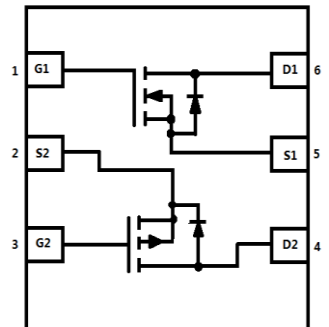
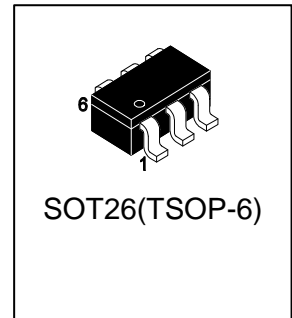


S-LNP2601T1G

20 V Complementary Trench MOSFET

1. FEATURES

- N-Channel: $V_{DS} = 20V$
 $R_{DS(ON)} \leq 60m\Omega, V_{GS}@4.5V, I_{DS}@1A$
 $R_{DS(ON)} \leq 75m\Omega, V_{GS}@2.5V, I_{DS}@1A$
 $R_{DS(ON)} \leq 100m\Omega, V_{GS}@1.8V, I_{DS}@1A$
- P-Channel: $V_{DS} = -20V$
 $R_{DS(ON)} \leq 80m\Omega, V_{GS}@-4.5V, I_{DS}@-1.0A$
 $R_{DS(ON)} \leq 95m\Omega, V_{GS}@-2.5V, I_{DS}@-1.0A$
 $R_{DS(ON)} \leq 120m\Omega, V_{GS}@-1.8V, I_{DS}@-1.0A$
- We declare that the material of product compliance with RoHS requirements and Halogen Free.



2. DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
S-LNP2601T1G	NP1	3000/Tape&Reel

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

Parameter (N-Channel)	Symbol	Limits	Unit
Drain–Source Voltage	V _{DS}	20	V
Gate–Source Voltage	V _{GS}	± 12	V
Drain Current-Continuous	I _D	3	A
Drain Current-Pulsed	I _{DM}	11	A
Operating Junction and Storage Temperature Range	T _J ,T _{STG}	-55 ~ +150	°C

Parameter (P-Channel)	Symbol	Limits	Unit
Drain–Source Voltage	V _{DS}	-20	V
Gate–Source Voltage	V _{GS}	± 8	V
Drain Current-Continuous	I _D	-2.5	A
Drain Current-Pulsed	I _{DM}	-9	A
Operating Junction and Storage Temperature Range	T _J ,T _{STG}	-55 ~ +150	°C

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

2. 1-in² 2oz Cu PCB board

4. THERMAL CHARACTERISTICS

Parameter	Symbol	Limits	Unit
Thermal Resistance Junction–to–Ambient	(Steady-State)	200	°C/W
	(t ≤ 10s)	150	
Thermal Resistance Junction–to–Case	R _{θJC}	100	°C/W

