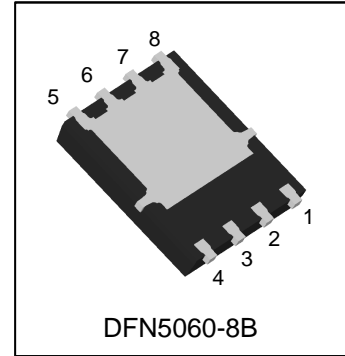


LN7920DT1WG

N-Channel Power Trench MOSFET

1. FEATURES

- Optimized for high speed smooth switching.
- Enhanced Body diode dv/dt capability.
- Enhanced Avalanche Ruggedness.
- We declare that the material of product compliance with RoHS requirements and Halogen Free.

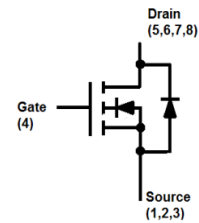


2. APPLICATIONS

- DC-DC Conversion
- Hard Switching and High Speed Circuit
- Power Tools
- UPS
- SSR

3. DEVICE MARKING AND RESISTOR VALUES

Device	Marking	Shipping
LN7920DT1WG	LN7920	3000/Tape&Reel



4. MAXIMUM RATINGS(Ta = 25°C)

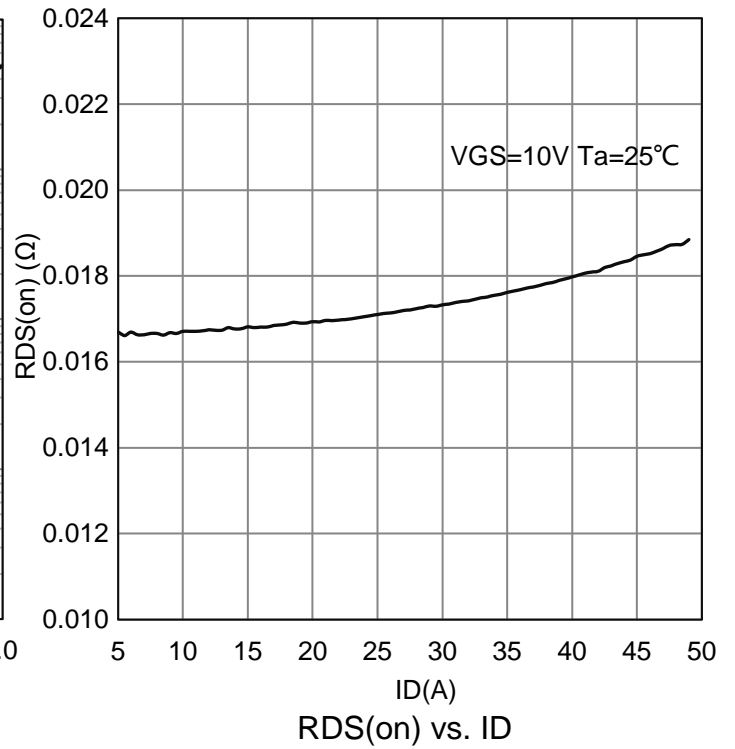
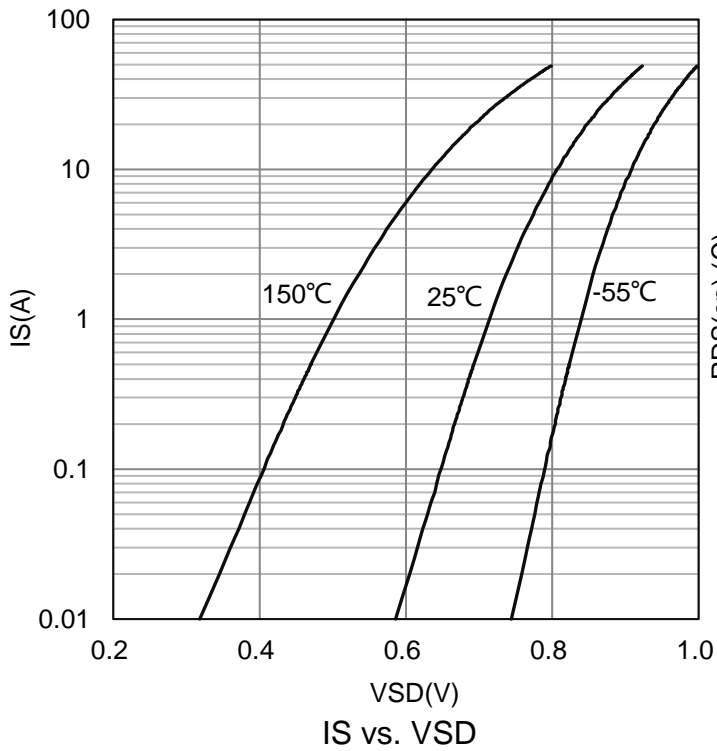
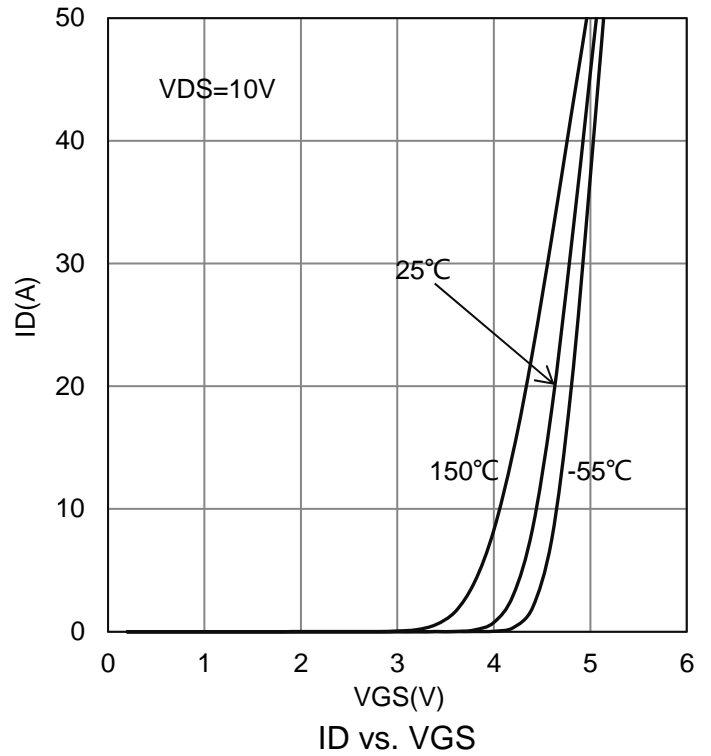
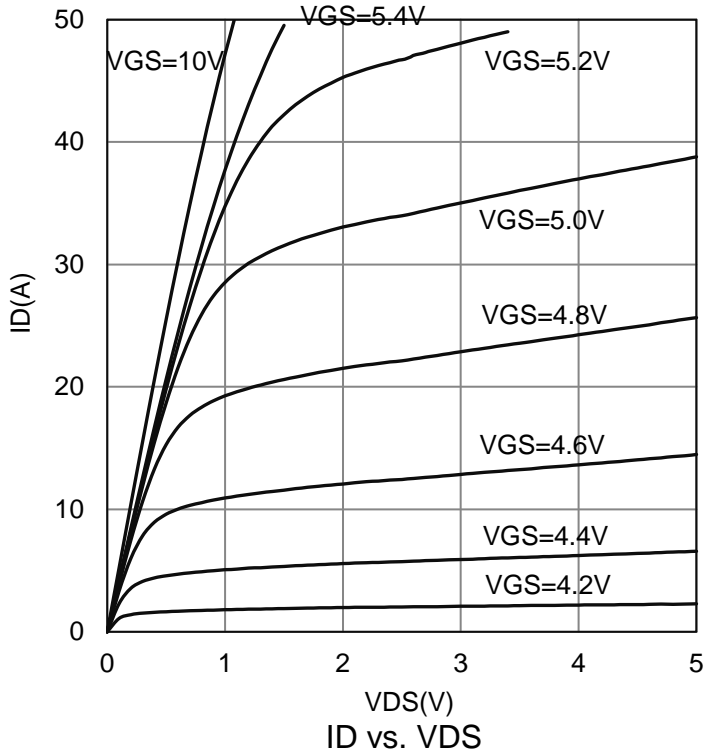
Parameter		Symbol	Limits	Unit
Drain-to-Source Voltage		VDS	150	V
Gate-to-Source Voltage		VGS	±20	V
Continuous Drain Current	TC=25°C	ID	60	A
	TC=100°C		38	A
Pulsed Drain Current		IDM	120	A
Avalanche Current		IAS	18	A
Avalanche energy(L=0.1mH)		EAS	16.2	mJ
Power Dissipation(TC =25°C)		PD	125	W
Operating Junction and Storage Temperature Range		Tj/Tstg	-55~+150	°C

