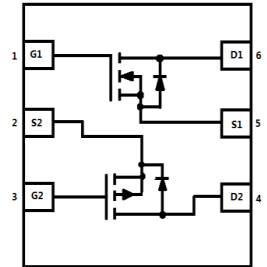
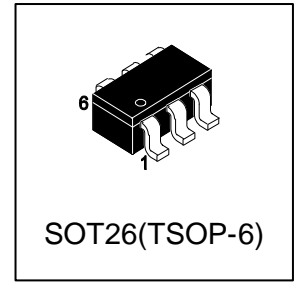


LNP3709T1G

30 V Complementary Trench MOSFET



1. FEATURES

- P-Channel: $V_{DS} = -30V$
 $R_{DS(ON)} \leq 100m\Omega, V_{GS@-10V}, I_{DS@-3A}$
 $R_{DS(ON)} \leq 150m\Omega, V_{GS@-4.5V}, I_{DS@-2A}$
- N-Channel: $V_{DS} = 30V$
 $R_{DS(ON)} \leq 50m\Omega, V_{GS@10V}, I_{DS@4A}$
 $R_{DS(ON)} \leq 60m\Omega, V_{GS@4.5V}, I_{DS@2A}$
- We declare that the material of product compliance with RoHS requirements and Halogen Free.

2. DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
LNP3709T1G	9T	3000/Tape&Reel

3. Absolute Maximum Ratings (TA =25 °C unless otherwise noted)

Parameter (P-Channel)	Symbol	Limits	Unit
Drain–Source Voltage	VDS	-30	V
Gate–Source Voltage	VGS	± 20	V
Drain Current-Continuous	ID	-2.5	A
Drain Current-Pulsed (Note1)	IDM	-10	A
Avalanche Current(L=0.1mH)	IAS	6	A
Avalanche energy(L=0.1mH)	EAS	1.8	mJ

Parameter (N-Channel)	Symbol	Limits	Unit
Drain–Source Voltage	VDS	30	V
Gate–Source Voltage	VGS	± 20	V
Drain Current-Continuous	ID	3.5	A
Drain Current-Pulsed (Note1)	IDM	14	A
Avalanche Current(L=0.1mH)	IAS	9	A
Avalanche energy(L=0.1mH)	EAS	4.05	mJ

4. THERMAL CHARACTERISTICS

Parameter	Symbol	Limits	Unit	
Maximum Power Dissipation(Note 2)	PD	TA = 25°C	0.8	W
		TA = 75°C	0.5	
Thermal Resistance Junction–to–Ambient	RθJA	(Steady-State)	200	°C/W
		(t ≤ 10s)	150	
Thermal Resistance Junction–to–Case	RθJC	100	°C/W	
Operating Junction Temperature	Tj	150	°C	
Storage Temperature Range	Tstg	-50~+150	°C	

