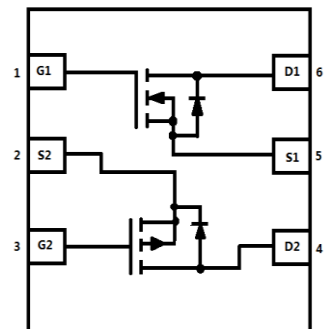
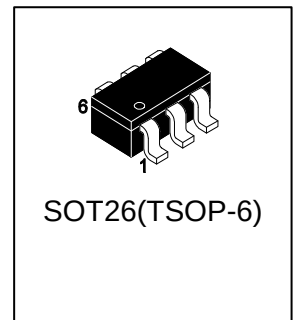


S-LNP2601T1G

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.
- S-prefix for automotive and other applications requiring unique site and control change requirements; AEC-Q101 qualified and PPAP capable.



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(Note 1)	I_{DM}	11	A

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	-3.1	A
Drain Current-Pulsed(Note 1)	I_{DM}	-9	A

4. THERMAL CHARACTERISTICS

Parameter	Symbol	Limits	Unit
Maximum Power Dissipation	PD	0.8	W
		0.6	
Thermal Resistance Junction–to–Ambient(Note 2)	$R_{\theta JA}$	150	$^{\circ}C/W$
Thermal Resistance Junction–to–Case	$R_{\theta JC}$	100	$^{\circ}C/W$
Operating Junction Temperature	T_j	150	$^{\circ}C$
Storage Temperature Range	T_{stg}	-50~+150	$^{\circ}C$