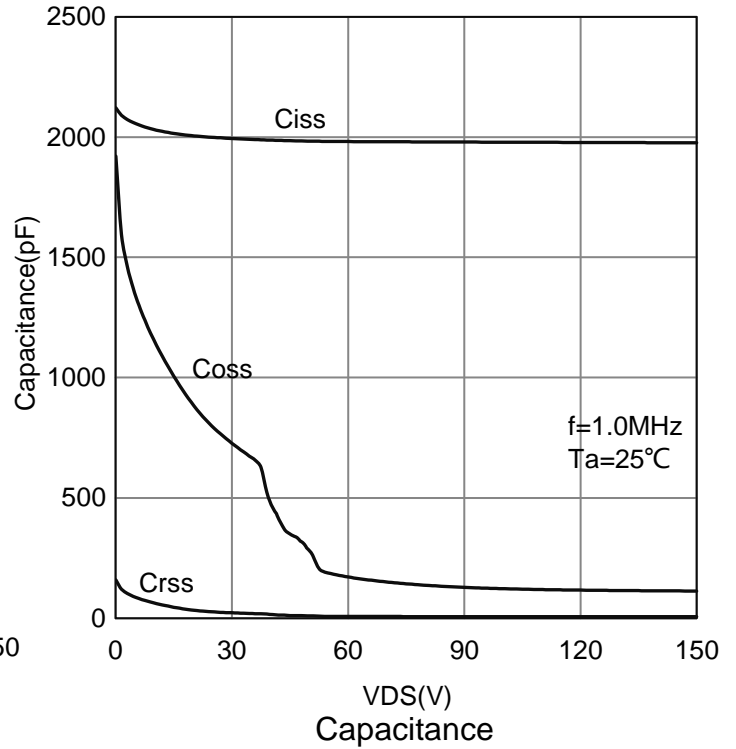
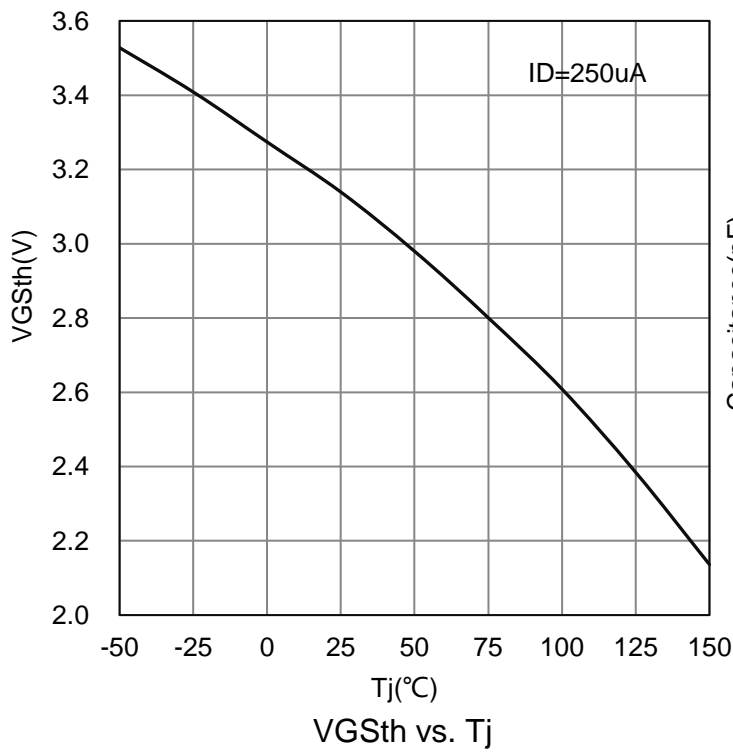
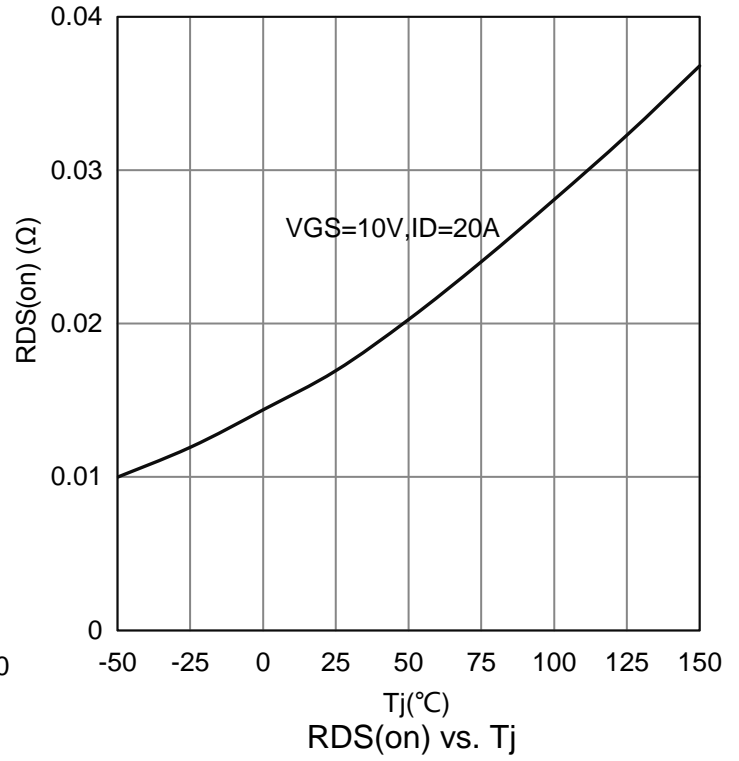
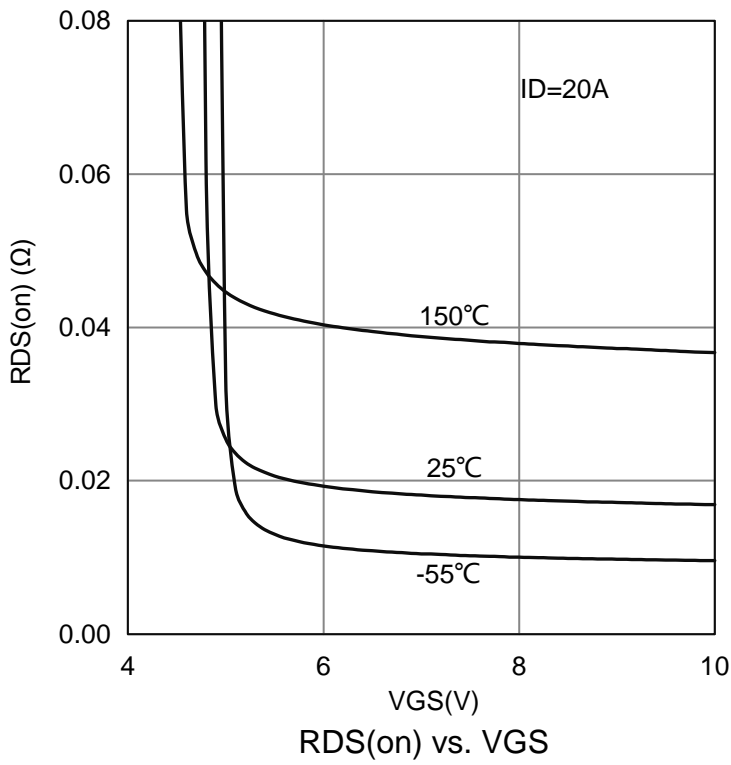
5. THERMAL CHARACTERISTICS

