

LNB2306ELT1G

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

1. FEATURES

- $R_{DS(ON)} \leq 40m\Omega @ V_{GS} = 10V$
- $R_{DS(ON)} \leq 60m\Omega @ V_{GS} = 4.5V$
- 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.

2. APPLICATIONS

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

3. DEVICE MARKING AND ORDERING INFORMATION

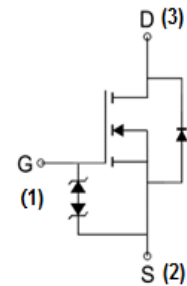
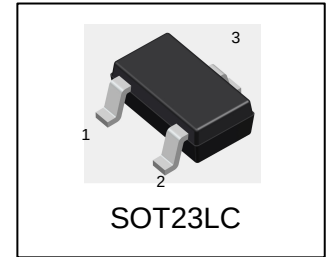
Device	Marking	Shipping
LNB2306ELT1G	23	3000/Tape&Reel

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

Parameter		Symbol	Limits	Unit
Drain-Source Voltage		V _{DS}	30	V
Gate-to-Source Voltage		V _{GSS}	±20	V
Continuous Drain(Note 1)	T _A = 25°C	I _D	5.3	A
	T _A = 70°C		4.2	
Pulsed Drain Current		I _{DM}	21	
Maximum Power Dissipation(Note 1)	T _A = 25°C	P _D	1.39	W
	T _A = 70°C		0.89	
Operating Junction Temperature		T _J	-55 ~150	°C
Storage Temperature Range		T _{stg}	-55 ~150	
Thermal Resistance-Junction to Ambient(Note 1)		R _{θJA}	90	°C/W
Thermal Resistance-Junction to Ambient(Note 2)		R _{θJA}	200	°C/W

1.The device mounted on 1in² FR4 board with 2 oz copper

2.Surface mounted on FR4 board using the minimum recommended pad size.