5. ELECTRICAL CHARACTERISTICS (Ta= 25°C)

N-Channel

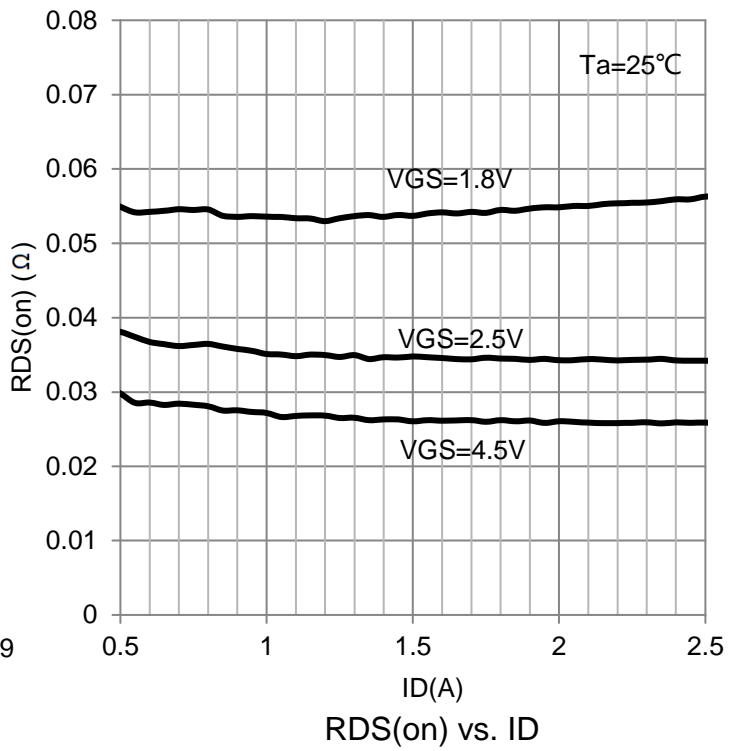
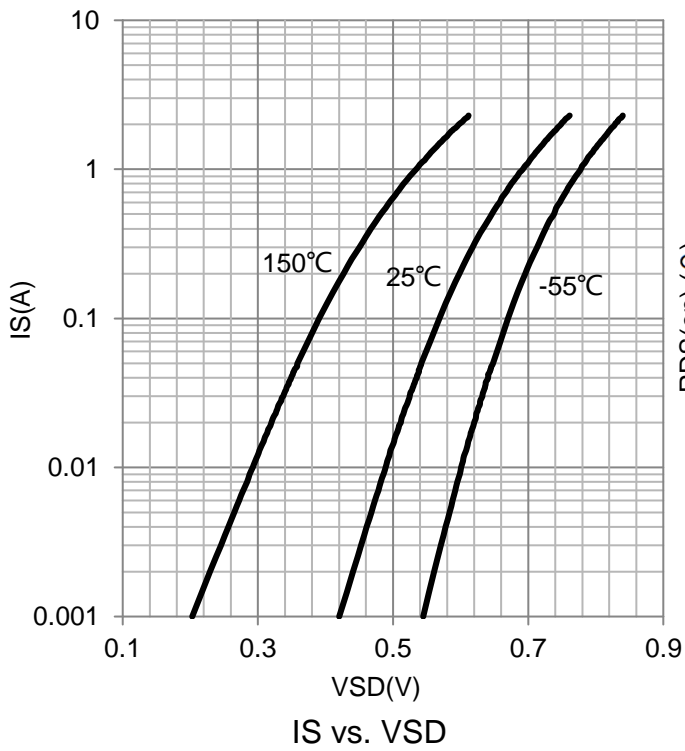
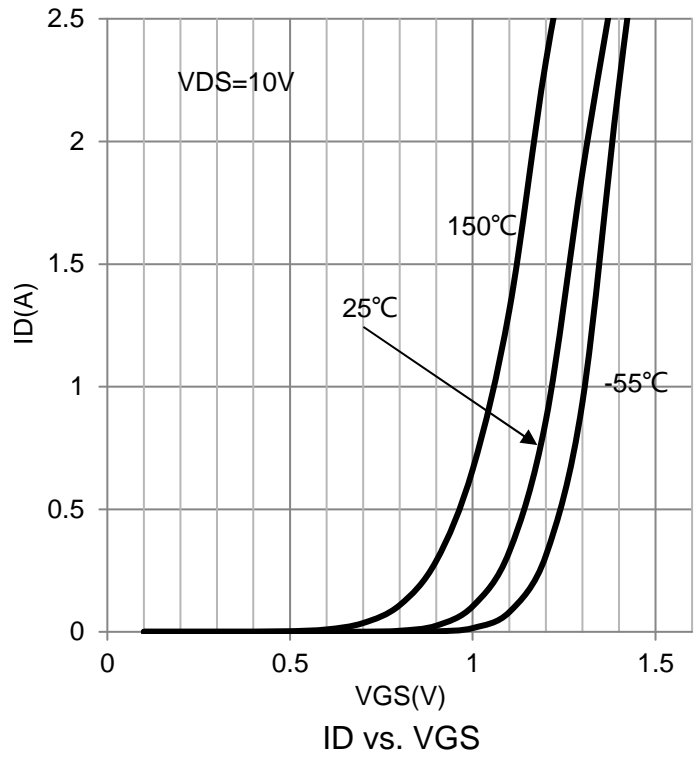
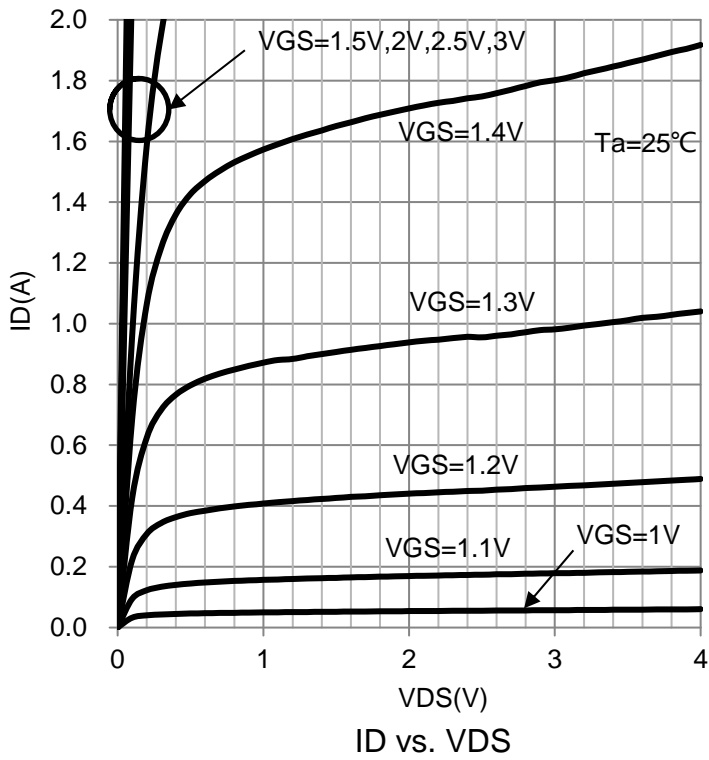
Parameter	Symbol	Min.	Typ.	Max.	Unit
Static					
Drain-Source Breakdown Voltage (VGS = 0V, ID = 250μA)	BVDSS	20	-	-	V
Drain-Source On-State Resistance (VGS=4.5V, ID=1.0A) (VGS=2.5V, ID=1.0A) (VGS=1.8V, ID=1A)	RDS(on)	- - -	- - -	60 75 100	mΩ
Gate Threshold Voltage (VDS = VGS, ID = 250uA)	VGS(th)	0.4	-	1.2	V
Zero Gate Voltage Drain Current (VDS = 20V, VGS = 0V)	IDSS	-	-	1.0	uA
Gate Body Leakage (VGS = ± 12V, VDS = 0V)	IGSS	-	-	±1	uA
Gate Resistance (f=1MHz, VDS=0V)	Rg	-	10	16	Ω
Source-Drain Diode					
Diode Forward Voltage (IS = 1.0A, VGS = 0V)	VSD	-	-	1.5	V
Dynamic					
Input Capacitance	(VDS = 8V, VGS = 0V, f=1MHz)	Ciss		565	pF
Output Capacitance		Coss		105	
Reverse Transfer Capacitance		Crss		75	
Total Gate Charge	(VDS = 10V, ID=6A, VGS=4.5V)	Qg		5	nC
Gate-Source Charge		Qgs		1	
Gate-Drain Charge		Qgd		1.5	
Turn-On Delay Time	(VDD=10V, RG = 6Ω, ID= 1A, VGS= 4.5V)	td(on)		8	nS
Turn-On Rise Time		tr		10	
Turn-Off Delay Time		td(off)		22	
Turn-Off Fall Time		tf		6	

