

LP0404N3T5G

20V, P-Channel (D-S) MOSFET

1. FEATURES

- $V_{DS} = -20V$
 $R_{DS(ON)} \leq 0.48\Omega, V_{GS} @ -4.5V, I_{DS} @ -780mA$
 $R_{DS(ON)} \leq 0.67\Omega, V_{GS} @ -2.5V, I_{DS} @ -660mA$
 $R_{DS(ON)} \leq 0.95\Omega, V_{GS} @ -1.8V, I_{DS} @ -100mA$
 $R_{DS(ON)} \leq 2.2\Omega, V_{GS} @ -1.5V, I_{DS} @ -100mA$
- Super high density cell design for extremely low $R_{DS(ON)}$.
- Exceptional on-resistance and maximum DC current capability.
- ESD protection > 2kV HBM.
- 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

- Power Management in Note book
- Portable Equipment
- Battery Powered System

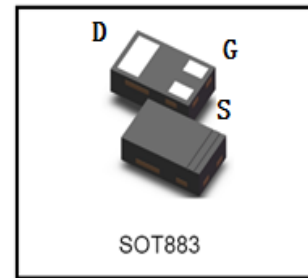
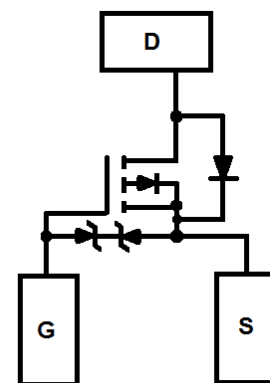
3. DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
LP0404N3T5G	T5	10000/Tape&Reel

4. MAXIMUM RATINGS($T_a = 25^\circ C$)

Parameter	Symbol	Limits	Unit
Drain-to-Source Voltage	V_{DSS}	-20	V
Gate-to-Source Voltage	V_{GS}	± 6	V
Drain Current (Note 1) Steady State	I_D	-1.4	A

Note 1: Surface Mounted on 1" x 1" FR4 Board.

