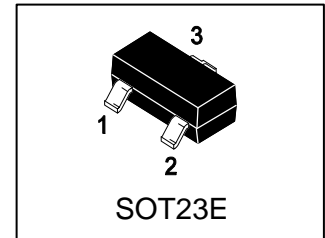


LN2306SLT1G

30V N-Channel (D-S) MOSFET

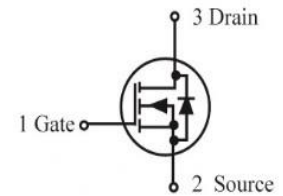
1. FEATURES

- $V_{DS} = 30V$
- $R_{DS(ON)}, V_{GS}@10V \leq 38m\Omega$.
- $R_{DS(ON)}, V_{GS}@4.5V \leq 43m\Omega$.
- $R_{DS(ON)}, V_{GS}@2.5V \leq 62m\Omega$.
- We declare that the material of product compliance with RoHS requirements and Halogen Free.



2. APPLICATIONS

- Load/Power switch for portables and computing
- DC-DC conversion



3. DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
LN2306SLT1G	06S	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 – Continuous	V_{GS}	± 12	V
Drain Current			
– Continuous $T_A = 25^\circ C$	I_D	4	A
– Pulsed(Note 1)	I_{DM}	16	

5. THERMAL CHARACTERISTICS

Parameter	Symbol	Limits	Unit
Maximum Power Dissipation	PD	1.1	W
Thermal Resistance, Junction-to-Ambient(Note 2)	$R_{\theta JA}$	110	$^\circ C/W$
Junction and Storage temperature	T_J, T_{stg}	$-55 \sim +150$	$^\circ C$