1.Repetitive Rating: Pulse width limited by the maximum junction temperature

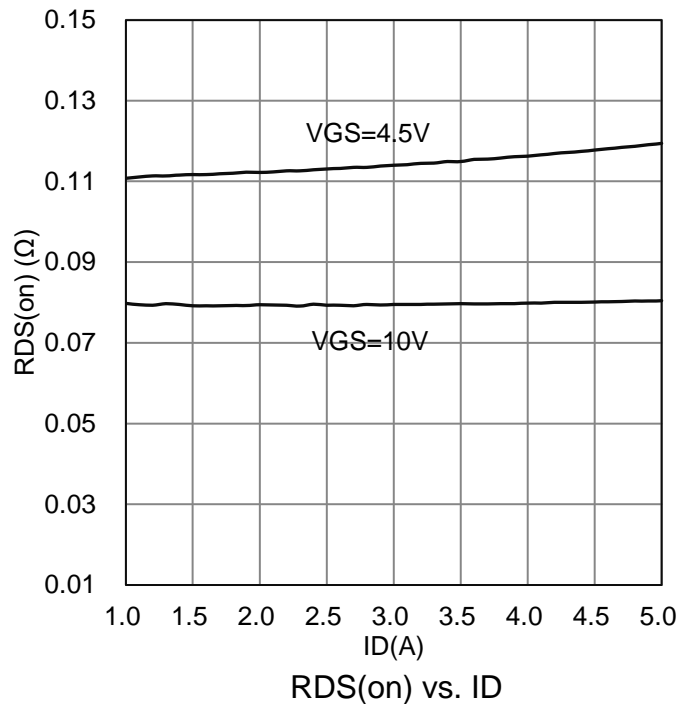
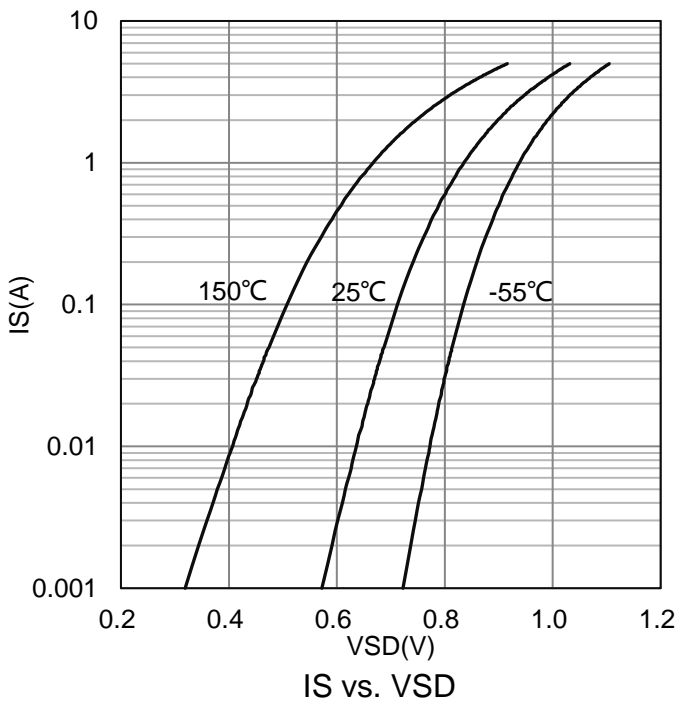
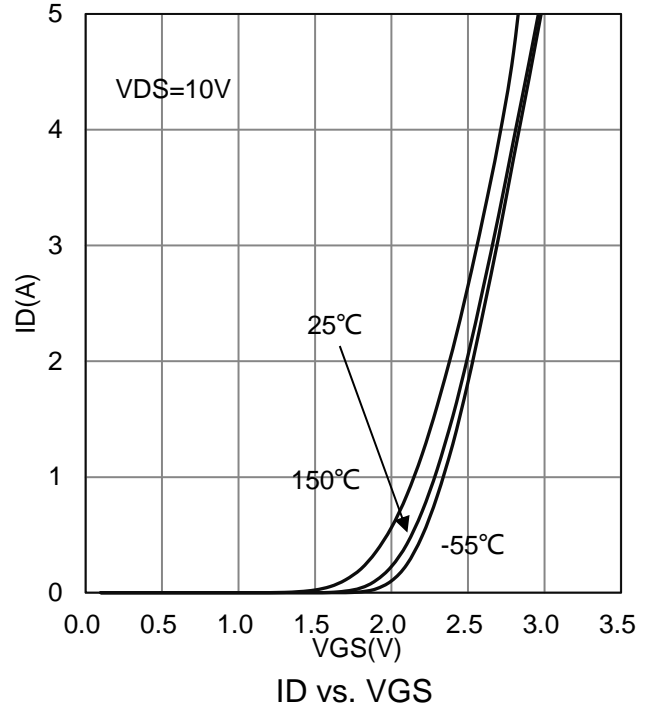
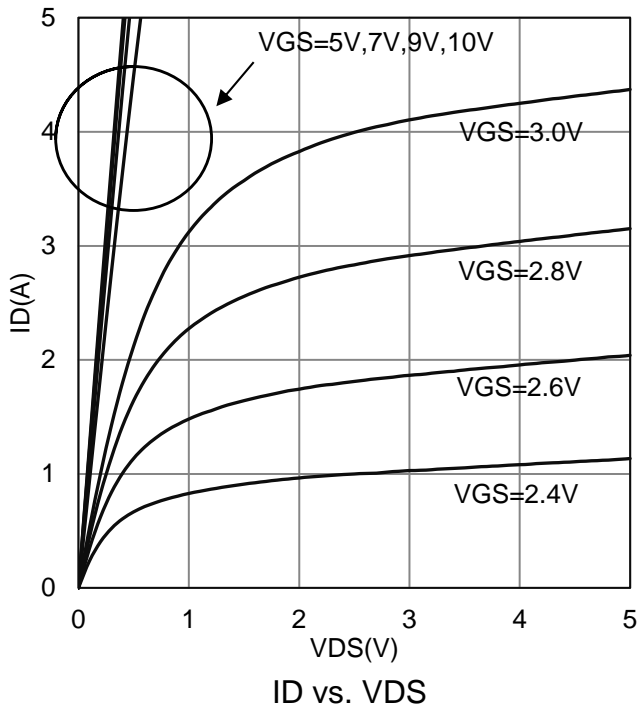
2.Surface mounted on "1.5 x 1.5" FR4 board using 1 sq in pad, 2 oz Cu.