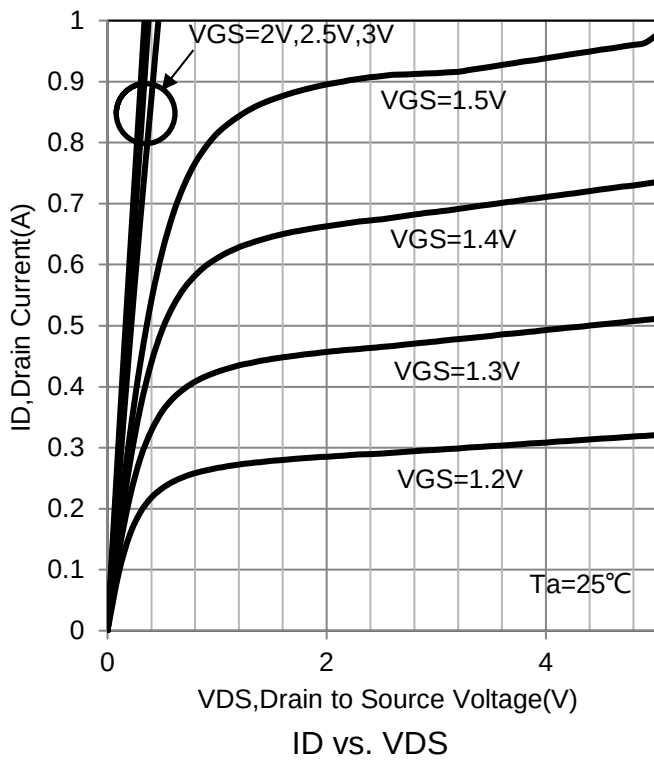
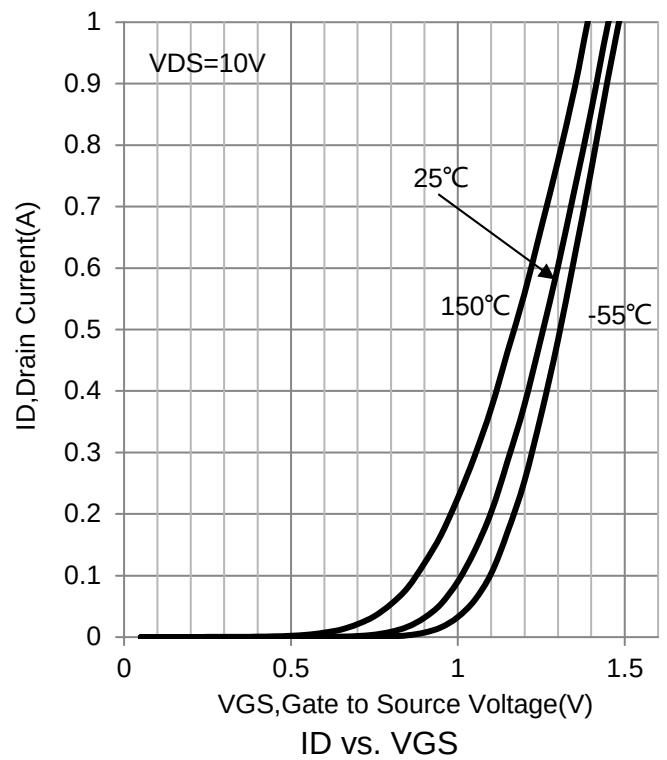
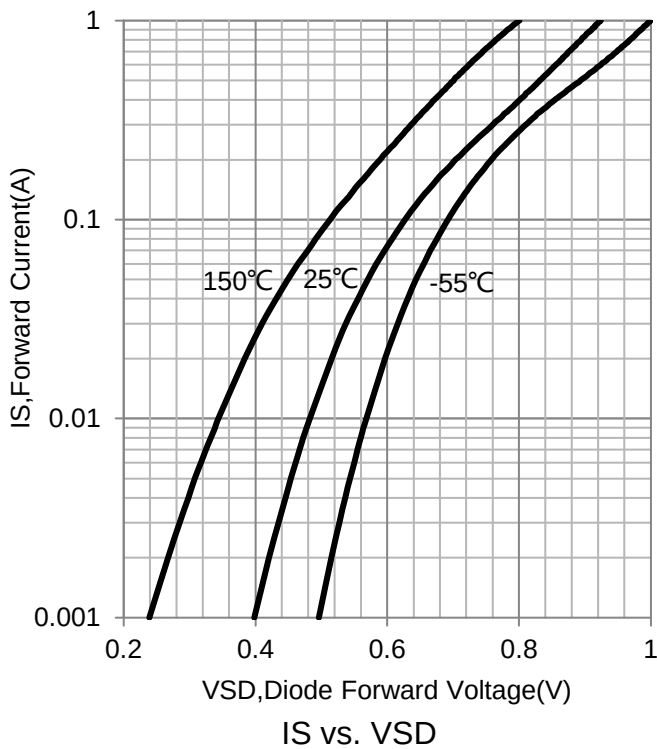
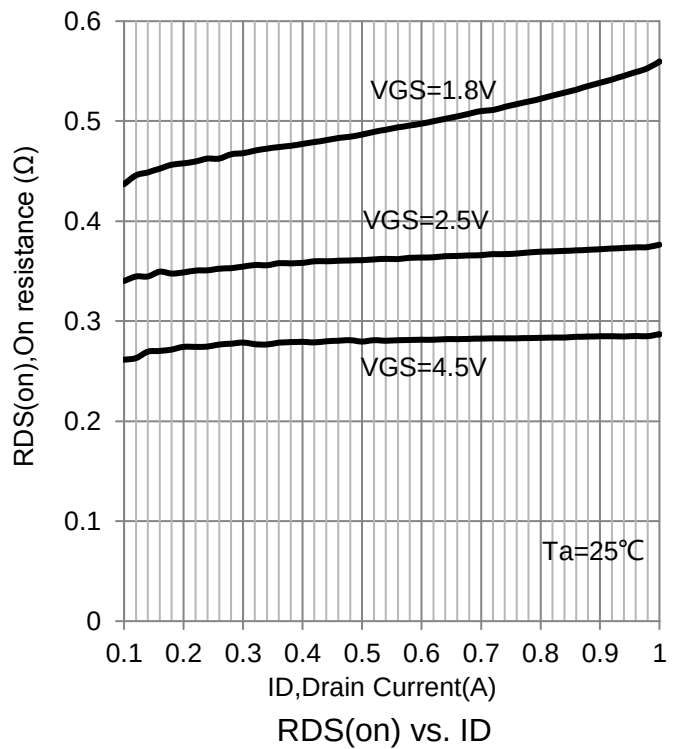


