

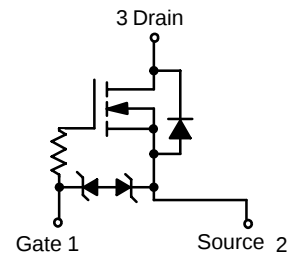
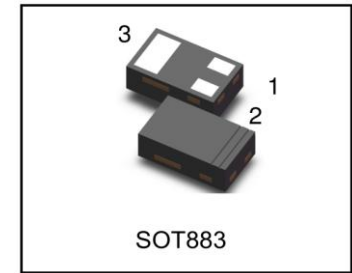
LMN2500N3T5G

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	±10	
Drain Current(Steady State)(Note 1)	TA = 25°C	ID	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

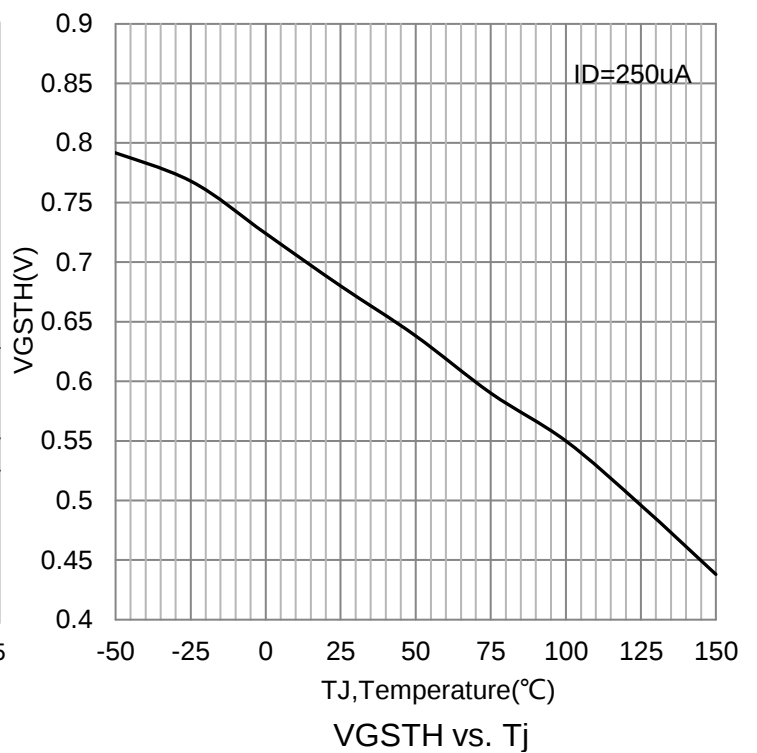
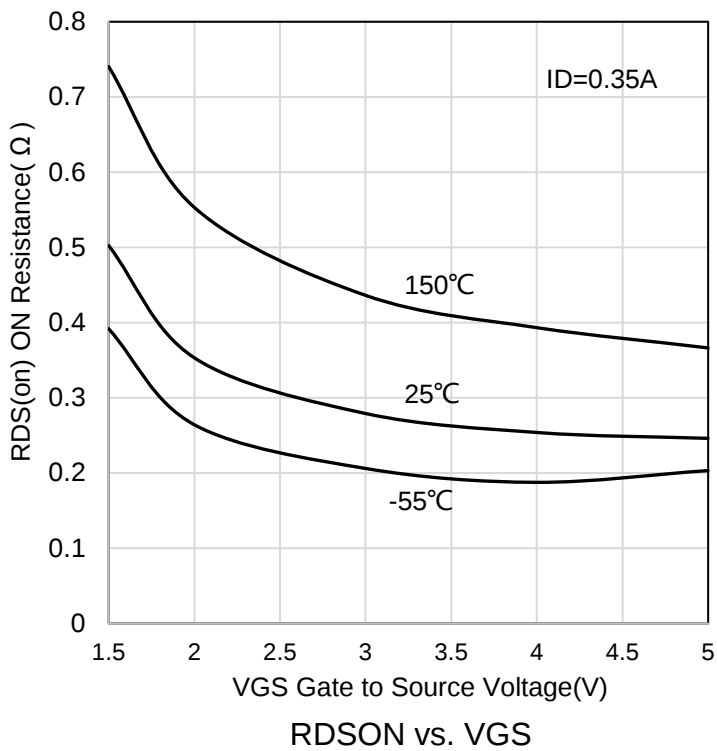
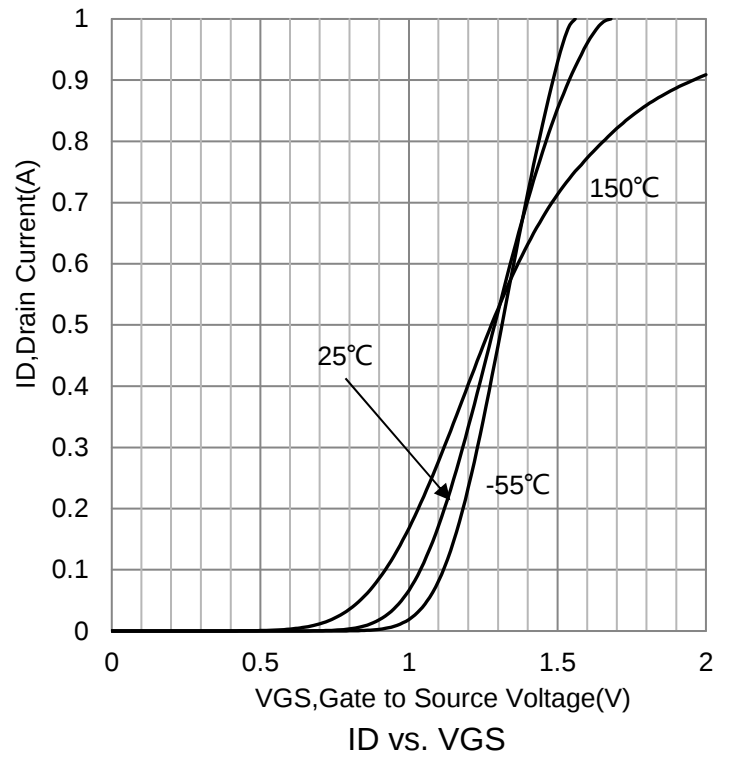
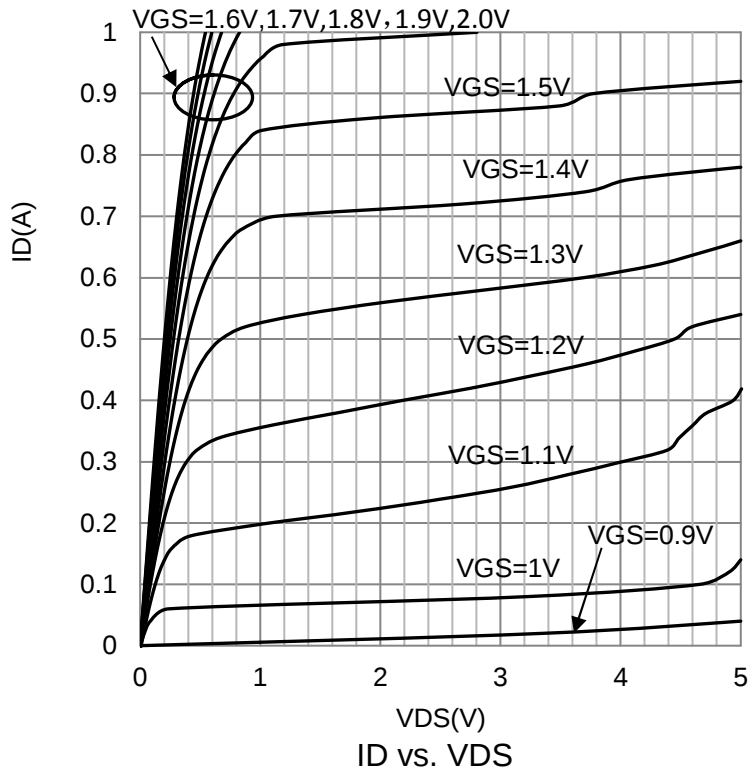
1. Surface-mounted on FR4 board using 1 in sq pad size (Cu area = 1.127 insq [1 oz] including traces)

