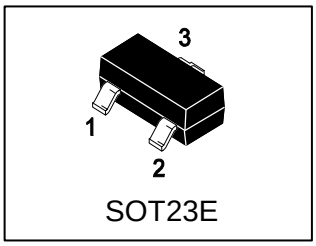
LNA2306LT1G
S-LNA2306LT1G

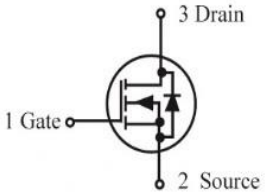
30V N-Channel Enhancement-Mode MOSFET



SOT23E

1. FEATURES

- VDS= 30V
- RDS(ON), VGS@10V, IDS@5.8A = 38mΩ
- RDS(ON), VGS@4.5V, IDS@5.0A = 43mΩ
- RDS(ON), VGS@2.5V, IDS@4.0A = 62mΩ
- 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

- Advanced trench process technology
- High density cell design for ultra low on-resistance

3. DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
LNA2306LT1G	A06	3000/Tape&Reel
LNA2306LT3G	A06	10000/Tape&Reel

4. MAXIMUM RATINGS(Ta = 25ºC)

Parameter	Symbol	Limits	Unit
Drain–Source Voltage	VDSS	30	V
Gate–to–Source Voltage – Continuous	VGS	±12	V
Drain Current – Continuous TA = 25°C – Pulsed(Note 1)	 ID IDM	 5.8 30	A

5. THERMAL CHARACTERISTICS

Parameter	Symbol	Limits	Unit
Maximum Power Dissipation	PD	1.4	W
Thermal Resistance, Junction–to–Ambient(Note 2)	RΘJA	140	ºC/W
Junction and Storage temperature	TJ,Tstg	−55~+150	°C

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

6. ELECTRICAL CHARACTERISTICS (Ta= 25°C)

OFF CHARACTERISTICS

Characteristic	Symbol	Min.	Typ.	Max.	Unit
Drain–Source Breakdown Voltage (VGS = 0, ID = 250μA)	V(BR)DSS	30	-	-	V
Zero Gate Voltage Drain Current (VDS=24V, VGS=0V)	IDSS	-	-	1	μA
Gate–Body Leakage Current, Forward (VDS = 0 V, VGS = 8 V)	IGSSF	-	-	100	nA
Gate–Body Leakage Current, Reverse (VDS = 0 V, VGS = -8 V)	IGSSR	-	-	-100	nA
Forward Transconductance (VDS = 5.0 V, ID = 5 A)	gfs	10	15	-	S

ON CHARACTERISTICS (Note 3)

Gate Threshold Voltage (VDS = VGS, ID = 250μA)	VGS(th)	0.7	-	1.4	V
Static Drain–Source On–State Resistance	RDS(on)				mΩ
(VGS = 10 V, ID =5.8 A)		-	31	38	
(VGS = 4.5 V, ID =5 A)		-	34	43	
(VGS = 2.5 V, ID = 4 A)		-	45	62	

DYNAMIC CHARACTERISTICS

Input Capacitance (VGS = 0 V, f = 1.0MHz,VDS= 15 V)	Ciss	-	496	-	pF
Output Capacitance (VGS = 0 V, f = 1.0MHz,VDS= 15 V)	Coss	-	50	-	pF
Reverse Transfer Capacitance (VGS = 0 V, f = 1.0MHz,VDS= 15 V)	Crss	-	42	-	pF