5. ELECTRICAL CHARACTERISTICS (Ta= 25°C)

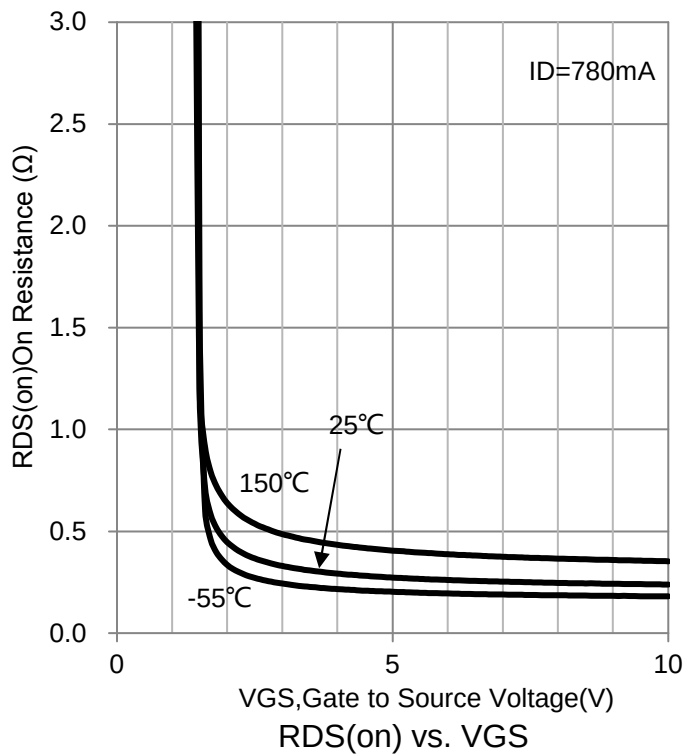
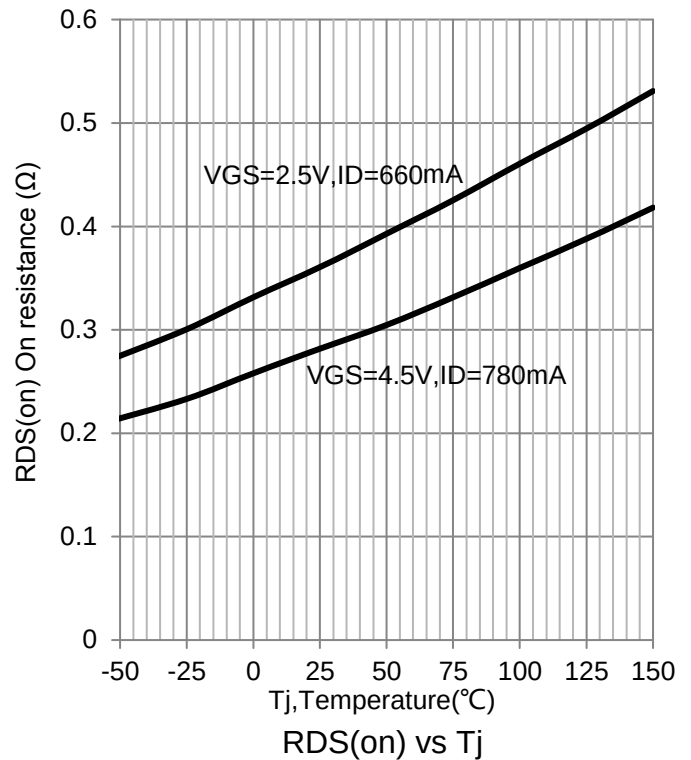
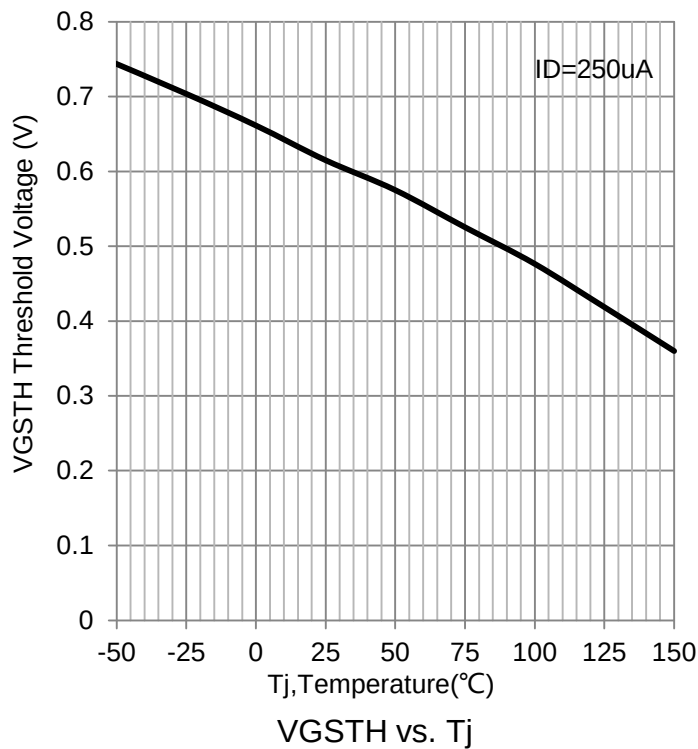
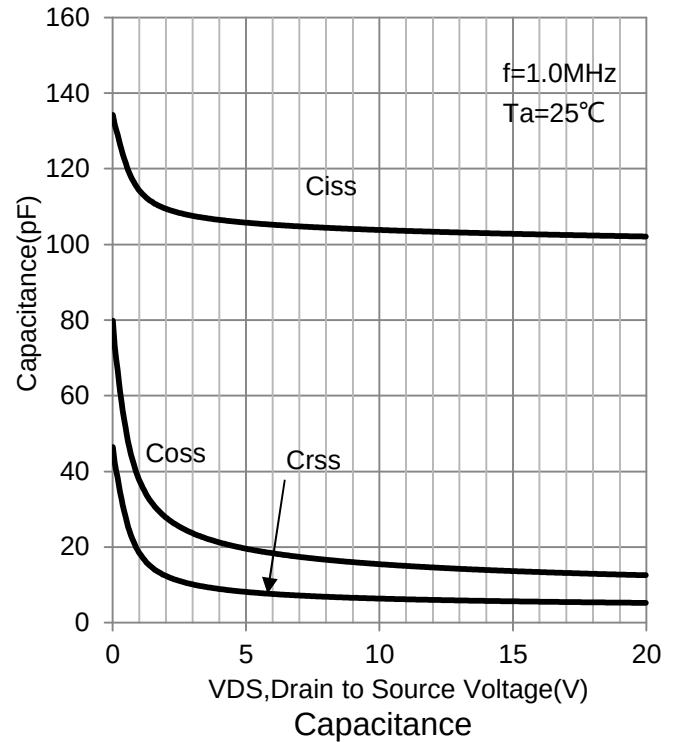
Characteristic		Symbol	Min.	Typ.	Max.	Unit
Static						
Drain-Source Breakdown Voltage (VGS = 0V, ID = -250uA)		V(BR)DSS	-20	-	-	V
Gate Threshold Voltage (VDS =VGS , ID =-250μA)		VGS(th)	-0.4	-0.92	-1.2	V
Gate Leakage Current (VDS =0V, VGS =±4.5V)		IGSS	-	-	±10	μA
Zero Gate Voltage Drain Current (VDS =-16V, VGS =0V)		IDSS	-	-	-1	μA
Drain-Source On-Resistance (VGS=-4.5V,ID=-780mA)		RDS(ON)	-	0.34	0.48	Ω
Drain-Source On-Resistance (VGS=-2.5V,ID=-660mA)			-	0.45	0.67	
Drain-Source On-Resistance (VGS=-1.8V,ID=-100mA)			-	0.72	0.95	
Drain-Source On-Resistance (VGS=-1.5V,ID=-100mA)			-	1.3	2.2	
Diode Forward Voltage (IS =-350mA, VGS =0V)		VSD	-	-0.83	-1.2	V
Dynamic						
Total Gate Charge	(VDS =-16V, VGS =-4.5V, ID =-200mA)	Qg	-	2.8	-	nC
Gate-Source Charge		Qgs	-	2.1	-	
Gate-Drain Charge		Qgd	-	0.5	-	
Turn-On Delay Time	(VDD =-10V, RL =50Ω,VGEN =- 5V,RG =10Ω,ID =-200mA)	td(on)	-	51.3	-	ns
Rise Time		tr	-	24.2	-	
Turn-Off Delay Time		td(off)	-	246	-	
Fall Time		tf	-	81.2	-	
Input Capacitance	(VDS = -16 V, VGS = 0 V, f = 1 MHz)	Ciss	-	152	-	pF
Output Capacitance		Coss	-	18.5	-	
Reverse Transfer Capacitance		Crss	-	6	-	

