

N7910D

N-Channel Power Trench MOSFET

1. FEATURES

- Advanced Package and Silicon combination for low RDS(on) and high efficiency.
- We declare that the material of product compliance with RoHS requirements and Halogen Free.

2. APPLICATIONS

- DC-DC Conversion

3. DEVICE MARKING AND RESISTOR VALUES

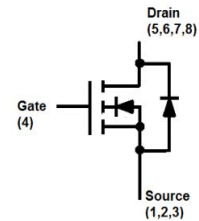
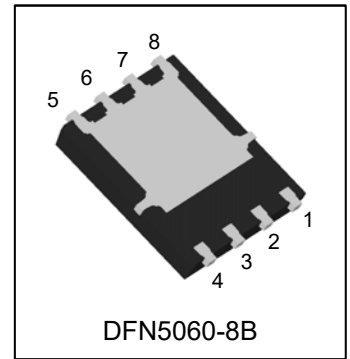
Device	Marking	Shipping
N7910D	LN7910	3000/Tape&Reel

4. MAXIMUM RATINGS(Ta = 25°C)

Parameter		Symbol	Limits	Unit
Drain-to-Source Voltage		VDS	150	V
Gate-to-Source Voltage		VGS	±20	V
Continuous Drain Current	TC=25°C	ID	60	A
	TC=75°C		53	A
	TA=25°C		12.4	A
	TA=75°C		11	A
Pulsed Drain Current		IDM	48	A
Avalanche Current(L=0.1mH)		IAS	28	A
Avalanche Energy(L=0.1mH)		EAS	39.2	mJ
Power Dissipation	TC=25°C	PD	104	W
	TA=25°C		2.5	
Operating Junction and Storage Temperature Range		Tj/Tstg	-55~+150	°C