5. ELECTRICAL CHARACTERISTICS (Ta= 25°C)

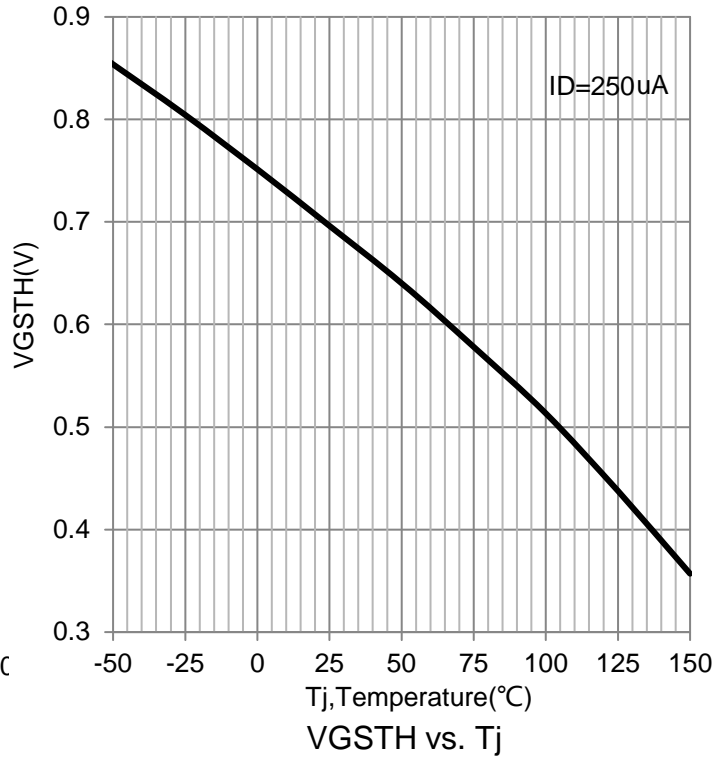
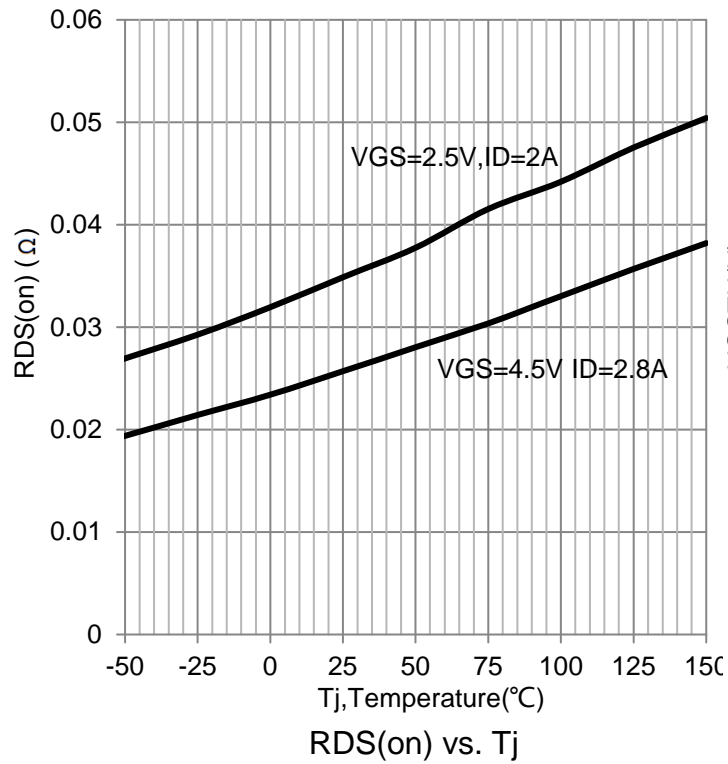
P-Channel

Parameter	Symbol	Min.	Typ.	Max.	Unit
Static					
Drain-Source Breakdown Voltage (VGS = 0V, ID = -250μA)	BVDSS	-20	-	-	V
Drain-Source On-State Resistance (VGS = -4.5V, ID = -1.0A) (VGS = -2.5V, ID = -1.0A) (VGS = -1.8V, ID = -1.0A)	RDS(on)	- - -	- - -	80 95 120	mΩ
Gate Threshold Voltage (VDS = VGS, ID = -250μA)	VGS(th)	-0.4	-	-1	V
Zero Gate Voltage Drain Current (VDS = -20V, VGS = 0V)	IDSS	-	-	-1	μA
Gate Body Leakage (VGS = ±8V, VDS = 0V)	IGSS	-	-	±1	μA
Source-Drain Diode					
Diode Forward Voltage (IS = -1.0A, VGS = 0V)	VSD	-	-	-1.5	V
Dynamic					
Input Capacitance	(VDS = -4V, VGS = 0V, f=1MHz)	Ciss	1245		pF
Output Capacitance		Coss	375		
Reverse Transfer Capacitance		Crss	210		
Total Gate Charge	(VDS = -6V, ID = -2.8A, VGS = -4.5V)	Qg	9.1		nC
Gate-Source Charge		Qgs	2.0		
Gate-Drain Charge		Qgd	1.7		
Turn-On Delay Time	(VDD = -4V, RL = 4Ω, ID = -1A, VGEN = -4.5V, RG = 6Ω)	td(on)	13	20	nS
Turn-On Rise Time		tr	25	40	
Turn-Off Delay Time		td(off)	55	80	
Turn-Off Fall Time		tf	19	35	