SWITCHING CHARACTERISTICS

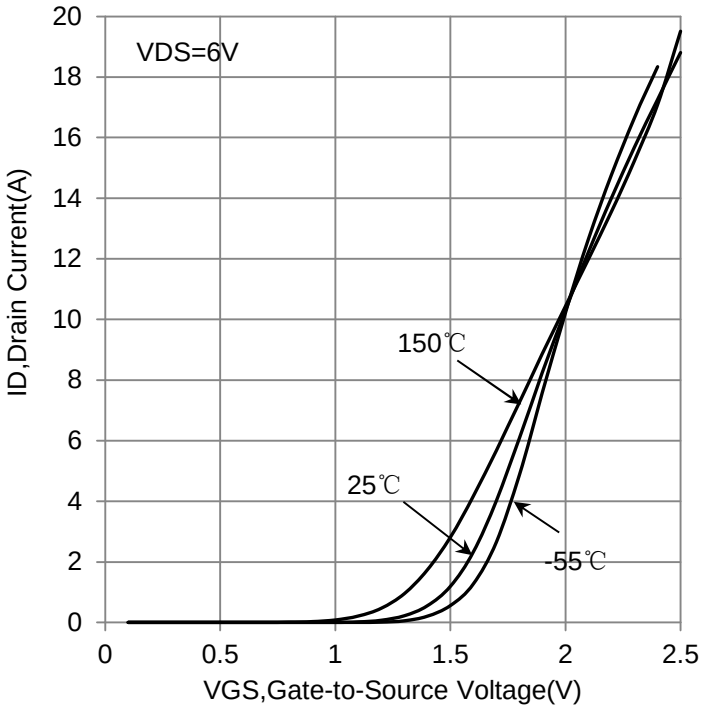
Turn-On Delay Time	(VDD = 15V, RL = 2.55Ω ID = 1A, VGEN = 10V,RG = 3.1Ω)	td(on)	-	5	-	ns
Rise Time		tr	-	5	-	
Turn-Off Delay Time		td(off)	-	72	-	
Fall Time		tf	-	28	-	

SOURCE–DRAIN DIODE CHARACTERISTICS

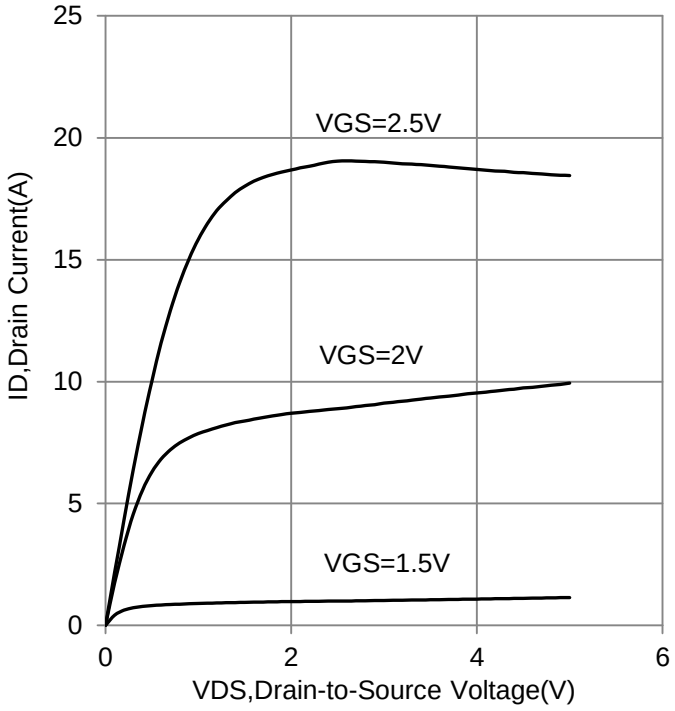
Forward Voltage (VGS = 0 V, IF = 1 A)	VSD	-	-	1.2	V

