

# LMN2500N3T5G

## S-LMN2500N3T5G

20V Single N-channel Trench MOSFET

### 1. FEATURES

- Fast switching
- Low RDS(ON)
- Trench MOSFET technology
- 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
LMN2500N3T5G	MN	10000/Tape&Reel

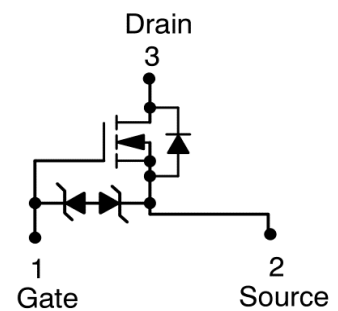
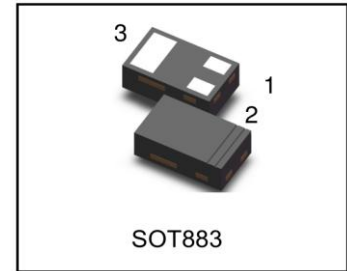
### 4. MAXIMUM RATINGS(Ta = 25°C)

Parameter	Symbol	Value	Unit	
Drain-Source Voltage	VDS	20	V	
Gate-Source Voltage	VGS	±6		
Drain Current(Steady State)(Note 1)	ID	TA = 25°C	1000	mA
		TA = 70°C	800	
Power Dissipation(Steady State) (Note1)	PD	950	mW	
Pulsed Drain Current (tp = 10 μs)	IDM	4	A	
Operating Junction and Storage Temperature Range	TJ , Tstg	-55~+150	°C	

### 5. THERMAL CHARACTERISTICS

Parameter	Symbol	Limits	Unit
Junction-to-Ambient – Steady State(Note 1)	RθJA	134	°C/W

