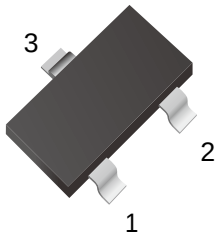
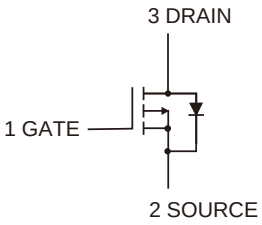
LTM3407P

P-Channel 30-V(D-S) Mosfet

Features

- Low Rds(on)@V_{GS}= -10V
- TrenchFET Power MOSFET
- Halogen-free、RoHS Compliant
- Surface Mount Package
- Lead free in comply with EU RoHS 2011/65/EU directives





Mechanical Data

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

Applications

- Load Switch
- Notebook
- Battery Protection
- Hand-Held Instruments

Product Summary

VDS	-30V
RDSON(@V_{GS}= -10V)	＜55mΩ
RDSON(@V_{GS}= -4.5V)	＜85mΩ

Ordering Information

Part Number	Marking	Shipping	Reel
LTM3407P-TR3	A79T or 3407	3000PCS Tape&Reel	7 inchs
LTM3407P-TR12	A79T or 3407	12000PCS Tape&Reel	13 inchs

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

Parameters	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	-30	V
Gate-Source Voltage	V_{GS}	±20	V
Continuous Drain Current	I_D	-4	A
Pulsed Drain Current (note 1)	I_{DM}	-16	A
Maximum Power Dissipation	P_D	1.25	W
Thermal Resistance from Junction to Ambient (note 2)	$R_{\theta JA}$	100	℃/W
Junction and Storage Temperature	T_J、T_{STG}	-50~+150	℃

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

Parameters	Symbol	Test Condition	Min	Typ	Max	Unit
Static Characteristics						
Drain-source breakdown voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D = -250μA	-30			V
Zero gate voltage drain current	I_{DSS}	V_{DS} = -30V,V_{GS} = 0V			-1	μA
Gate-body leakage current	I_{GSS}	V_{GS} = ± 20V, V_{DS} = 0V			±100	nA
Gate threshold voltage (note 3)	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D = -250μA	-1	-1.6	-2.2	V
Drain-source on-resistance (note 3)	$R_{DS(on)}$	V_{GS} = -10V, I_D = -4A		44	55	mΩ
		V_{GS} = -4.5V, I_D = -3A		68	85	mΩ
Diode forward voltage (note 3)	V_{SD}	I_S= -3A, V_{GS} = 0V		-0.84	-1.2	V

Dynamic Characteristics (note4)						
Input Capacitance	Ciss	V_{DS}= -15V,V_{GS}=0V, f =1MHz		590		pF
Output Capacitance	Coss			62		pF
Reverse Transfer Capacitance	Crss			43		pF
Switching Characteristics (note 4)						
Turn-on delay time	td(on)	V_{DD}= -15V,I_D= -1A, R_G= 3.3Ω,V_{GS}= -10V		3.4		ns
Turn-on rise time	tr			10.8		ns
Turn-off delay time	td(off)			26		ns
Turn-off fall time	tf			7		ns
Total Gate Charge	Q_g	V_{DS}= -15V,I_D=-4A, V_{GS}=-4.5V		5.1		nC
Gate-Source Charge	Qgs			2		nC
Gate-Drain Charge	Qgd			2.2		nC

*Notes：

1. Repetitive rating：Pluse width limited by maximum junction temperature
2. Surface Mounted on FR4 board，t≤10 sec.
3. Pulse test : Pulse width≤300μs, duty cycle≤2%.
4. Guaranteed by design, not subject to production.