5. THERMAL CHARACTERISTICS

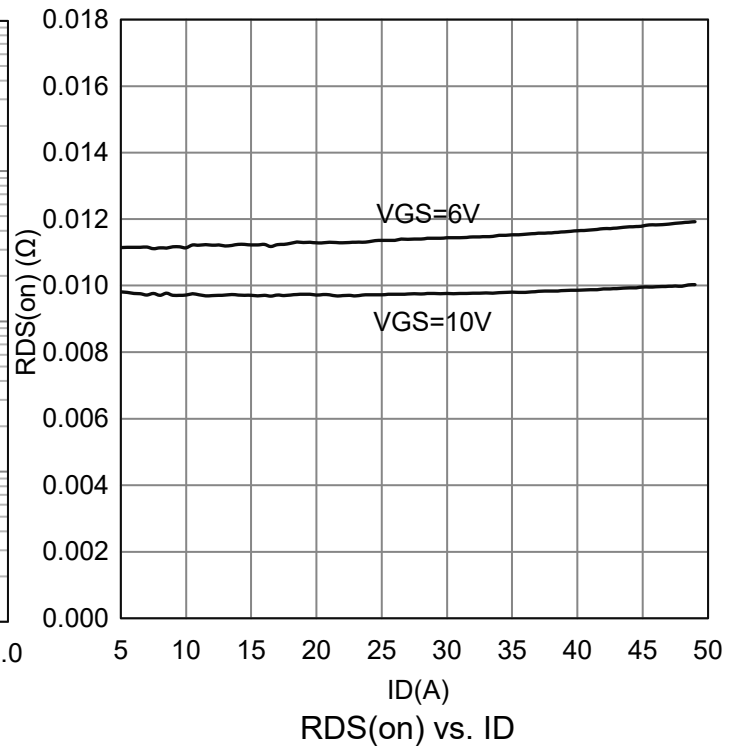
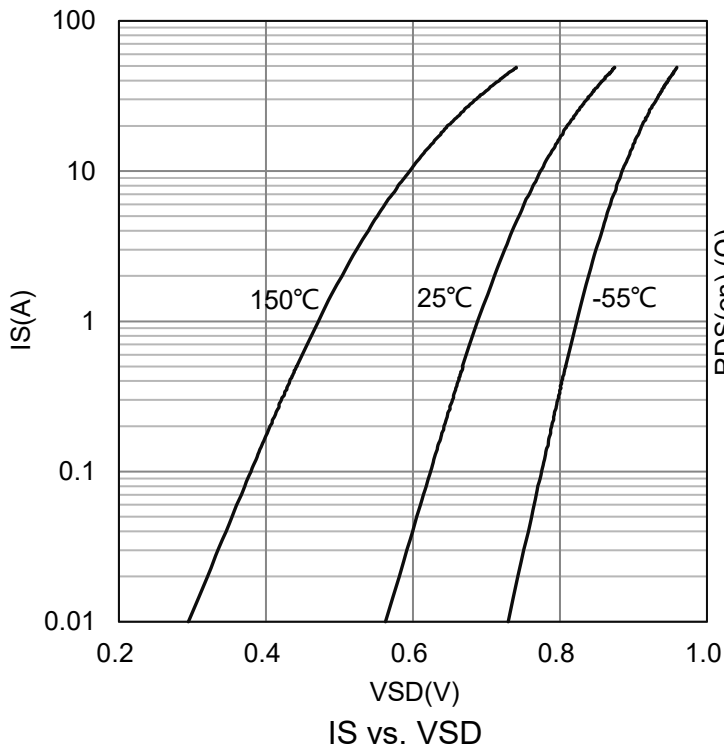
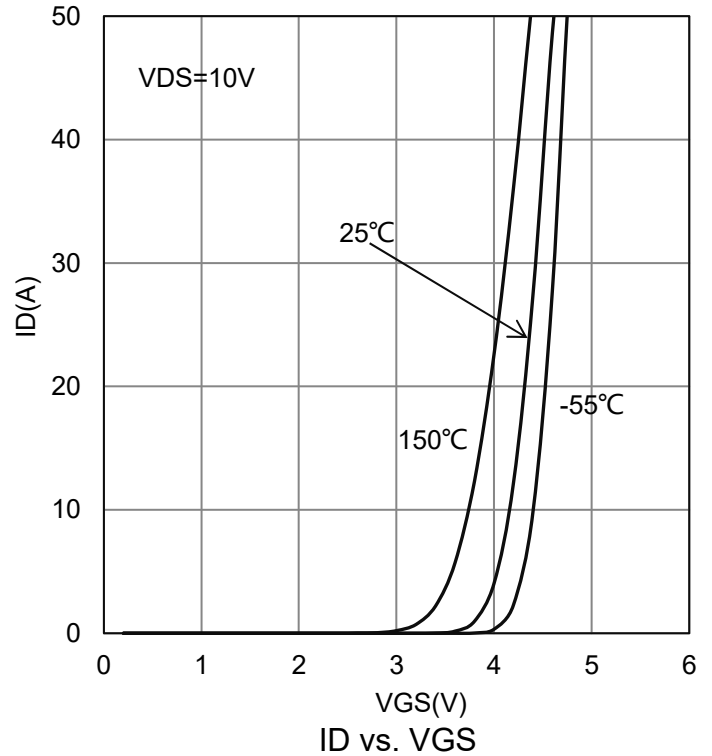
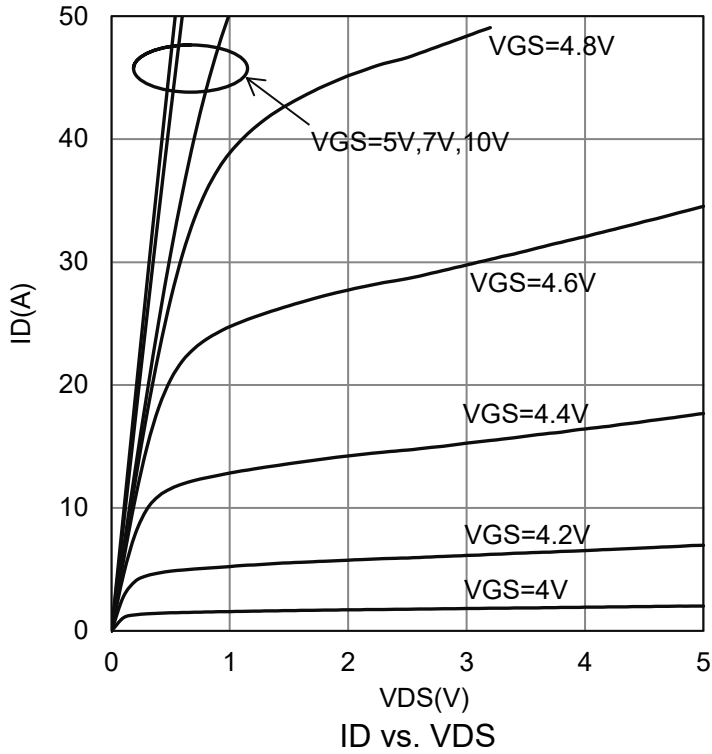
Parameter	Symbol	Max	Unit
Junction-to-Ambient	RθJA	50	°C/W
Junction-to-Case	RθJC	1.2	