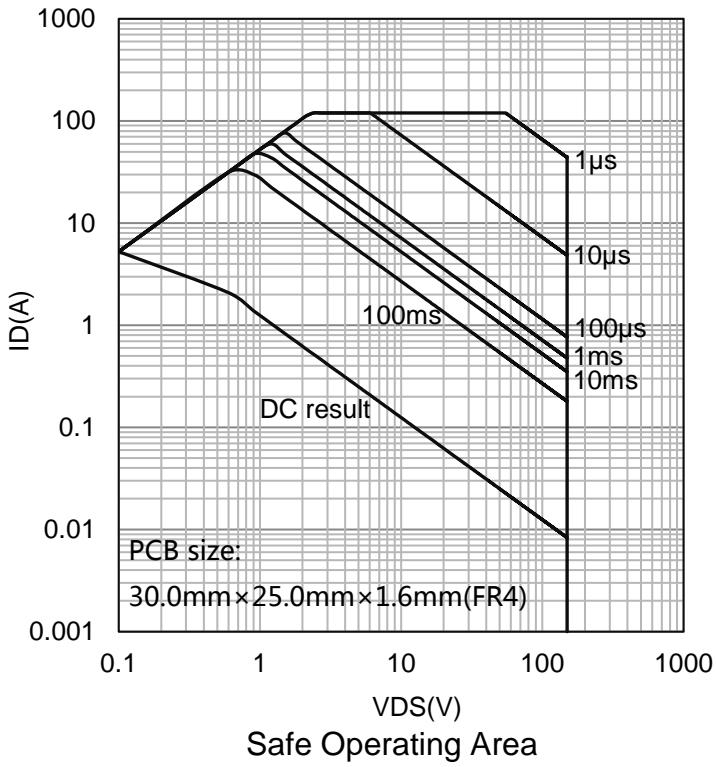
Parameter	Symbol	Max	Unit
Junction-to-Ambient	Rthja	50	°C/W
Junction-to-Case	Rthjc	1	

