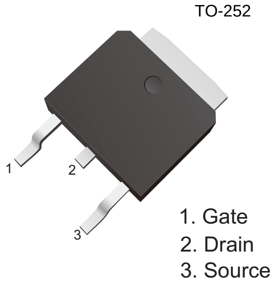
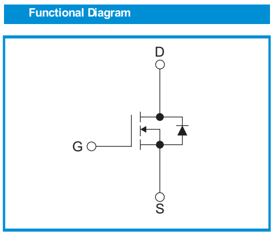
30V/100A N-CHANNEL ADVANCED POWER MOSFET

Product Summary	
VDS	30V
ID	100A
RDSON (Typ@10V)	3.0mΩ
RDSON(Typ@4.5V)	4.3mΩ





Features

- Low Rds(on)@V_{GS}= 10V
- 100% UIS Tested 100%
- Halogen-free、RoHS Compliant

Applications

- Battery Protection and Load Switch
- Voltage Regulator Modules
- Point-of-Load (POL) Modules
- Brushed andBrushless Motor Control

Order Information

Product	Marking	Package	Packing	Min Unit Quantity
LTM04R0N03C	04R0N03C	TO-252	2500 PCS/Reel	2500 PCS

Maximum Ratings and Characteristics

Ratings at 25℃ ambient temperature unless otherwise specified

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	30	V
Gate-Source Voltage	V_{GS}	±20	V
Continuous Drain Current	I_D	100	A
Pulsed Drain Current (note 1)	I_{DM}	400	A
Maximum Power Dissipation	P_D	90	W
Avalanche Energy, Single Pulsed(note 2)	E_{AS}	90	mJ
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	100	℃/W
Thermal Resistance from Junction to Case (note 2	$R_{\theta Jc}$	1.67	℃/W
Maximum Junction Temperature	T_J	150	℃
Junction and Storage Temperature	T_{STG}	-50~+150	℃

Electrical Characteristics

Ratings at 25℃ ambient temperature 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	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D = 250μA	1.0	1.5	2.5	V
Drain-source on-resistance (note 3)	$R_{DS(on)}$	V_{GS} = 10V, I_D = 30A	--	3.0	4.3	mΩ
		V_{GS} = 4.5V, I_D = 25A	--	4.3	7.3	mΩ
Diode forward voltage (note 3)	V_{SD}	I_S=30A, V_{GS} = 0V	--	0.8	1.2	V
Dynamic Characteristics						
Input Capacitance	Ciss	V_{DS}= 15V,V_{GS}=0V, f =1MHz		3386		pF
Output Capacitance	Coss			420		pF
Reverse Transfer Capacitance	Crss			340		pF
Gate Resistance	R_g	f=1MHz		2.2		Ω
Total Gate Charge	Q_g	V_{DS}= 25V,I_D=30A, V_{GS}=10V		61		nC
Gate-Source Charge	Qgs			4.8		nC
Gate-Drain Charge	Qgd			21		nC
Switching Characteristics						
Turn-on delay time	td(on)	V_{DD}= 15V,I_D=30A, R_G= 3Ω,V_{GS}= 10V	--	18	--	ns
Turn-on rise time	tr		--	45	--	ns
Turn-off delay time	td(off)		--	57	--	ns
Turn-off fall time	tf		--	16.1	--	ns

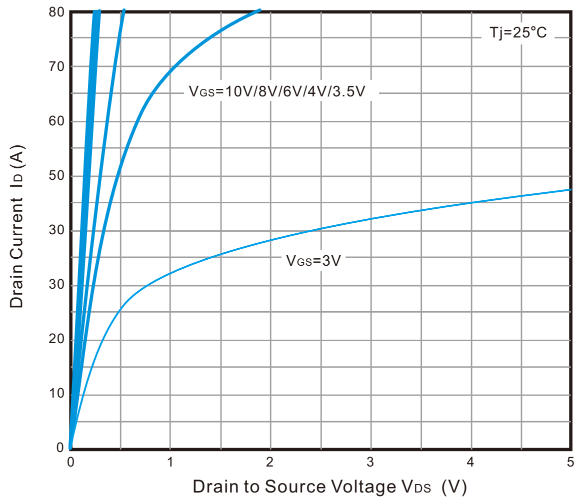
***Notes :**

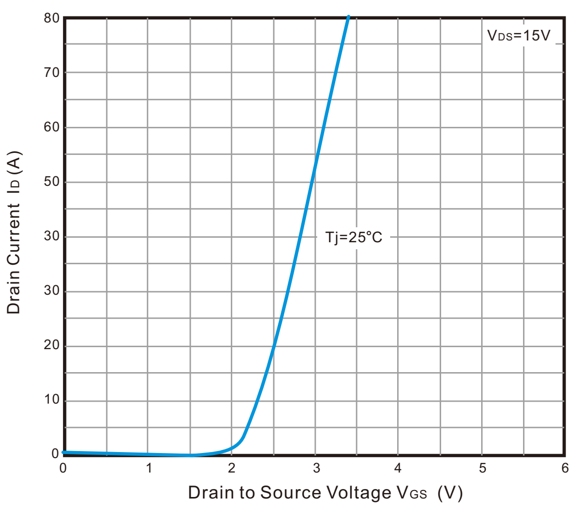
1.Pulse width limited by maximum allowable junction temperature.