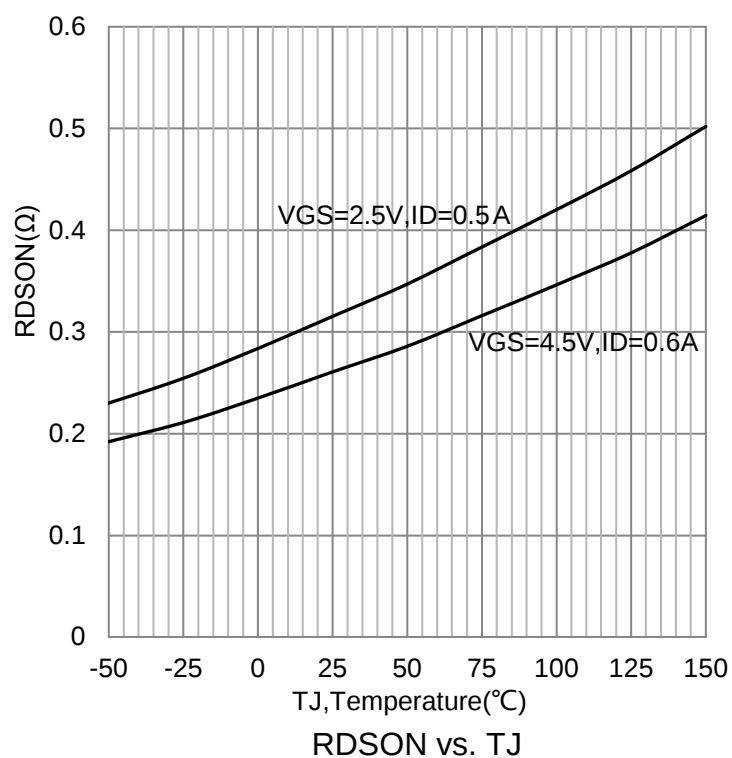
6. ELECTRICAL CHARACTERISTICS (Ta= 25°C)

Characteristic		Symbol	Min.	Typ.	Max.	Unit
Static						
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
Dynamic						
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		

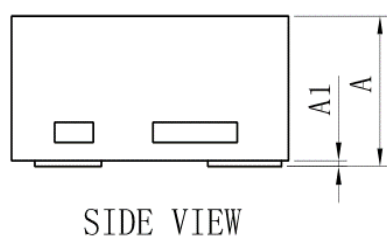
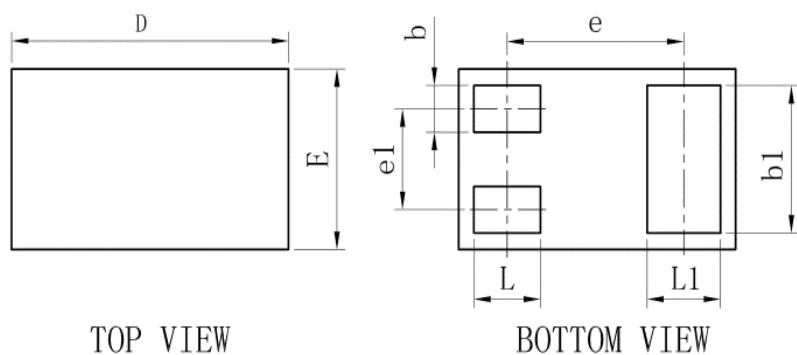
2.Pulse test; pulse width ≤300 μs, duty cycle ≤2%.

7.ELECTRICAL CHARACTERISTICS CURVES



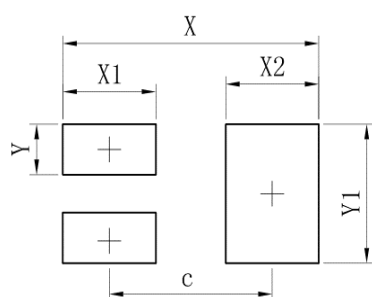
7.ELECTRICAL CHARACTERISTICS CURVES(Con.)


8.OUTLINE AND DIMENSIONS



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

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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