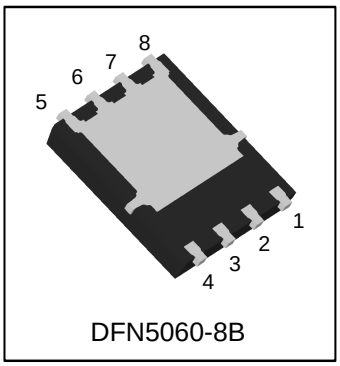
LP7411DT1WG

60V P-Channel (D-S) MOSFET



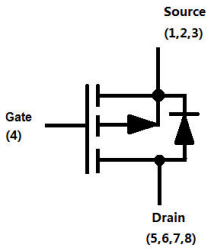
DFN5060-8B

1. FEATURES

- Low RDS(on) trench technology
- Low thermal impedance
- Fast switching speed
- We declare that the material of product compliance with RoHS requirements and Halogen Free.

2. APPLICATIONS

- Load Switches
- DC/DC Conversion
- Motor Drives



3. DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
LP7411DT1WG	LP7411	3000/Tape&Reel

4. MAXIMUM RATINGS(Ta = 25ºC)

Parameter		Symbol	Limits	Unit
Drain-Source Voltage		VDS	-60	V
Gate-Source Voltage		VGS	±20	
Continuous Drain Current (Note1)	TA = 25℃	ID	-20	A
	TA = 70℃		-15	
Pulsed Drain Current (Note2)		IDM	-80	
Avalanche Current(L=0.1mH)		IAS	49	
Avalanche energy(L=0.1mH)		EAS	120.05	mJ
Power Dissipation (Note1)	TA = 25℃	PD	5	W
	TA = 70℃		3.2	
Operating Junction and Storage Temperature Range		TJ,Tstg	-55~+150	℃

5. THERMAL CHARACTERISTICS

Parameter		Symbol	Limits	Unit
Maximum Junction-to-Ambient (Note1)	t ≤10 s	RθJA	25	℃/W
	Steady State		65	

1.Surface mounted on "1.5 x 1.5" FR4 board using 1 sq in pad, 2 oz Cu.

2.Pulse width limited by maximum junction temperature

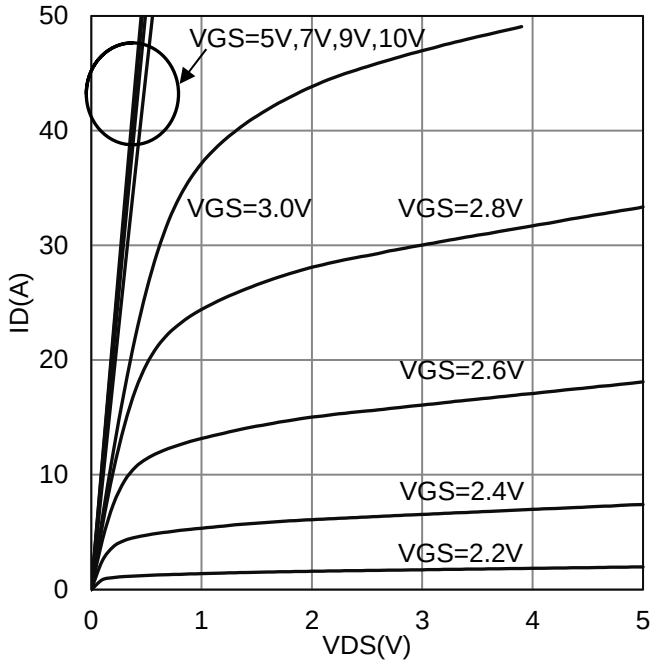
6. ELECTRICAL CHARACTERISTICS (Ta= 25°C)