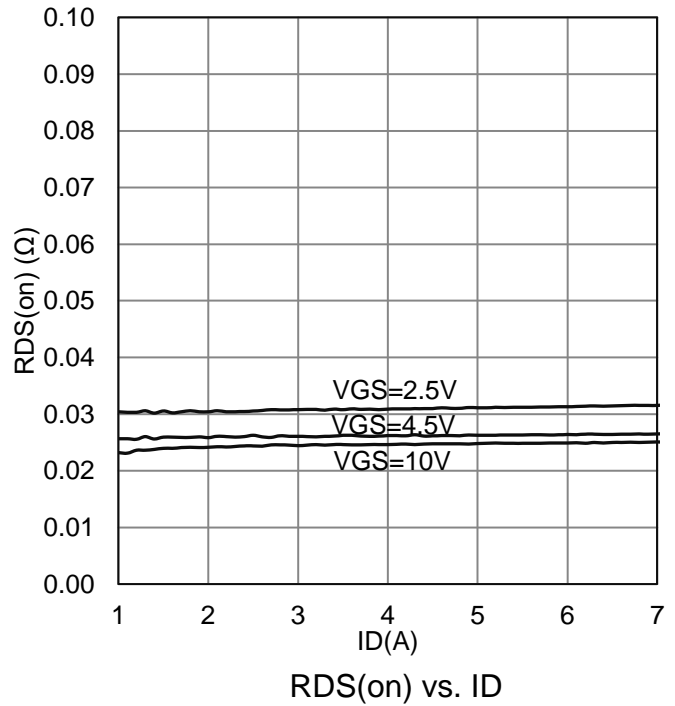
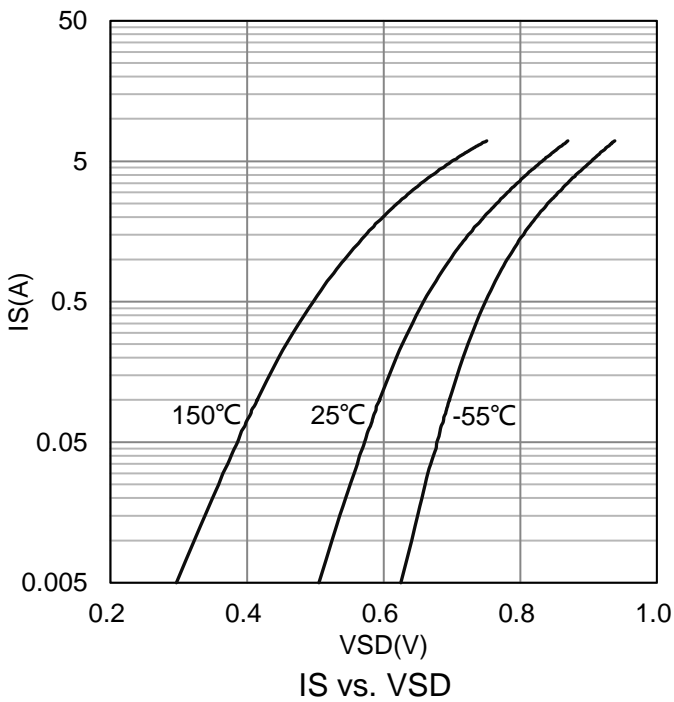
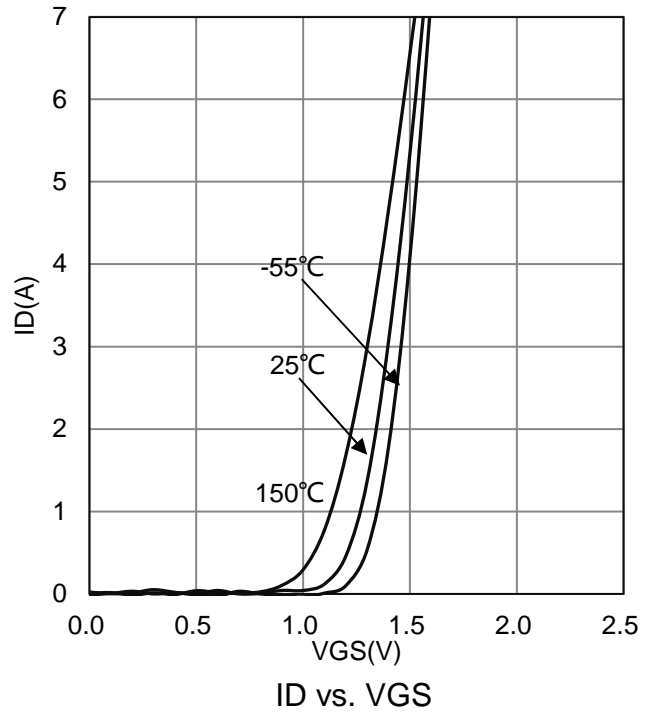
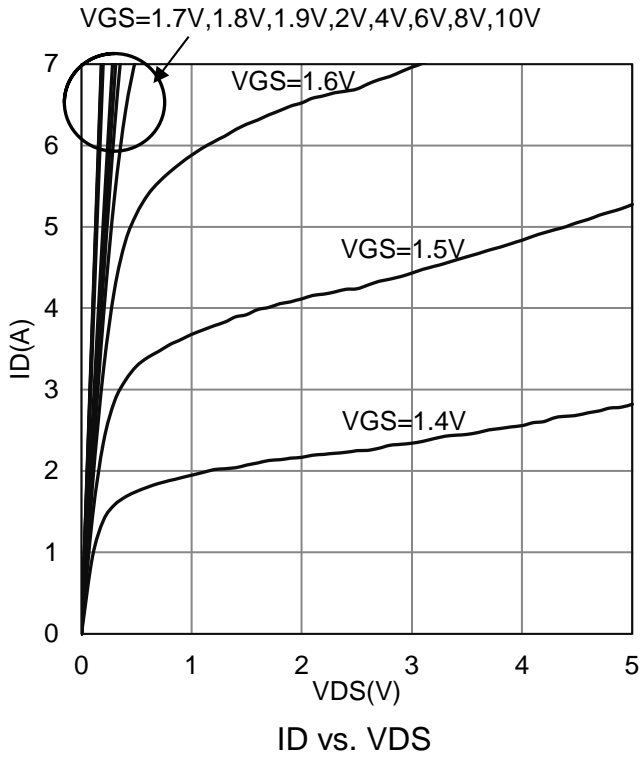
1. Repetitive Rating: Pulse width limited by the Maximum junction temperature.
2. 1-in² 2oz Cu PCB board.

