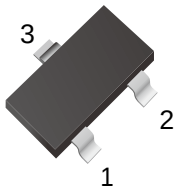
LTS23KL1/2/3/4/5

Schottky Barrier Diodes

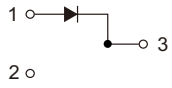
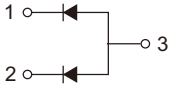
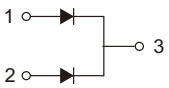
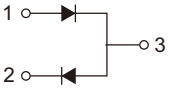
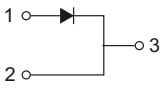
Features

- 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	3000PCS Tape&Reel	7 inchs

Maximum Ratings (Ta=25℃ unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	30	V
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	℃/W
Operating Junction Temperature Range	T_j	-40~ +125	℃
Storage Temperature Range	T_{stg}	-55 ~ +150	℃

Electrical Characteristics (Ta=25℃ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Reverse voltage	V_{BR}	I_R=100μA	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×I_R , R_L=100Ω			5	ns

Characteristics Curves

Fig.1 Power Derating Curve

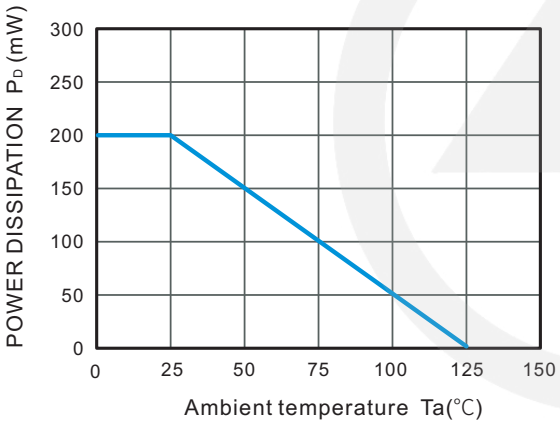