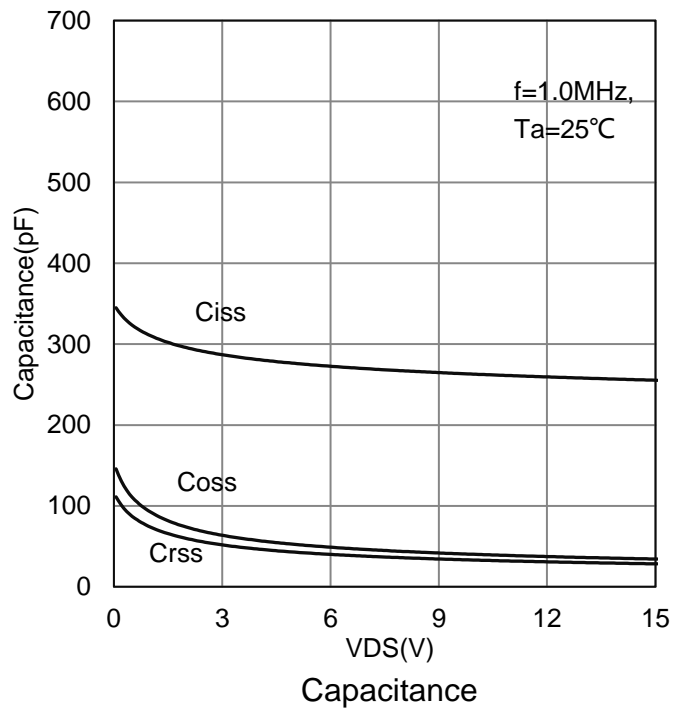
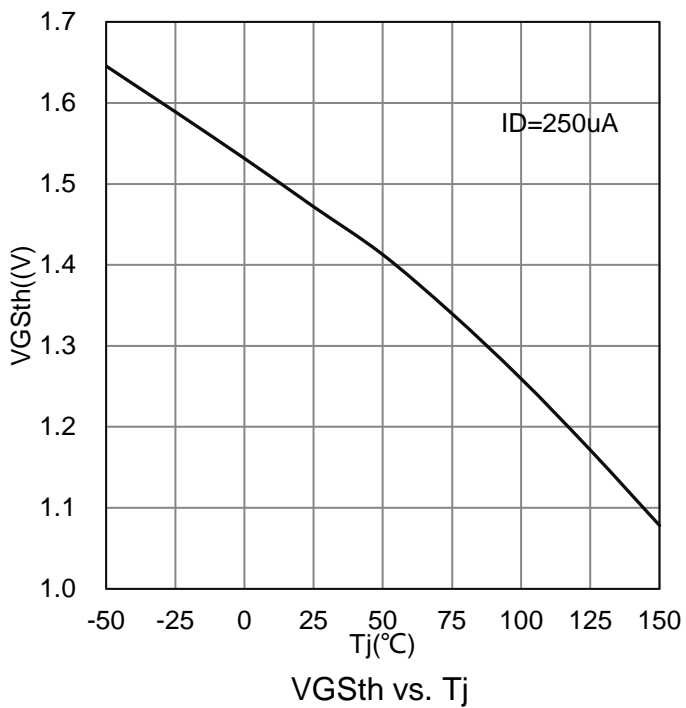
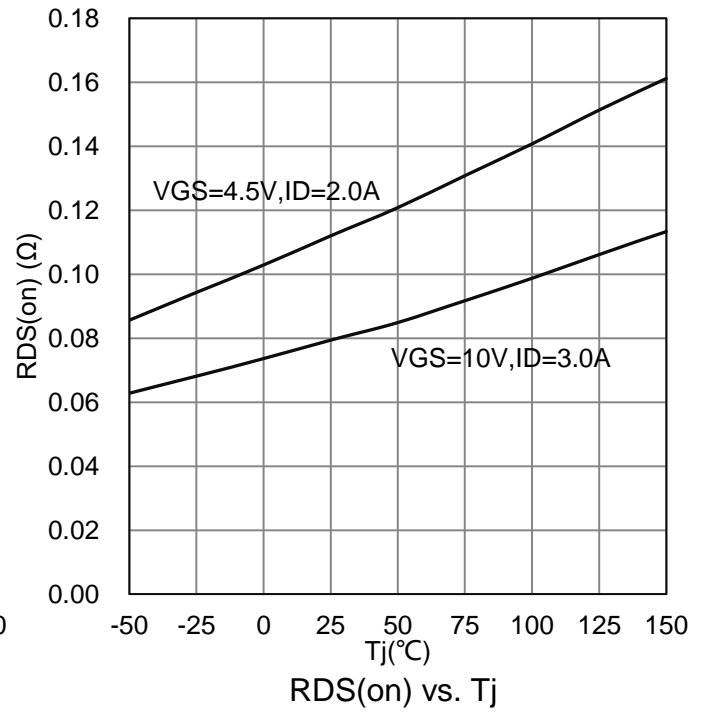
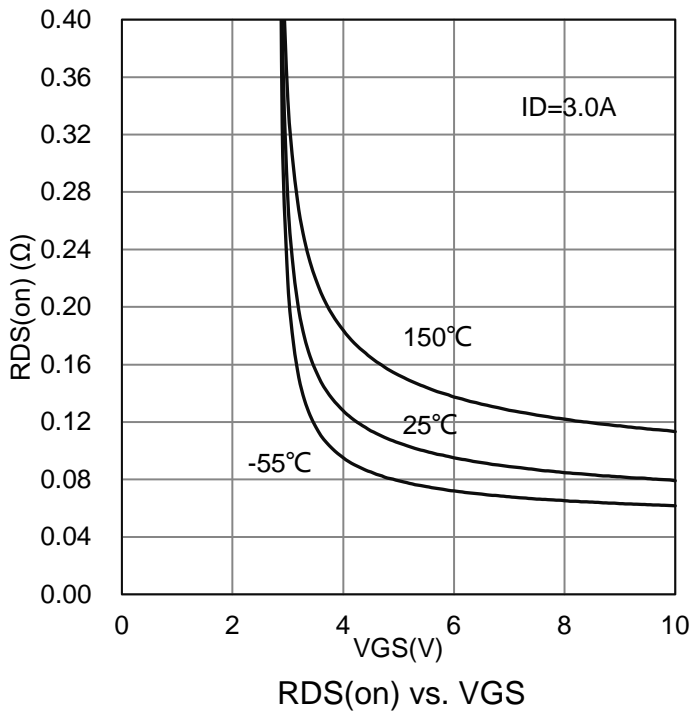
5. ELECTRICAL CHARACTERISTICS (Ta= 25°C)
P-Channel