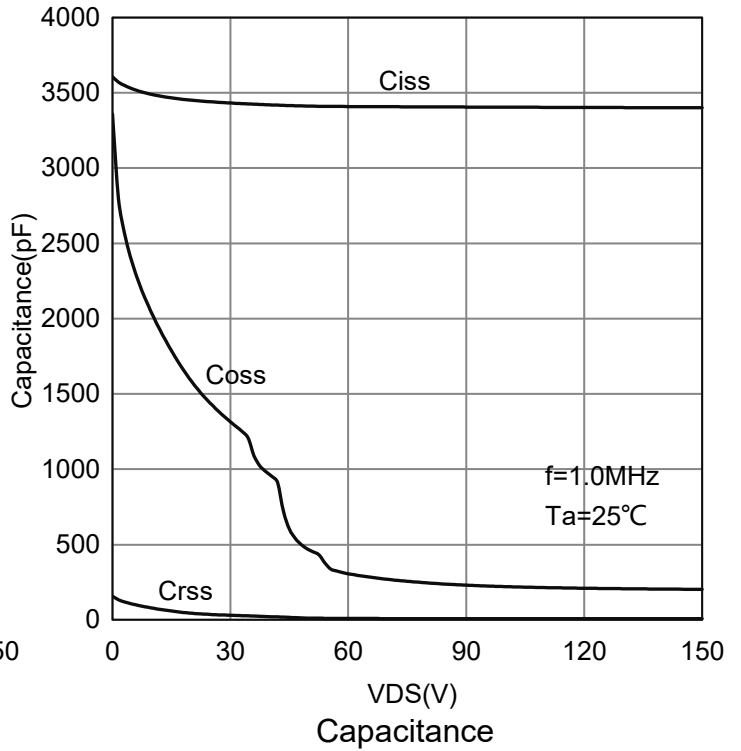
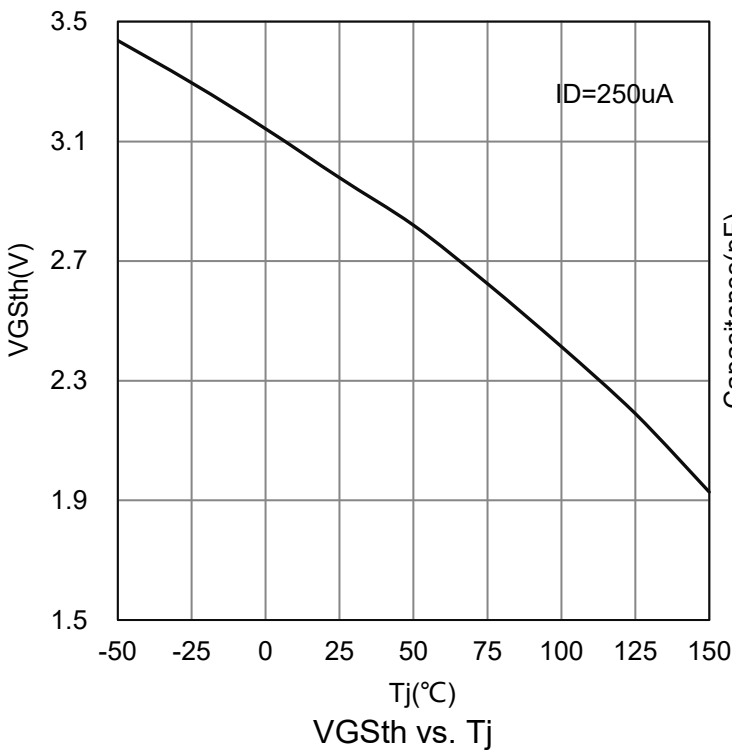
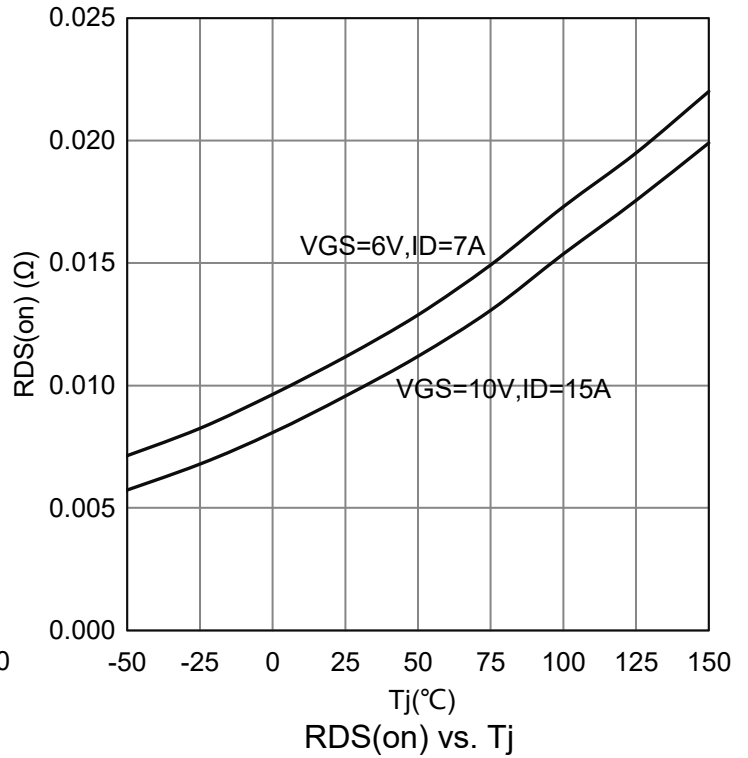
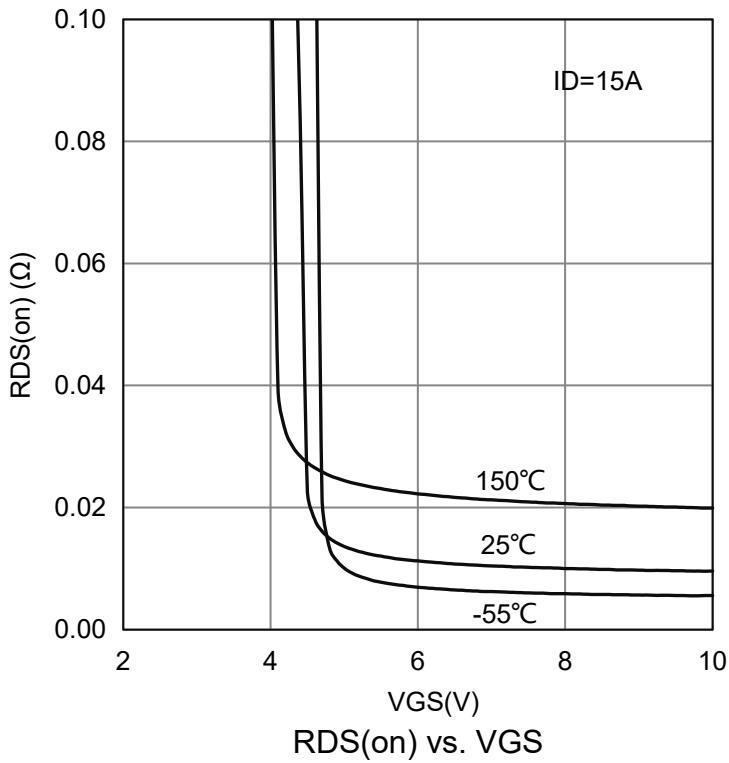


