

# S-LNB2306ELT1G

N-Channel 30V (D-S) MOSFET , ESD Protected

## 1. FEATURES

- $R_{DS(ON)} \leq 50m\Omega @ V_{GS} = 10V$
- $R_{DS(ON)} \leq 80m\Omega @ V_{GS} = 4.5V$
- ESD Protected.
- Super high density cell design for extremely low  $R_{DS(ON)}$ .
- Exceptional on-resistance and maximum DC current capability.
- 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.

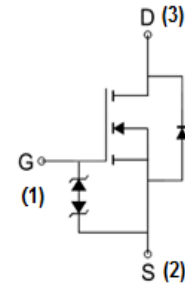


## 2. APPLICATIONS

- Power Management in Note book
- Portable Equipment
- Load Switch

## 3. DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
S-LNB2306ELT1G	23	3000/Tape&Reel



## 4. MAXIMUM RATINGS( $T_a = 25^\circ C$ )

Parameter	Symbol	Limits	Unit
Drain-Source Voltage	V <sub>DS</sub>	30	V
Gate-to-Source Voltage	V <sub>GSS</sub>	±20	V
Continuous Drain(Note 1)	I <sub>D</sub>	TA = 25°C	4
		TA = 70°C	3
Pulsed Drain Current	I <sub>DM</sub>	18	A
Maximum Power Dissipation(Note 1)	P <sub>D</sub>	TA = 25°C	0.9
		TA = 70°C	0.65
Operating Junction Temperature	T <sub>J</sub>	-55 ~ 150	°C
Storage Temperature Range	T <sub>stg</sub>	-55 ~ 150	
Thermal Resistance-Junction to Ambient(Note 1)	R <sub>θJA</sub>	90	°C/W