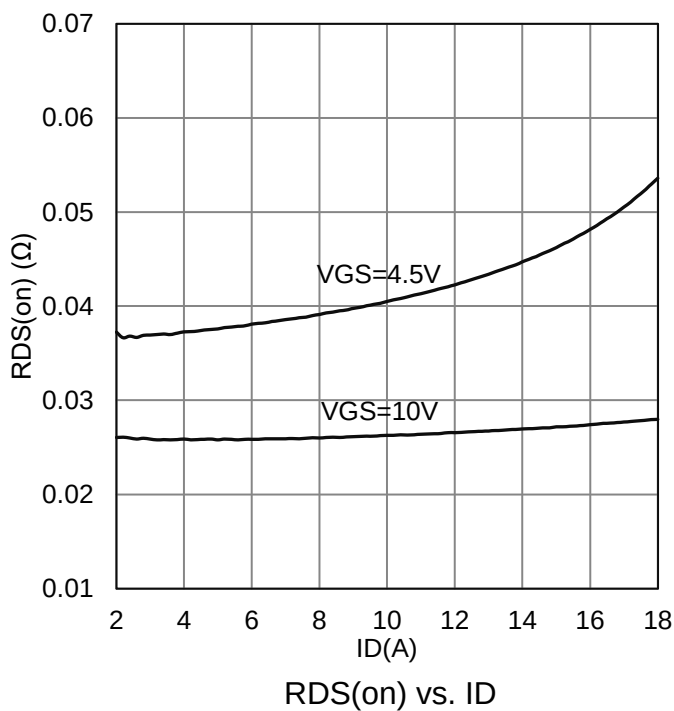
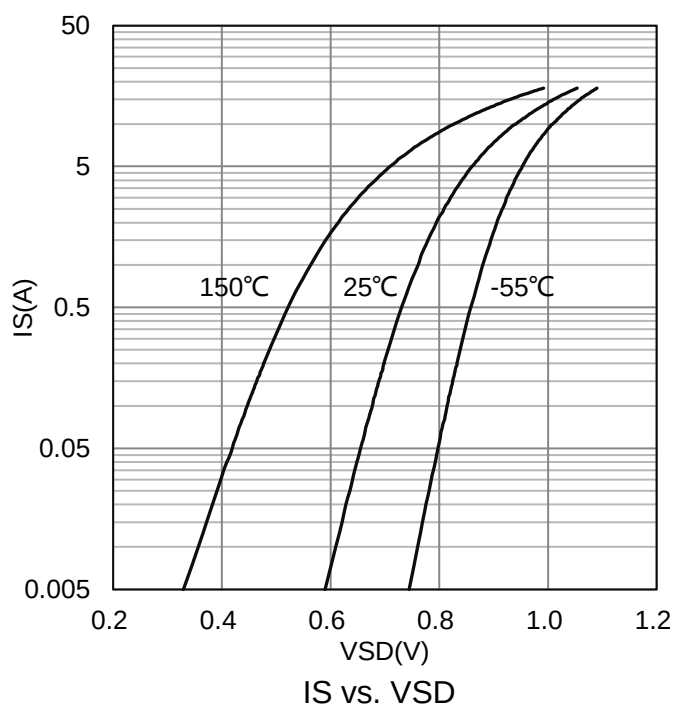
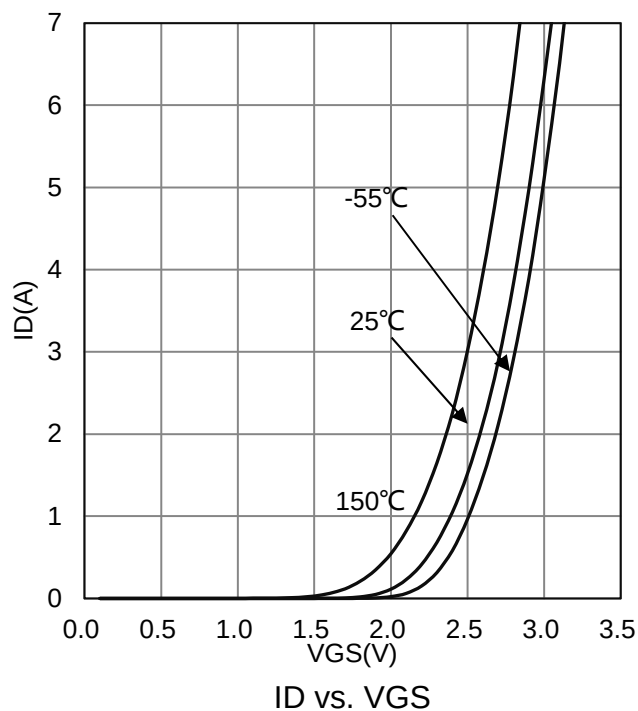
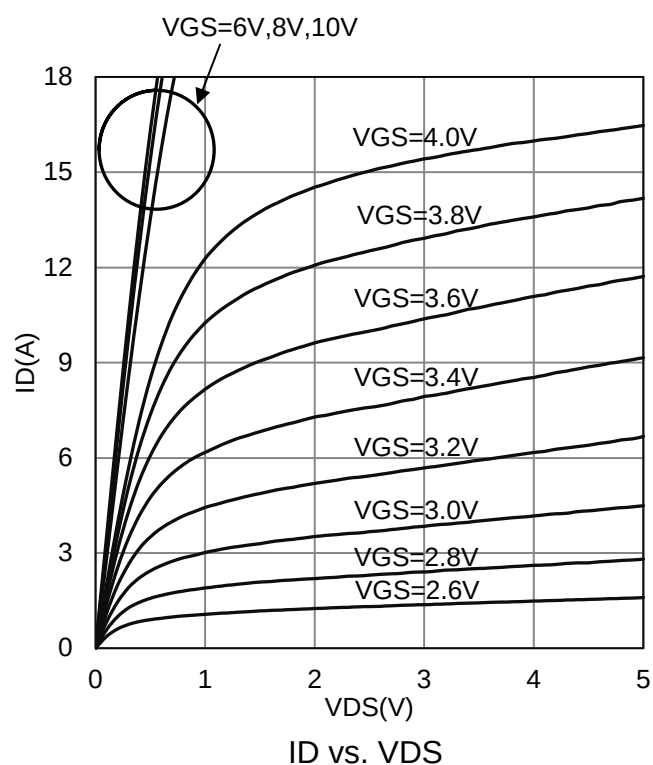