Characteristic		Symbol	Min.	Typ.	Max.	Unit
Static						
Drain–Source Breakdown Voltage (VGS = 0, ID = -250μA)		VBRDSS	-60	-	-	V
Gate Threshold Voltage (VDS =VGS , ID =-250μA)		VGS(th)	-1	-	-	V
Gate Leakage Current (VDS =0V, VGS =±20V)		IGSS	-	-	±100	nA
Zero Gate Voltage Drain Current (VDS = -48 V, VGS = 0 V)		IDSS	-	-	-1	μA
Drain-Source On-Resistance(Note 3) (VGS = -10 V, ID = -9 A) (VGS = -4.5 V, ID = -8 A)		RDS(ON)	- -	- -	9.8 11.2	mΩ
Diode Forward Voltage (Note 3) (IS = -3.6 A, VGS = 0 V)		VSD	-	-0.72	-	V
Dynamic(Note 4)						
Total Gate Charge	(VDS=-30V,VGS=-4.5V,ID=-9A)	Qg	-	66	-	nC
Gate-Source Charge		Qgs	-	17	-	
Gate-Drain Charge		Qgd	-	26	-	
Turn-On Delay Time	(VDS = -30 V, RL = 3.3 Ω,ID = -9 A,VGEN = -10 V, RGEN = 6 Ω)	td(on)	-	15	-	ns
Rise Time		tr	-	21	-	
Turn-Off Delay Time		td(off)	-	255	-	
Fall Time		tf	-	90	-	
Input Capacitance	(VDS = -30 V, VGS = 0 V, f = 1 MHz)	Ciss	-	7044	-	pF
Output Capacitance		Coss	-	382	-	
Reverse Transfer Capacitance		Crss	-	321	-	

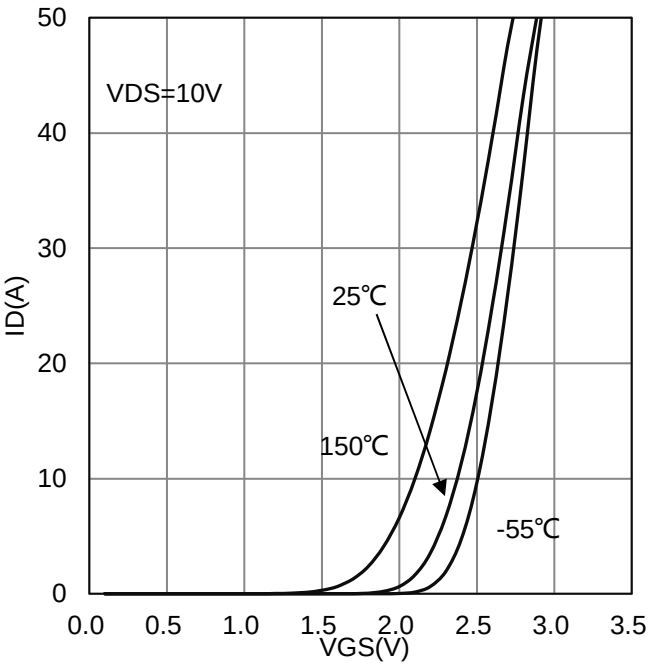
3.Pulse test: PW ≤ 300us duty cycle ≤ 2%.