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

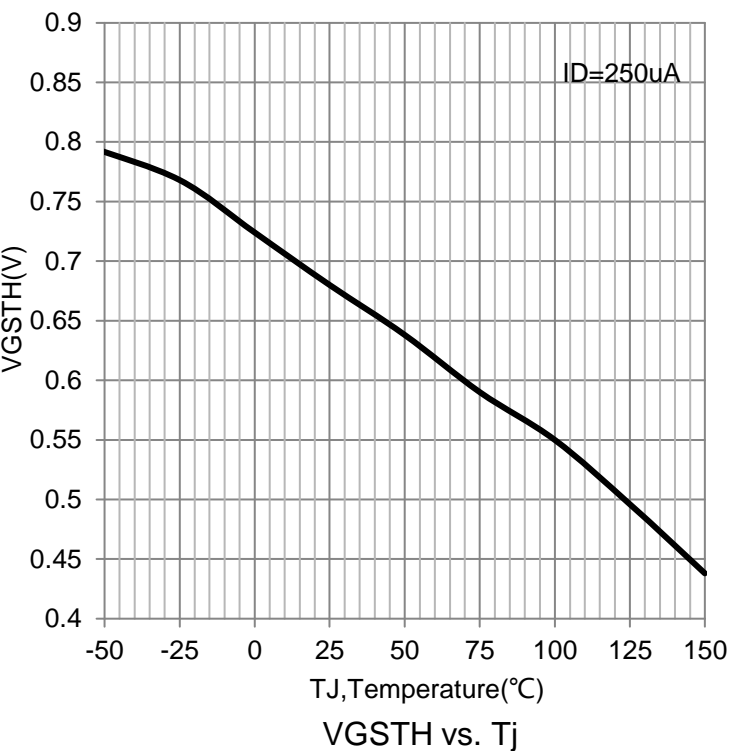
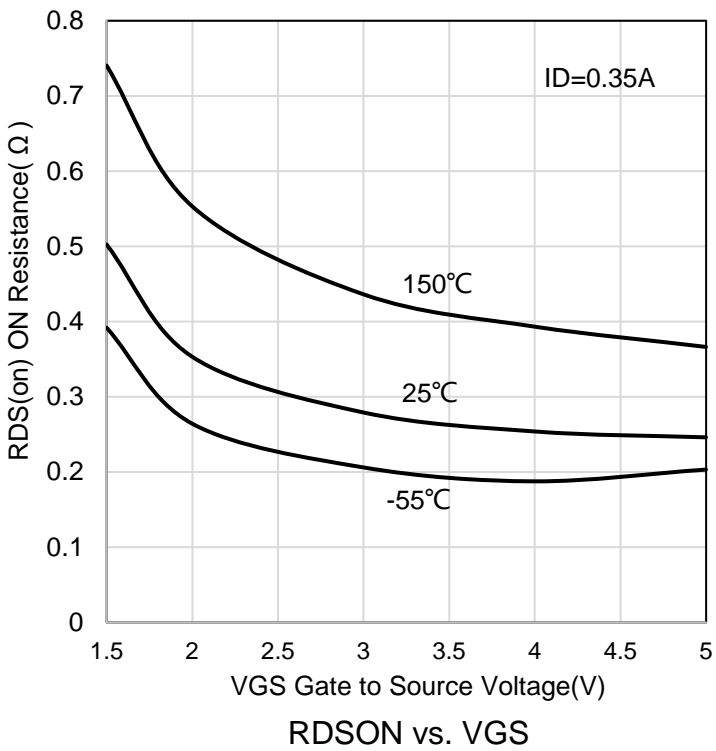
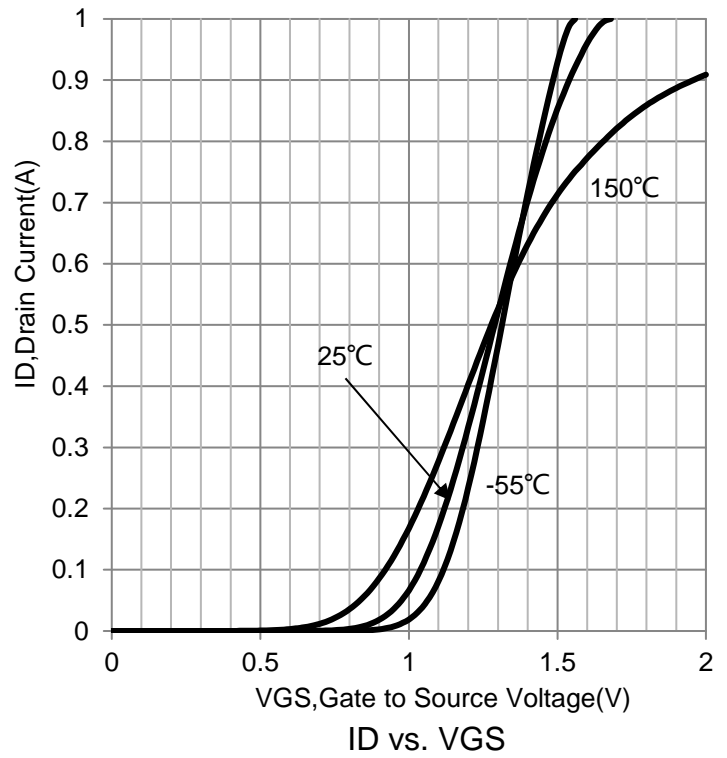
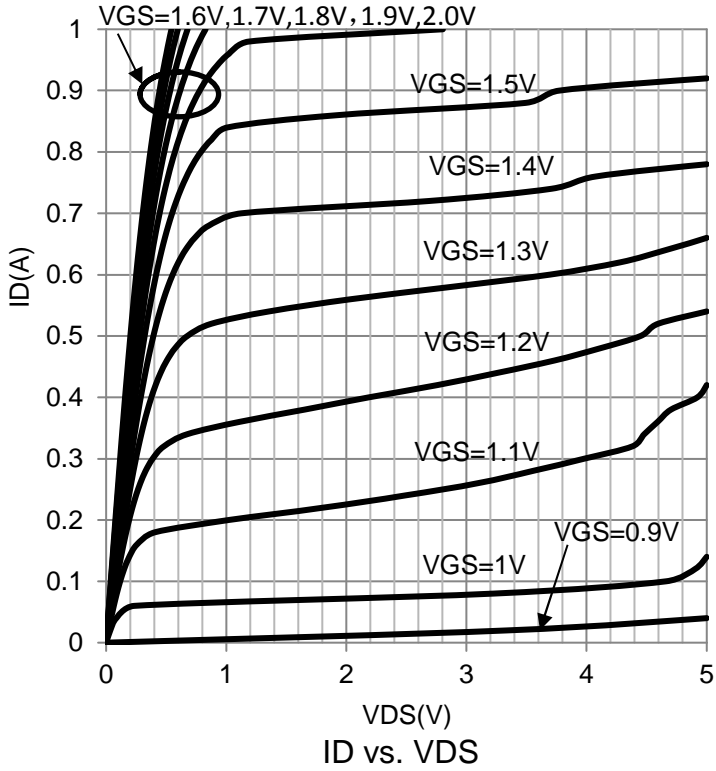