1. Repetitive Rating: Pulse width limited by the maximum junction temperature
2. 1-in² 2oz Cu PCB board

5. ELECTRICAL CHARACTERISTICS (Ta= 25°C)

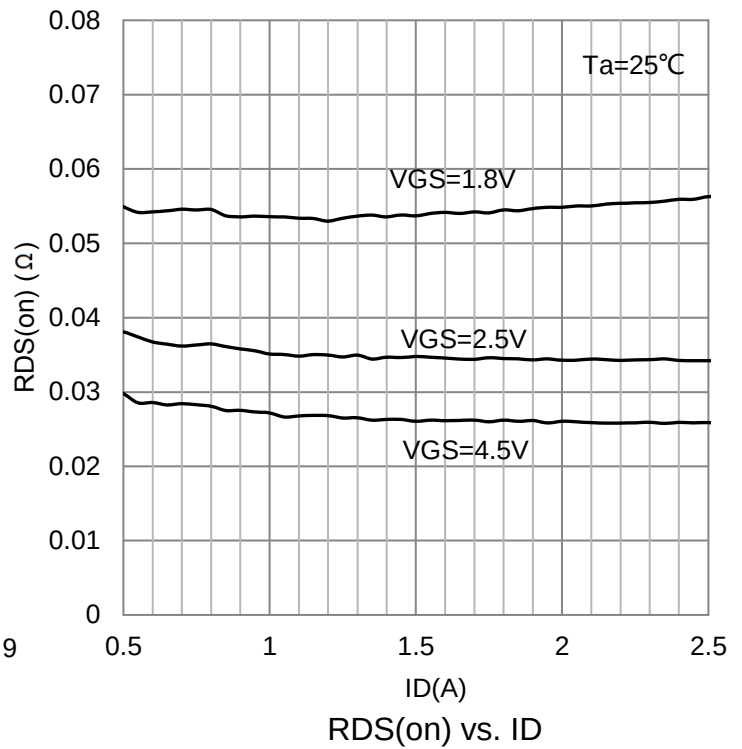
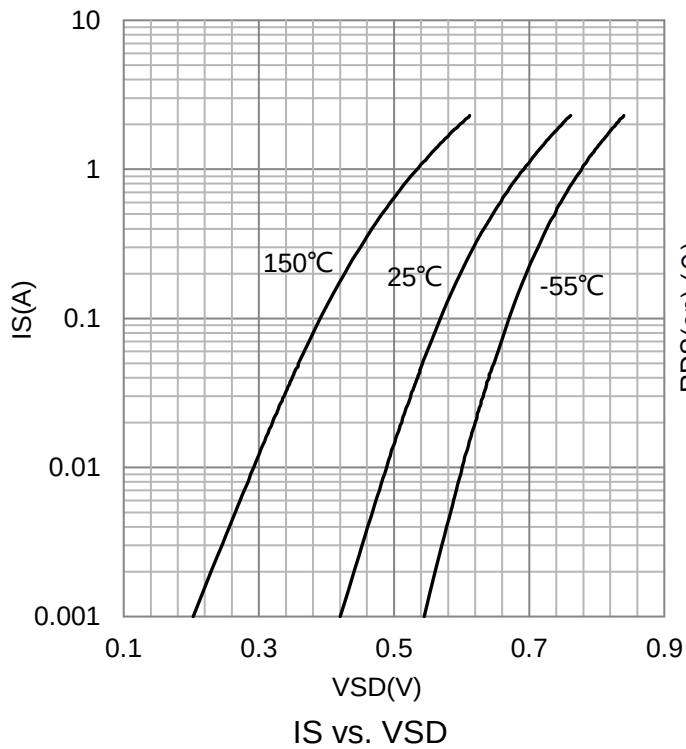
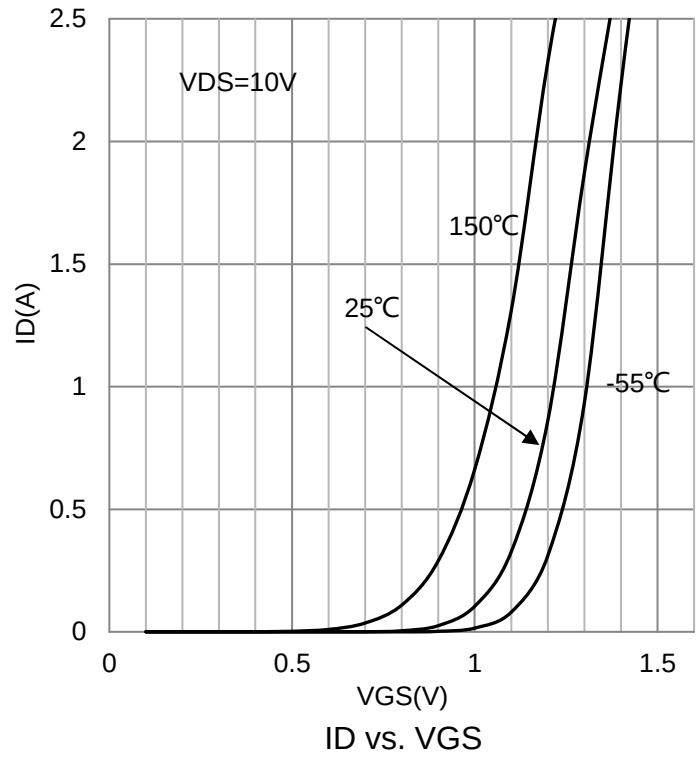
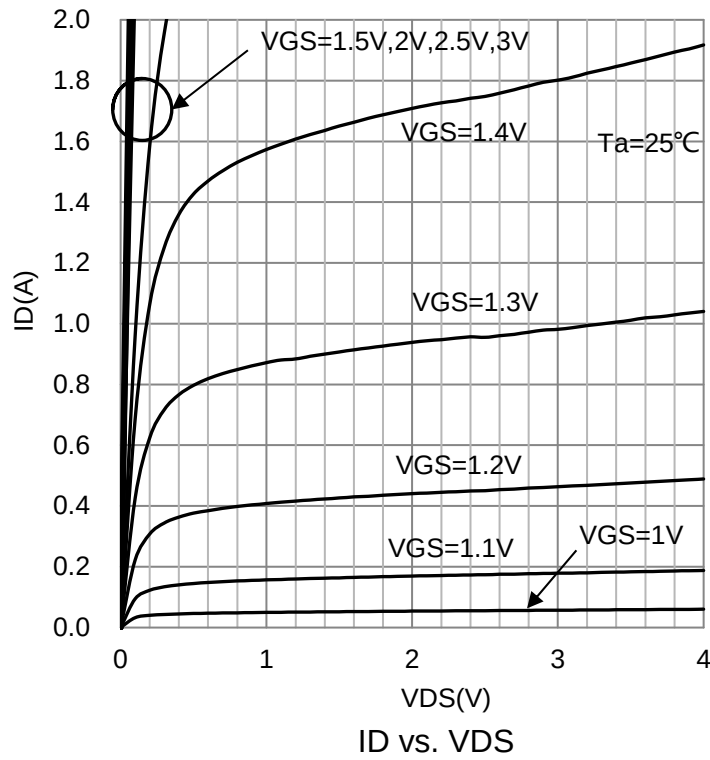
N-Channel