6. ELECTRICAL CHARACTERISTICS (Ta= 25°C)

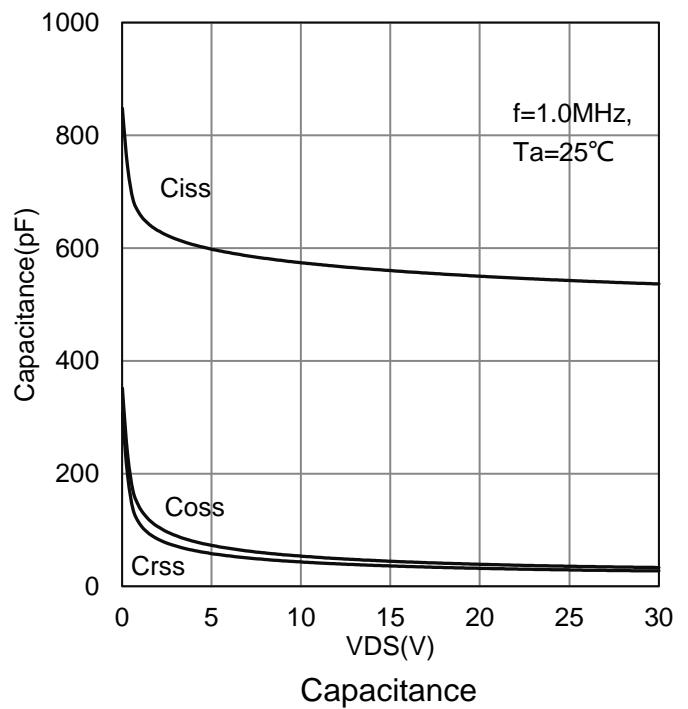
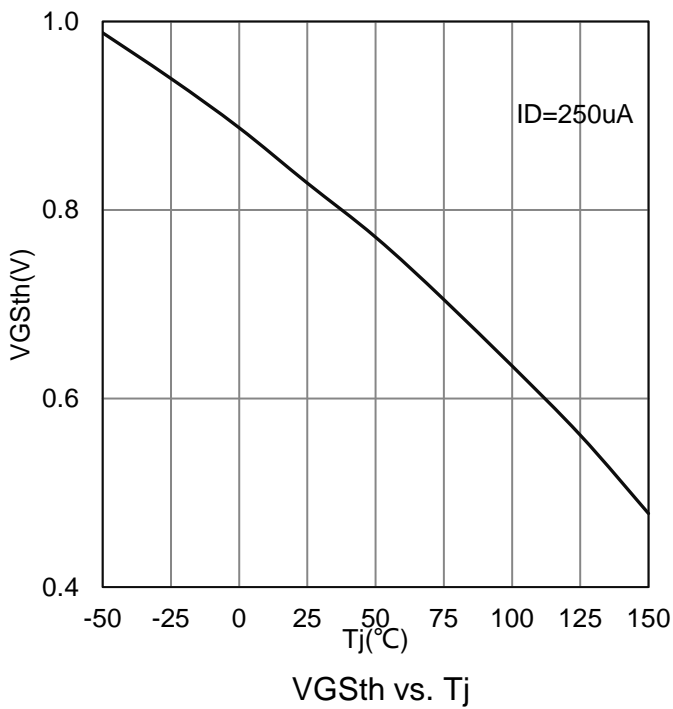
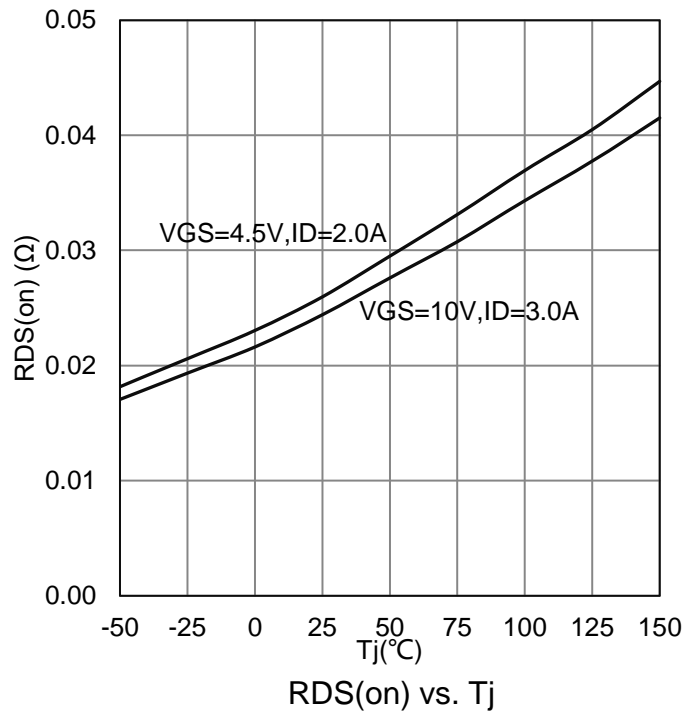
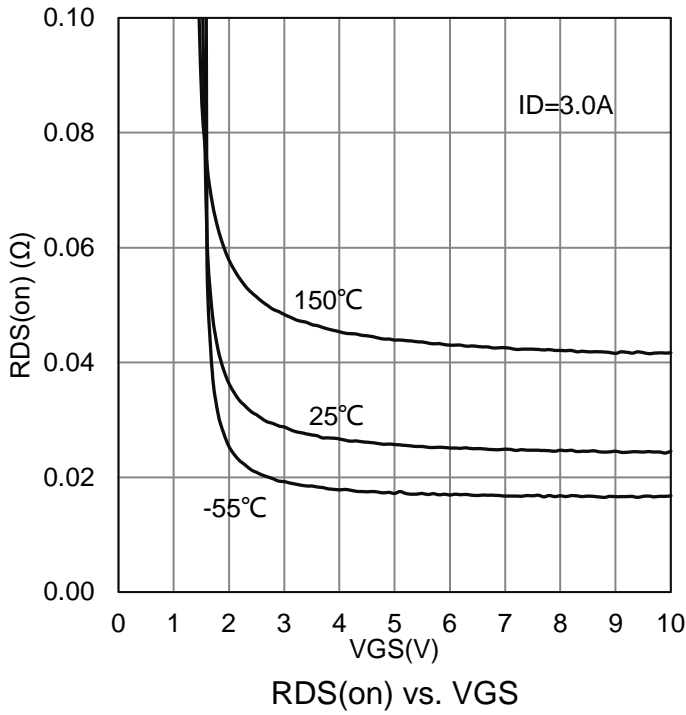
Characteristic	Symbol	Min.	Typ.	Max.	Unit
Static					
Drain–Source Breakdown Voltage (VGS = 0 V, ID = 250 μA)	V(BR)DSS	30	-	-	V
Zero Gate Voltage Drain Current (VDS= 30 V, VGS= 0 V)	IDSS	-	-	1	μA
Gate–Body Leakage Current (VDS = 0 V, VGS = ± 12 V)	IGSS	-	-	±100	nA
Gate Threshold Voltage (VDS = VGS, ID = 250 μA)	VGS(th)	0.7	-	1.4	V
Static Drain–Source On–State Resistance(Note 3) (VGS = 10 V, ID = 3 A) (VGS = 4.5 V, ID = 2 A) (VGS = 2.5 V, ID = 1.5 A)	RDS(on)	-	-	38 43 62	mΩ
Diode Forward Voltage (VGS = 0 V, IS = 1 A)	VSD	-	-	1.2	V
Dynamic					
Input Capacitance	(VDS = 15 V, VGS = 0 V, f= 1MHz)	Ciss	-	573	pF
Output Capacitance		Coss	-	45	
Reverse Transfer Capacitance		Crss	-	37	
Total Gate Charge	(VDS = 15 V, VGS = 10 V, ID = 3 A)	Qg	-	14	nC
Gate-Source Charge		Qgs	-	0.8	
Gate-Drain Charge		Qgd	-	2	
Turn-On Delay Time	(VDD = 15 V, RL = 15 Ω, ID = 1 A, VGEN = 10 V, RG = 3 Ω)	td(on)	-	3.8	ns
Rise Time		tr	-	2	
Turn-Off Delay Time		td(off)	-	32	
Fall Time		tf	-	2.3	