5. ELECTRICAL CHARACTERISTICS (Ta= 25°C)

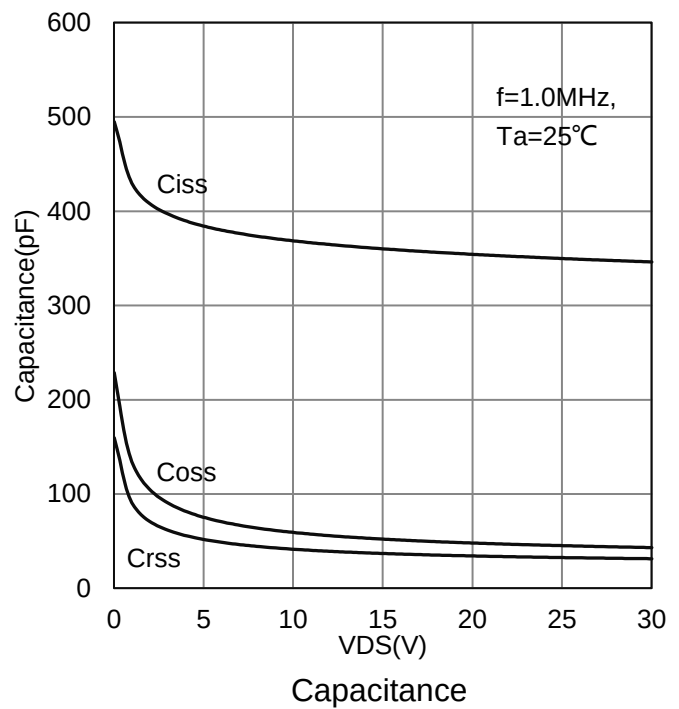
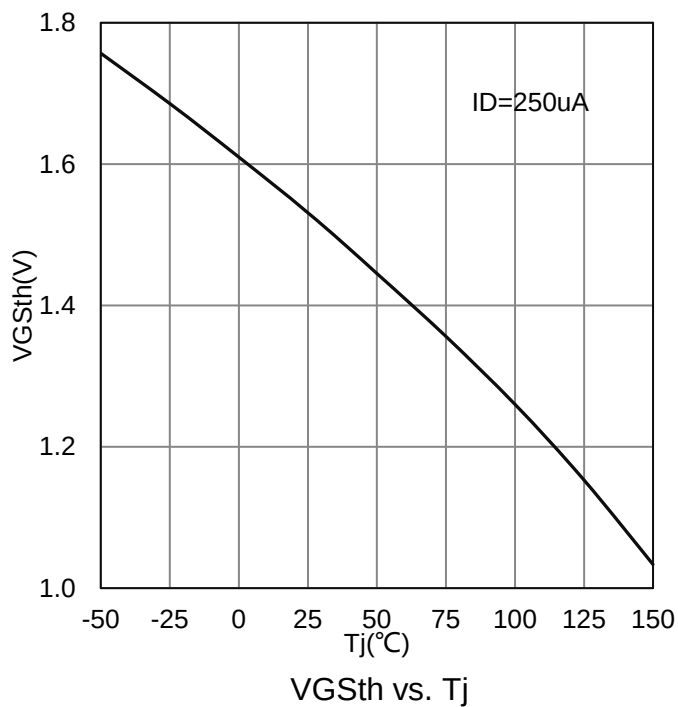
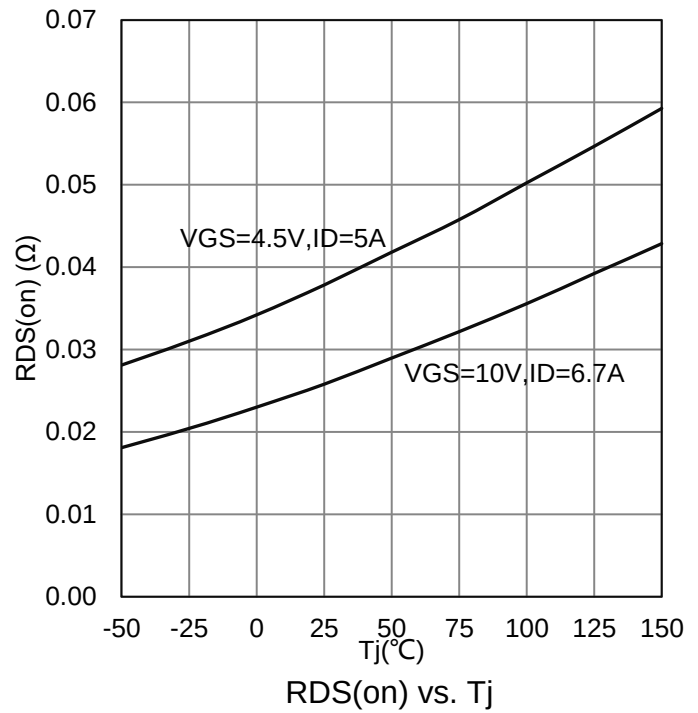
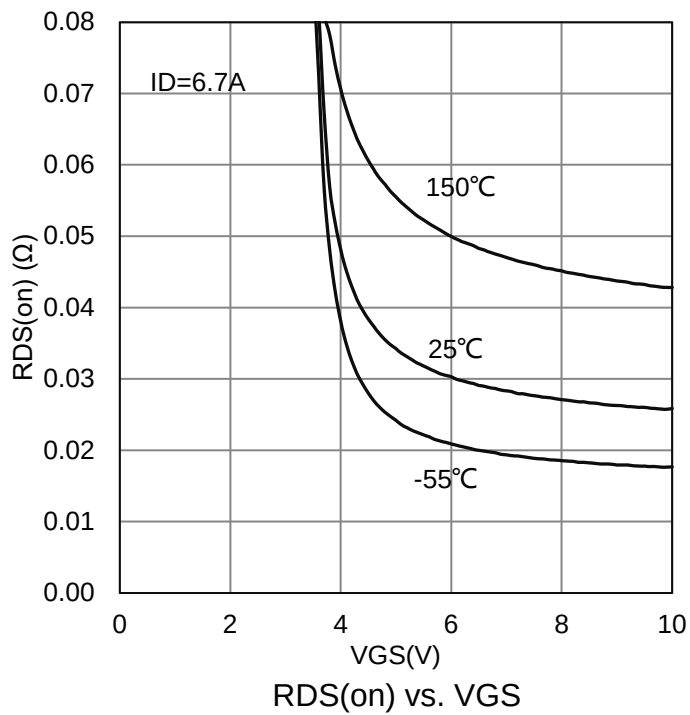
Characteristic	Symbol	Min.	Typ.	Max.	Unit
STATIC					
Drain-Source Breakdown Voltage (VGS = 0 V, ID = 250 μ A)	V(BR)DSS	30	-	-	V
Gate Threshold Voltage (VDS = VGS, ID = 250 μ A)	VGS(th)	1	1.5	3	V
Gate Leakage Current (VDS = 0 V, VGS = $\pm$ 16 V)	IGSS	-	-	$\pm$ 10	μ A
Zero Gate Voltage Drain Current (VDS = 30 V, VGS = 0 V)	IDSS	-	-	1	
Drain-Source On-Resistance (VGS = 10 V, ID = 6.7 A)	RDS(ON)	-	35	40	m Ω
Drain-Source On-Resistance(Note 3) (VGS = 4.5 V, ID = 5.0 A)		-	48	60	
Diode Forward Voltage (IS = 1.7 A, VGS = 0 V)	VSD	-	0.8	1.2	V
DYNAMIC					
Input Capacitance	(VDS = 15 V, VGS = 0 V, f = 1MHz)	Ciss	-	370	pF
Output Capacitance		Coss	-	68	
Reverse Transfer Capacitance		Crss	-	21	
Total Gate Charge (VDS = 15V, VGS = 10V, ID = 6.7A)	Qg	-	12	-	nC
Total Gate Charge	(VDS = 15 V, VGS = 4.5 V, ID = 6.7 A)	Qg	-	5.7	
Gate-Source Charge		Qgs	-	3	
Gate-Drain Charge		Qgd	-	2.1	
Turn-On Delay Time	(VDD = 15 V, RL = 15 Ω , ID = 1.0 A, VGEN = 10 V, RG = 6 Ω)	td(on)	-	9.2	ns
Turn-On Rise Time		tr	-	13	
Turn-Off Delay Time		td(off)	-	33	
Turn-Off Fall Time		tf	-	3.7	