Parameter	Symbol	Min.	Typ.	Max.	Unit
Static					
Drain-Source Breakdown Voltage (VGS = 0V ID = -250μA)	BVDSS	-30	-	-	V
Gate Threshold Voltage (VDS = VGS, ID = -250μA)	VGS(th)	-1	-	-2.5	V
Zero Gate Voltage Drain Current (VDS = -27V, VGS = 0V)	IDSS	-	-	-1	μA
Gate Body Leakage (VGS = ±20V, VDS = 0V)	IGSS	-	-	±100	nA
Drain-Source On-State Resistance (VGS = -10V, ID = -3A) (VGS = -4.5V, ID = -2A)	RDS(on)	- -	- -	100 150	mΩ
Dynamic					
Input Capacitance (VGS = 0 V, f = 1.0MHz, VDS = -15 V)	Ciss	-	226	-	pF
Output Capacitance (VGS = 0 V, f = 1.0MHz, VDS = -15 V)	Coss	-	39	-	
Reverse Transfer Capacitance (VGS = 0 V, f = 1.0MHz, VDS = -15 V)	Crss	-	29	-	
Turn-On Delay Time	(VDD = -15V, ID = -1A VGS = -10V, RG = 6Ω)	td(on)	-	6	ns
Rise Time		tr	-	8.7	
Turn-Off Delay Time		td(off)	-	33	
Fall Time		tf	-	3.7	
Total Gate Charge (VGS = -4.5V, VDS = -24V, ID = -2A)	Qg	-	2.5	-	nC
Gate-to-Source Gate Charge (VGS = -4.5V, VDS = -24V, ID = -2A)	Qgs	-	0.1	-	
Gate-to-Drain Charge (VGS = -4.5V, VDS = -24V, ID = -2A)	Qgd	-	1.8	-	
Diode Forward Voltage (IS = -1A, VGS = 0V)	VSD	-	-	-1	V
Gate Resistance (VDS = 0V, VGS = 0V, f = 1.0MHz)	Rg	-	5.5	-	Ω

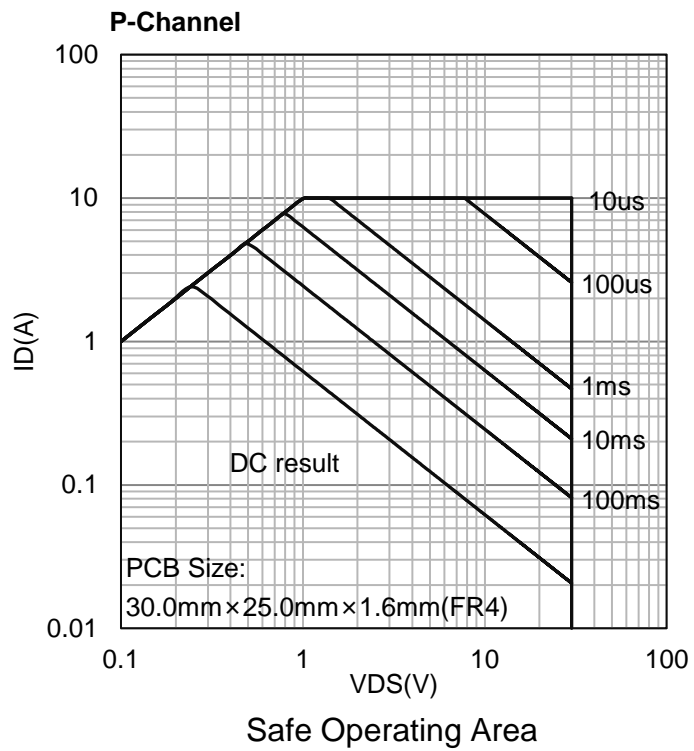
5. ELECTRICAL CHARACTERISTICS (Ta= 25°C)(Con.)
N-Channel