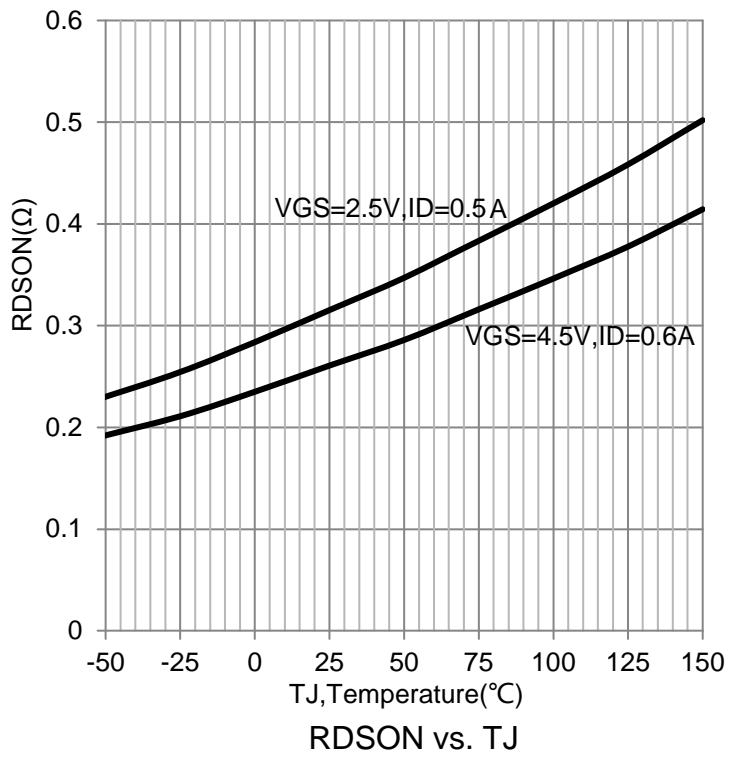
**6. ELECTRICAL CHARACTERISTICS (Ta= 25°C)**

Characteristic	Symbol	Min.	Typ.	Max.	Unit
<b>Static</b>					
Drain-Source Breakdown Voltage (VGS =0V, ID =250μA)	V(BR)DSS	20			V
Gate Threshold Voltage (VDS =VGS , ID =250μA)	VGS(th)	0.45		0.9	V
Gate-Body Leakage Current (VDS =0V, VGS =±4.5V)	IGSS			±1.0	μA
Zero Gate Voltage Drain Current (VDS =20V, VGS =0V)	IDSS			100	nA
Drain-Source On-Resistance (VGS =4.5V, ID = 0.6A) (VGS =2.5V, ID = 0.5A) (VGS =1.8V, ID = 0.35A)	RDS(ON)		0.3 0.4 0.7	0.4 0.5 1	Ω
Diode Forward Voltage (IS =0.15A, VGS =0V)	VSD		0.7	1.2	V
<b>Dynamic</b>					
Total Gate Charge	(VDS =10V, VGS =4.5V, ID =0.25A)	Qg		736.3	pC
Gate-Source Charge		Qgs		320	
Gate-Drain Charge		Qgd		116.6	
Input Capacitance	(VDS =16V, VGS =0V, f=1MHz)	Ciss		60.67	pF
Output Capacitance		Coss		9.68	
Reverse Transfer Capacitance		Crss		5.37	
Turn-On Delay Time	(VDS = 4.5 V, RL = 47Ω, ID=200 mA, VDD = 10 V, RG = 10Ω)	td(on)		5.1	ns
Rise Time		tr		7.4	
Turn-Off Delay Time		td(off)		26.7	
Fall Time		tf		12.3	

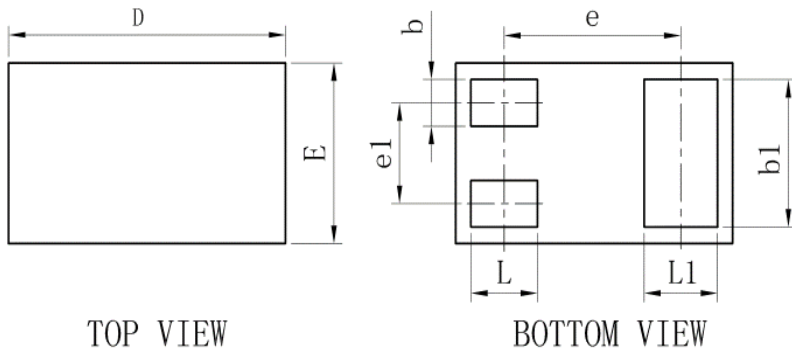
2.Pulse test; pulse width ≤300 μs, duty cycle ≤2%.

**7.ELECTRICAL CHARACTERISTICS CURVES**



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

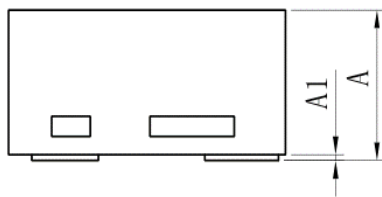
### 8. OUTLINE AND DIMENSIONS



TOP VIEW

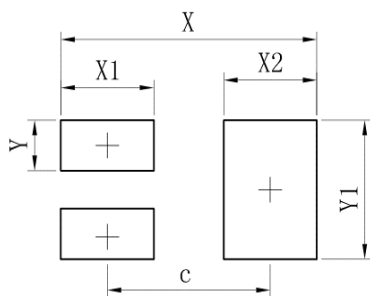
BOTTOM VIEW

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			



SIDE VIEW

### 9. SOLDERING FOOTPRINT



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