

LN237N3T5G

30V, Single N-channel Trench MOSFET

1. FEATURES

- Fast switching
- Low RDS(ON)
- Trench MOSFET technology
- This is a Pb Free Device
- 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

- Low Side Load Switch
- Level Shift Circuits
- DC-DC Converter
- Portable Applications i.e. DSC, PDA, Cell Phone, etc.

3. DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
LN237N3T5G	N7	10000/Tape&Reel

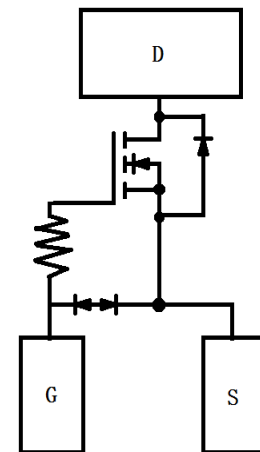
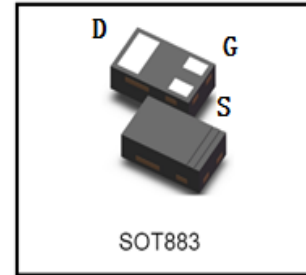
4. MAXIMUM RATINGS(Ta = 25°C)

Parameter	Symbol	Limits	Unit
Drain-to-Source Voltage	VDSS	30	V
Gate-to-Source Voltage	VGS	±12	V
Drain Current (Note 1) Steady State (TA = 25°C) (TA = 100°C)	ID	1.5 1	A
Power Dissipation (Note 1) Steady State	PD	715	mW
Pulsed Drain Current (tp = 10 μs)	IDM	3.7	A
Operating Junction and Storage Temperature Range	TJ , TSTG	-55~+150	°C
Lead Temperature for Soldering Purposes (1/8" from case for 10 s)	TL	260	°C

5. THERMAL CHARACTERISTICS

Parameter	Symbol	Limits	Unit
Junction-to-Ambient - Steady State (Note 1)	ROJA	305	°C/W

Note 1: Surface-mounted on FR4 board using 1 in sq pad size (Cu area = 1.127 in sq [1 oz] including traces)

