

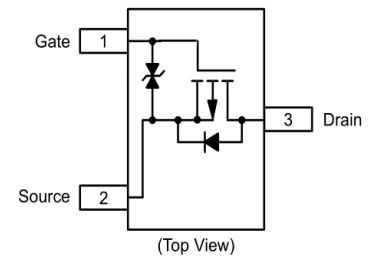
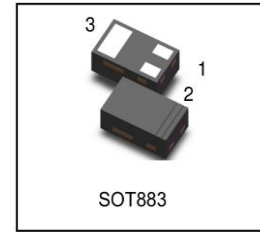
LMP21D5N3T5G

S-LMP21D5N3T5G

20V P-Channel MOSFET

1. FEATURES

- Gate-Source ESD Protected.
- High-Side Switching.
- Low On-Resistance.
- Low Threshold.
- Fast Switching Speed.
- 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

- Drivers: Relays, Solenoids, Lamps, Hammers, Displays, Memories.
- Battery Operated Systems.
- Power Supply Converter Circuits.
- Load/Power Switching Cell Phones, Pagers.

3. DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
LMP21D5N3T5G	A8	10000/Tape&Reel

4. MAXIMUM RATINGS(T_a = 25°C)

Parameter		Symbol	10 secs	Steady State	Unit
Drain-Source Voltage		V _{DS}	-20		V
Gate-Source Voltage		V _{GS}	±8		
Continuous Drain Current	T _A = 25°C	I _D	-850	-700	mA
	T _A = 70°C		-670	-600	
Pulsed Drain Current (Note2)		I _{DM}	-2000		
Continuous Source Current (Diode Conduction)		I _S	-800		
Maximum Power Dissipation (Note1)		P _D	460		mW
Operating Junction and Storage Temperature Range		T _J , T _{stg}	-55~+150		°C
Gate-Source ESD Rating (HBM, Method 3015)		ESD	2000		V