Characteristic Curves

Fig1.Typical Output Characteristics

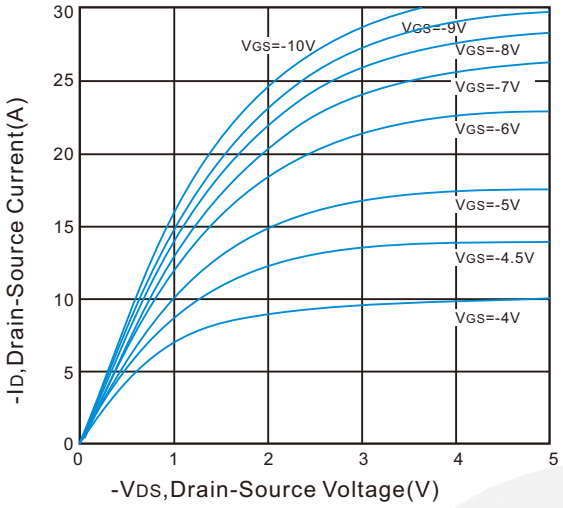


Fig2.Normalized Threshold Voltage Vs.Temperature

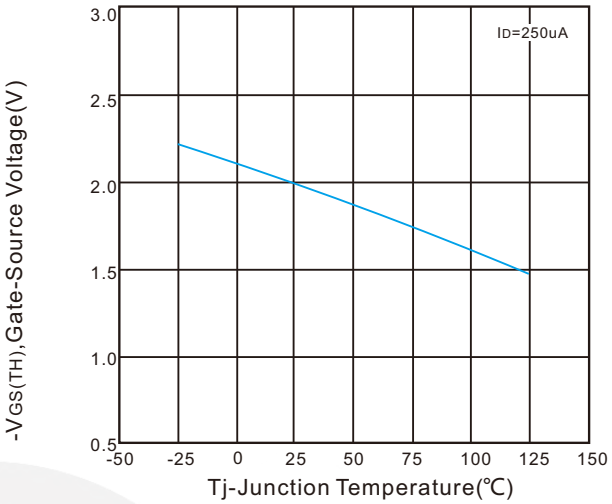


Fig3.Typical Transfer Characteristics

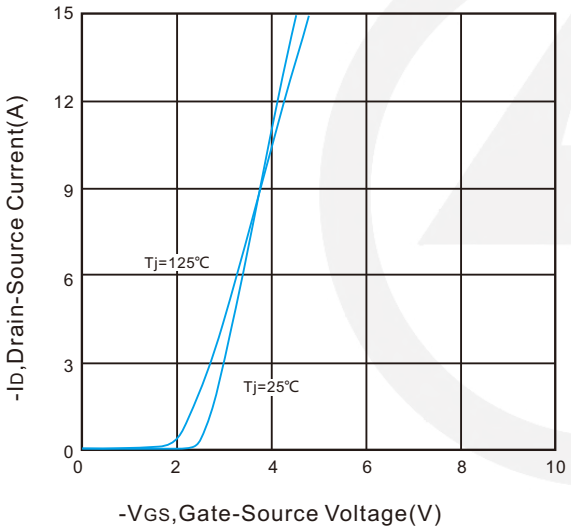


Fig4.On-Resistance VS. Drain Current and Gate

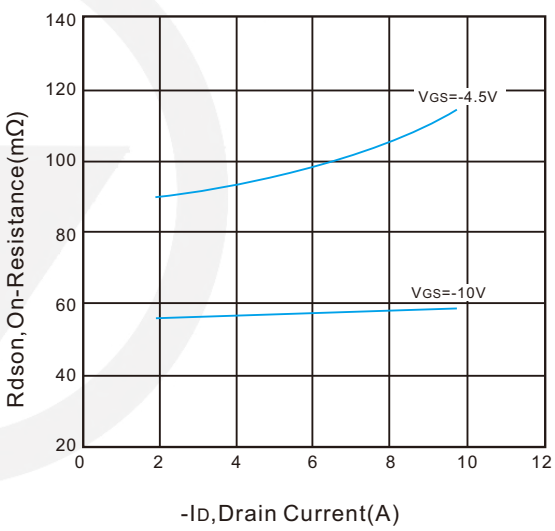