3. Pulse test: pulse width $\leq$ 300 μ s, duty cycle $\leq$ 2%.

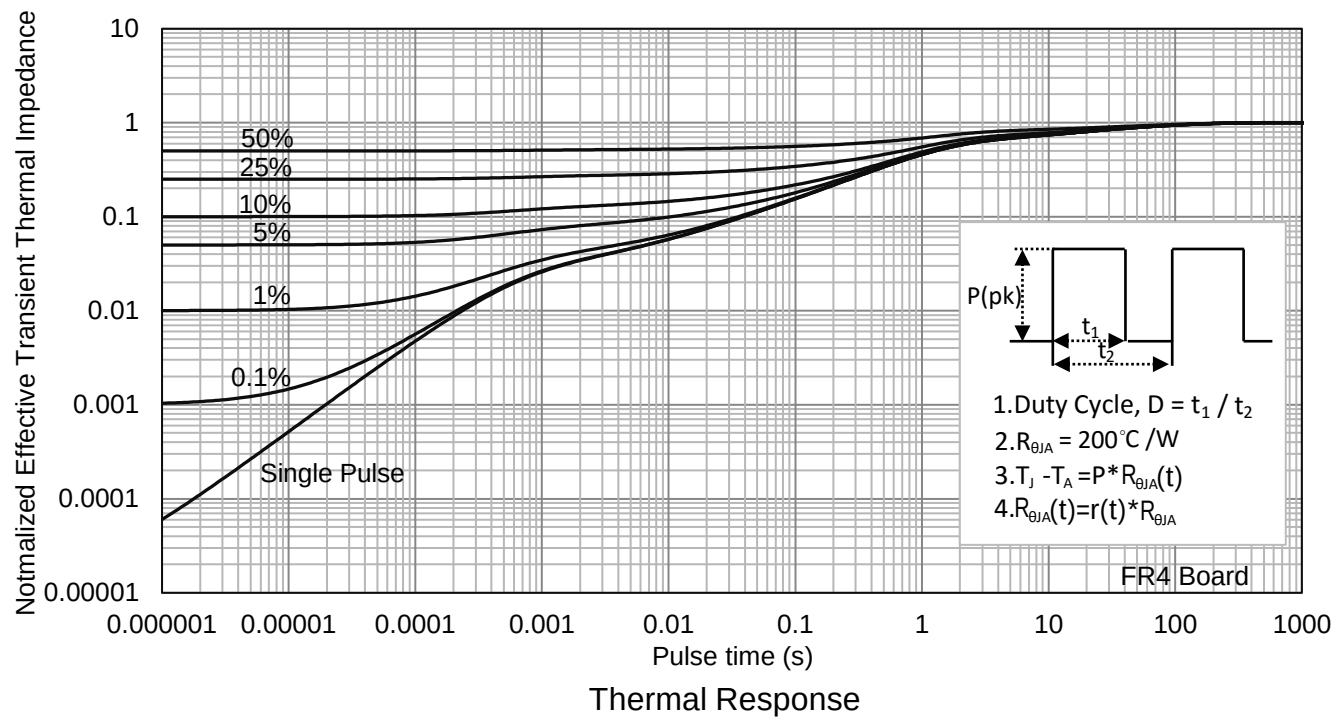
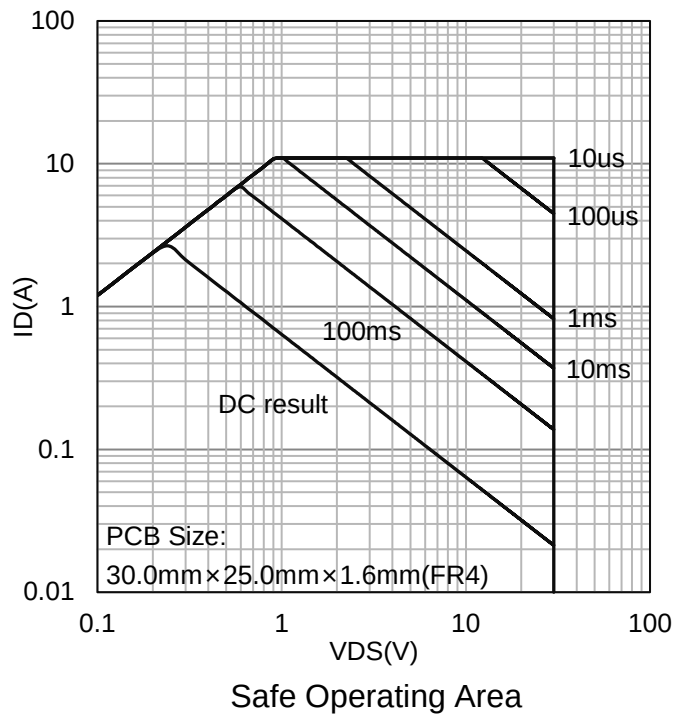
6. ELECTRICAL CHARACTERISTICS CURVES



