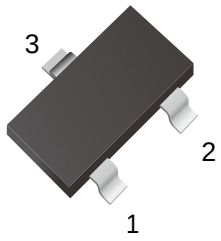
P-Channel Mosfet

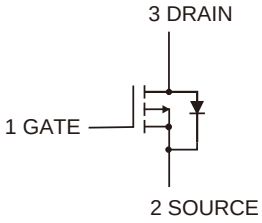
Features



- Trench Technology Power MOSFET
- Low $R_{DS(ON)}$
- Low Gate Charge
- Low Gate Resistance
- Lead free in comply with EU RoHS 2011/65/EU directives

Mechanical Data

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



Ordering Information

Part Number	Marking	Shipping	Reel
LTM3407PA-TR3	3407	3000PCS Tape&Reel	7 inchs
LTM3407PA-TR12	3407	12000PCS Tape&Reel	13 inchs

Maximum Ratings (Ta=25℃ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	-30	V
Gate-Source Voltage	V_{GS}	±20	V
Continuous Drain Current,T_A=25°C(Note 1,5)	I_D	-4.1	A
Pulsed Drain Current(Note 2)	I_{DM}	-16	A
Power Dissipation,T_A=25°C(Note4,5)	P_D	1.4	W
Thermal Resistance From Junction To Ambient(Note 5)	$R_{\theta JA}$	89	°C/W
Junction And Storage Temperature Range	T_j,T_{STG}	-55 to +150	°C

Electrical Characteristics (T_J=25℃ Unless Otherwise Noted)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Units
Off Characteristics						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS}=0V,I_D=-250uA	-30			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=-24V,V_{GS}=0V			-1	uA
Gate-Body Leakage Current	I_{GSS}	V_{GS}=±20V,V_{DS}=0V			±100	nA
On Characteristics(Note 3)						
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS},I_D=-250uA	-1	-1.6	-3	V
Drain-source On-resistance	$R_{DS(on)}$	V_{GS}=-10V,I_D=-4.1A		45	60	mΩ
		V_{GS}=-4.5V,I_D=-3A		57	80	
Forward Transconductance	g_{FS}	V_{DS}=-5V,I_D=-4A	5			S
Dynamic Characteristics						
Input Capacitance	Ciss	V_{DS}=-15V,V_{GS}=0V, f=1MHZ		572		pF
Output Capacitance	Coss			65		
Reverse Transfer Capacitance	Crss			57		
Switching Characteristics						
Total Gate Charge	Q_g	V_{DS}=-15V,V_{GS}=-10V, I_D=-4.1A		10		nC
Gate-source Charge	Q_{gs}			2		
Gate-drain Charge	Q_{gd}			3.4		
Turn-on Delay Time	$T_{d(on)}$	V_{DD}=-15V,V_{GS}=-10V, R_L=3.65Ω,R_G=3Ω		8		nS
Turn-on Rise Time	t_r			6.2		
Turn-off Delay Time	$T_{d(off)}$			25		
Turn-off Fall Time	t_f			10		
Source-drain Diode Characteristics						
Diode Forward Voltage(Note 3)	V_{SD}	V_{GS}=0V,I_S=-2A			1.2	V

Notes:

1. The Maximum Current Rating Is Limited By Package
2. Pulse Test: Pulse Width≤10uS, Duty Cycle≤1%
3. Pulse Test: Pulse Width≤300uS, Duty Cycle≤2%
4. The Power Dissipation P_D Is Limited By $T_{J(MAX)}$=150℃
5. Device Mounted On 1 In^2 FR-4 Board With 2oz.Copper,In A Still Air Environment With T_A=25℃