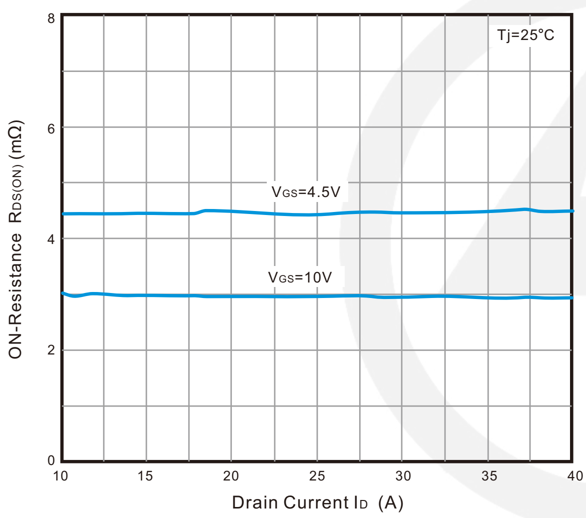
2.Limited by TJmax, starting TJ = 25°C, L = 0.5mH,RG = 25Ω, VDD=15V, VGS =10V.Part not recommended for use above this value.

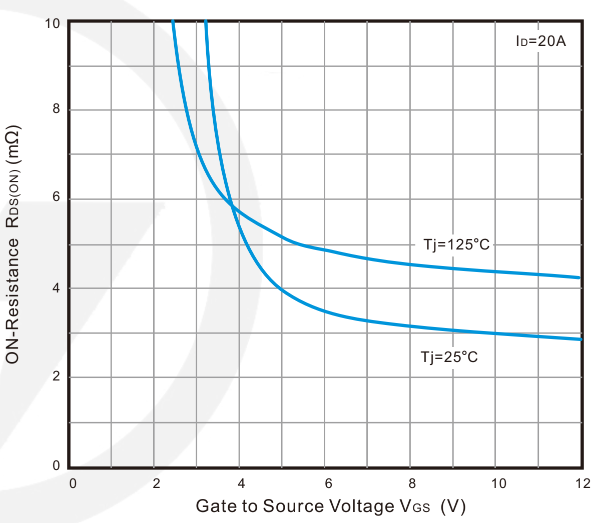
3.Pulse test : Pulse width≤300μs, duty cycle≤2%.