Fig.2 Reverse Characteristics

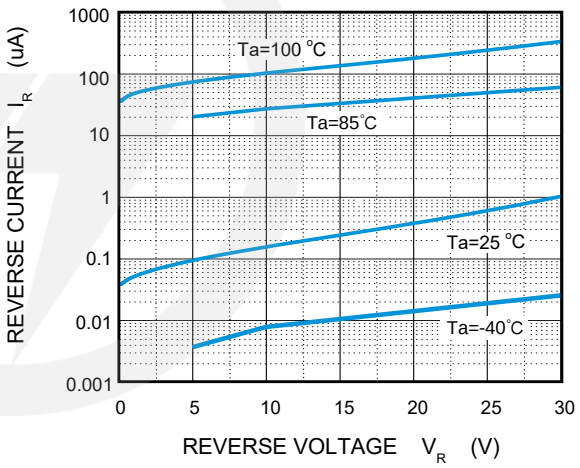


Fig.3 Forward Characteristics

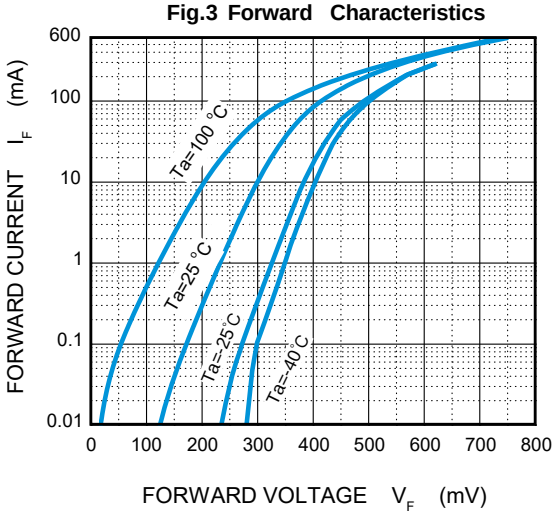
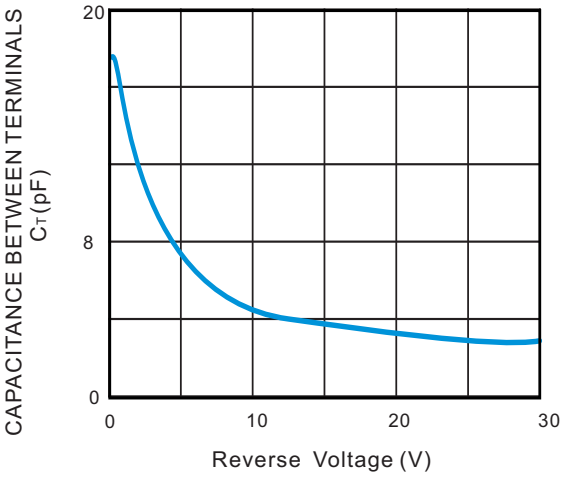
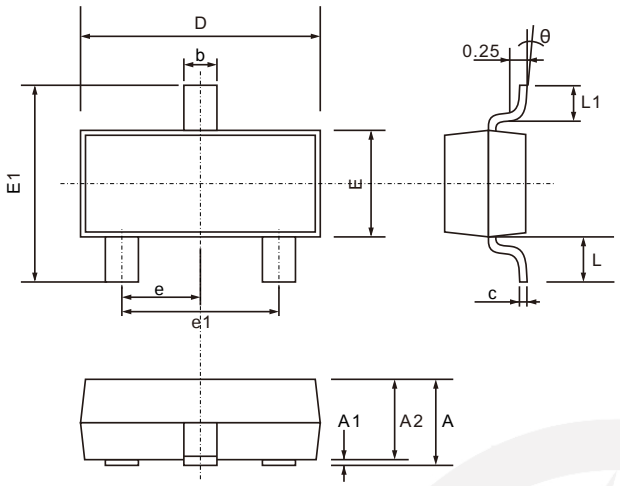


Fig.4 Capacitance Characteristics



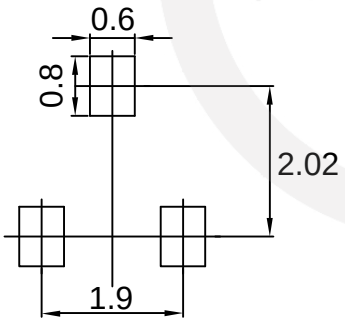
SOT-23 Package Outline

Unit : mm



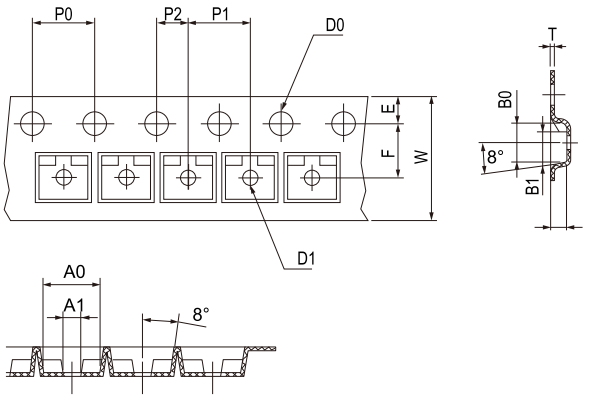
SYMBOL	DIMENSIONS	
	MIN.	MAX.
A	0.900	1.200
A1	0.000	0.100
A2	0.900	1.050
b	0.300	0.500
c	0.080	0.200
D	2.700	3.100
E	1.200	1.400
E1	2.200	2.600
e	0.950 TYP.	
e1	1.750	2.050
L	0.550 TYP.	
L1	0.300	0.500
θ	0°	8°

SOT-23 Suggested Pad Layout



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

Carrier Tape Dimensions

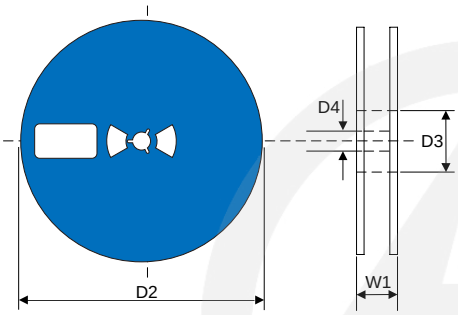


Symbol	Spec	Symbol	Spec
A0	3.15±0.10	P0	4.00±0.05
A1	1.09±0.10	P1	4.00±0.02
B0	2.77±0.10	W	8.00±0.10
B1	2.15±0.10	E	1.75±0.10
K0	1.22±0.10	F	3.50±0.05
D0	1.50±0.10	T	2.00±0.10
D1	1.00±0.10		