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

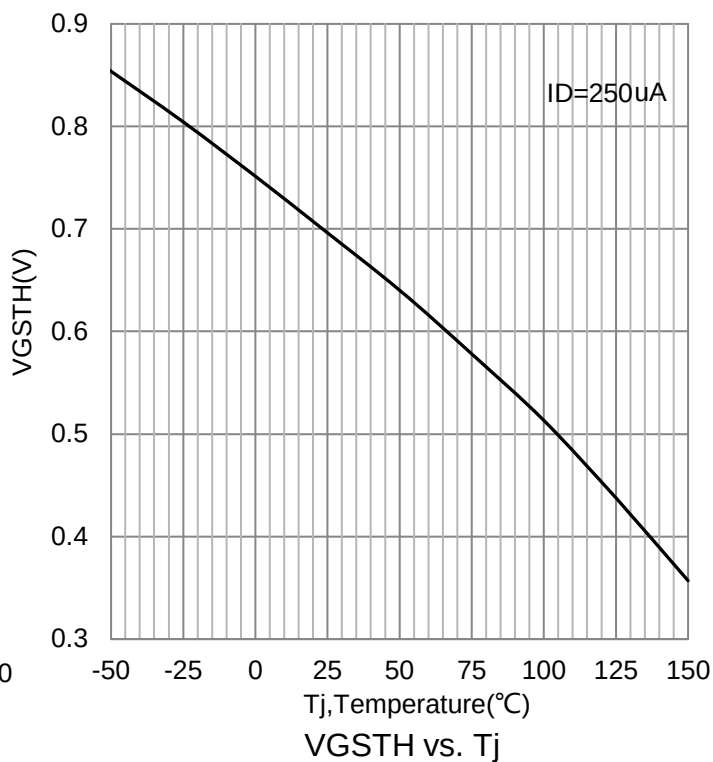
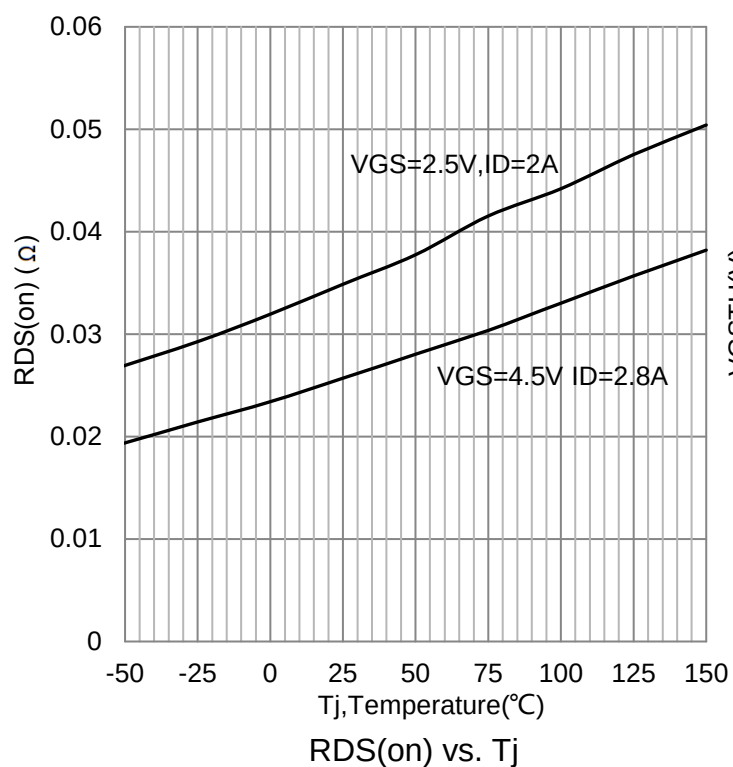
5. ELECTRICAL CHARACTERISTICS (Ta= 25°C)
P-Channel