Characteristics Curve

Fig1.Output Characteristics

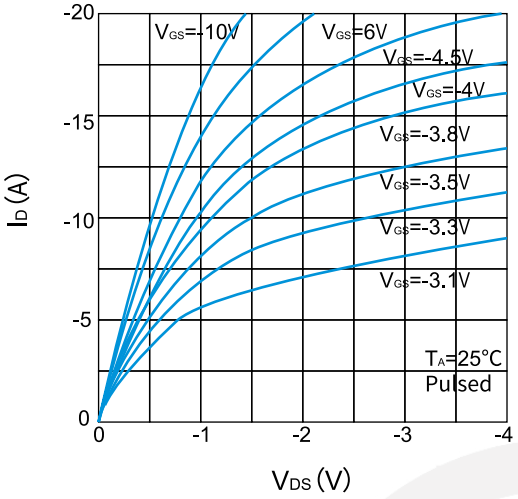


Fig2.Transfer Characteristics

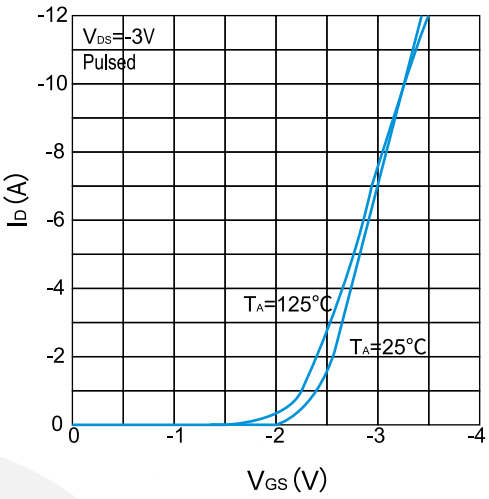


Fig3.$R_{DS(ON)}$ VS I_D

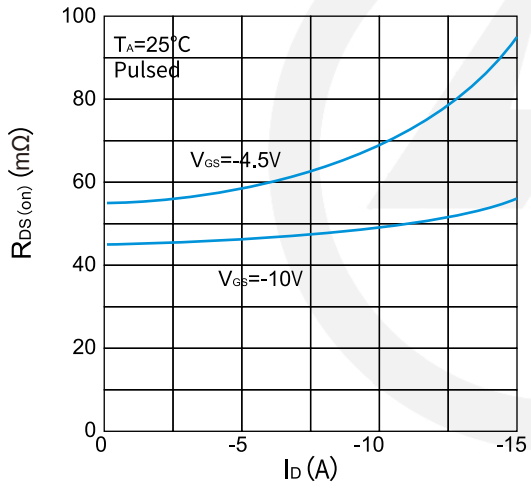


Fig4.$R_{DS(ON)}$ VS V_{GS}

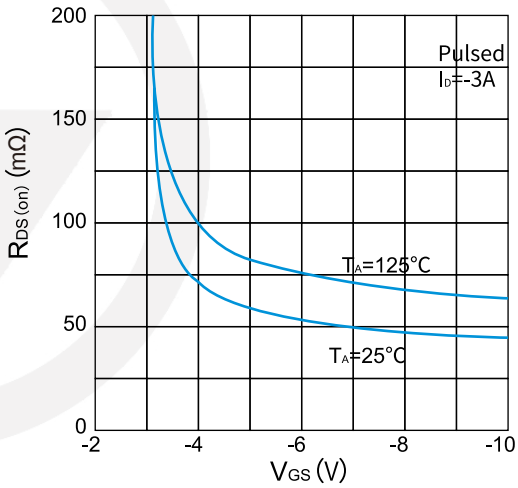


Fig5.I_S VS V_{SD}

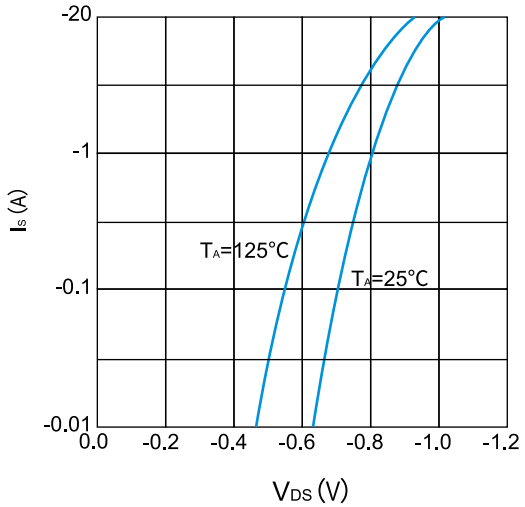
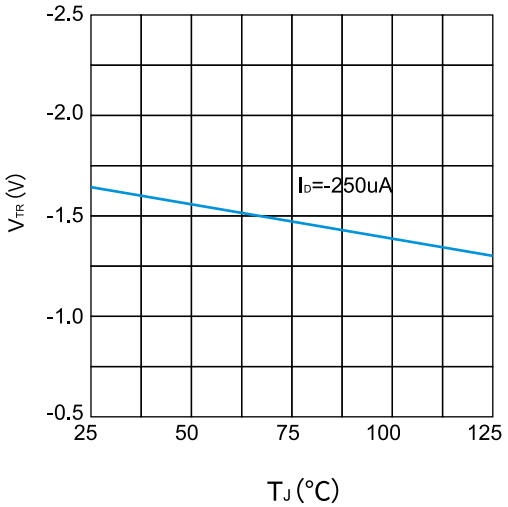
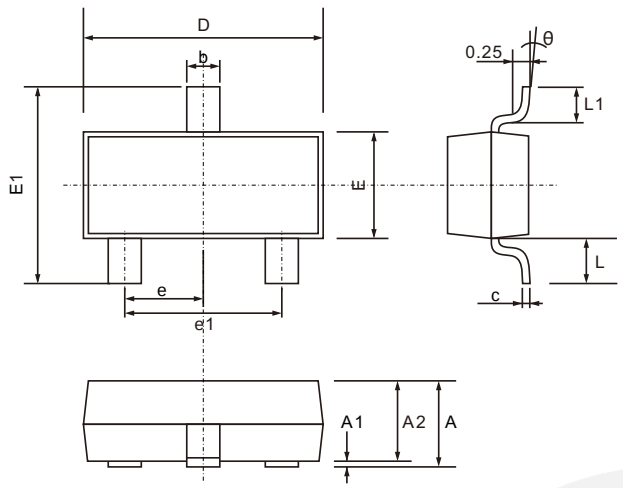


