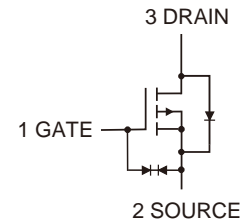
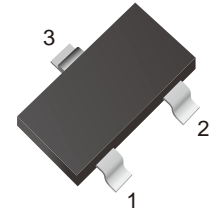


## N-Channel Mosfet

### Features

- Low on-resistance.
- Fast switching speed.
- Low voltage drive makes this device ideal for Portable equipment.
- Easily designed drive circuits.
- Easy to parallel.
- Lead free in comply with EU RoHS 2011/65/EU directives



### Ordering Information

Part Number	Marking	Shipping	Reel
LTM3018N-TR3	KN	3000PCS Tape&Reel	7 inches
LTM3018N-TR12	KN	12000PCS Tape&Reel	13 inches

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

Symbol	Parameter	Value	Unit
V <sub>DS</sub>	Drain-Source Voltage	30	V
V <sub>GS</sub>	Gate-Source Voltage	±20	V
I <sub>D</sub>	Continuous Drain Current	0.1	A
P <sub>D</sub>	Power Dissipation	350	mW
R <sub>θJA</sub>	Thermal Resistance From Junction To Ambient (t ≤ 5s)	357	°C/W
T <sub>J</sub> , T <sub>stg</sub>	Operation Junction And Storage Temperature Range	-55 ~ +150	°C

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

Symbol	Parameter	Test conditions	Min	Typ	Max	Unit
<b>Static</b>						
V <sub>(BR)DSS</sub>	Drain-source breakdown voltage	V <sub>GS</sub> =0, I <sub>D</sub> =10μA	30			V
V <sub>GS(th)</sub>	Gate threshold voltage	V <sub>DS</sub> =3V, I <sub>D</sub> =100μA	0.8		1.5	V
I <sub>GSS</sub>	Gate-body leakage current	V <sub>DS</sub> =0, V <sub>GS</sub> =±20V			±2	μA
I <sub>DSS</sub>	Zero gate voltage drain current	V <sub>DS</sub> =30V, V <sub>GS</sub> =0V			0.2	μA
R <sub>DS(on)</sub>	Drain-source on-resistance	V <sub>GS</sub> =4.5V, I <sub>D</sub> =10mA		1.5	3	Ω
		V <sub>GS</sub> =2.5V, I <sub>D</sub> =1mA		2.8	5	Ω
g <sub>FS</sub>	Forward Transconductance	V <sub>DS</sub> =3V, I <sub>D</sub> =10mA	20			mS
V <sub>SD</sub>	Diode forward voltage	I <sub>S</sub> =0.1A, V <sub>GS</sub> =0V		0.8	1.2	V
<b>Dynamic</b>						
C <sub>iss</sub>	Input capacitance	V <sub>DS</sub> =5V, V <sub>GS</sub> =0V, f=1MHZ		11		pF
C <sub>oss</sub>	Output capacitance			8		
C <sub>rss</sub>	Reverse transfer capacitance			5		
<b>Switching<sup>b</sup></b>						
t <sub>d(on)</sub>	Turn-on delay time	V <sub>GS</sub> =5V, V <sub>DD</sub> =5V, I <sub>D</sub> =10mA, R <sub>L</sub> =500Ω, R <sub>GEN</sub> =10Ω		15		nS
t <sub>r</sub>	Rise time			35		
t <sub>d(off)</sub>	Turn-off delay time			80		
t <sub>f</sub>	Fall time			80		