Fig5.Typical Source-Drain Diode Forward Voltage

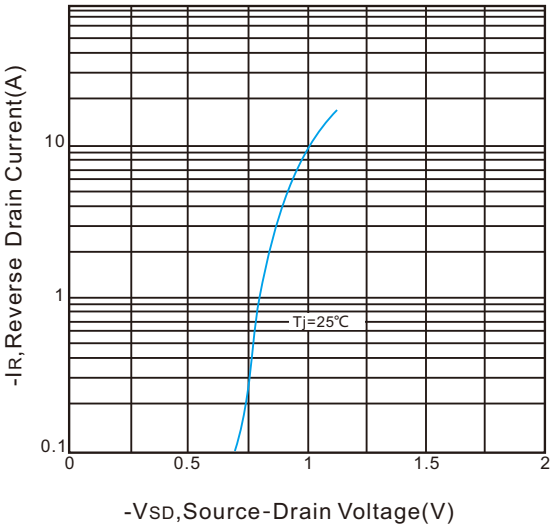


Fig6.Maximum Safe Operating Area

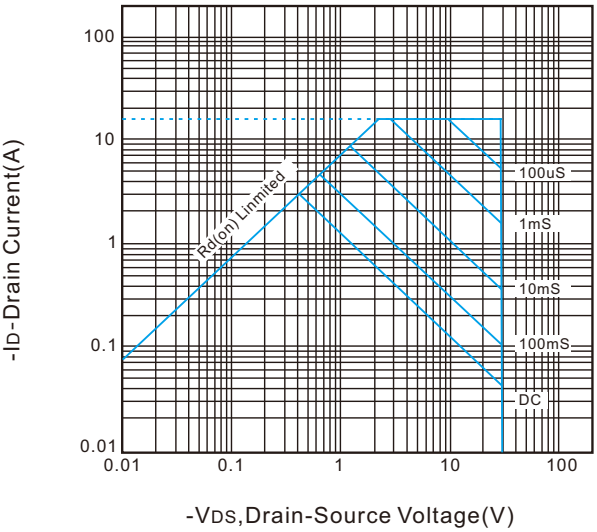


Fig7.Typical Capacitance VS.Drain-Source Voltage

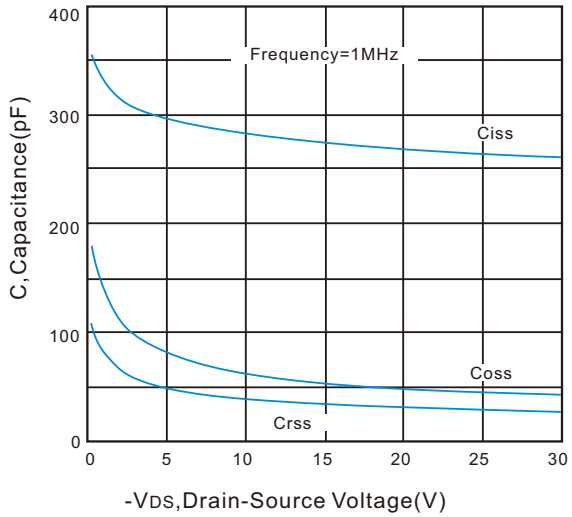
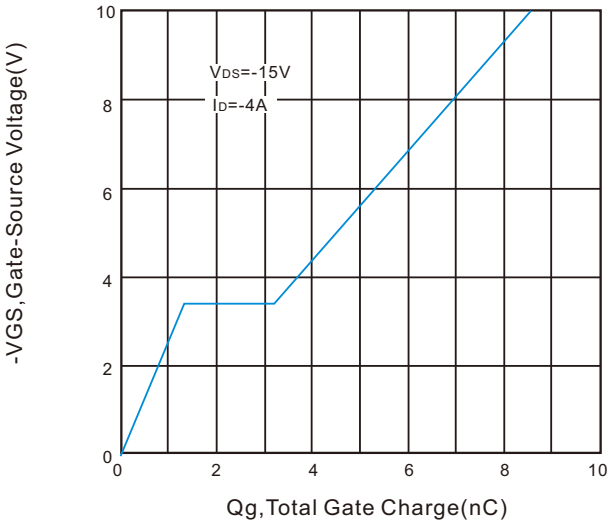
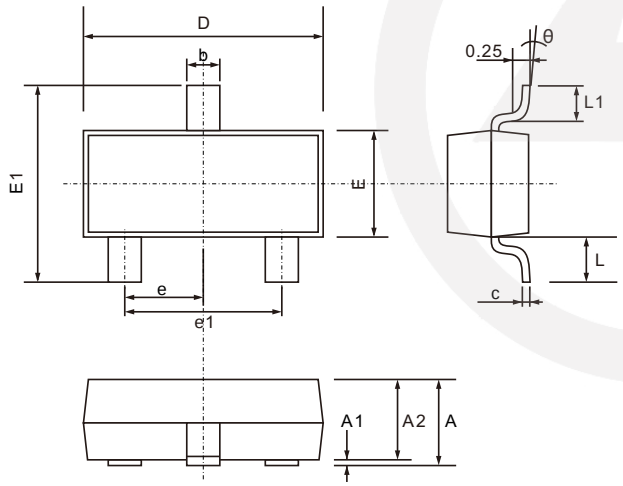