1. Surface Mounted on FR4 Board.

2. Pulse width limited by maximum junction temperature

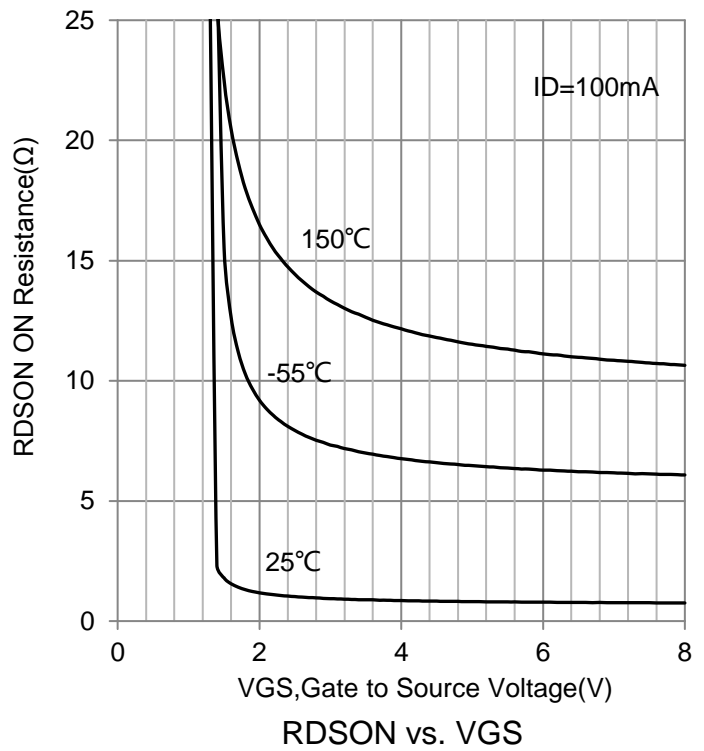
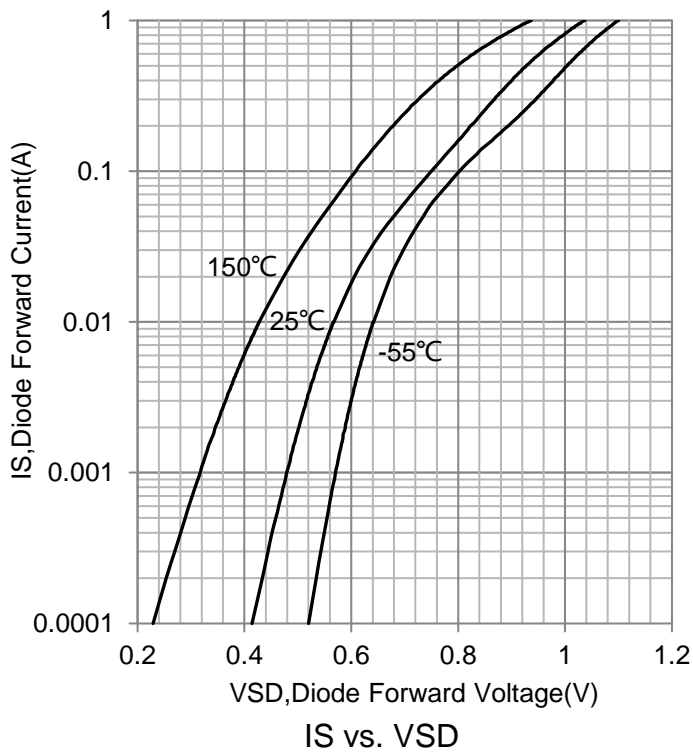
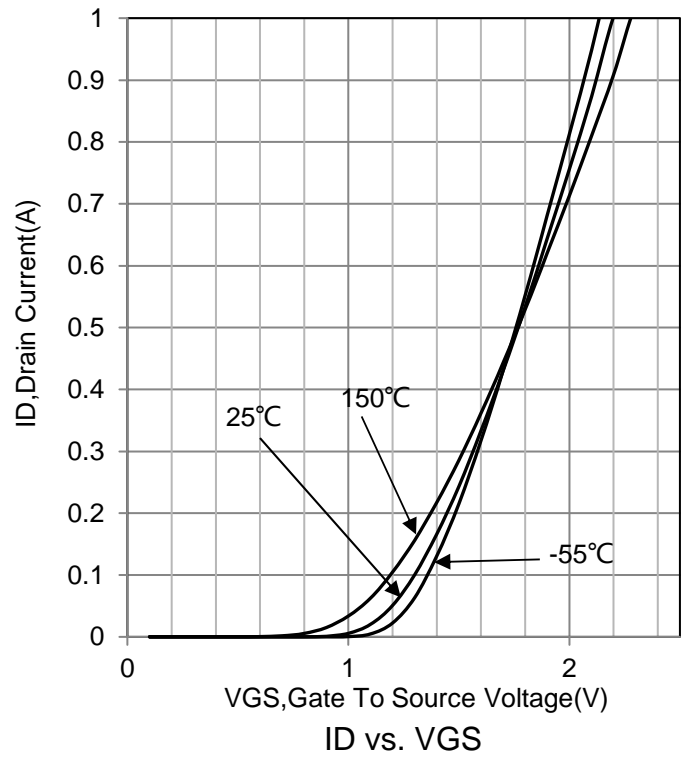
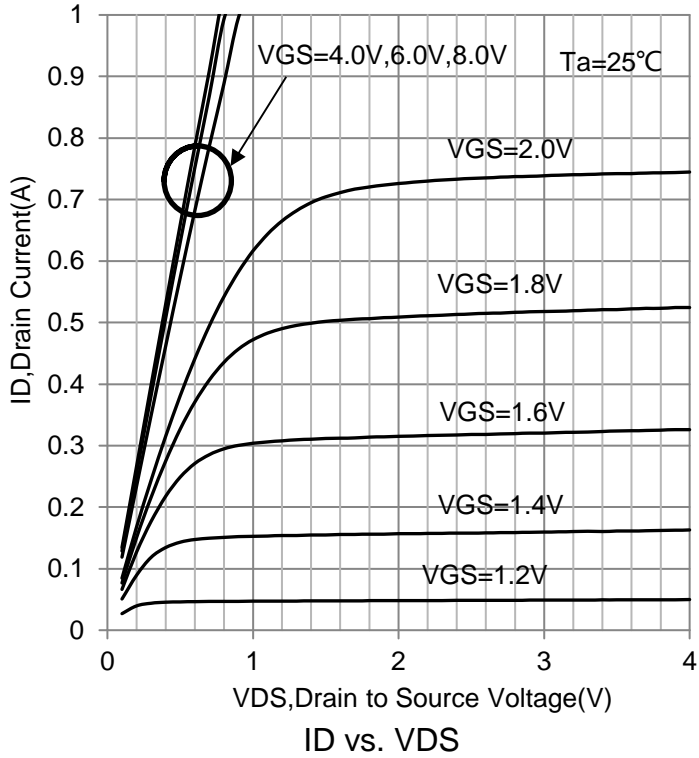
5. ELECTRICAL CHARACTERISTICS (Ta= 25°C)

