

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.
- 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

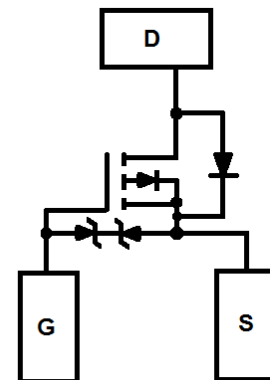
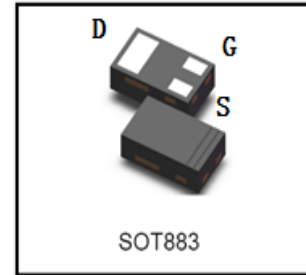
3. DEVICE MARKING AND ORDERING INFORMATION

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.

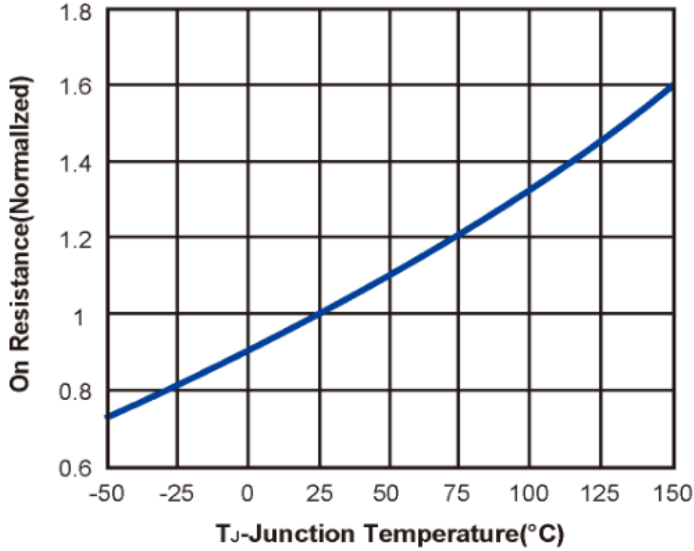


5. ELECTRICAL CHARACTERISTICS (Ta= 25°C)

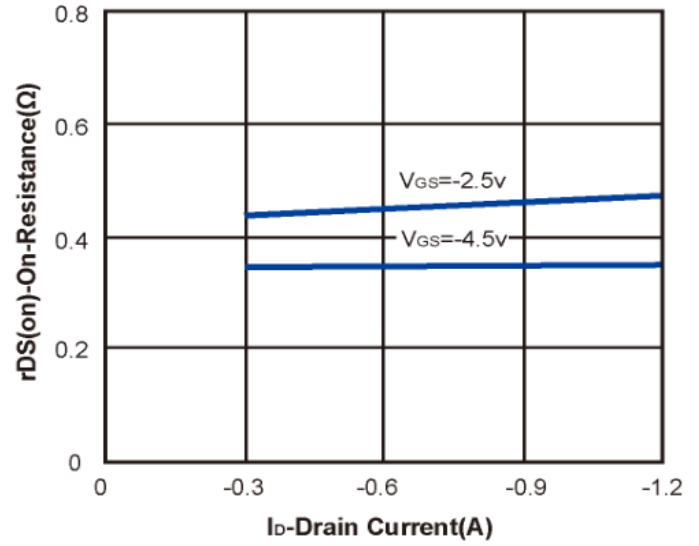
Characteristic	Symbol	Min.	Typ.	Max.	Unit
Static					
Drain-Source Breakdown Voltage (VGS = 0V, ID = -250uA)	V(BR)DSS	-20	-	-	V
Gate Threshold Voltage (VDS =VGS , ID =-250μA)	VGS(th)	-0.4	-	-1.2	V
Gate Leakage Current (VDS =0V, VGS =±4.5V)	IGSS	-	-	±10	μA
Zero Gate Voltage Drain Current (VDS =-16V, VGS =0V)	IDSS	-	-	-1	μA
Drain-Source On-Resistance (VGS=-4.5V,ID=-780mA)	RDS(ON)	-	-	0.48	Ω
Drain-Source On-Resistance (VGS=-2.5V,ID=-660mA)		-	-	0.67	
Drain-Source On-Resistance (VGS=-1.8V,ID=-100mA)		-	-	0.95	
Drain-Source On-Resistance (VGS=-1.5V,ID=-100mA)		-	-	2.2	
Diode Forward Voltage (IS =-350mA, VGS =0V)	VSD	-	-	-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%.