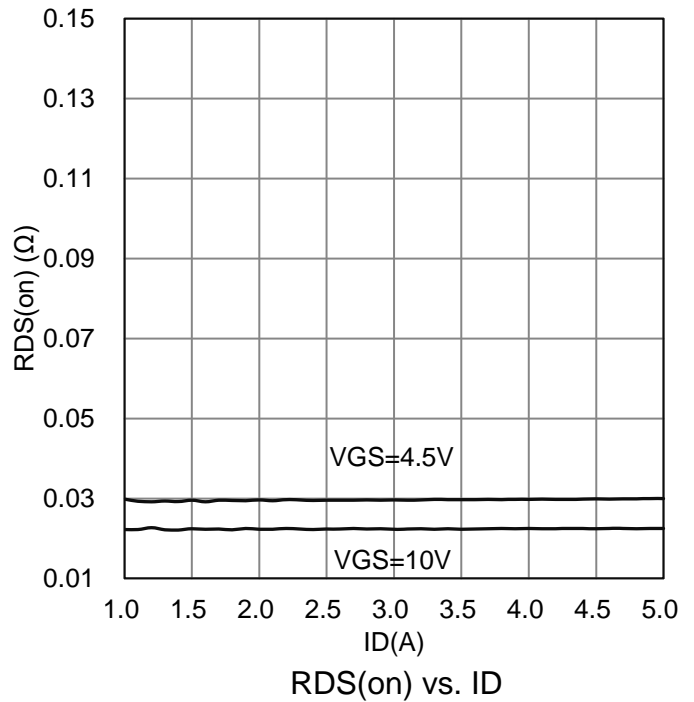
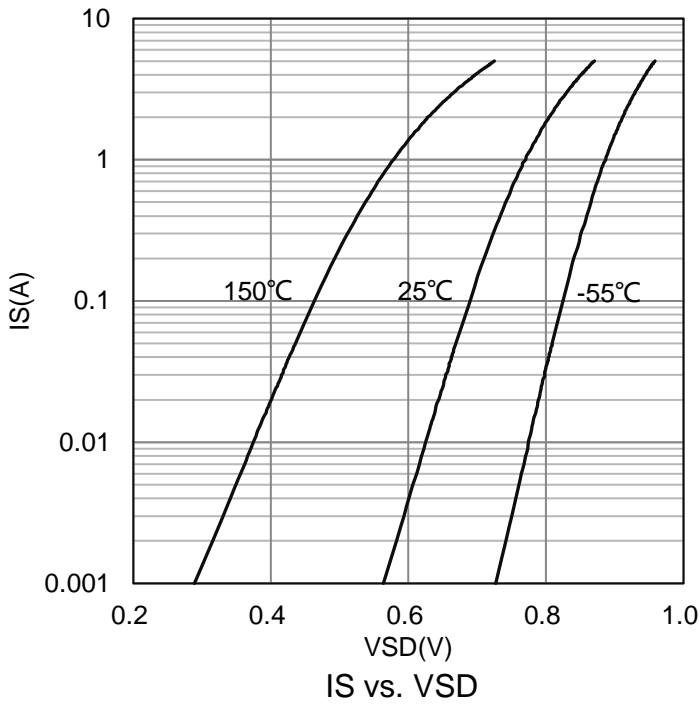
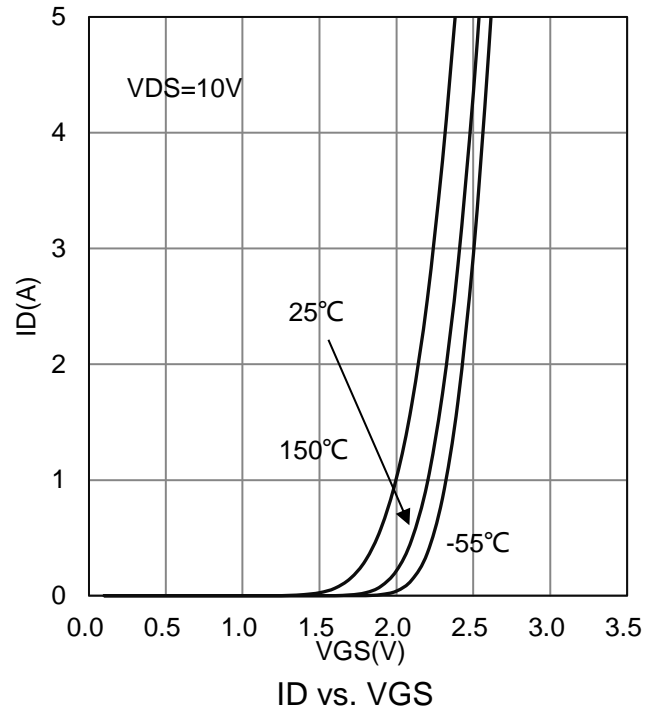
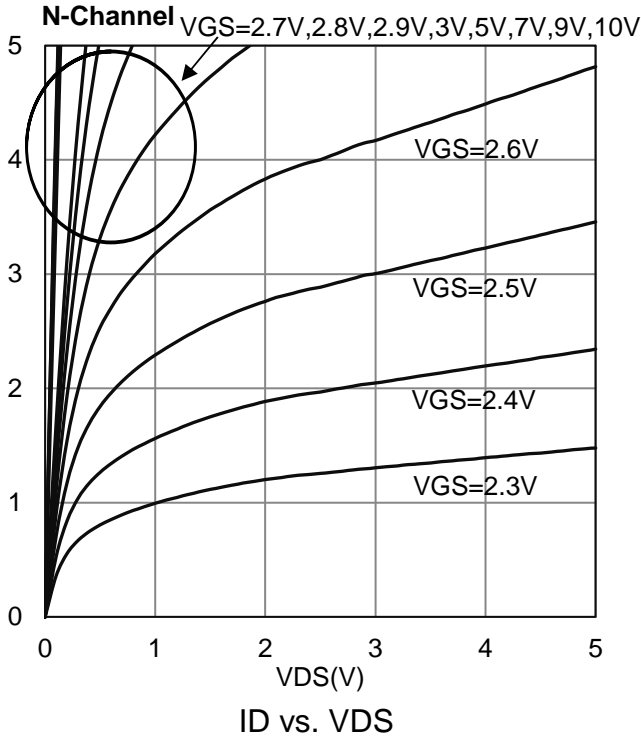
Parameter	Symbol	Min.	Typ.	Max.	Unit
Static					
Drain-Source Breakdown Voltage (VGS = 0V ID = 250 μ A)	BVDSS	30	-	-	V
Gate Threshold Voltage (VDS = VGS, ID = 250 μ A)	VGS(th)	1	-	3	V
Zero Gate Voltage Drain Current (VDS = 30V, VGS = 0V)	IDSS	-	-	1	μ A
Gate Body Leakage (VGS = \pm 20V, VDS = 0V)	IGSS	-	-	\pm 1	μ A
Drain-Source On-State Resistance (VGS=10V, ID=4A) (VGS=4.5V, ID=2.0A)	RDS(on)	- -	35 45	50 60	m Ω
Dynamic					
Input Capacitance (VGS = 0 V, f = 1.0MHz, VDS= 15 V)	Ciss	-	450	-	pF
Output Capacitance (VGS = 0 V, f = 1.0MHz, VDS= 15 V)	Coss	-	54	-	
Reverse Transfer Capacitance (VGS = 0 V, f = 1.0MHz, VDS= 15 V)	Crss	-	48	-	
Turn-On Delay Time	(VDD = 15V, RL = 2.7 Ω ID = 1A, VGEN = 10V, RG = 3 Ω)	td(on)	-	2	ns
Rise Time		tr	-	4	
Turn-Off Delay Time		td(off)	-	16	
Fall Time		tf	-	4	
Total Gate Charge (VGS = 4.5V, VDS = 15V, ID = 3A)	Qg	-	4.5	-	nC
Gate-to-Source Gate Charge (VGS = 4.5V, VDS = 15V, ID = 3A)	Qgs	-	1.4	-	
Gate-to-Drain Charge (VGS = 4.5V, VDS = 15V, ID = 3A)	Qgd	-	1.8	-	
Diode Forward Voltage (IS = 1.0A, VGS = 0V)	VSD	-	0.7	1.5	V
Gate Resistance (VDS=0V ,VGS=0V, f=1.0MHz)	Rg	-	2	-	Ω