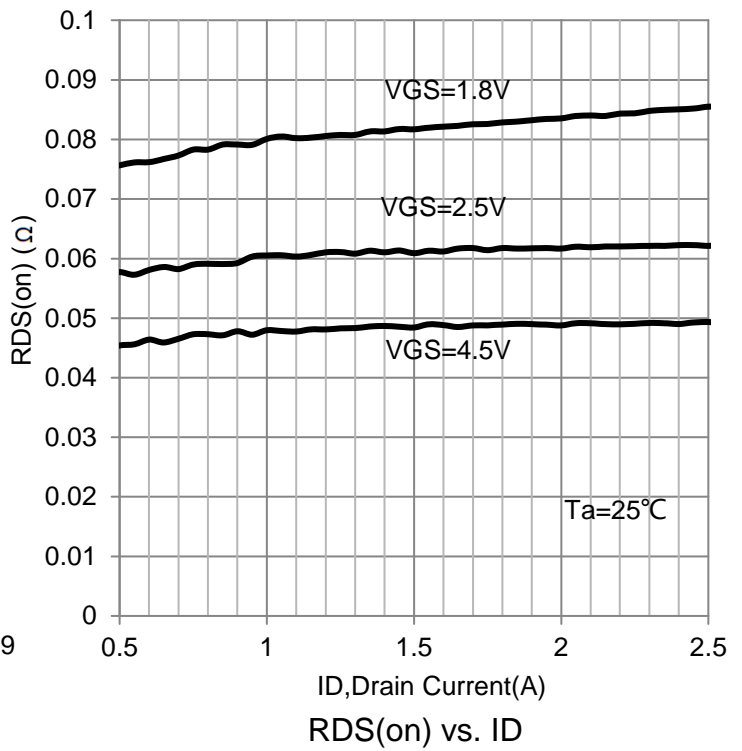
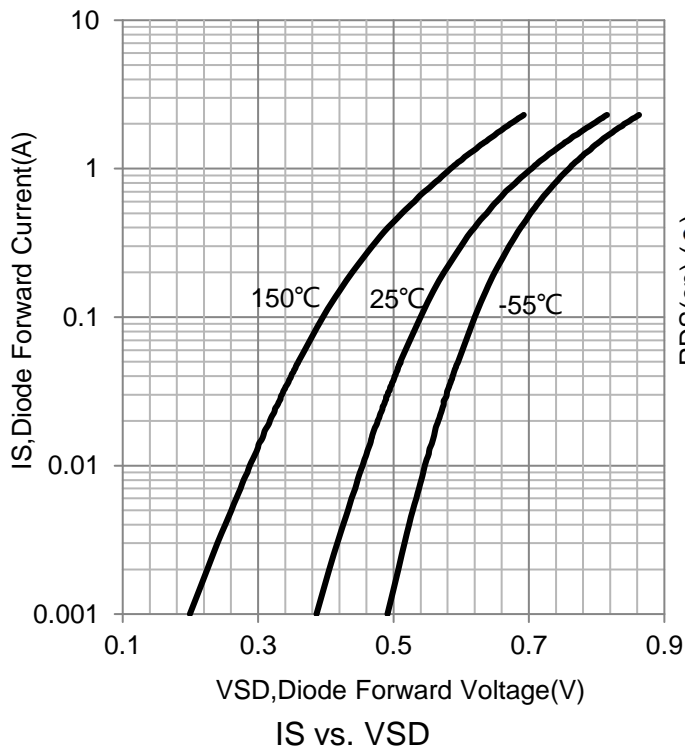
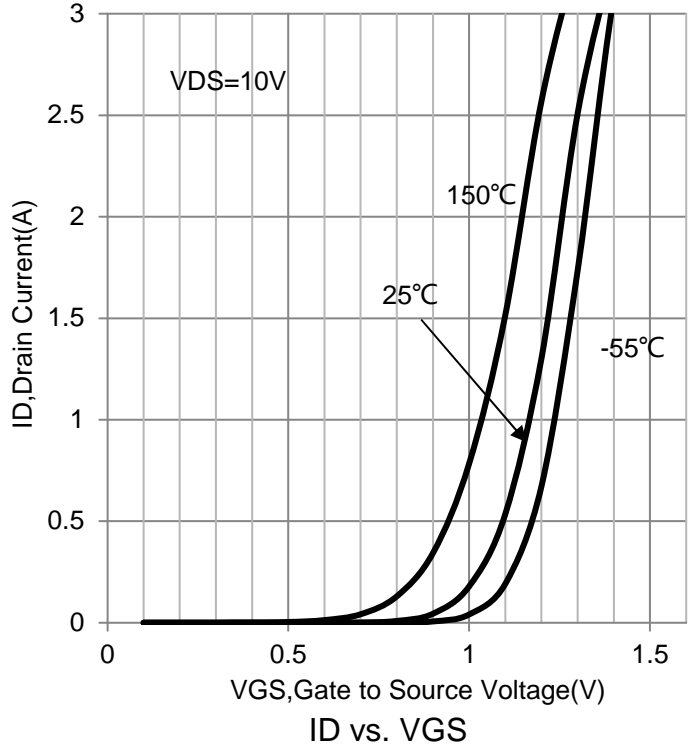
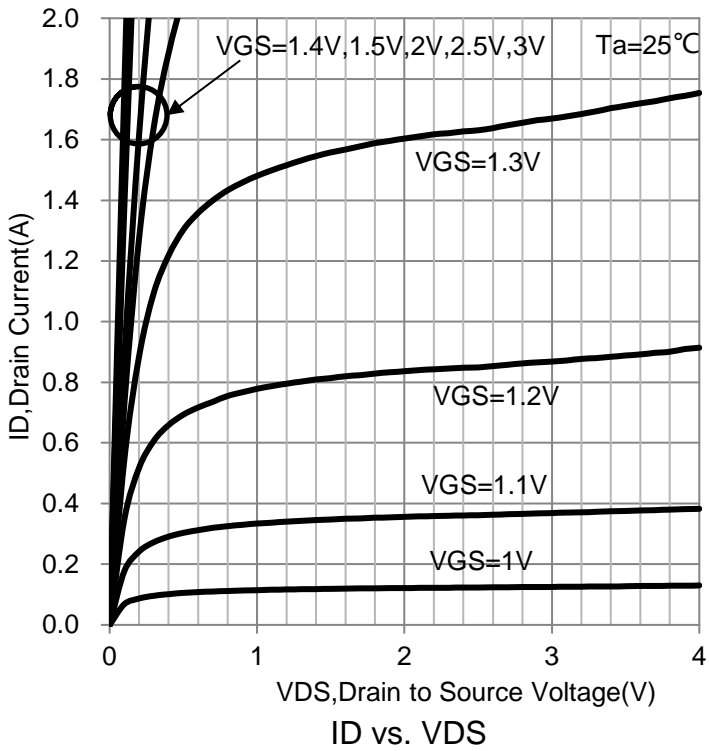
6.ELECTRICAL CHARACTERISTICS CURVES(N-Channel)