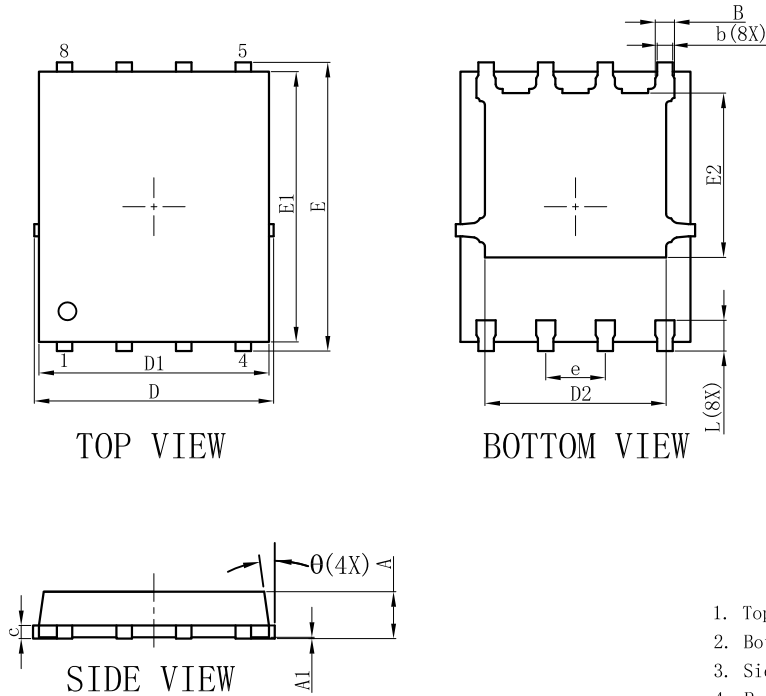
6. ELECTRICAL CHARACTERISTICS (Ta= 25°C)