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

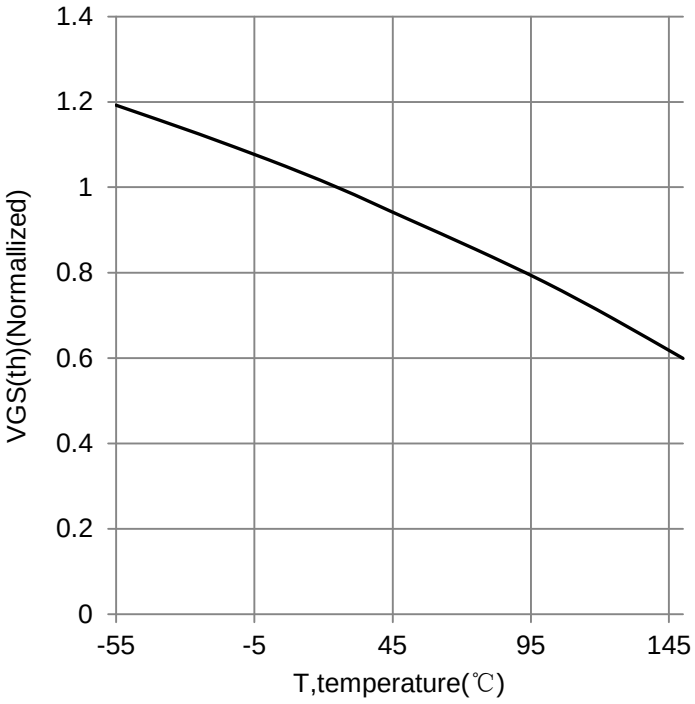
7. ELECTRICAL CHARACTERISTICS CURVES



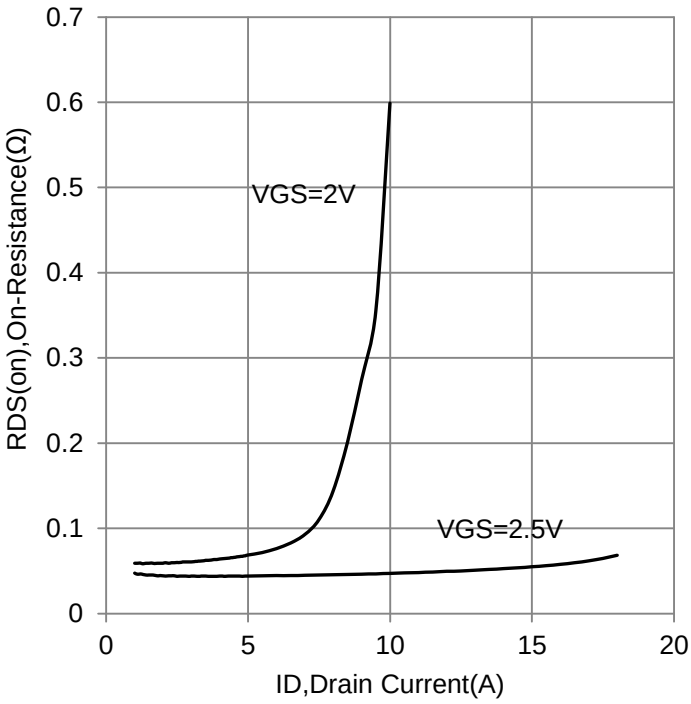
Transfer Characteristics



ON-Region Characteristics

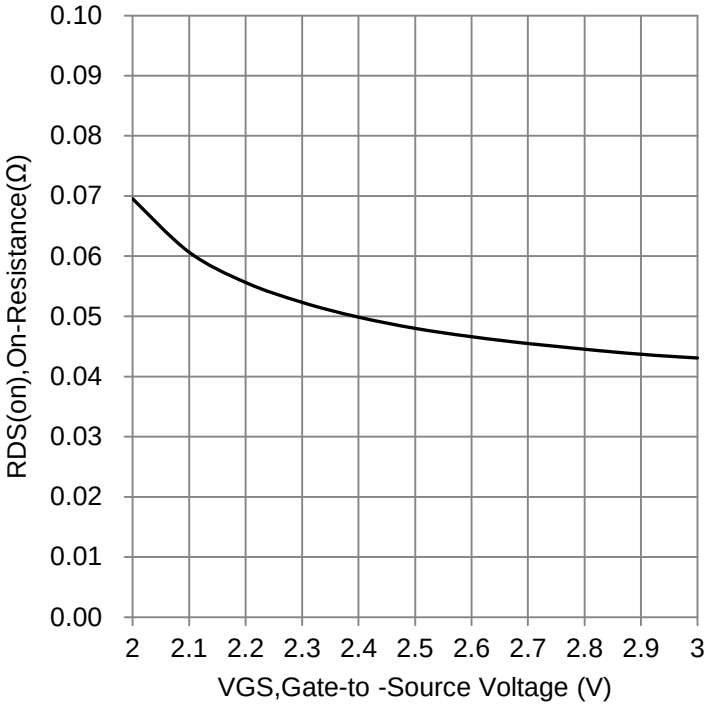


VGS(th) vs. Temperature



RDS(on) vs. ID

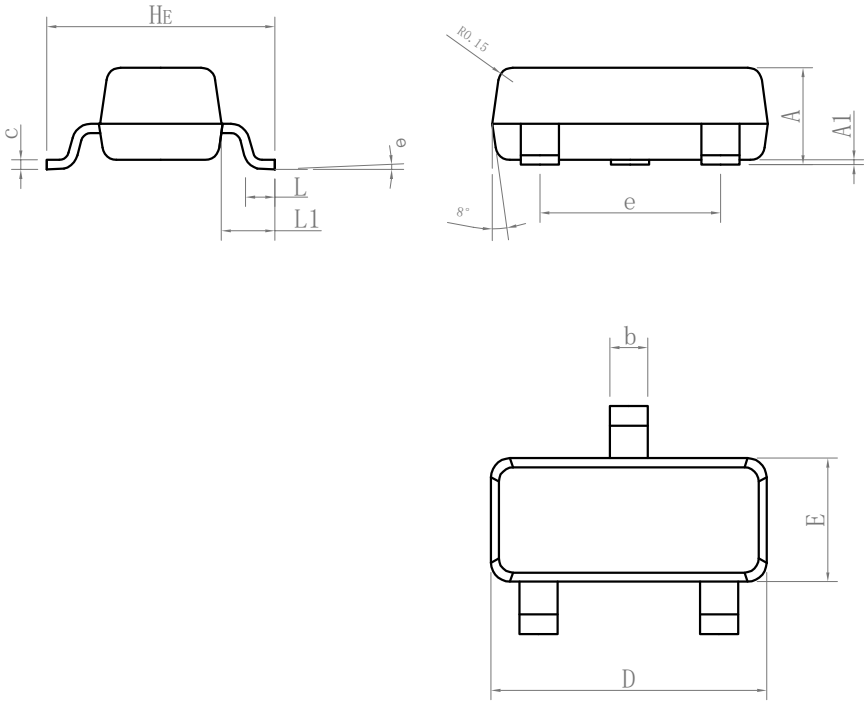
7. ELECTRICAL CHARACTERISTICS CURVES（Con.）



RDS(on) vs. VGS

8.OUTLINE AND DIMENSIONS

SOT23E

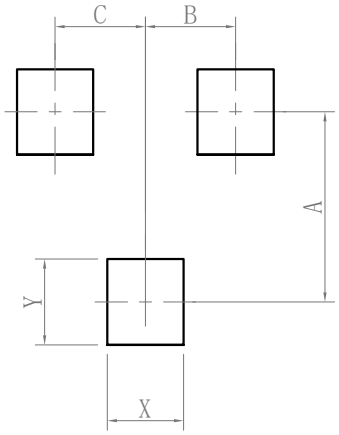


SOT23E			
DIM	MIN	NOR	MAX
A	0.90	1.00	1.10
A1	0.01	0.06	0.10
b	0.30	0.40	0.50
c	0.10	0.15	0.20
D	2.80	2.90	3.00
E	1.20	1.30	1.40
e	1.80	1.90	2.00
L	0.20	0.40	0.60
L1	0.45	0.55	0.65
HE	2.20	2.40	2.60
θ	0°	-	10°
All Dimensions in mm			

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

9.SOLDERING FOOTPRINT



SOT23E	
DIM	(mm)
X	0.80
Y	0.90
A	2.00
B	0.95
C	0.95