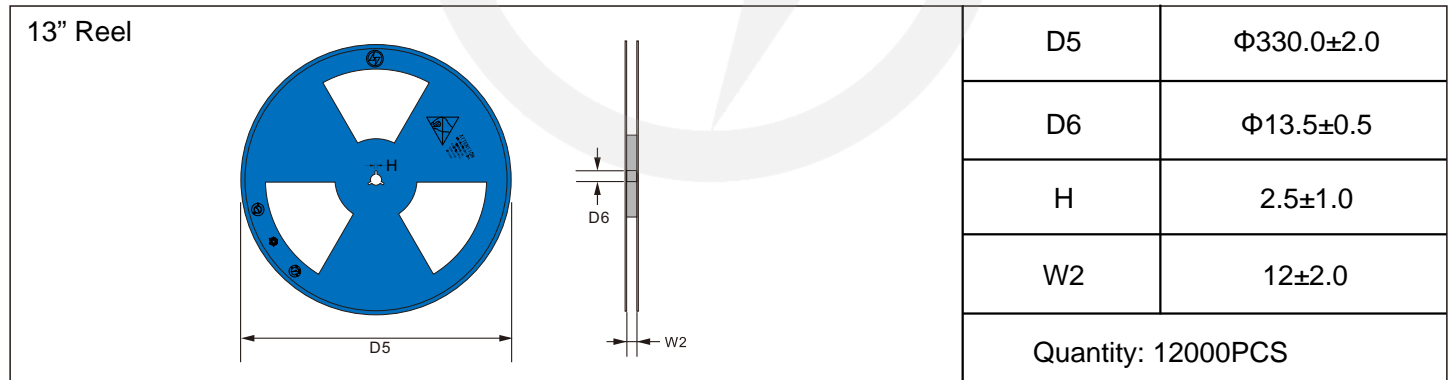
Reel Dimensions

Unit : mm

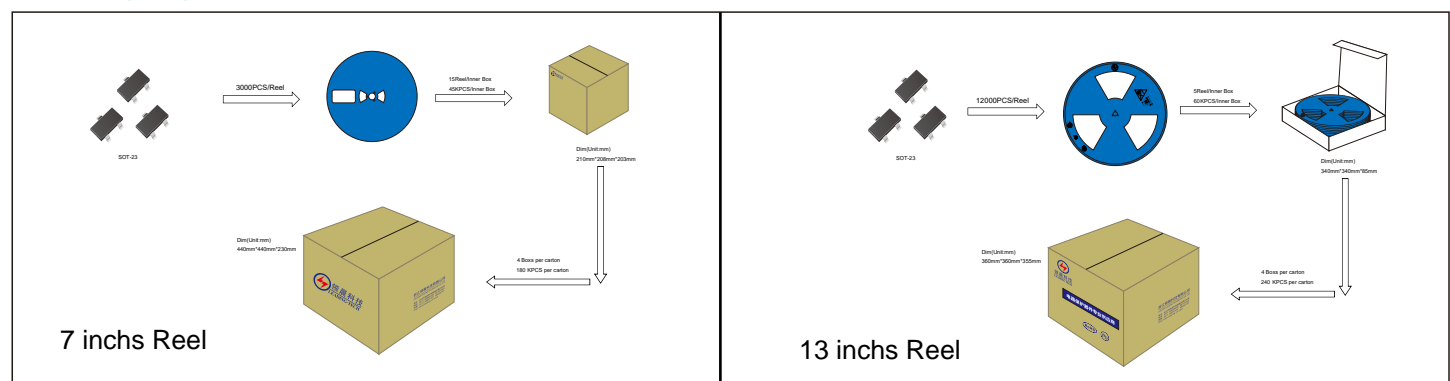


Reel Dimensions

Unit : mm



Packaging





Recommended Soldering Conditions



Recommended Conditions

Profile Feature	Pb-Free Assembly
Average ramp-up rate (T _L to T _P)	3°C/second max.
Preheat	
-Temperature Min (T _{S min})	150°C
-Temperature Max (T _{S max})	200°C
-Time (min to max) (t _s)	60-180 seconds
T _{S max} to T _L	
-Ramp-up Rate	3°C/second max.
Time maintained above:	
-Temperature (T _L)	217°C
-Time (t _L)	60-150 seconds
Peak Temperature (T _P)	260°C
Time within 5°C of actual Peak Temperature (t _p)	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	2024.03.15	2024.03.15	3.0	New file	/	Ding	
02	2025.05.30	2025.05.30	3.1	Modify the coordinates in Fig. 3	/	Ding	
03	2026.03.04	2026.03.04	3.2	Package outline E1(max)=2.6mm	/	Ding	