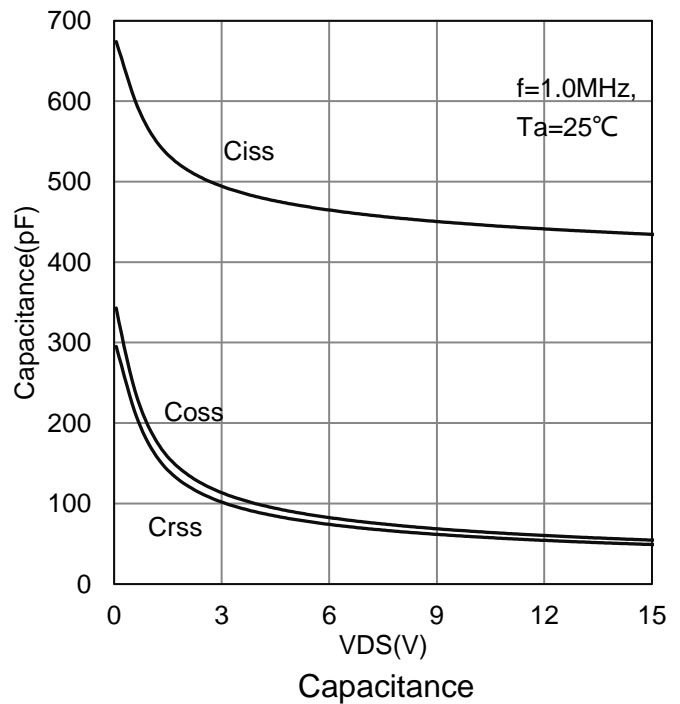
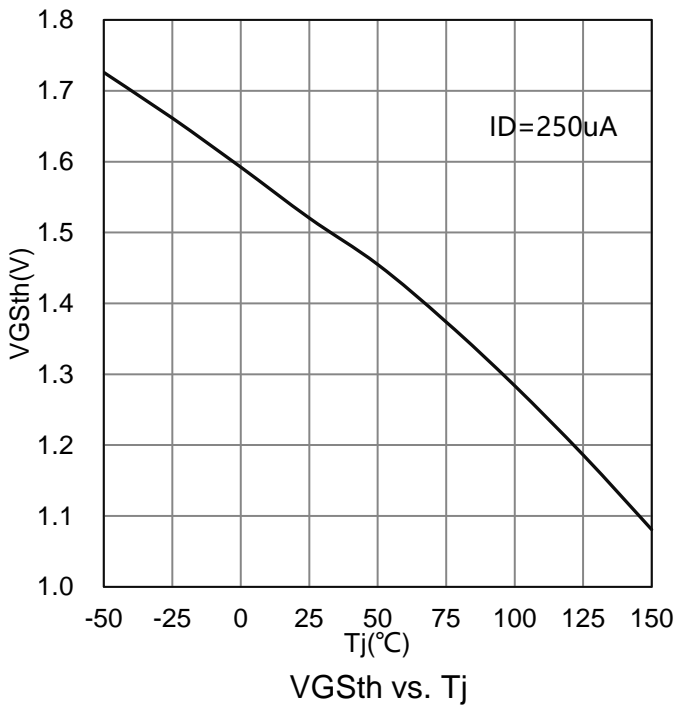
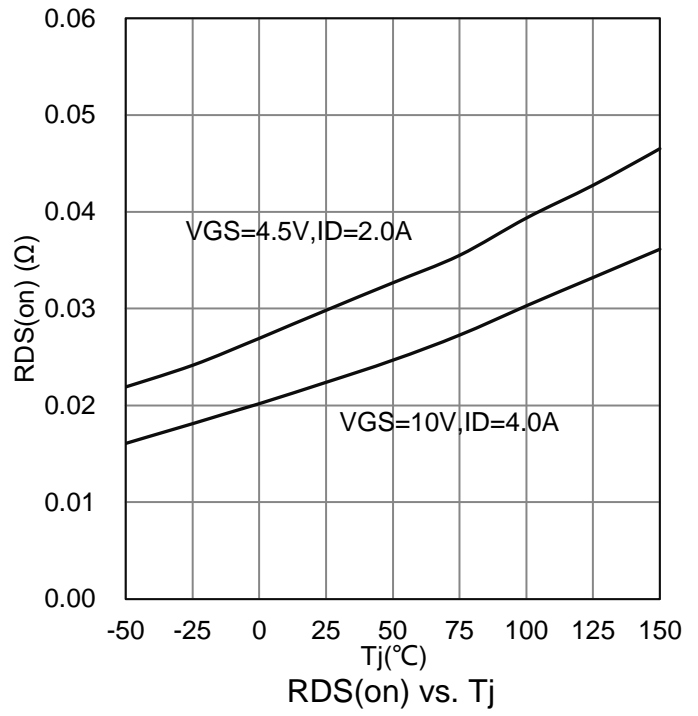
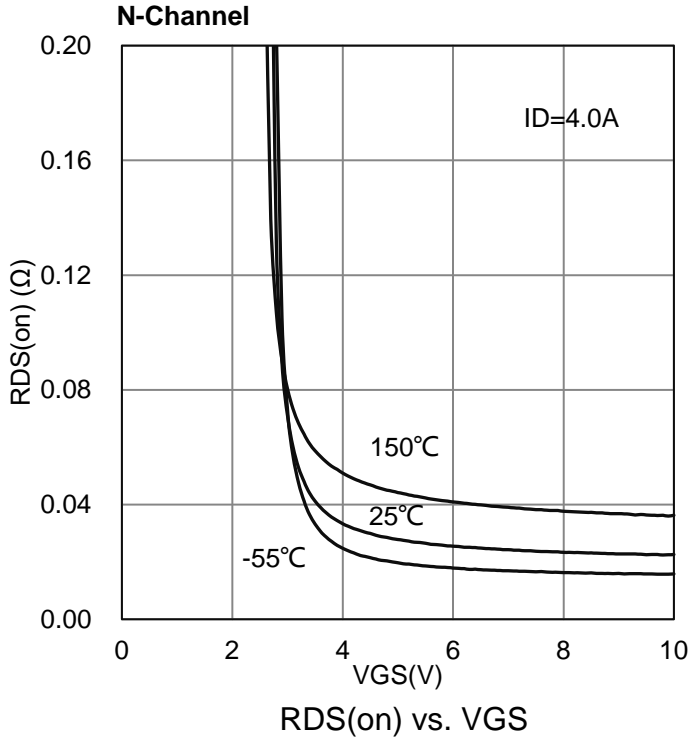
7. ELECTRICAL CHARACTERISTICS CURVES
P-Channel