### Characteristics Curves

Fig.1 Output Characteristics

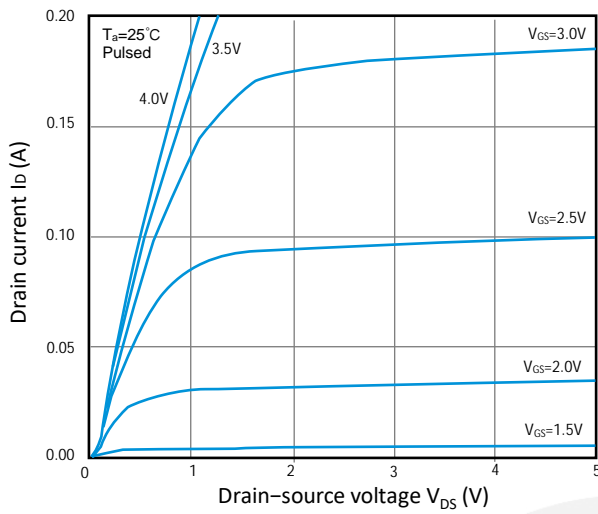


Fig.2 Transfer Characteristics

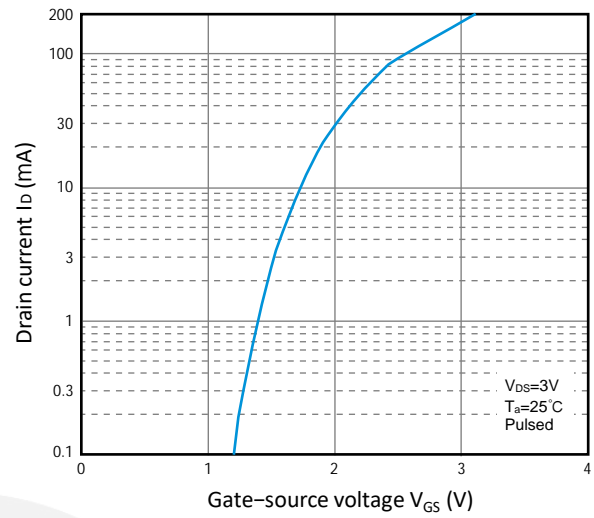


Fig.3  $R_{DS(ON)}$  —  $I_D$

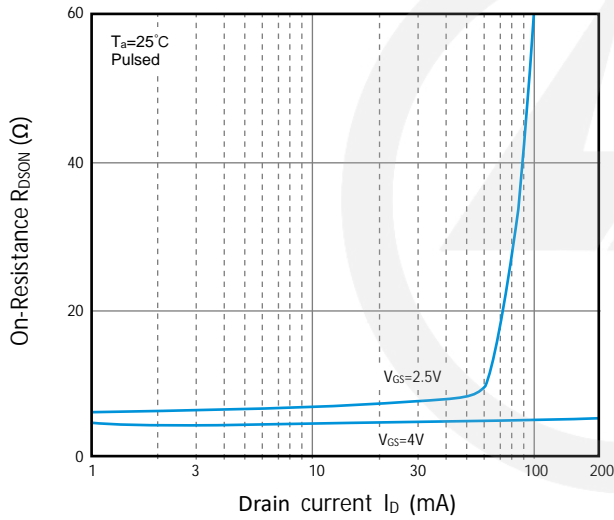


Fig.4  $R_{DS(ON)}$  —  $V_{GS}$

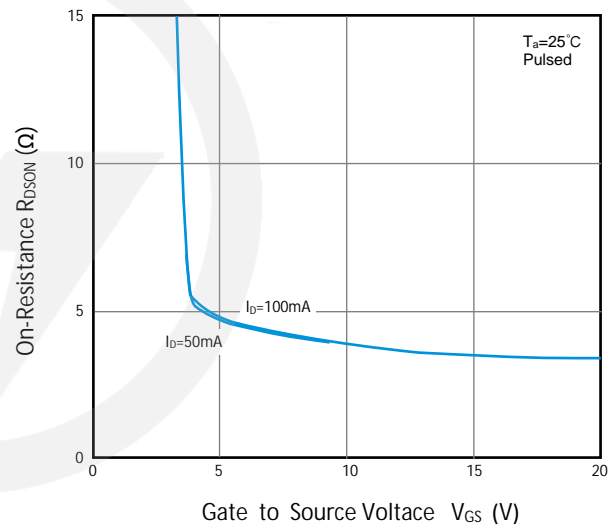
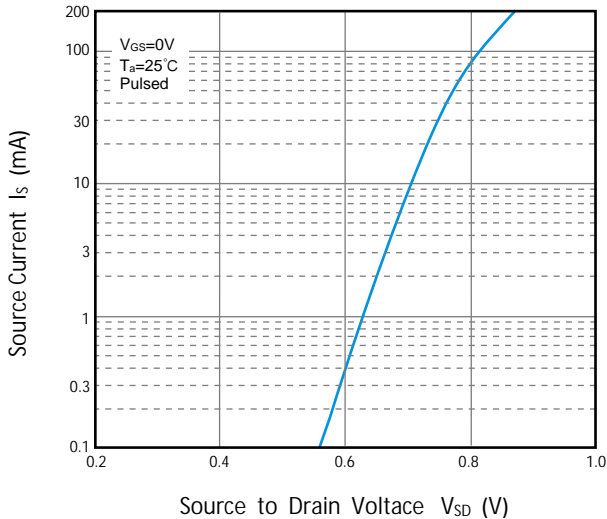
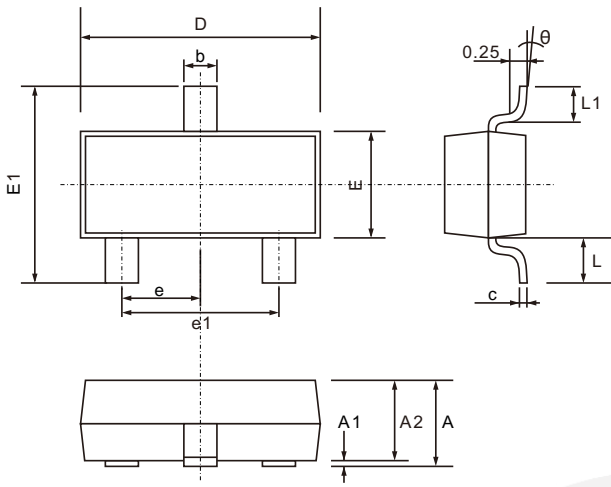