Parameter	Symbol	Min.	Typ.	Max.	Unit
Static					
Drain-Source Breakdown Voltage (VGS = 0 V ID = -250 μA)	BVDSS	-20	-	-	V
Drain-Source On-State Resistance (VGS= -4.5 V, ID = -1 A) (VGS= -2.5 V, ID = -1 A) (VGS= -1.8 V, ID = -1 A)	RDS(on)	- - -	- - -	80 95 120	mΩ
Gate Threshold Voltage (VDS = VGS, ID = -250 uA)	VGS(th)	-0.4	-	-1	V
Zero Gate Voltage Drain Current (VDS = -20 V, VGS = 0 V)	IDSS	-	-	-1	uA
Gate Body Leakage (VGS = ± 8 V, VDS = 0 V)	IGSS	-	-	±1	uA
Diode Forward Voltage (IS = -1 A, VGS = 0 V)	VSD	-	-	-1.5	V
Dynamic					
Input Capacitance	(VDS = -4 V, VGS = 0 V, f= 1MHz)	Ciss	-	1245	pF
Output Capacitance		Coss	-	375	
Reverse Transfer Capacitance		Crss	-	210	
Total Gate Charge	(VDS = -6 V, ID = -2.8 A, VGS = -4.5 V)	Qg	-	9.1	nC
Gate-Source Charge		Qgs	-	2	
Gate-Drain Charge		Qgd	-	1.7	
Turn-On Delay Time	(VDD = -4 V, RL = 4 Ω, ID = -1 A, VGS = -4.5 V, RG = 6 Ω)	td(on)	-	13	nS
Turn-On Rise Time		tr	-	25	
Turn-Off Delay Time		td(off)	-	55	
Turn-Off Fall Time		tf	-	19	