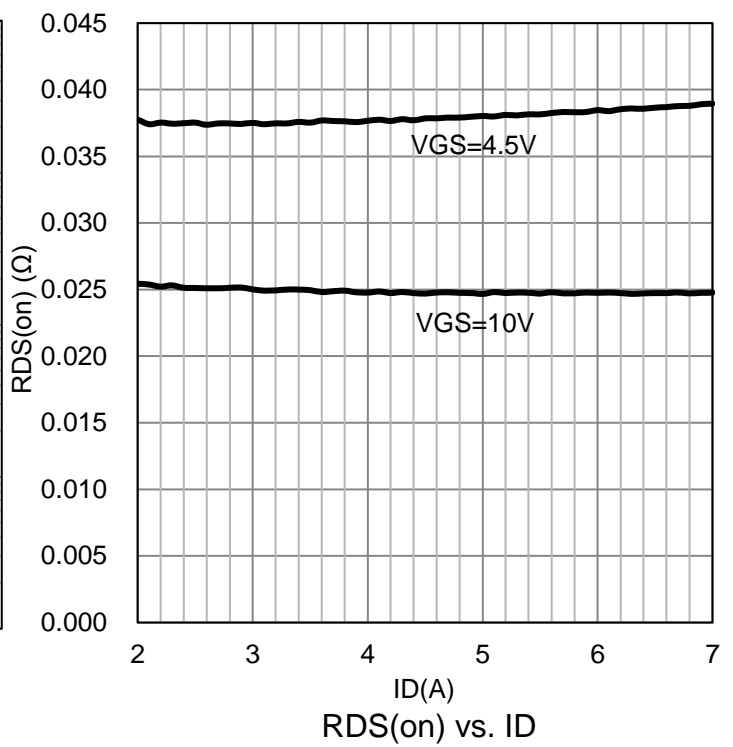
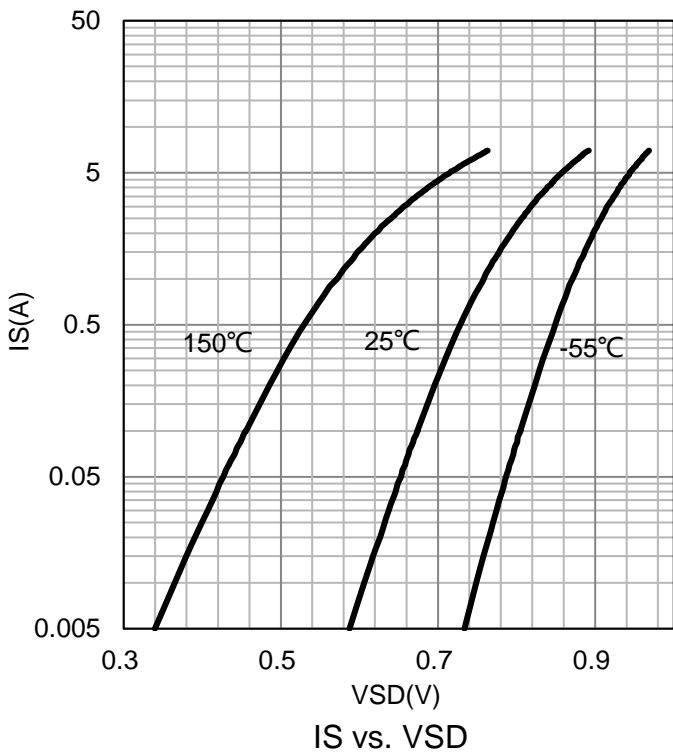
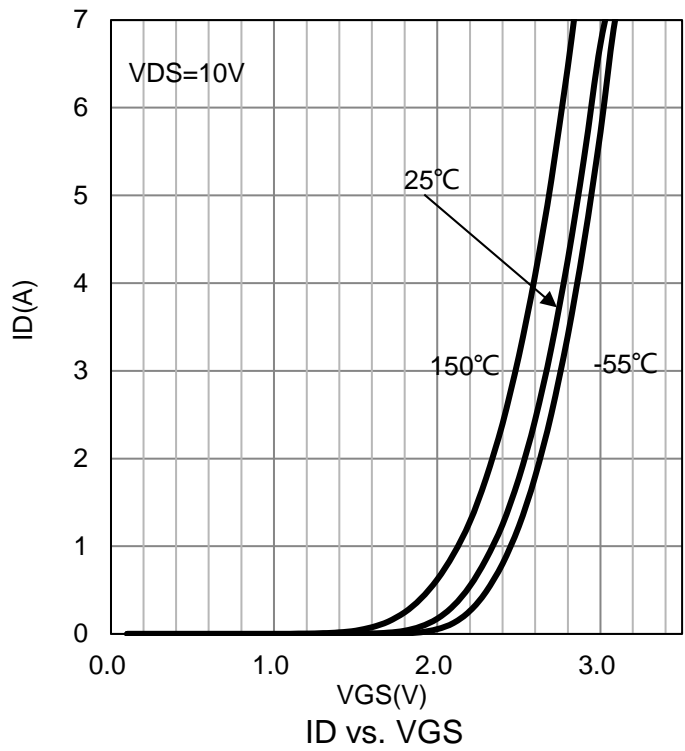
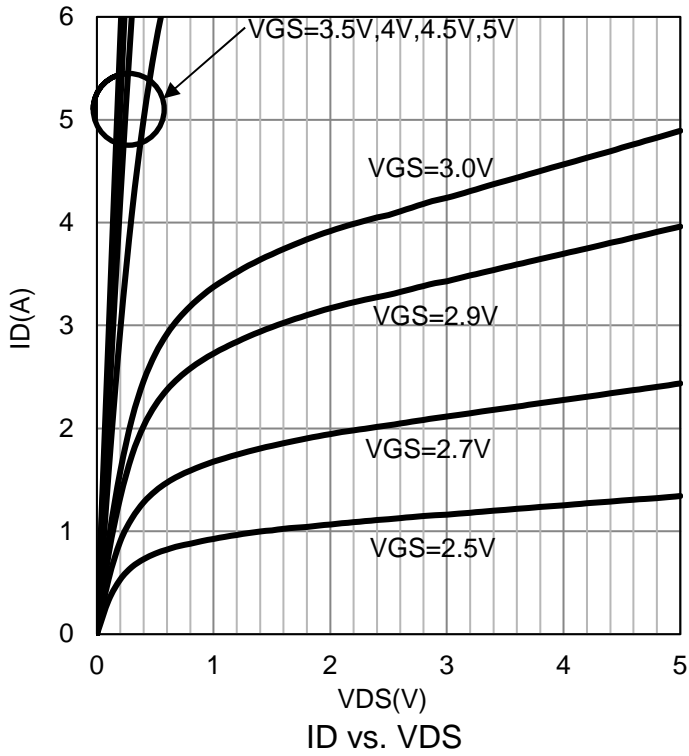
1.The device mounted on 1in<sup>2</sup> FR4 board with 2 oz copper