3.Pulse Test: Pulse Width ≤ 300 μs, Duty Cycle ≤ 2.0%.

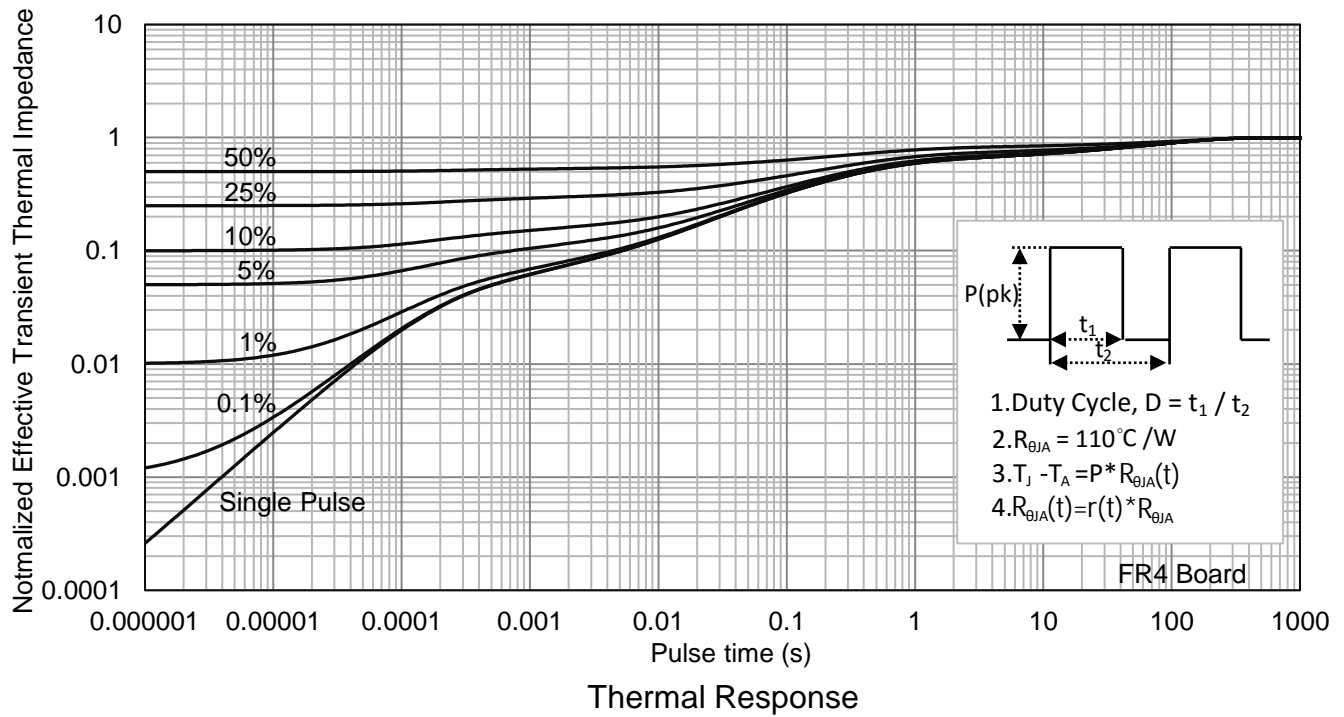
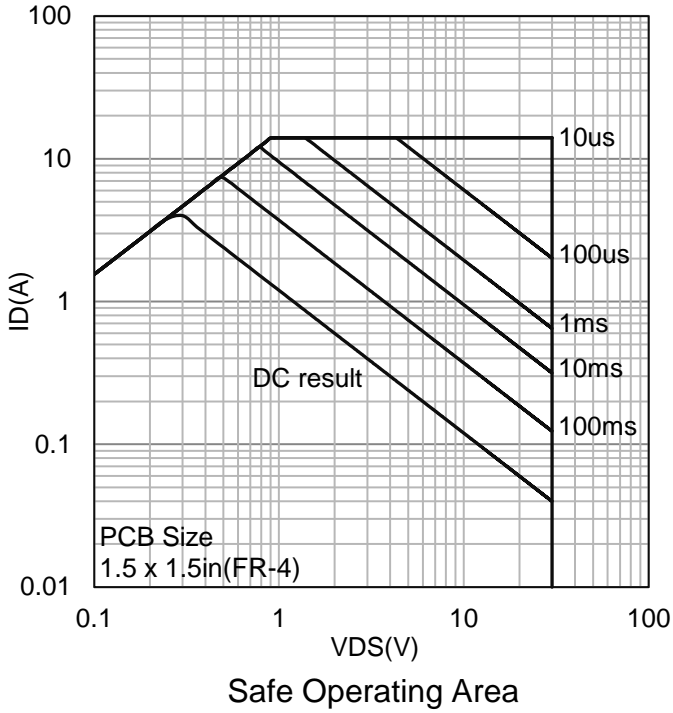
7. ELECTRICAL CHARACTERISTICS CURVES