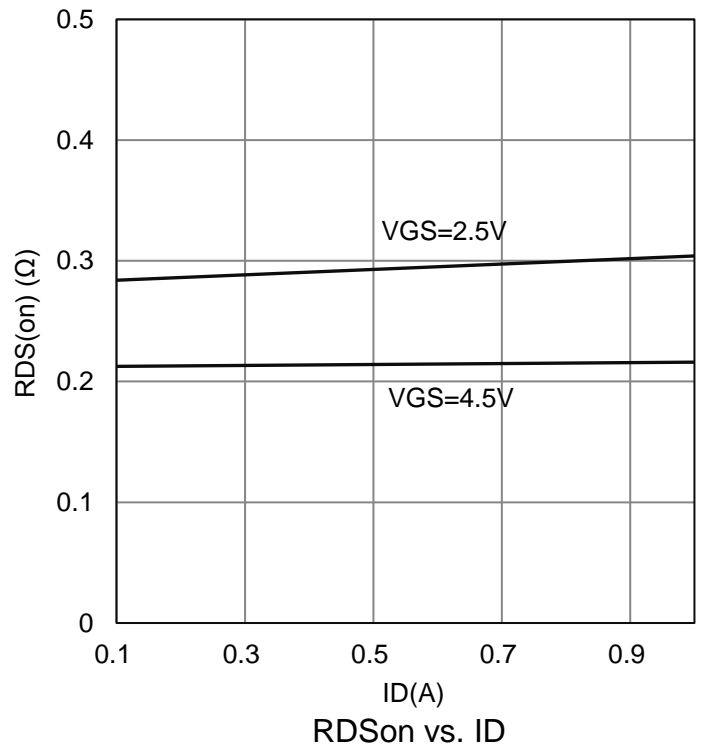
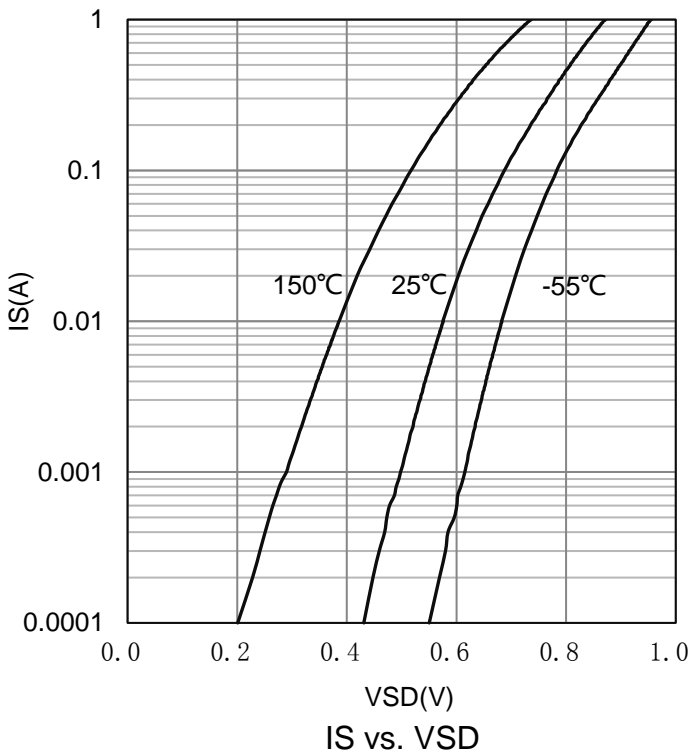
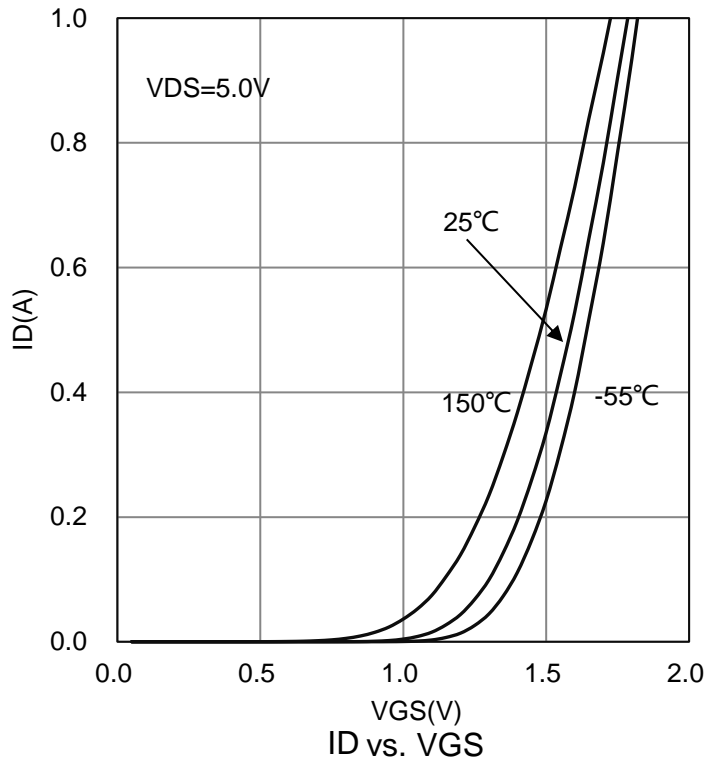
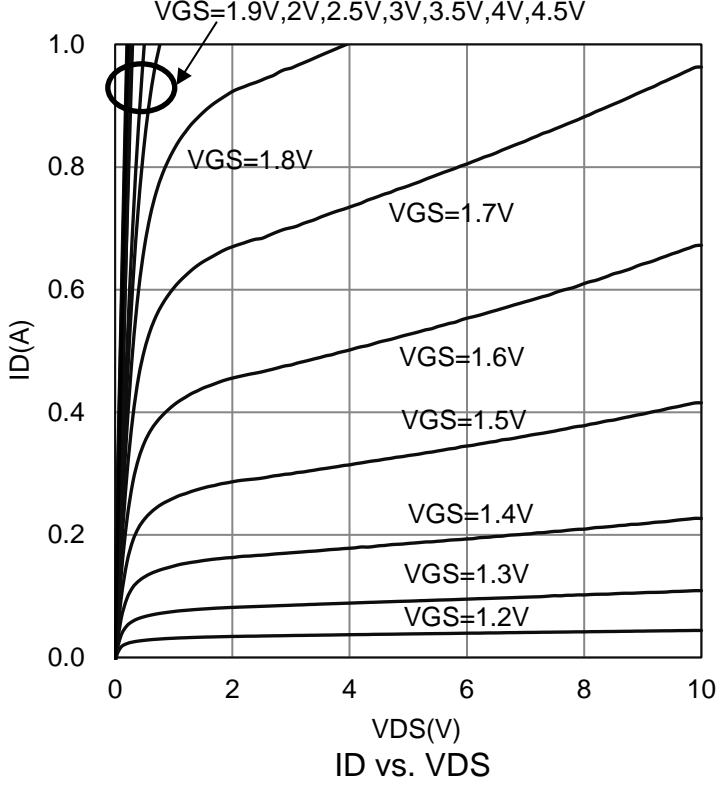