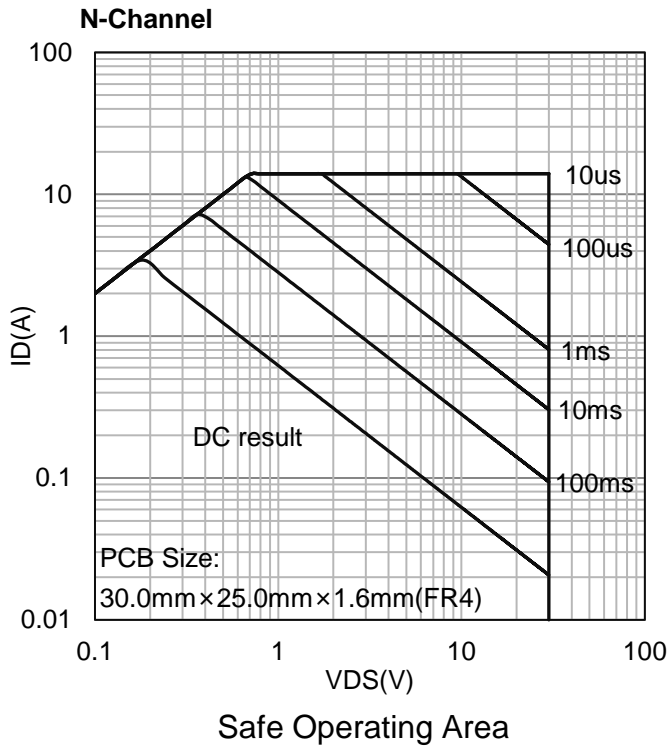
7. ELECTRICAL CHARACTERISTICS CURVES
P-Channel