7. ELECTRICAL CHARACTERISTICS CURVES(Con.)

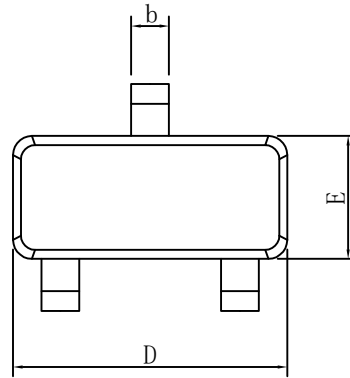
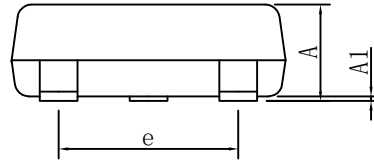
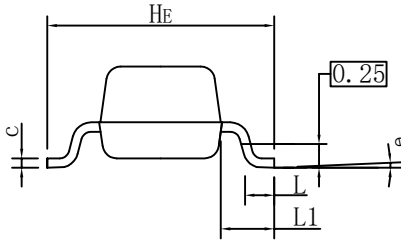


7. ELECTRICAL CHARACTERISTICS CURVES(Con.)



8. OUTLINE AND DIMENSIONS

SOT23E

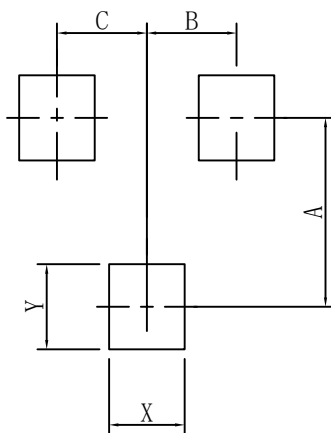


SOT23E			
DIM	MIN	NOR	MAX
A	0.90	1.00	1.10
A1	0.01	0.06	0.10
b	0.30	0.40	0.50
c	0.10	0.17	0.20
D	2.80	2.90	3.00
E	1.20	1.30	1.40
e	1.80	1.90	2.00
L	0.20	0.40	0.60
L1	0.60REF		
HE	2.20	2.40	2.60
θ	0°	-	10°
All Dimensions in mm			

GENERAL NOTES

1. Top package surface finish $Ra0.4 \pm 0.2\mu m$
2. Bottom package surface finish $Ra0.7 \pm 0.2\mu m$
3. Side package surface finish $Ra0.4 \pm 0.2\mu m$

9. SOLDERING FOOTPRINT



SOT23E	
DIM	(mm)
X	0.80
Y	0.90
A	2.00
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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