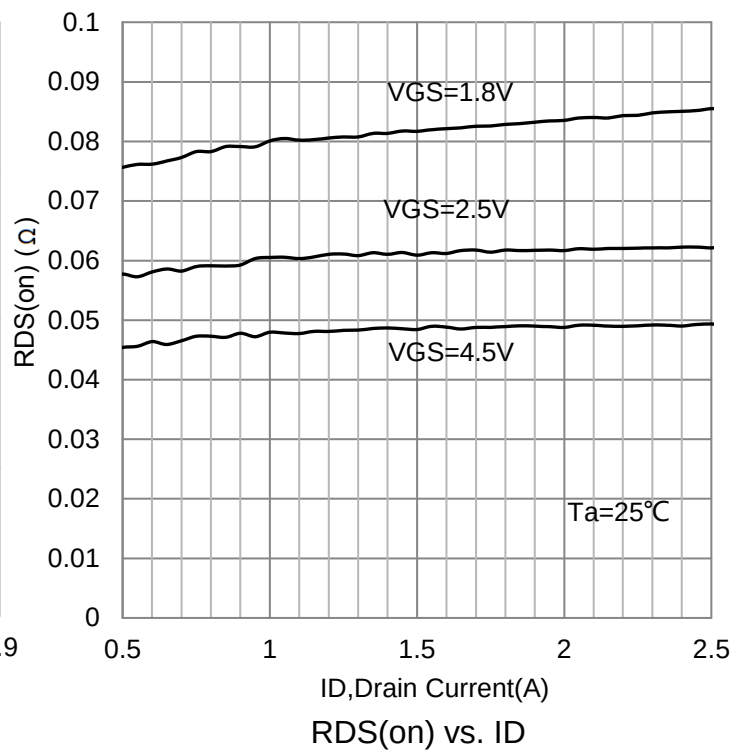
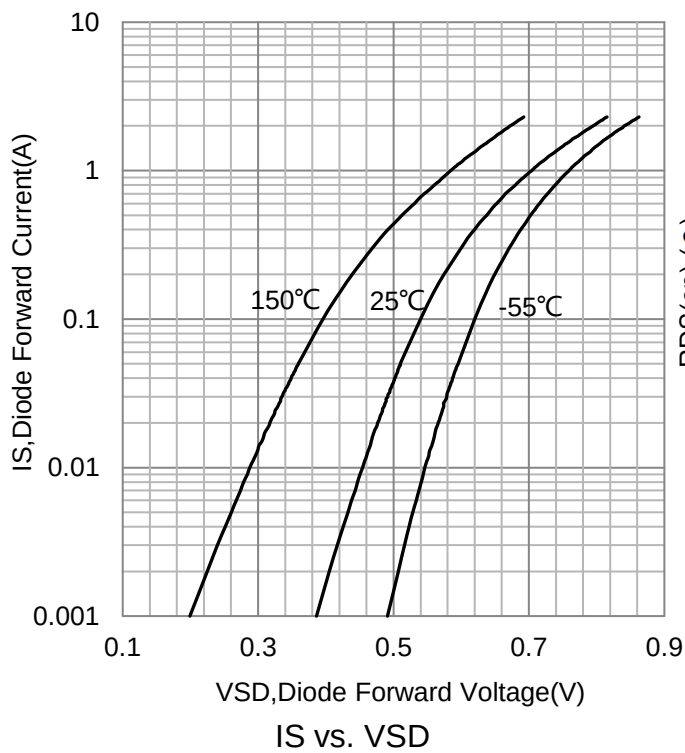
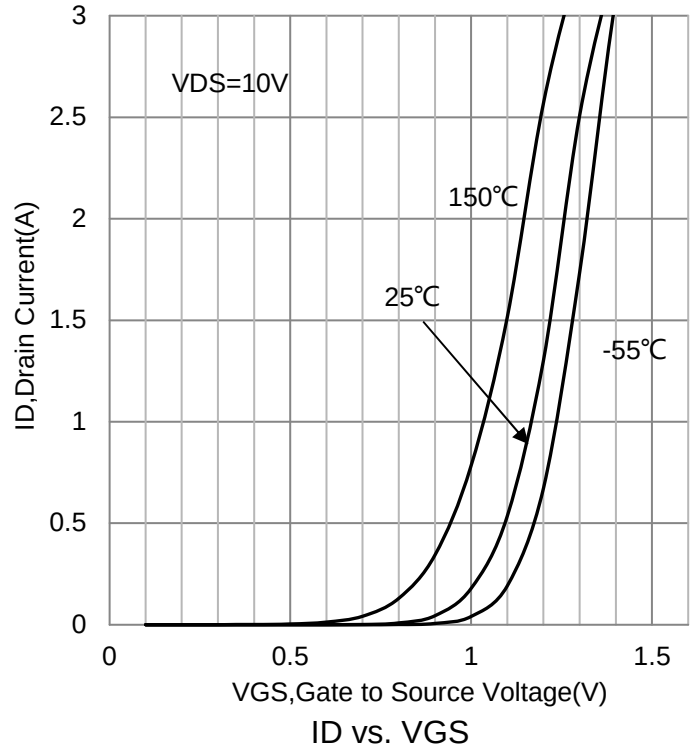
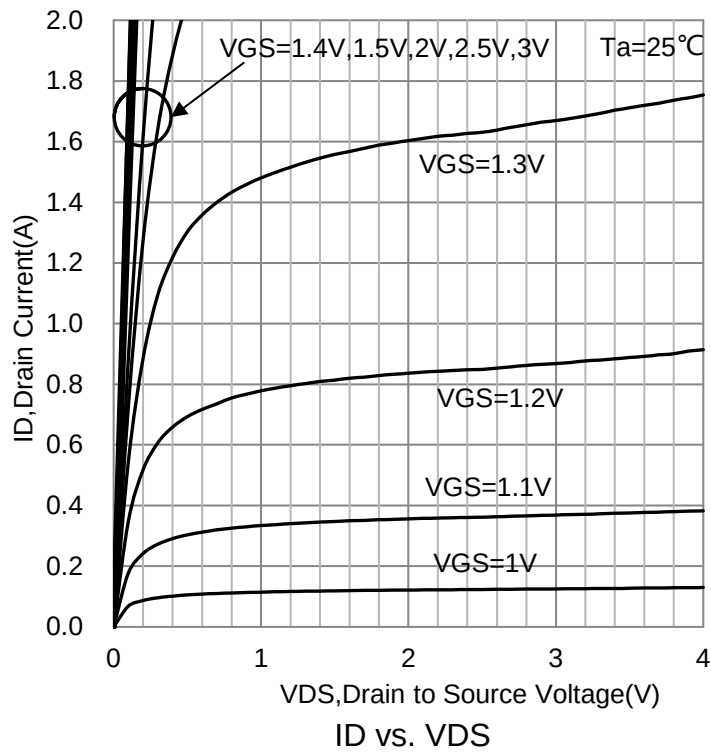
6.ELECTRICAL CHARACTERISTICS CURVES(N-Channel)