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

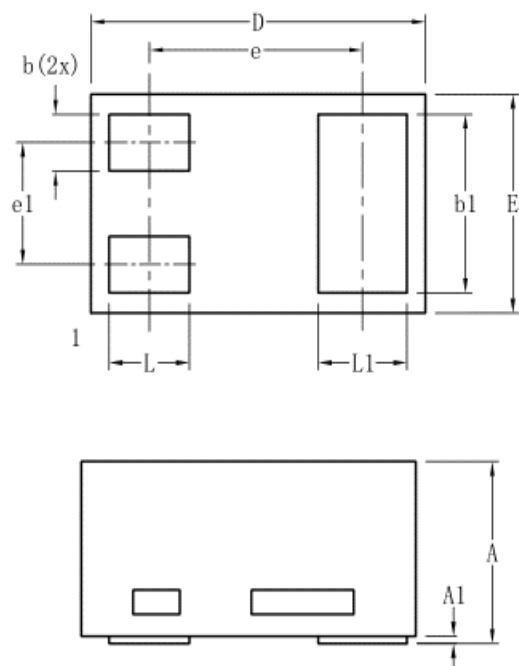
6. ELECTRICAL CHARACTERISTICS CURVES



6. ELECTRICAL CHARACTERISTICS CURVES(Con.)

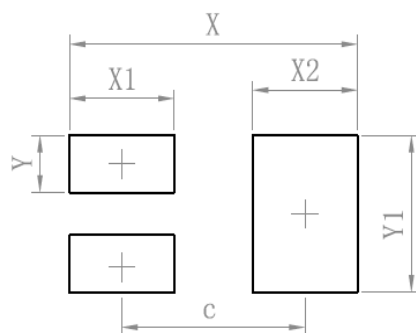


7.OUTLINE AND DIMENSIONS



SOT883			
DIM	MIN	TYP	MAX
D	0.95	1.00	1.05
E	0.50	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