6. ELECTRICAL CHARACTERISTICS (Ta= 25°C)

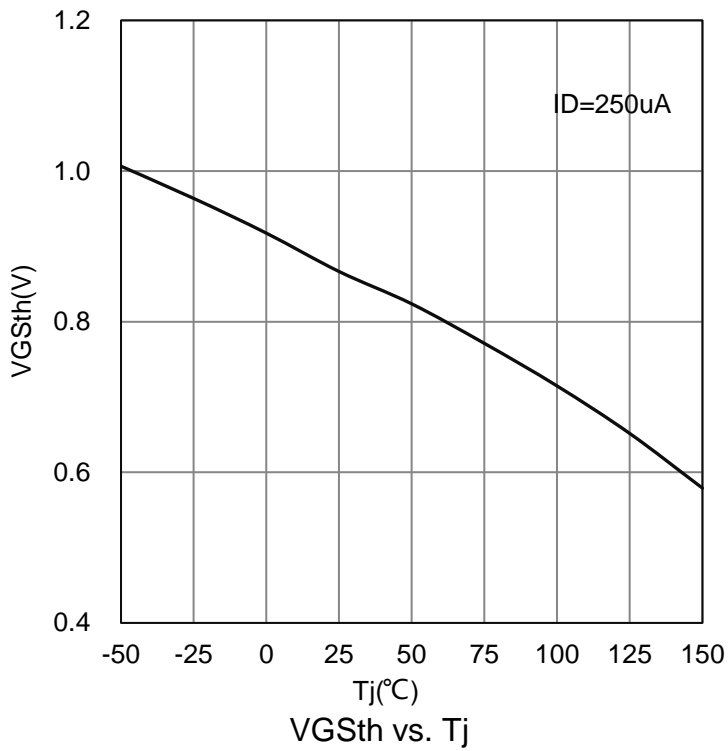
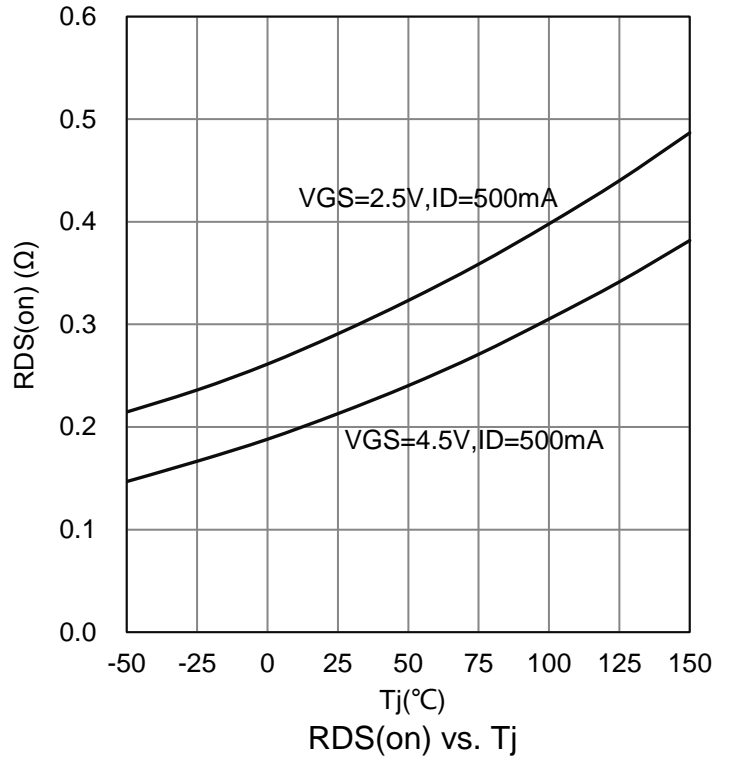
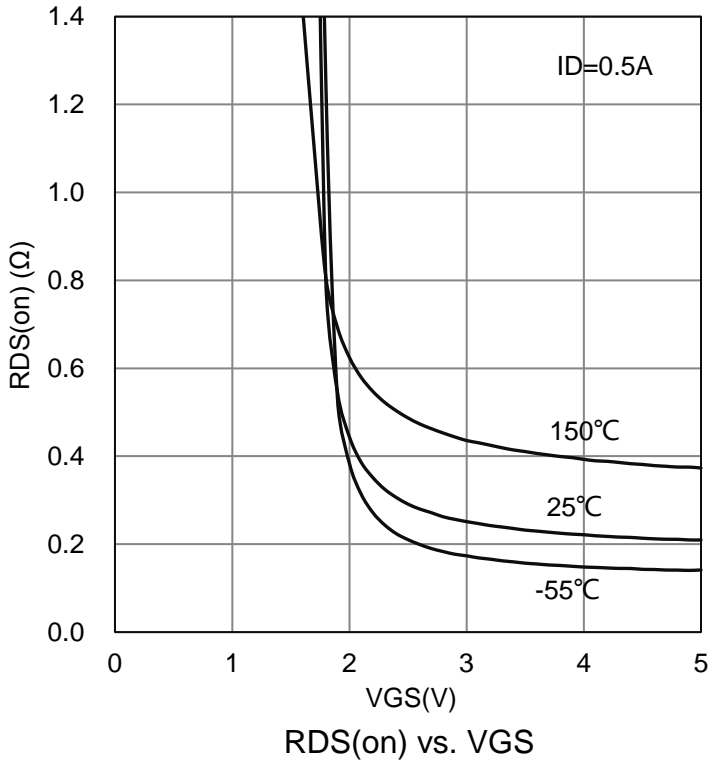
Characteristic	Symbol	Min.	Typ.	Max.	Unit
STATIC CHARACTERISTICS					
Drain-Source Breakdown Voltage (VGS =0V, ID =250μA)	V(BR)DSS	30	-	-	V
Gate Threshold Voltage (VDS =VGS , ID =250μA)	VGS(th)	0.45	-	1.5	
Gate-Body Leakage Current (VDS =0V, VGS =±12V)	IGSS	-	-	±10	μA
Zero Gate Voltage Drain Current (VDS =30V, VGS =0V)	IDSS	-	-	1	
Drain-Source On-Resistance (VGS =4.5V, ID = 500mA)	RDS(ON)	-	-	0.46	Ω
Drain-Source On-Resistance (VGS =2.5V, ID = 500mA)		-	-	0.68	
Diode Forward Voltage (IS =300mA, VGS =0V)	VSD	-	-	1.2	V
DYNAMIC PARAMETERS					
Total Gate Charge	(VDS =15V, VGS =4.5V, ID =1.0A)	Qg	-	0.75	nC
Gate-Source Charge		Qgs	-	0.13	
Gate-Drain Charge		Qgd	-	0.29	
Input Capacitance	(VDS =15V, VGS =0V, f=1MHz)	Ciss	-	55.8	pF
Output Capacitance		Coss	-	6.5	
Reverse Transfer Capacitance		Crss	-	4.2	
Turn-On Delay Time	(VDS =15V, RL =30Ω, VGS=4.5 V, RG =2Ω ID=0.5A, tp=1 us)	td(on)	-	3.5	ns
Rise Time		tr	-	3.15	
Turn-Off Delay Time		td(off)	-	10.10	
Fall Time		tf	-	5.05	
Gate Resistance (VDS = 0 V, VGS = 0 V, f = 1 MHz)	Rg	-	9.7	-	Ω