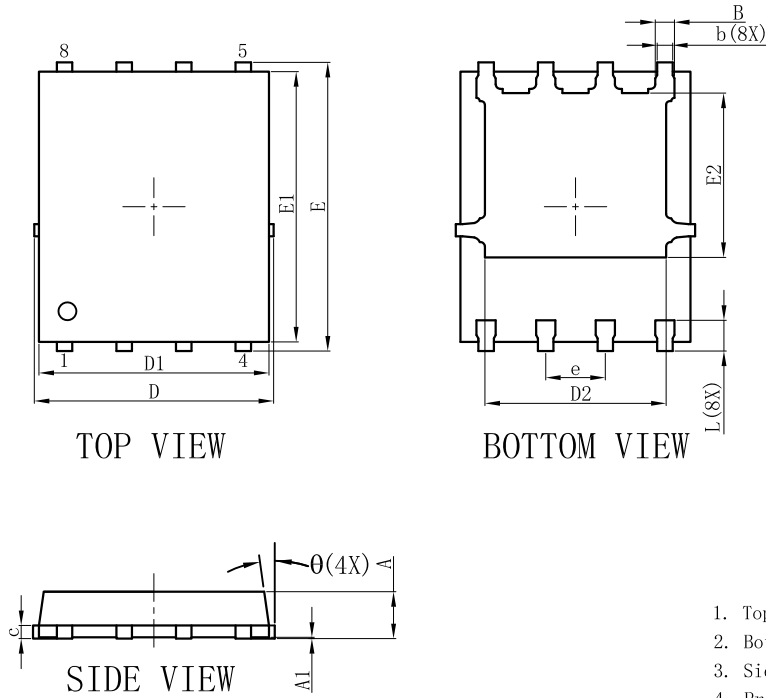
6. ELECTRICAL CHARACTERISTICS (Ta= 25°C)

Characteristic	Symbol	Min.	Typ.	Max.	Unit	
Static						
Drain to Source Breakdown Voltage (VGS = 0V, ID = 250μA)	VDSS	150	-	-	V	
Drain-to-Source Leakage Current (VDS = 150V, VGS = 0V, Tj = 25°C)	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 = 20 A)	RDS(ON)	-	15	21	mΩ	
Gate Resistance (VDS=0V, VGS=0V, f=1.0MHz)	Rg	-	2.5	-	Ω	
Dynamic						
Total Gate Charge	(VDS=75V, VGS=10V, ID=20A)	Qg	-	26	-	nC
Gate to Source Charge		Qgs	-	7.8	-	
Gate to Drain Charge		Qgd	-	8	-	
Turn-on Delay Time	(VDD = 75V, ID = 20A, RG = 10 Ω, VGS = 10V)	td(on)	-	9	-	nS
Rise Time		tr	-	8	-	
Turn-Off Delay Time		td(off)	-	15	-	
Fall Time		tf	-	9	-	
Input Capacitance	(VGS = 0V, VDS = 75V, f = 1MHz)	Ciss	-	1980	-	pF
Output Capacitance		Coss	-	143	-	
Reverse Transfer Capacitance		Crss	-	7	-	
Diode Forward Voltage (VGS = 0 V, IS = 20 A)	VSD	-	0.9	1.2	V	
Reverse Recovery Time (VR= 75V, IF = 20A, di/dt = 100 A/μs)	trr	-	60	-	nS	
Reverse Recovery Charge (VR= 75V, IF = 20A, di/dt = 100 A/μs)	Qrr	-	120	-	nC	

7. ELECTRICAL CHARACTERISTICS CURVES


7. ELECTRICAL CHARACTERISTICS CURVES(Con.)


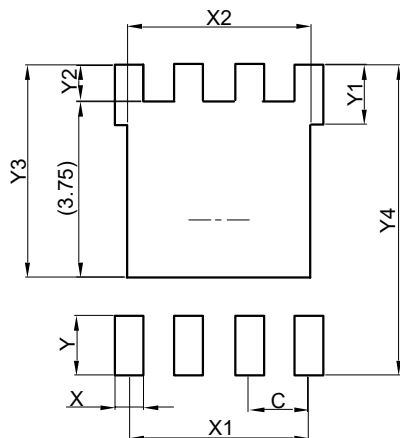
7.ELECTRICAL CHARACTERISTICS CURVES(Con.)


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

DISCLAIMER

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