Characteristic	Symbol	Min.	Typ.	Max.	Unit
STATIC					
Drain to Source Breakdown Voltage (VGS = 0V, ID = 250μA)	BVDSS	150	-	-	V
Drain-to-Source Leakage Current (VDS = 120V, VGS = 0V)	IDSS	-	-	1	uA
Gate-Body leakage current (VDS = 0V, VGS = ±20V)	IGSS	-	-	±100	nA
Gate Threshold Voltage (VDS = VGS, ID = 250μA)	VGS(th)	2	3	4	V
Drain-to-Source On-Resistance (VGS = 10 V, ID = 15 A) (VGS = 6 V, ID = 7 A)	RDS(ON)	- -	9.5 11.5	11.5 15	mΩ
DYNAMIC					
Total Gate Charge	Qg	-	42	-	nC
Gate to Source Charge	Qgs	-	13.7	-	
Gate to Drain Charge	Qgd	-	5.7	-	
Turn-on Delay Time	td(on)	-	30	-	nS
Rise Time	tr	-	30	-	
Turn-Off Delay Time	td(off)	-	72	-	
Fall Time	tf	-	37	-	
Input Capacitance	Ciss	-	3407	-	pF
Output Capacitance	Coss	-	256	-	
Reverse Transfer Capacitance	Crss	-	8	-	
Diode Forward Voltage (VGS = 0 V, IS = 20 A)	VSD	-	0.8	1.2	V
Gate Resistance (VDS=0V,VGS=0V,f=1.0MHz)	Rg	-	2.8	-	Ω



7. ELECTRICAL CHARACTERISTICS CURVES


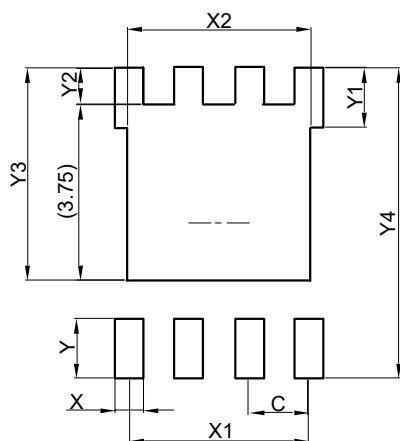
7.ELECTRICAL CHARACTERISTICS CURVES(Con.)


8. OUTLINE AND DIMENSIONS
DFN5060-8B


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			

GENERAL NOTES

1. Top package surface finish $Ra0.4 \pm 0.2\mu m$
2. Bottom package surface finish $Ra0.7 \pm 0.2\mu m$
3. Side package surface finish $Ra0.4 \pm 0.2\mu m$
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