Note 2: Pulse test; pulse width ≤ 300μs, duty cycle ≤ 2%

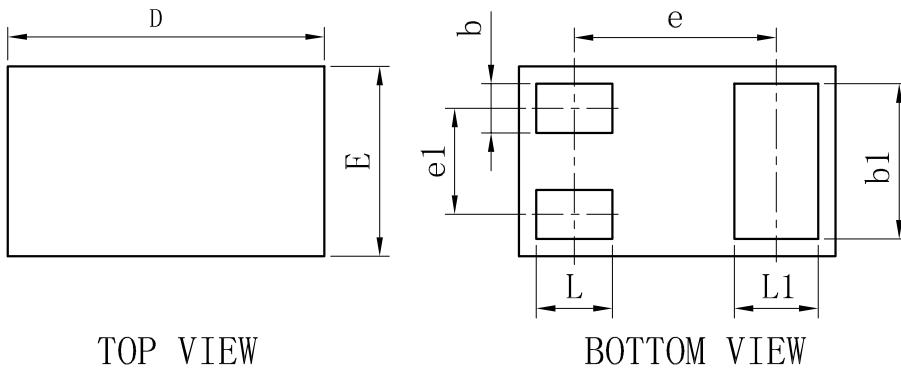
7. ELECTRICAL CHARACTERISTICS CURVES



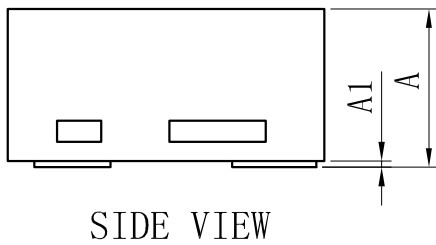
7. ELECTRICAL CHARACTERISTICS CURVES(Con.)



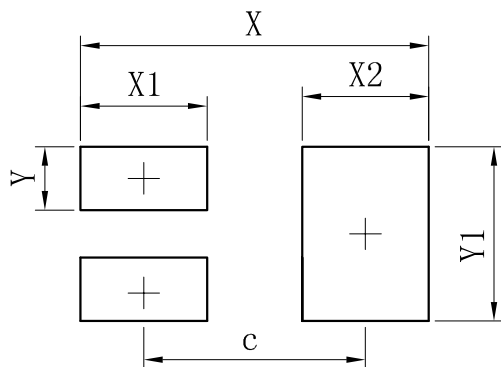
8. OUTLINE AND DIMENSIONS



SOT883			
Dim	Min	Typ	Max
D	0.95	1.00	1.05
E	0.55	0.60	0.65
e	-	0.64	-
e1	-	0.34	-
L	0.19	0.24	0.29
L1	0.22	0.27	0.32
b	0.10	0.15	0.20
b1	0.44	0.49	0.54
A	0.43	0.48	0.53
A1	0	-	0.05
All Dimensions in mm			



9. SOLDERING FOOTPRINT



Dimensions	(mm)
c	0.70
X	1.10
X1	0.40
X2	0.40
Y	0.20
Y1	0.55