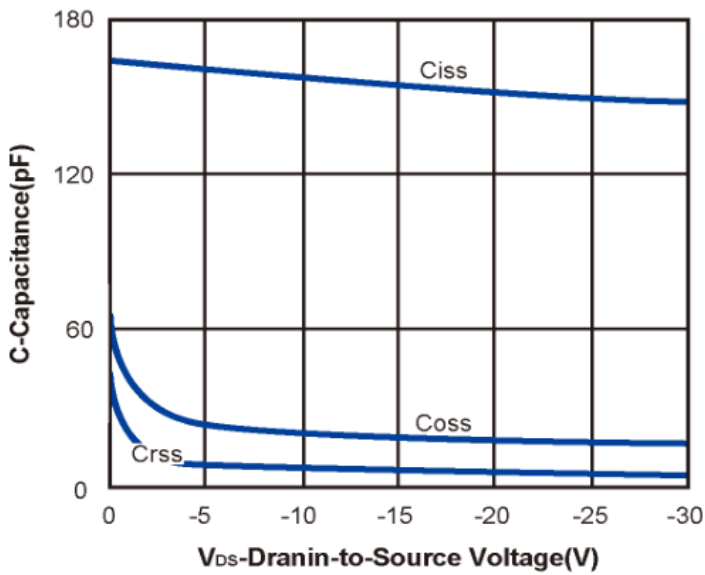
6. ELECTRICAL CHARACTERISTICS CURVES



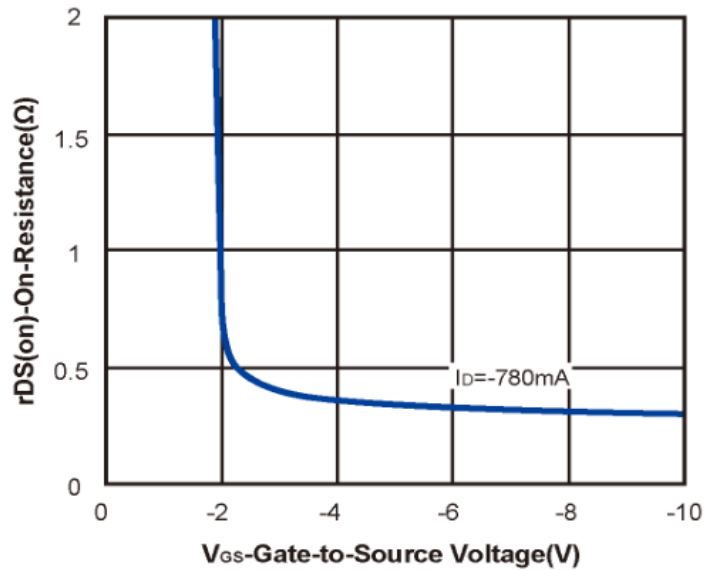
On Resistance vs. Junction Temperature



On Resistance vs. Drain Current

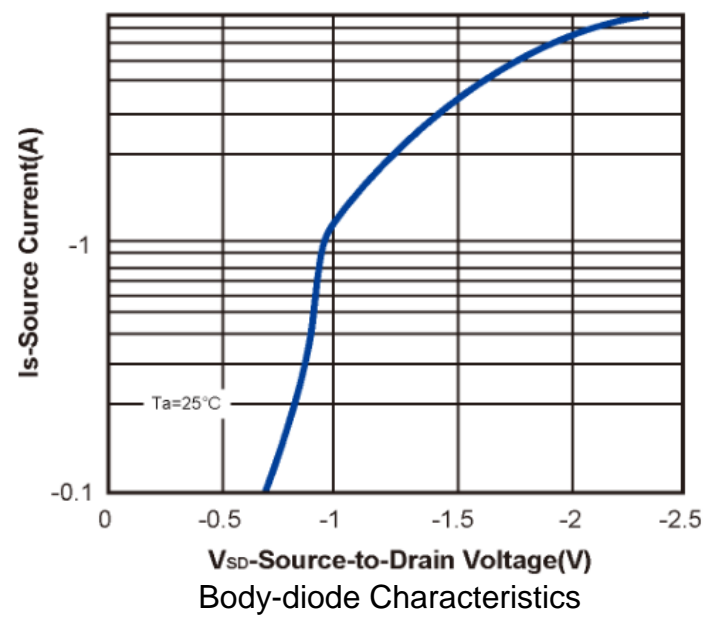
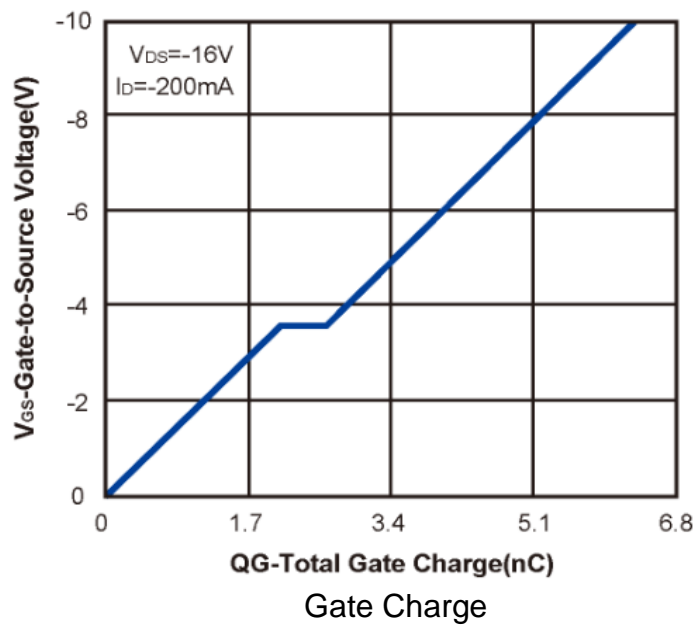
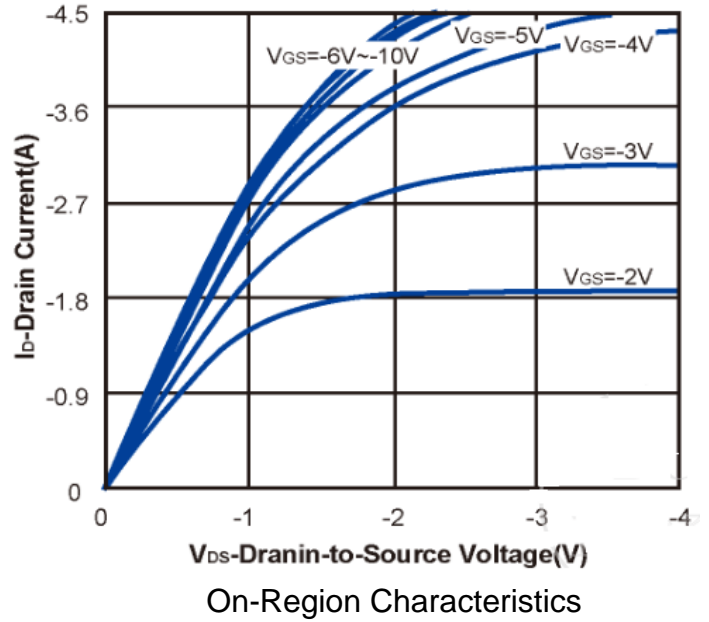
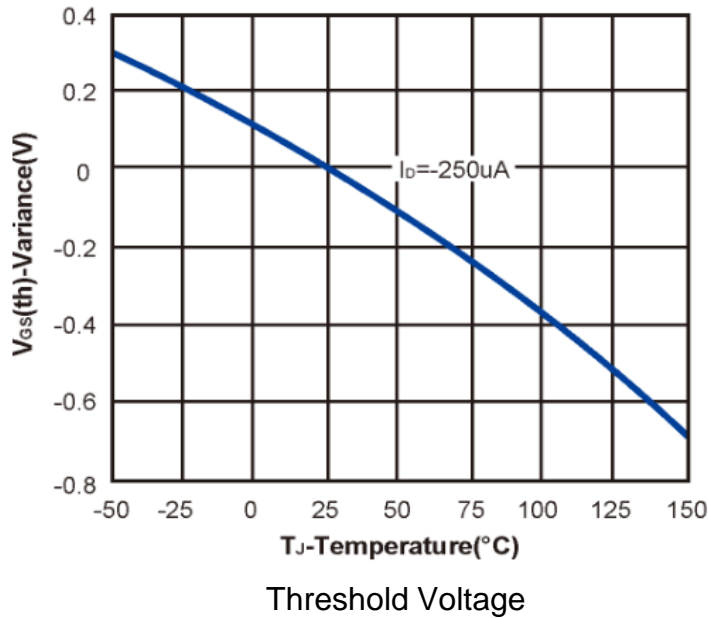


Capacitance