6. ELECTRICAL CHARACTERISTICS CURVES(Con.)

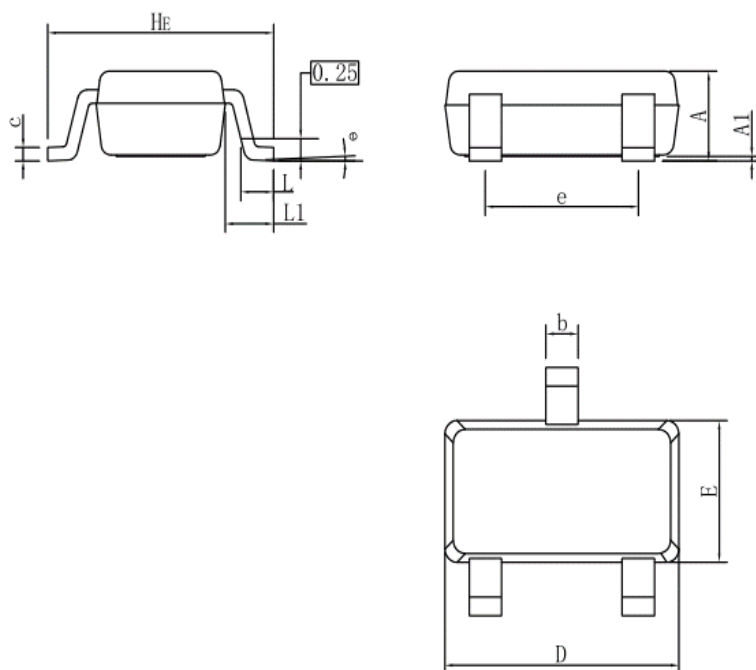


6. ELECTRICAL CHARACTERISTICS CURVES(Con.)



7.OUTLINE AND DIMENSIONS

SOT23LC

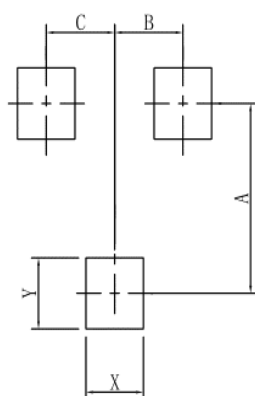


SOT23-LC			
DIM	MIN	NOR	MAX
A	0.90	1.00	1.10
A1	0.01	0.06	0.10
b	0.30	0.40	0.50
c	0.10	0.17	0.20
D	2.80	2.90	3.00
E	1.50	1.60	1.70
e	1.80	1.90	2.00
L	0.20	0.40	0.60
L1	0.60REF		
HE	2.60	2.80	3.00
θ	0°	-	10°
All Dimensions in mm			

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

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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