Characteristic	Symbol	Min.	Typ.	Max.	Unit	
Static						
Drain-Source Breakdown Voltage (VGS = 0 V , ID = -250μA)	V(BR)DSS	-20	-	-	V	
Gate Threshold Voltage (VDS =VGS , ID = -250μA)	VGS(th)	-0.3	-	-1.0	V	
Gate Leakage Current (VDS =0V, VGS =±5V) (VDS =0V, VGS =±8V)	IGSS	-	-	±1.0 ±5.0	μA	
Zero Gate Voltage Drain Current (VDS = -20V, VGS =0V)	IDSS	-	-	-100	nA	
Drain-Source On-Resistance (VGS = -5 V, ID = -100 mA) (VGS = -4.5 V, ID = -100 mA) (VGS = -2.5 V, ID = -80 mA) (VGS = -1.8 V, ID = -40 mA) (VGS = -1.5 V, ID = -30 mA) (VGS = -1.2 V, ID = -1 mA)	RDS(ON) (Note 3)	-	0.67 0.7 0.9 1.2 1.5 5	1.05 1.1 1.5 2 3 -	Ω	
Diode Forward Voltage (Note 3) (IS = -150 mA, VGS = 0 V)	VSD	-	-0.75	-1.2	V	
Dynamic (Note 4)						
Total Gate Charge	(VDS = -10 V, VGS= - 4.5V, ,ID= -250 mA)	Qg	-	0.83	-	nC
Gate-Source Charge		Qgs	-	0.18	-	
Gate-Drain Charge		Qgd	-	0.18	-	
Turn-On Delay Time	(VDD = -3 V, RL = 300Ω, ID=-100 mA, VGS = -2.5 V, RG = 25 Ω)	td(on)	-	8.5	-	ns
Rise Time		tr	-	4.3	-	
Turn-Off Delay Time		td(off)	-	20.2	-	
Fall Time		tf	-	19.2	-	
Input Capacitance	(VDS = -10V, VGS = 0 V, f = 1 MHz)	Ciss	-	46.1	-	pF
Output Capacitance		Coss	-	7.2	-	
Reverse Transfer Capacitance		Crss	-	4.9	-	