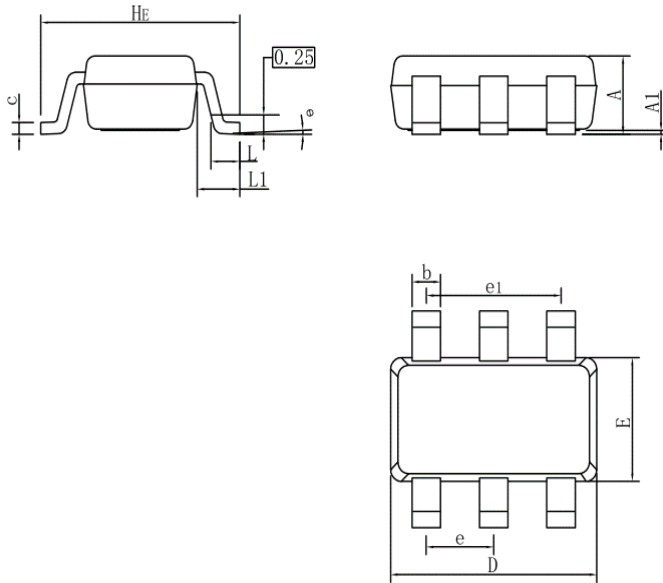
7. ELECTRICAL CHARACTERISTICS CURVES



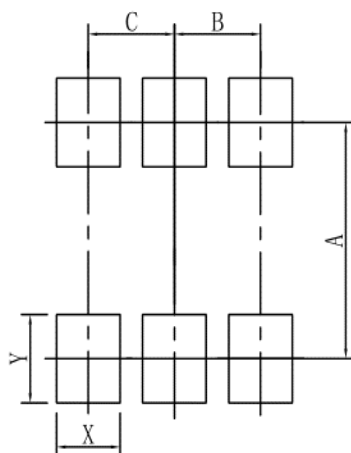
7. ELECTRICAL CHARACTERISTICS CURVES


7. ELECTRICAL CHARACTERISTICS CURVES


7. ELECTRICAL CHARACTERISTICS CURVES

8. OUTLINE AND DIMENSIONS


SOT26			
DIM	MIN	NOR	MAX
A	0.90	1.00	1.10
A1	0.01	0.06	0.10
b	0.30	0.40	0.50
c	0.10	0.17	0.20
D	2.80	2.90	3.00
E	1.50	1.60	1.70
e	0.85	0.95	1.05
e1	1.80	1.90	2.00
L	0.20	0.40	0.60
L1	0.60REF		
HE	2.60	2.80	3.00
θ	0°	-	10°

9. SOLDERING FOOTPRINT


SOT26	
DIM	(mm)
X	0.70
Y	0.90
A	2.40
B	0.95
C	0.95

DISCLAIMER

- Before you use our Products, you are requested to carefully read this document and fully understand its contents. LRC shall not be in any way responsible or liable for failure, malfunction or accident arising from the use of any LRC's Products against warning, caution or note contained in this document.
- All information contained in this document is current as of the issuing date and subject to change without any prior notice. Before purchasing or using LRC's Products, please confirm the latest information with a LRC sales representative.

单击下面可查看定价，库存，交付和生命周期等信息

[>>LRC\(乐山无线电\)](#)