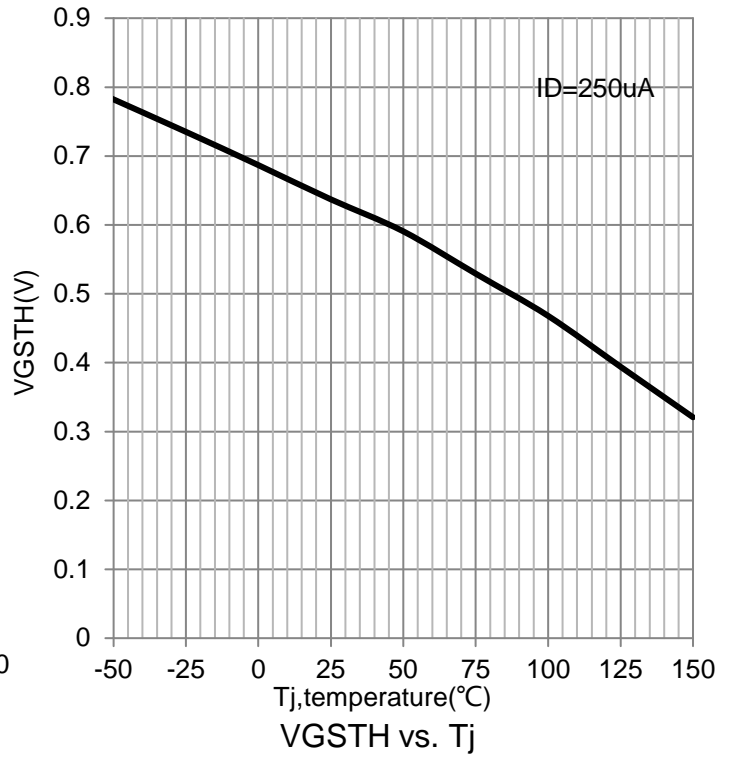
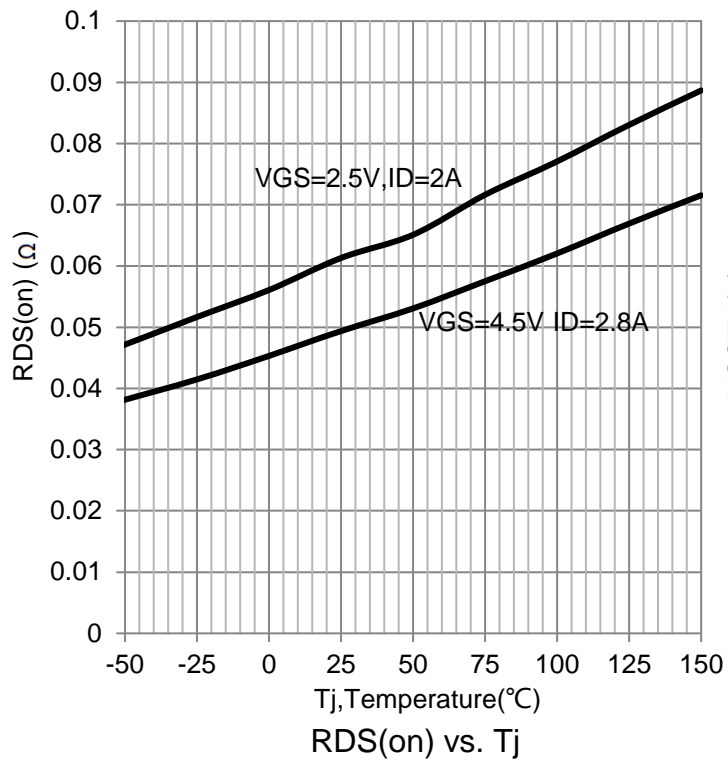
6.ELECTRICAL CHARACTERISTICS CURVES(N-Channel)(Con.)