Fig8.Typical Gate Charge VS.Gate-Source Voltage



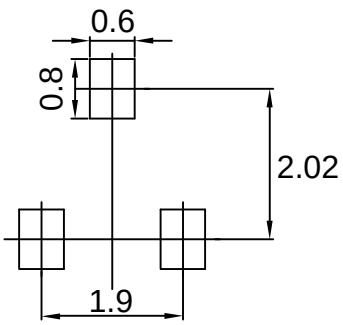
SOT-23 Package Outline



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°

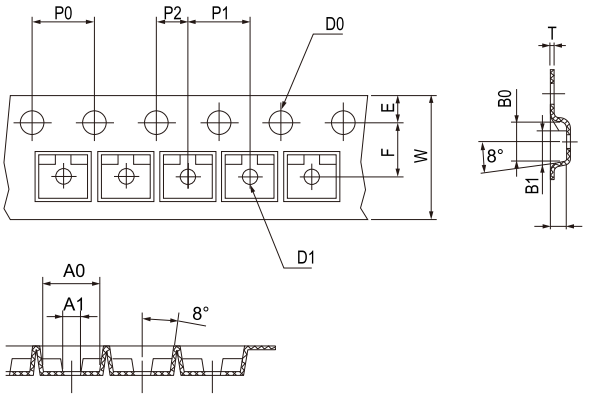
SOT-23 Suggested Pad Layout



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

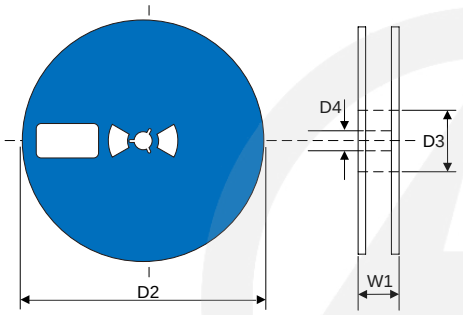


Symbol	Spec	Symbol	Spec
A0	3.15±0.10	P0	4.00±0.05
A1	1.09±0.10	P1	4.00±0.02
B0	2.77±0.10	W	8.00±0.10
B1	2.15±0.10	E	1.75±0.10
K0	1.22±0.10	F	3.50±0.05
D0	1.50±0.10	T	2.00±0.10
D1	1.00±0.10		