Reel Dimensions

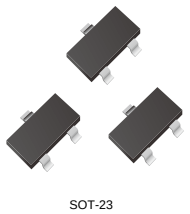
Unit：mm

7” Reel



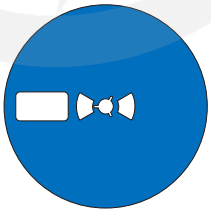
D2	Φ178.0±2.0
D3	Φ50
D4	13.0±0.5
W1	12±0.5
Quantity: 3000PCS	

Packaging

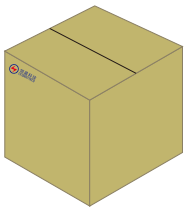


SOT-23

3000PCS/Reel



15Reel/Inner Box
45KPCS/Inner Box



Dim(Unit:mm)
210mm*208mm*203mm

4 Boxs per carton
180 KPCS per carton

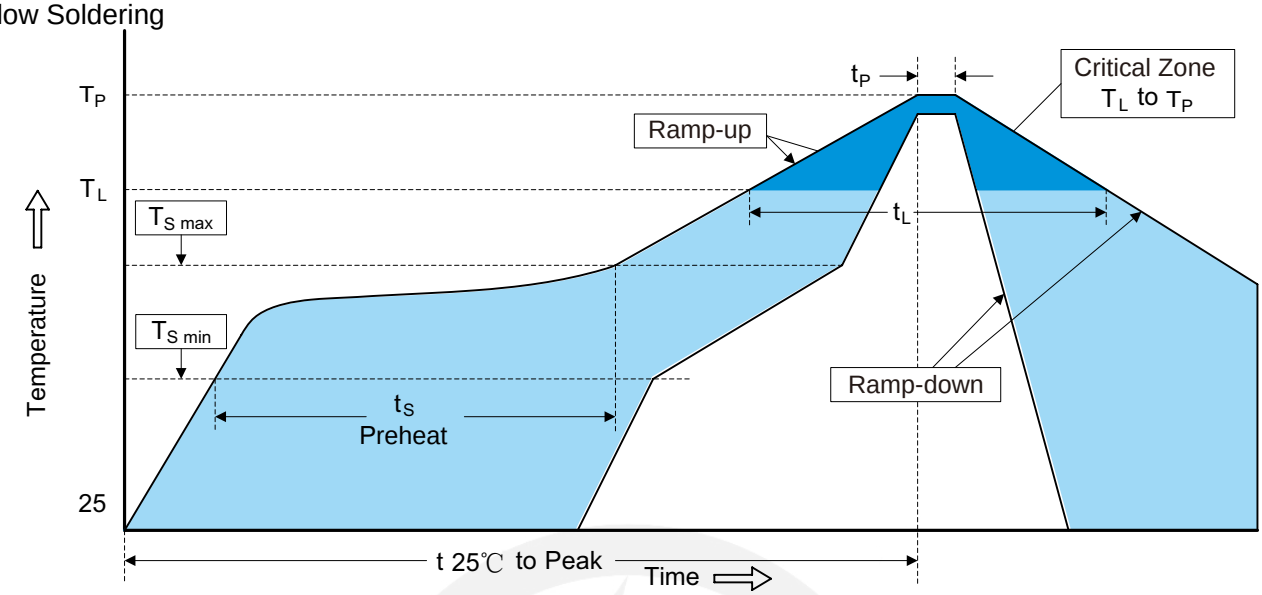


Dim(Unit:mm)
440mm*440mm*230mm

7 inchs Reel

Recommended Soldering Conditions

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	2024.03.15	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	
04	2026.07.24	2026.07.24	3.3	Modify Curves	/	Ding	