Fig6.Threshold Voltage



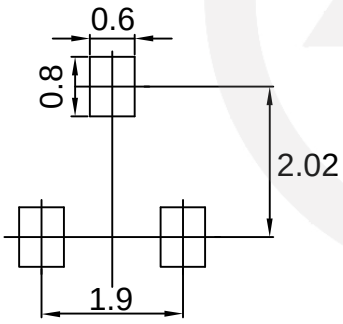
SOT-23 Package Outline



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°

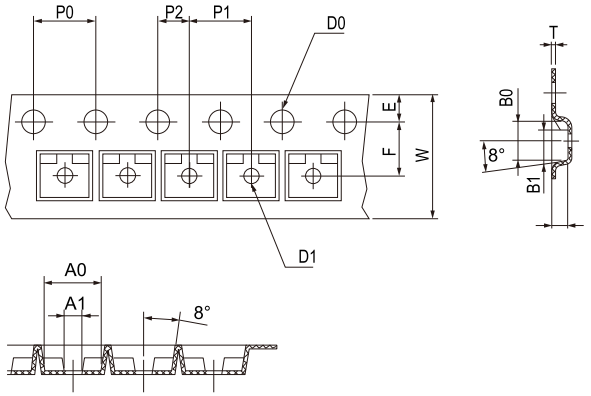
SOT-23 Suggested Pad Layout



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

Carrier Tape Dimensions

Unit：mm

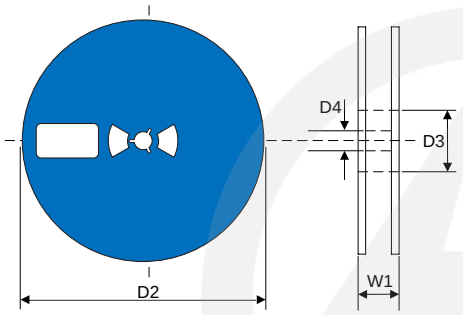


Symbol	Spec	Symbol	Spec
A0	3.15±0.10	P0	4.00±0.05
A1	1.09±0.10	P1	4.00±0.02
B0	2.77±0.10	W	8.00±0.10
B1	2.15±0.10	E	1.75±0.10
K0	1.22±0.10	F	3.50±0.05
D0	1.50±0.10	T	2.00±0.10
D1	1.00±0.10		