Fig.5  $I_S$  —  $V_{SD}$



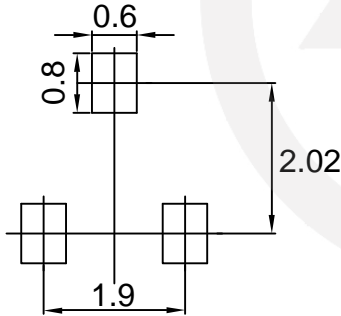
**SOT-23 Package Outline**

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
$\theta$	0°	8°

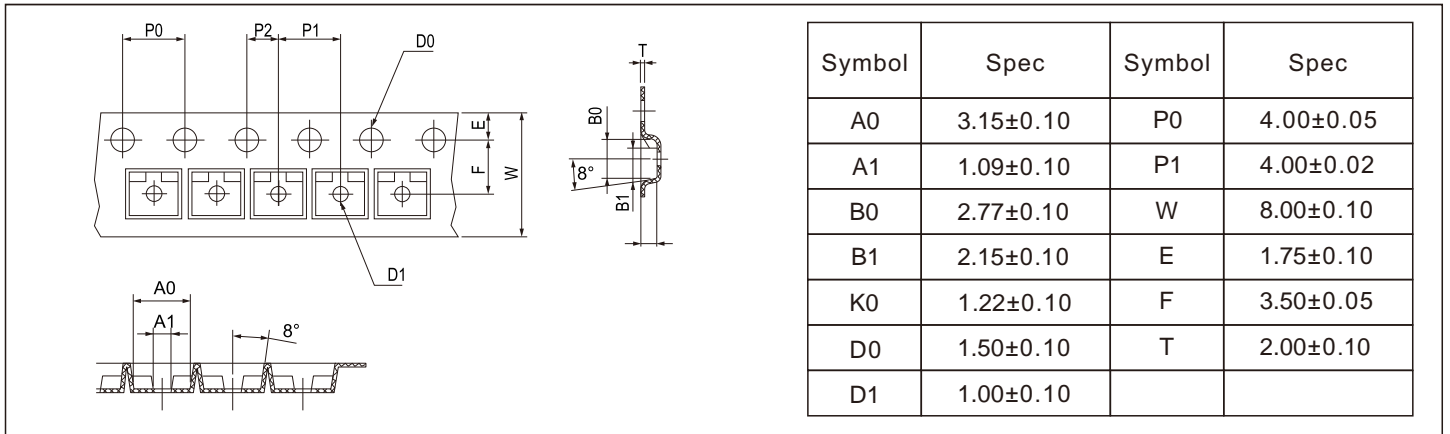
**SOT-23 Suggested Pad Layout**



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

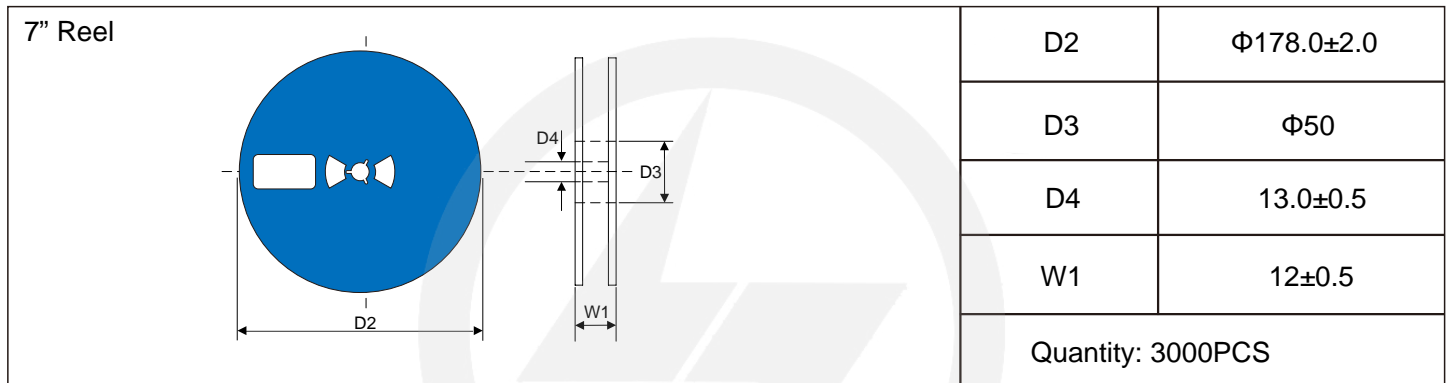