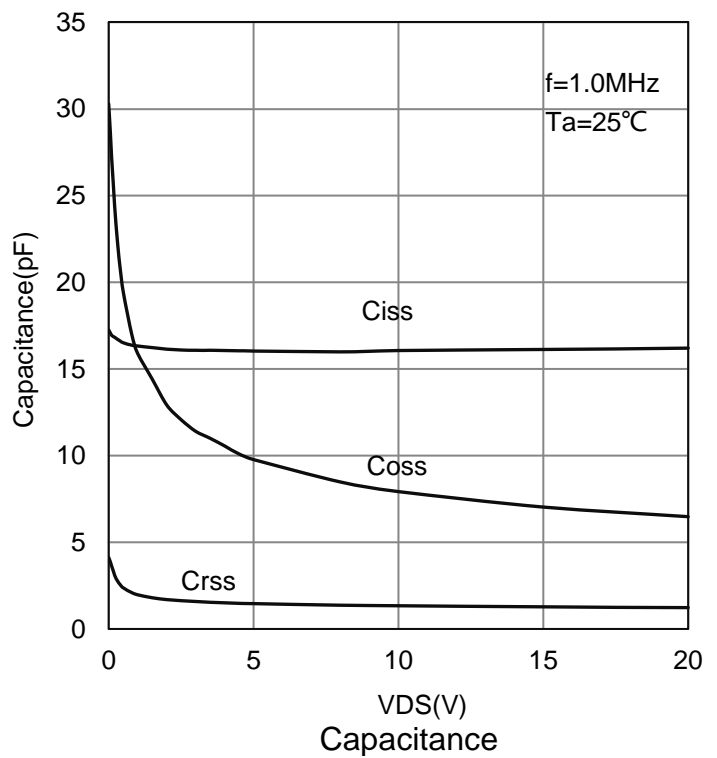
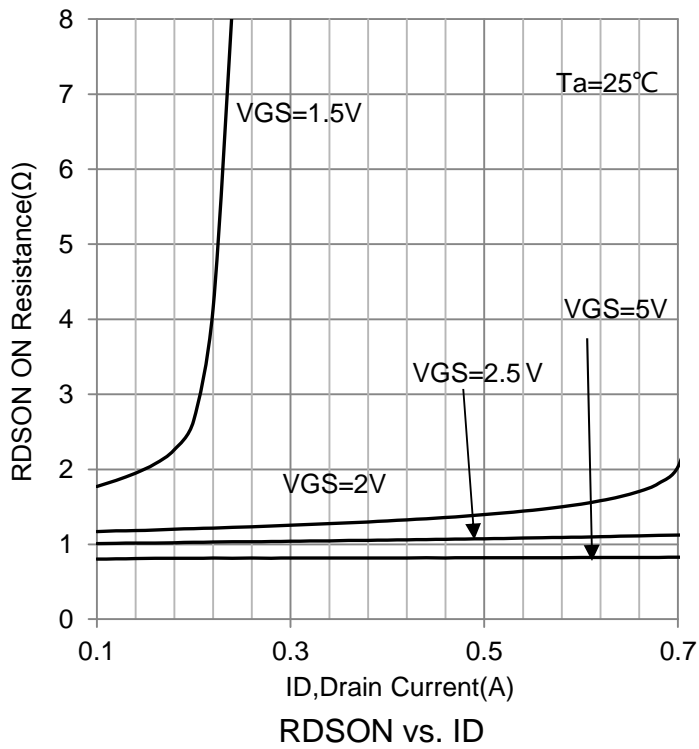
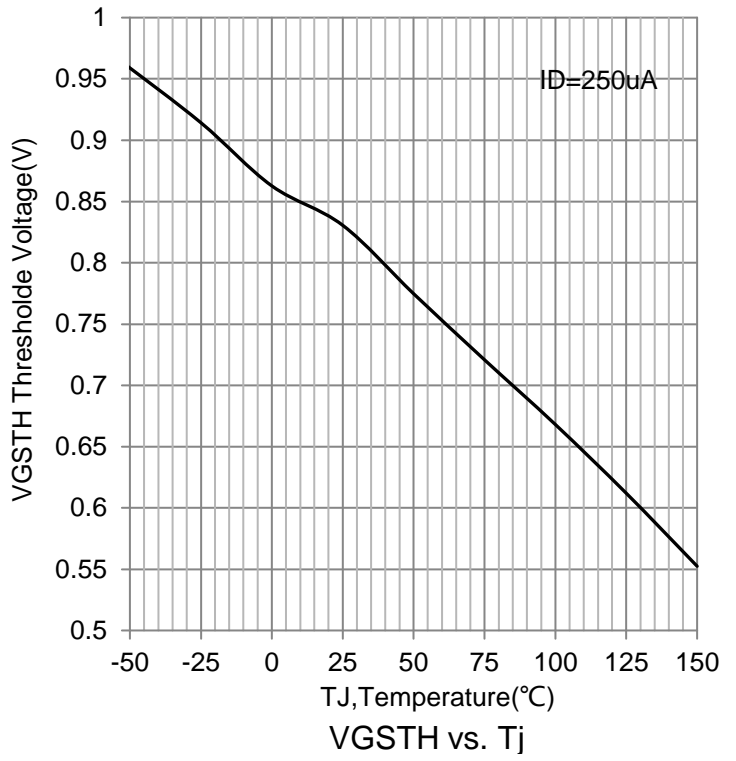
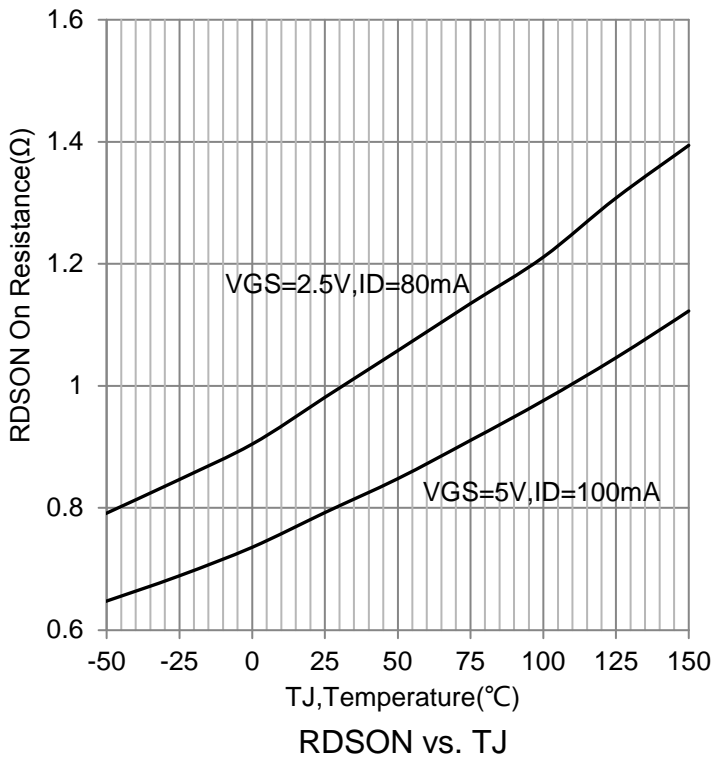
3.Pulse test; pulse width $\leq 300 \mu\text{s}$, duty cycle $\leq 2\%$.