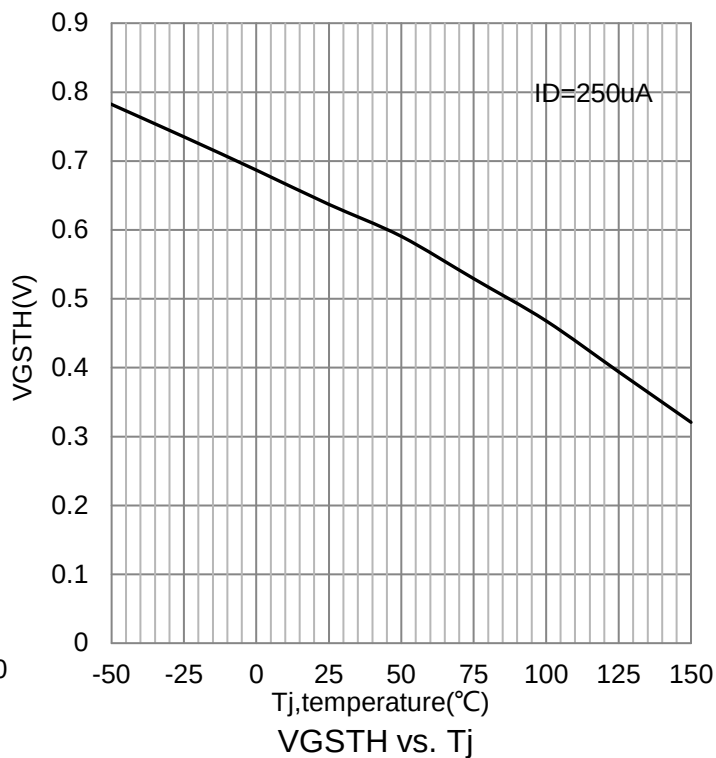
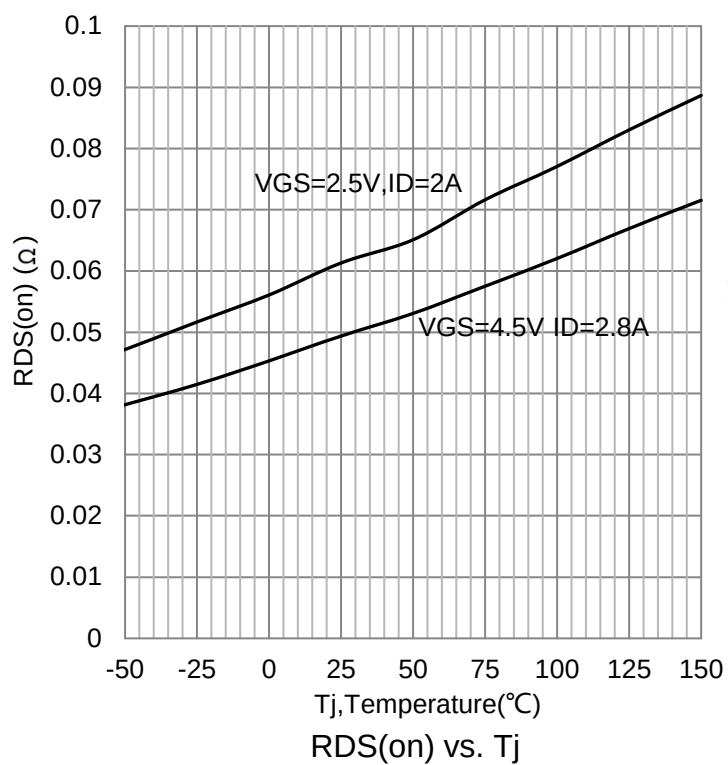
6.ELECTRICAL CHARACTERISTICS CURVES(N-Channel)(Con.)