**Carrier Tape Dimensions**

Unit : mm



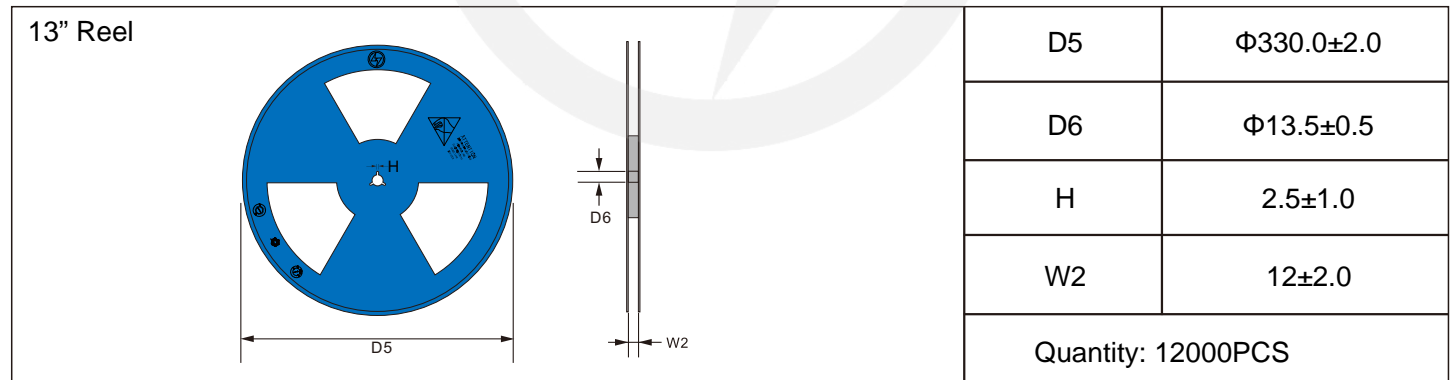
**Reel Dimensions**

Unit : mm

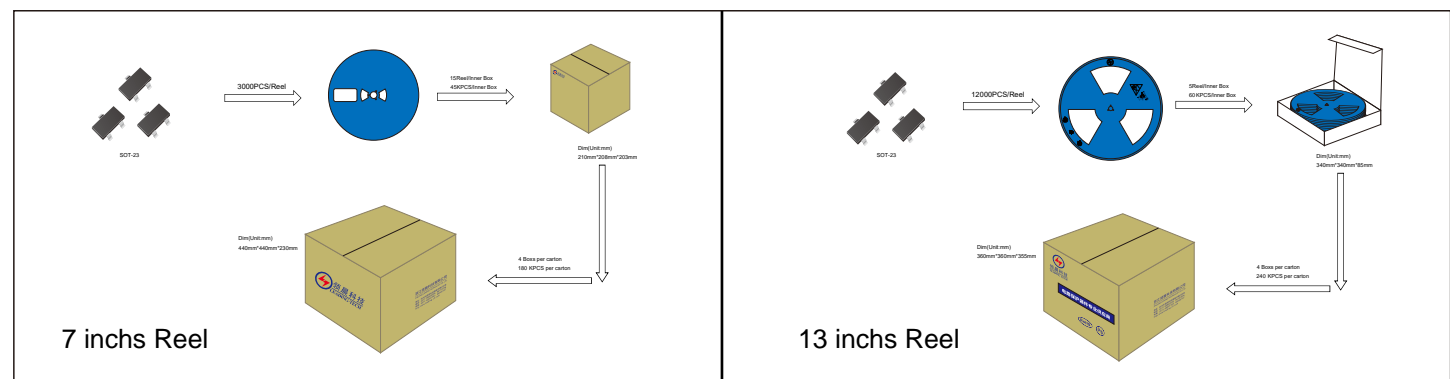


**Reel Dimensions**

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	2025.03.05	2025.03.05	3.0	New file	/	Ding	
02	2026.03.05	2026.03.05	3.1	Package outline E1(max)=2.6mm	/	Ding	