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

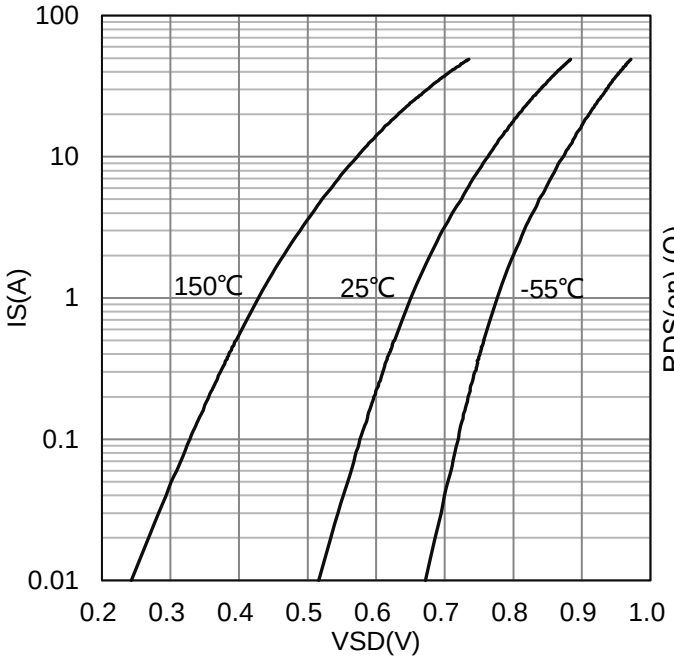
7. ELECTRICAL CHARACTERISTICS CURVES



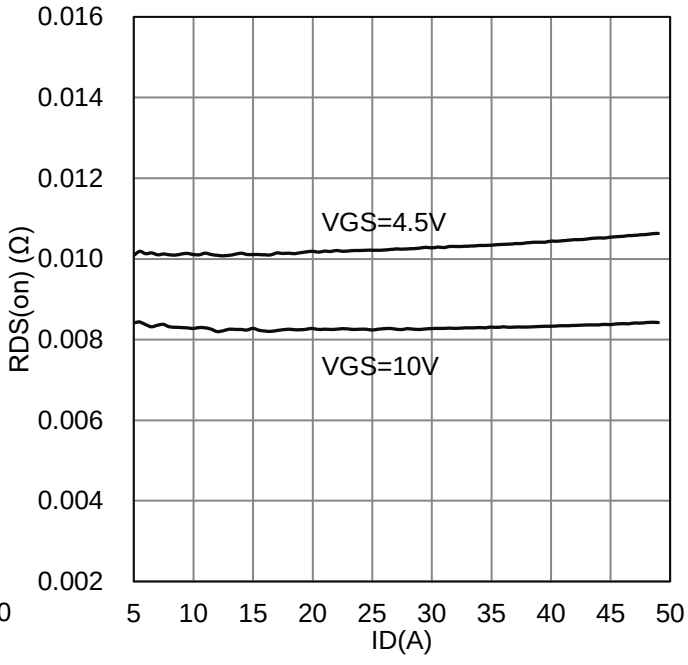
ID vs. VDS



ID vs. VGS