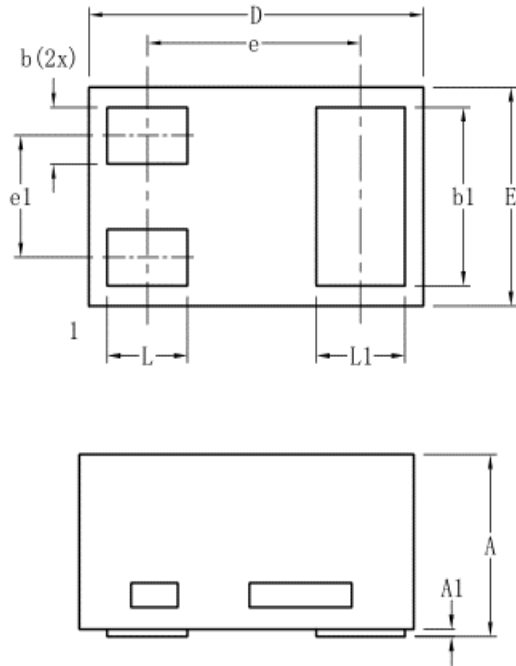


On Resistance vs. Gate to Source Voltage

6. ELECTRICAL CHARACTERISTICS CURVES(Con.)

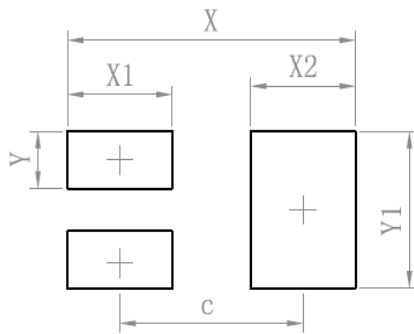


7. OUTLINE AND DIMENSIONS



SOT883			
DIM	MIN	TYP	MAX
D	1.05	1.00	0.95
E	0.65	0.60	0.50
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

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