4.Guaranteed by design, not subject to production testing.

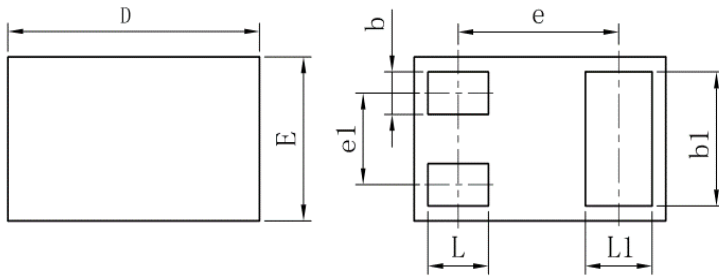
6.ELECTRICAL CHARACTERISTICS CURVES



6.ELECTRICAL CHARACTERISTICS CURVES(Con.)

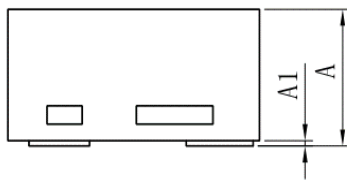


7.OUTLINE AND DIMENSIONS



TOP VIEW

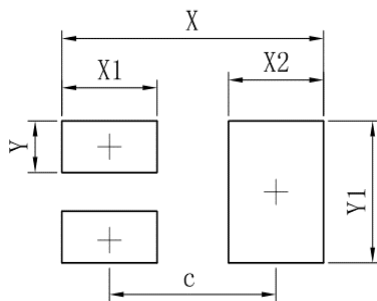
BOTTOM VIEW



SIDE 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			

8.SOLDERING FOOTPRINT



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