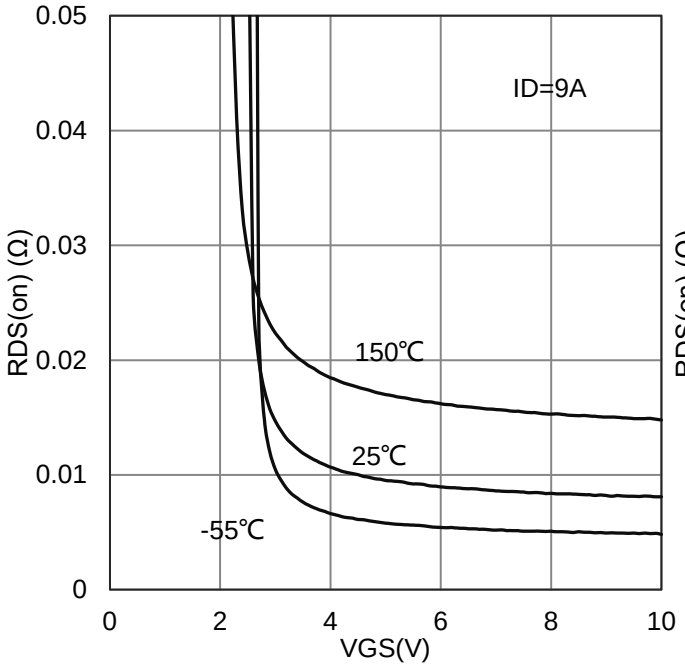


IS vs. VSD

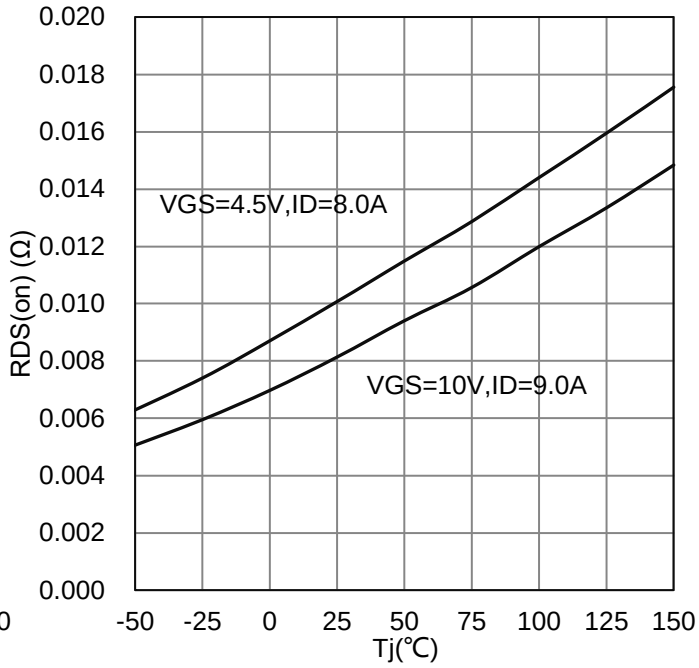


RDS(on) vs. ID

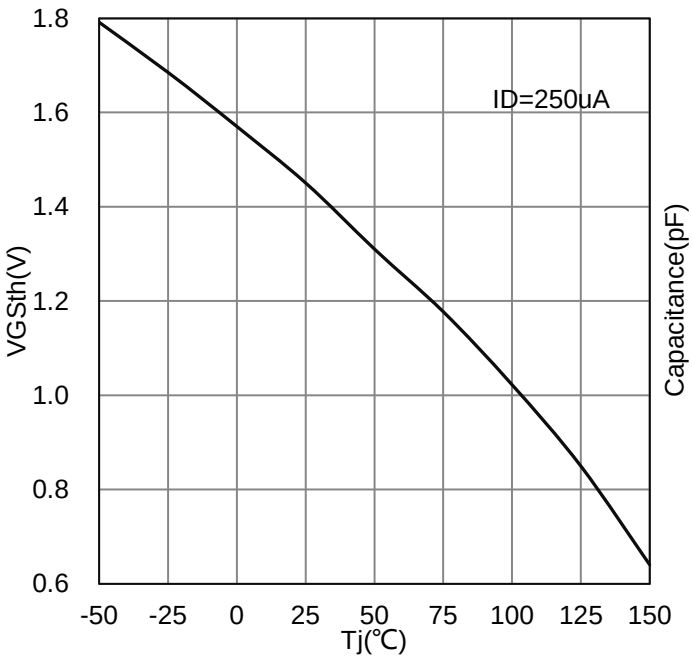
7. ELECTRICAL CHARACTERISTICS CURVES(Con.)