### 5. ELECTRICAL CHARACTERISTICS (Ta= 25°C)

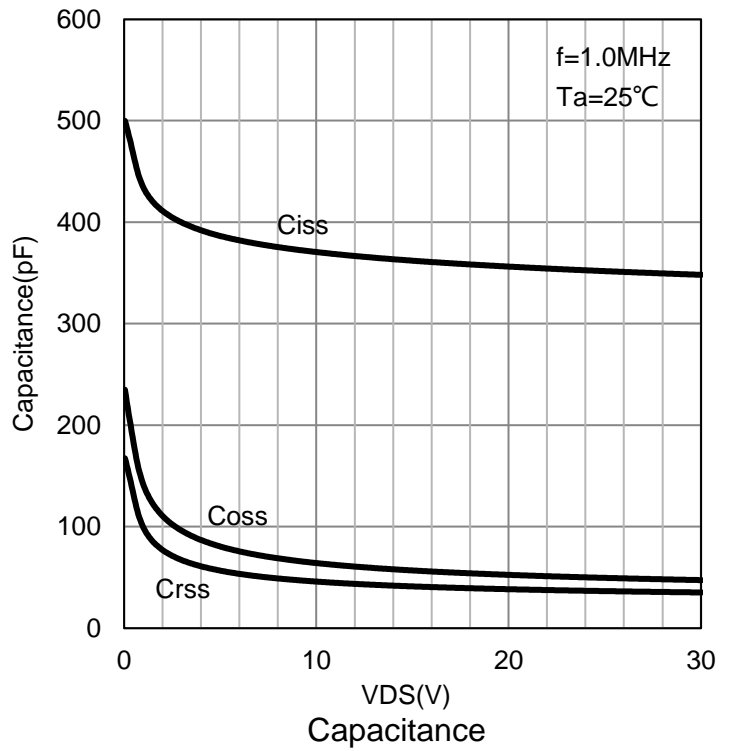
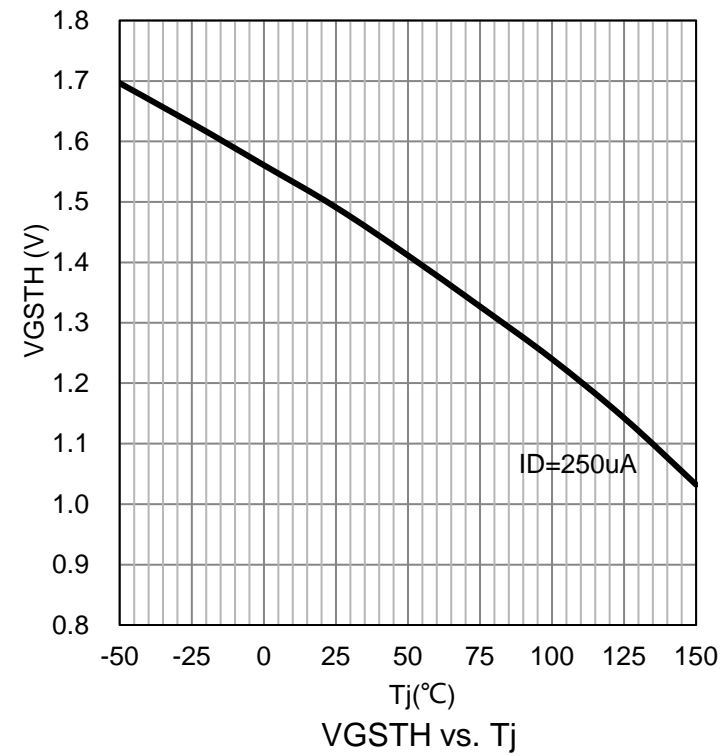
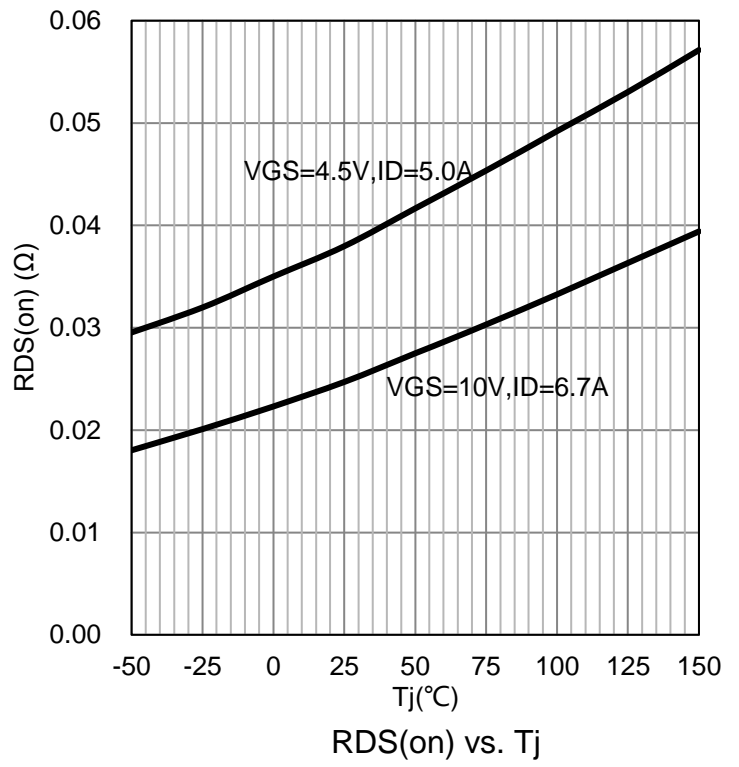
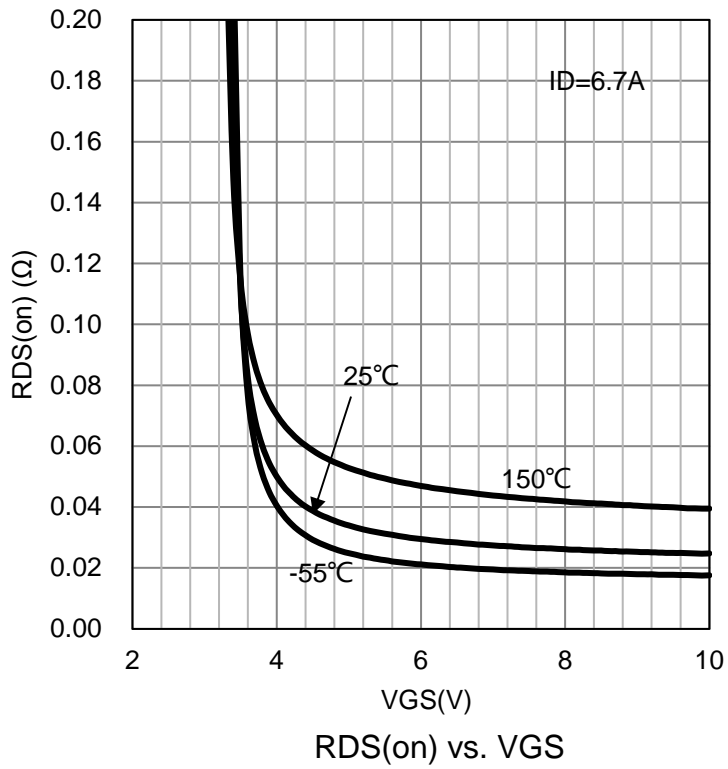
Characteristic	Symbol	Min.	Typ.	Max.	Unit	
<b>STATIC</b>						
Gate Threshold Voltage (VDS =VGS , ID =250μA)	VGS(th)	1	1.5	3	V	
Gate Leakage Current (VDS =0V, VGS =±16V)	IGSS	-	-	±10	μA	
Zero Gate Voltage Drain Current (VDS =30V, VGS =0V)	IDSS	-	-	1		
Drain-Source On-Resistance (VGS =10V, ID = 6.7A )	RDS(ON)	-	35	50	mΩ	
Drain-Source On-Resistance (VGS =4.5V, ID = 5.0A )		-	48	80		
Diode Forward Voltage (IS =1.7A, VGS =0V)	VSD	-	0.8	1.2	V	
<b>DYNAMIC</b>						
Input Capacitance	(VDS =15V, VGS =0V, f=1MHz)	Ciss	-	370	-	pF
Output Capacitance		Coss	-	68	-	
Reverse Transfer Capacitance		Crss	-	21	-	
Gate Resistance (f=1MHz)	Rg	-	1.9	-	mΩ	
Total Gate Charge (VDS =15V, VGS =10V, ID =6.7A)	Qg	-	12	-	nC	
Total Gate Charge	(VDS =15V, VGS =4.5V, ID =4A)	Qg	-	5.7		-
Gate-Source Charge		Qgs	-	3		-
Gate-Drain Charge		Qgd	-	2.1		-
Turn-On Delay Time	(VDD =15V, RL =15Ω, ID =1.0A, VGEN =10V, RG =6Ω)	td(on)	-	10	-	ns
Turn-On Rise Time		tr	-	13	-	
Turn-Off Delay Time		td(off)	-	33	-	
Turn-Off Fall Time		tf	-	5	-	