Reel Dimensions

Unit：mm

7” Reel

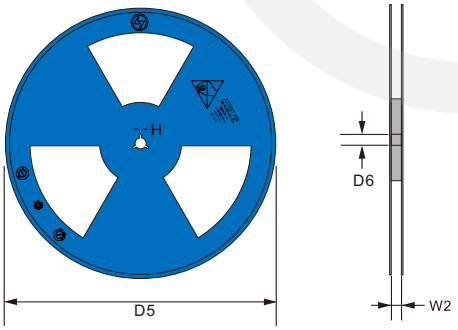


D2	Φ178.0±2.0
D3	Φ50
D4	13.0±0.5
W1	12±0.5
Quantity: 3000PCS	

Reel Dimensions

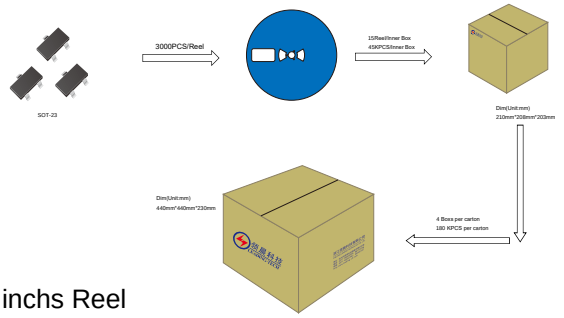
Unit：mm

13” Reel

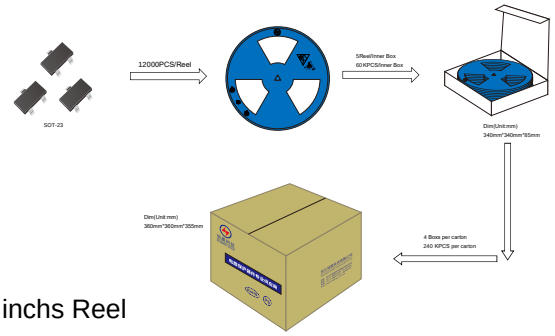


D5	Φ330.0±2.0
D6	Φ13.5±0.5
H	2.5±1.0
W2	12±0.5
Quantity: 12000PCS	

Packaging



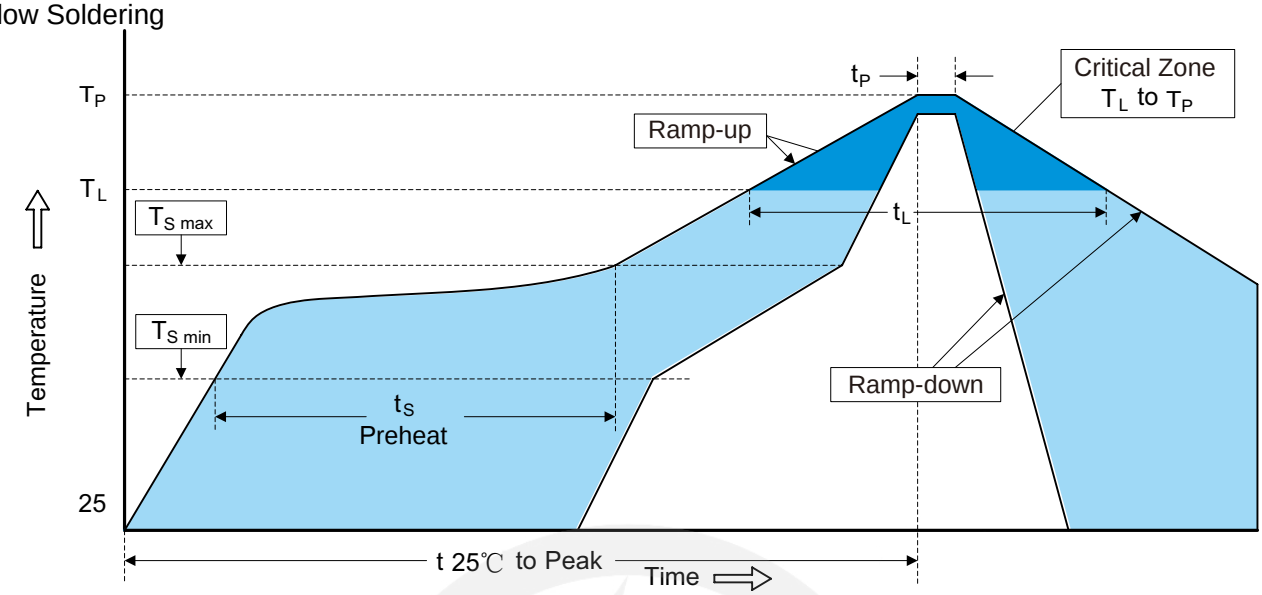
7 inchs Reel



13 inchs Reel

Recommended Soldering 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	2024.03.18	2024.03.18	3.0	New file	/	Ding	
02	2025.06.16	2025.06.16	3.1	Update packaging information	/	Ding	
03	2026.03.05	2026.03.05	3.2	Package outline E1(max)=2.6mm	/	Ding	