Reel Dimensions

Unit：mm

7” Reel

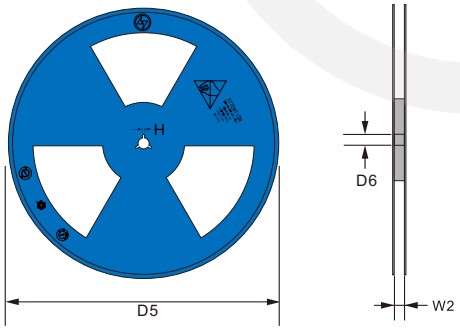


D2	Φ178.0±2.0
D3	Φ50
D4	13.0±0.5
W1	12±0.5
Quantity: 3000PCS	

Reel Dimensions

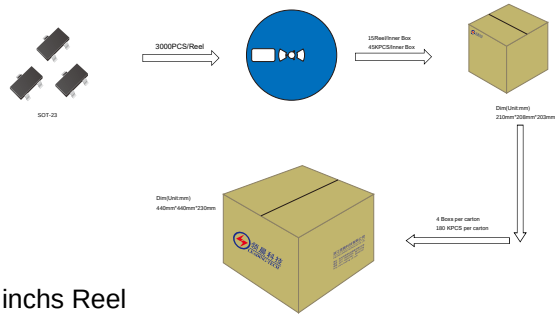
Unit：mm

13” Reel

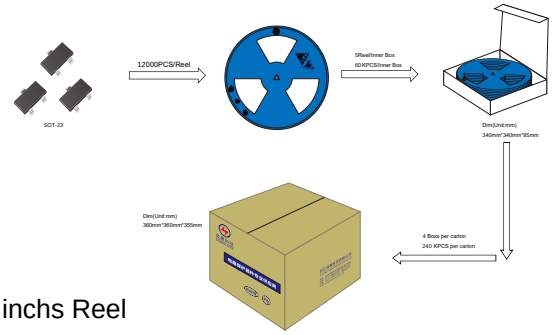


D5	Φ330.0±2.0
D6	Φ13.5±0.5
H	2.5±1.0
W2	12±0.5
Quantity: 12000PCS	

Packaging



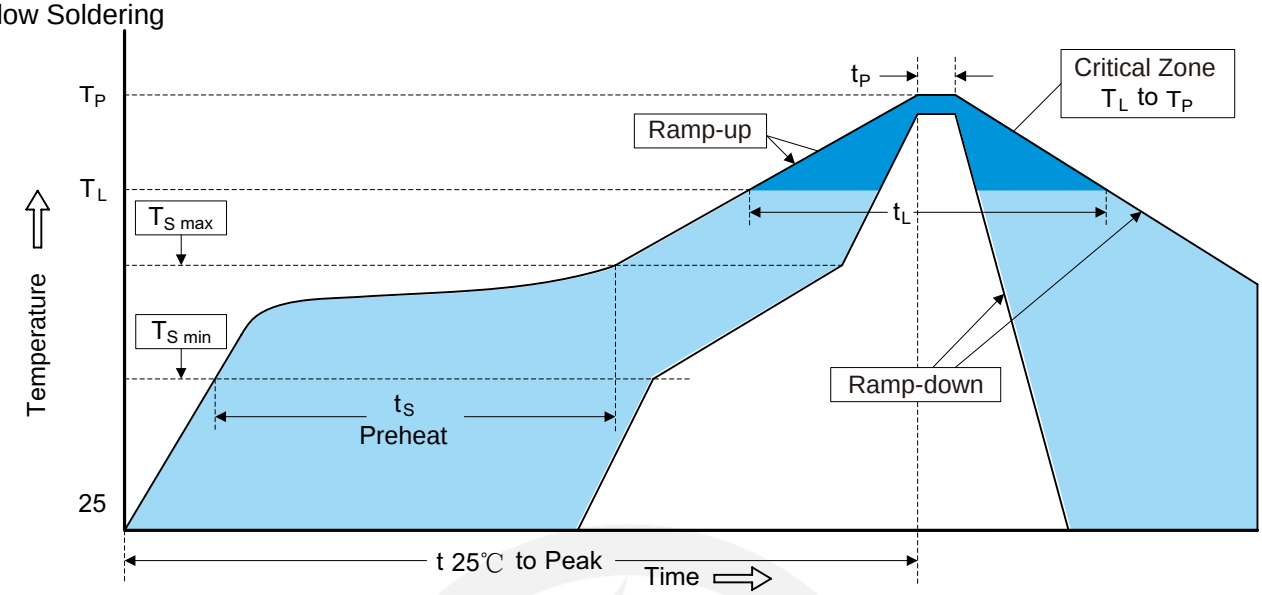
7 inchs Reel



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	2024.05.18	2024.05.18	3.0	New file	/	Ding	
02	2025.06.17	2025.06.17	3.1	Update packaging information	/	Ding	
03	2026.03.05	2026.03.05	3.2	Package outline E1(max)=2.6mm	/	Ding	