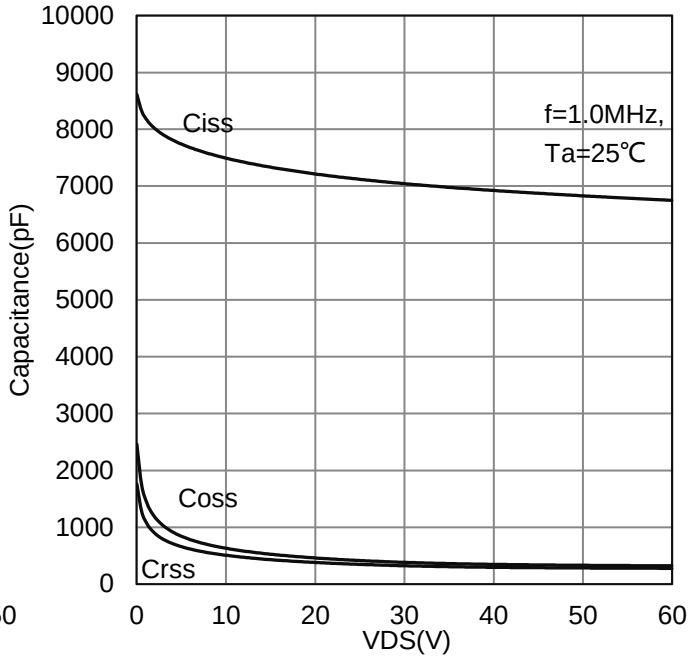
RDS(on) vs. VGS



RDS(on) vs. Tj



VGSth vs. Tj



Capacitance

8.OUTLINE AND DIMENSIONS

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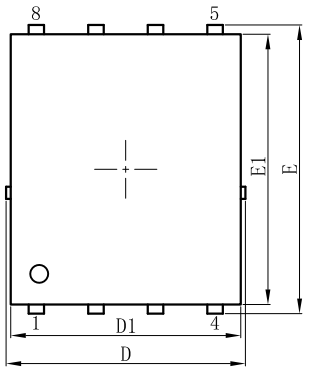
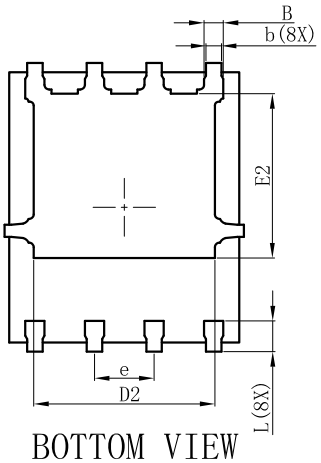
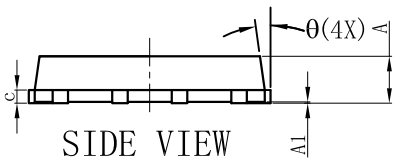


TOP VIEW



BOTTOM VIEW

DFN5060-8B			
DIM	MIN	NOR	MAX
A	0.90	1.00	1.10
A1	0.00	0.02	0.05
E	6.00	6.15	6.30
E1	5.66	5.76	5.86
E2	3.40	3.50	3.60
D	4.95	5.10	5.25
D1	4.80	4.90	5.00
D2	3.76	3.86	3.96
b	0.30	0.35	0.40
B	0.36	0.41	0.46
L	0.56	0.66	0.76
e	1.27BSC		
c	0.254REF.		
θ	0°	-	12°
All Dimensions in mm			

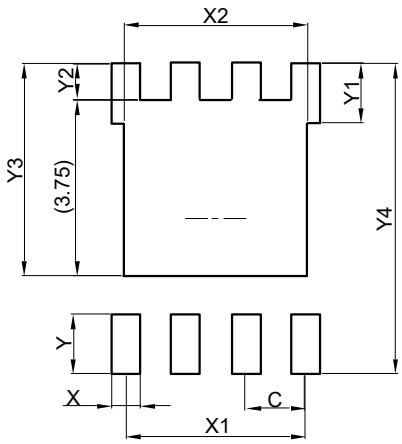


SIDE VIEW

GENERAL NOTES

1. Top package surface finish Ra0.4±0.2um
2. Bottom package surface finish Ra0.7±0.2um
3. Side package surface finish Ra0.4±0.2um
4. Protrusion or Gate Burrs shall not exceed 0.05mm per side.
5. Offcenter Max0.038mm; Mismatch Max 0.038mm.

9.SOLDERING FOOTPRINT



DFN5060-8B	
DIM	(mm)
C	1.27
X	0.61
X1	3.81
X2	3.91
Y	1.27
Y1	1.27
Y2	0.77
Y3	4.52
Y4	6.61

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