2. Pulse test: pulse width ≤ 300μs, duty cycle ≤ 2%, Guaranteed by design, not subject to production testing.

**6. ELECTRICAL CHARACTERISTICS CURVES**

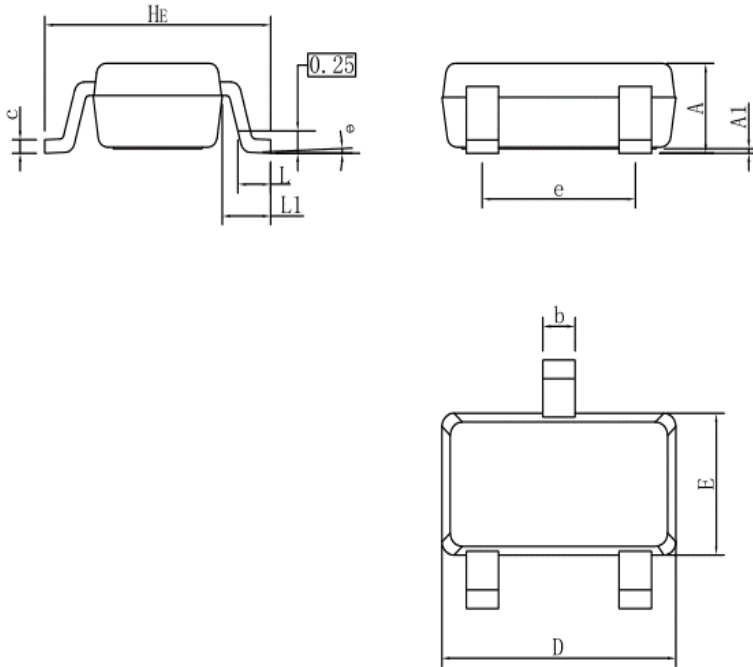


**6. ELECTRICAL CHARACTERISTICS CURVES(Con.)**



## 7.OUTLINE AND DIMENSIONS

SOT23LC

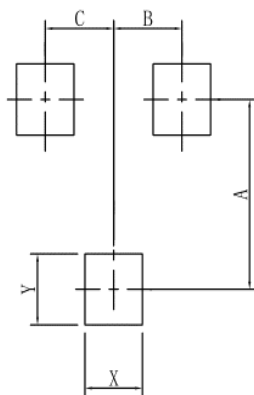


SOT23-LC			
DIM	MIN	NOR	MAX
A	0.90	1.00	1.10
A1	0.01	0.06	0.10
b	0.30	0.40	0.50
c	0.10	0.17	0.20
D	2.80	2.90	3.00
E	1.50	1.60	1.70
e	1.80	1.90	2.00
L	0.20	0.40	0.60
L1	0.60REF		
HE	2.60	2.80	3.00
θ	0°	-	10°
All Dimensions in mm			

### GENERAL NOTES

- 1.Top package surface finish Ra0.4±0.2um
- 2.Bottom package surface finish Ra0.7±0.2um
- 3.Side package surface finish Ra0.4±0.2um

## 8.SOLDERING FOOTPRINT



SOT23-LC	
DIM	(mm)
X	0.80
Y	0.90
A	2.40
B	0.95
C	0.95

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