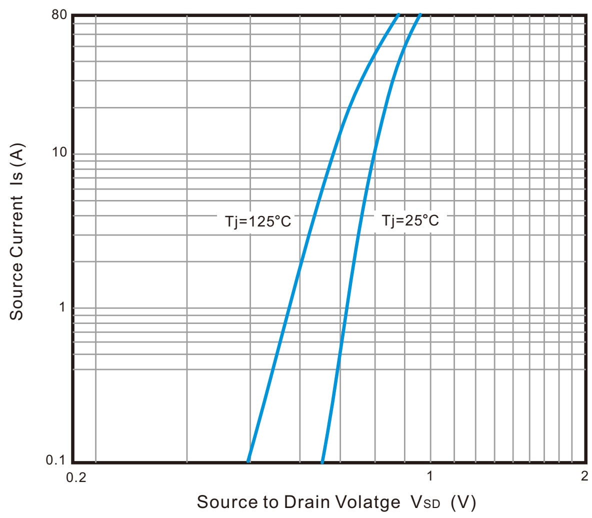
Ratings and characteristics Curves

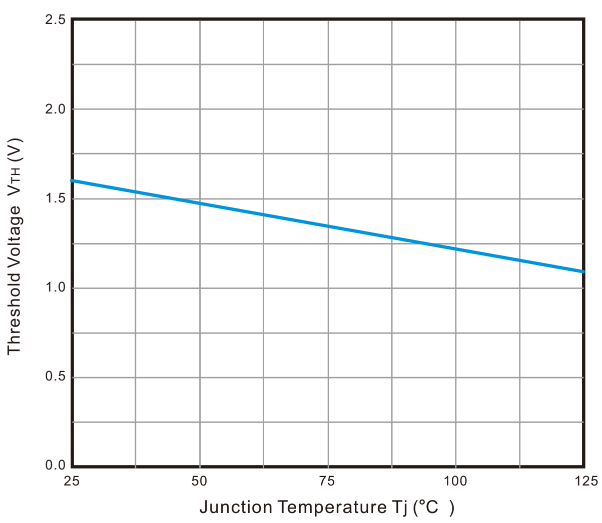

Output Characteristics

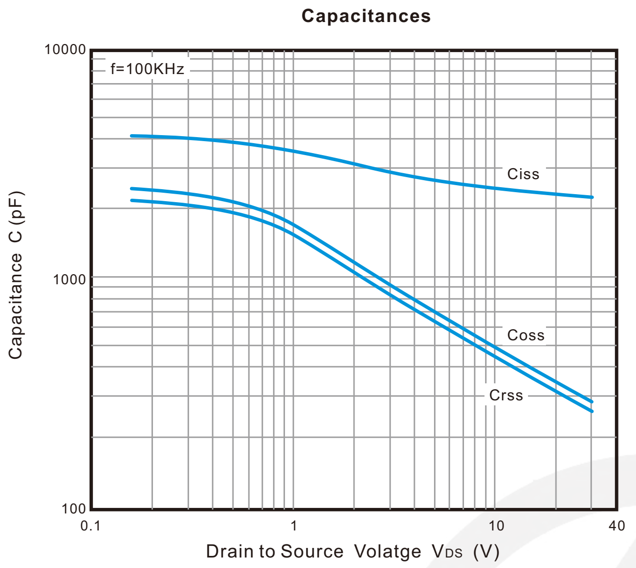

Transfer Characteristics

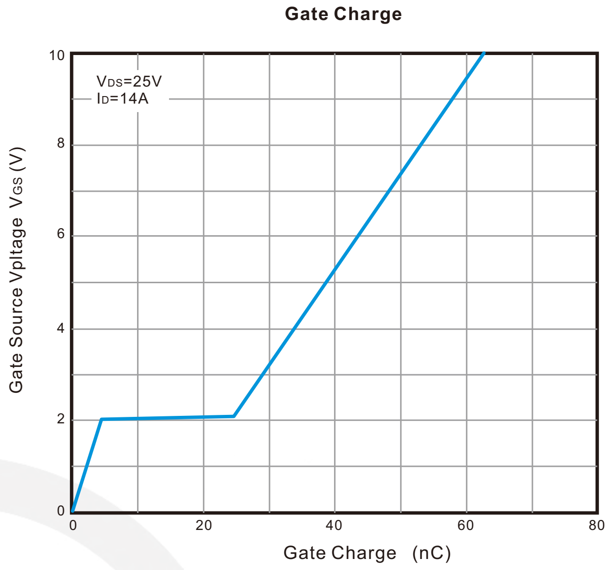

RDS(ON)------ID


RDS(ON)------VGS

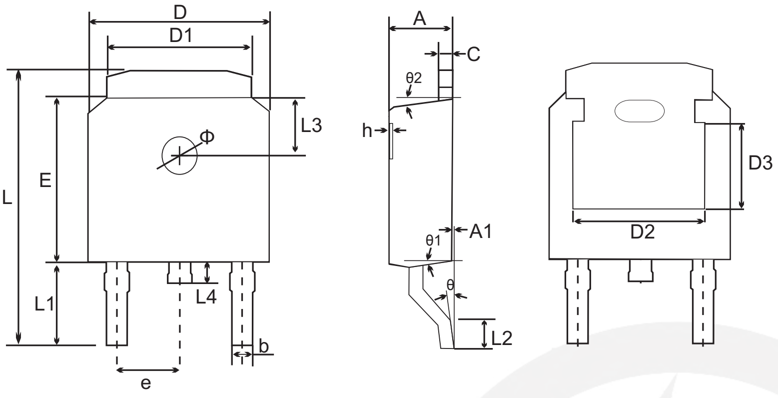

IS------VSD


Threshold Voltage


Capacitances

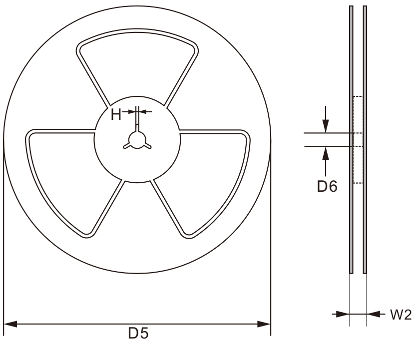

Gate Charge

TO-252 Package Outline



SYMBOL	MILLIMETER		SYMBOL	MILLIMETER	
	MIN	MAX		MIN	MAX
A	2.200	2.400	h	0.000	0.200
Al	0.000	0.127	L	9.900	10.30
b	0.640	0.740	L1	2. 888 REF	
C	0. 460	0.580	L2	1.400	1.700
D	6.500	6.700	L3	1.600 REF	
D1	5.334REF		L4	0.600	1.000
D2	4.826 REF		Φ	1.100	1.300
D3	3.166 REF		θ	0°	8°
E	6.000	6.200	θ1	9° TYP2	
e	2.286 TYP		θ2	9°TYP	

Packaging

13" Reel 	D5	Φ330.0±2.0
	D6	Φ13.5±0.5
	H	2.5±1.0
	W2	16.0±2.0
	Quantity: 2500PCS	