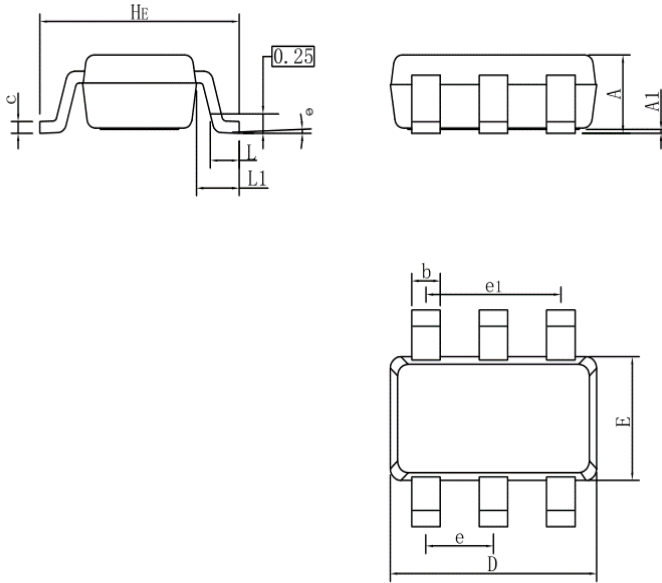
6.ELECTRICAL CHARACTERISTICS CURVES(P-Channel)



6.ELECTRICAL CHARACTERISTICS CURVES(P-Channel)(Con.)

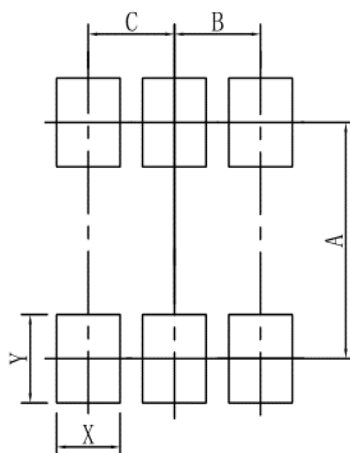


7.OUTLINE AND DIMENSIONS



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°

8.SOLDERING FOOTPRINT



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