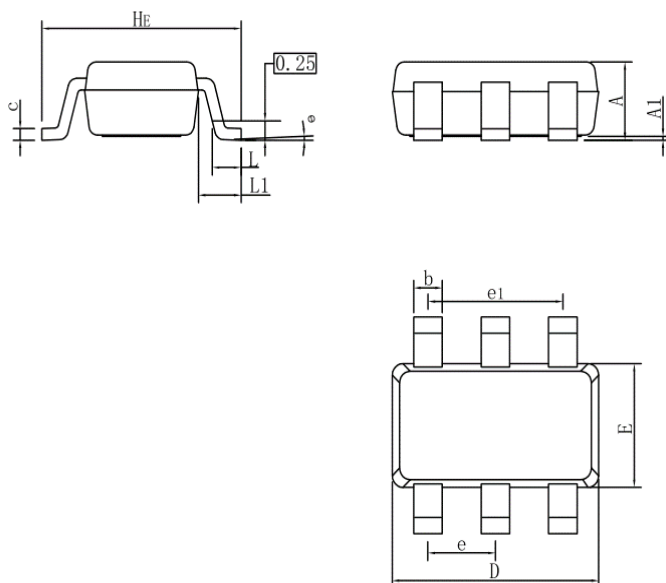
6.ELECTRICAL CHARACTERISTICS CURVES(P-Channel)



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

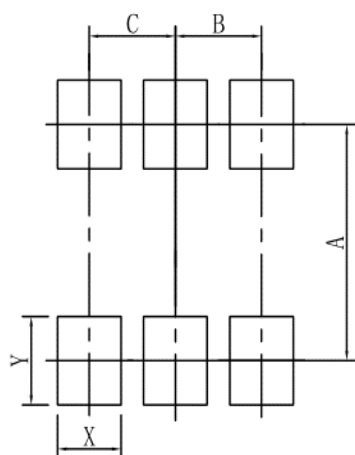


7.OUTLINE AND DIMENSIONS



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

DISCLAIMER

- Curve guarantee in the specification. The curve of test items with electric parameter is used as quality guarantee. The curve of test items without electric parameter is used as reference only.
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