

N76088D

100V N-Channel POWER MOSFET

1. FEATURES

- High Speed Power 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

- Synchronous Rectification in SMPS
- Hard Switching and High Speed Circuit
- Power Tools

3. DEVICE MARKING AND RESISTOR VALUES

Device	Marking	Shipping
N76088D	LN76088	3000/Tape&Reel

4. MAXIMUM RATINGS(Ta = 25°C)

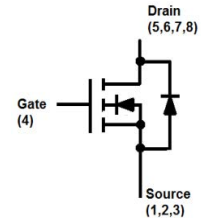
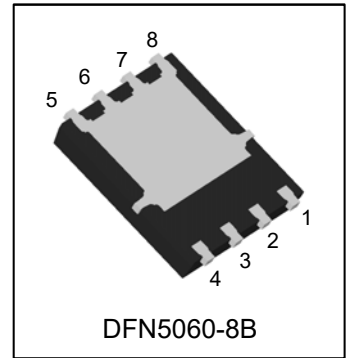
Parameter		Symbol	Limits	Unit
Drain-to-Source Voltage		VDS	100	V
Gate-to-Source Voltage		VGS	±20	V
Continuous Drain Current(Note 1)	TA=25°C	ID	13	A
	TA=75°C		11	
	TC=25°C		80	
	TC=75°C		61	
Pulsed Drain Current (Note 2)		IDM	52	A
Avalanche Current(L=0.1mH)		IAS	34	A
Avalanche Energy(L=0.1mH)		EAS	57.8	mJ
Power Dissipation(Note 1)	TC=25°C	PD	62.5	W
Operating Junction and Storage Temperature Range		Tj/Tstg	-55~+150	°C

5. THERMAL CHARACTERISTICS

Parameter	Symbol	Max	Unit
Thermal Resistance,Junction-to-Ambient(Note 1)	RθJA	50	°C/W
Thermal Resistance,Junction-to-Case	RθJC	2	

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

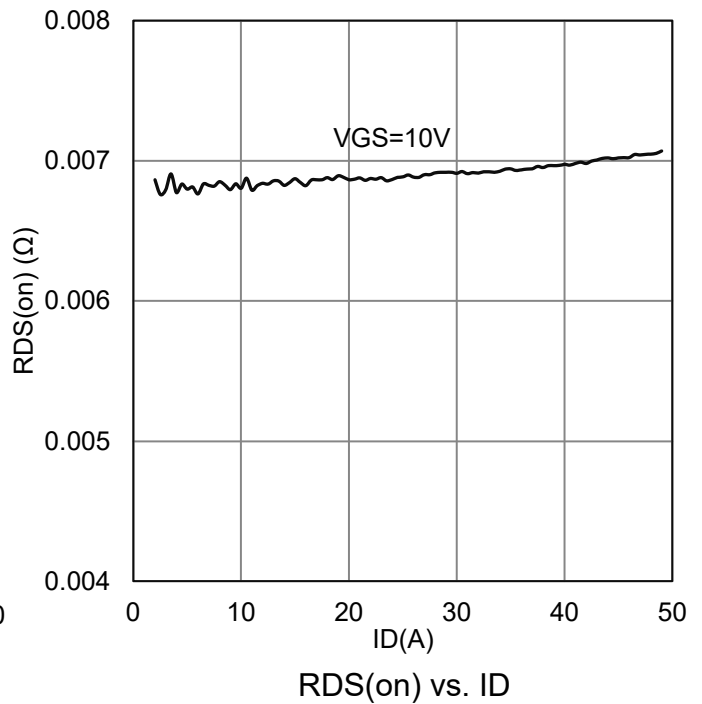
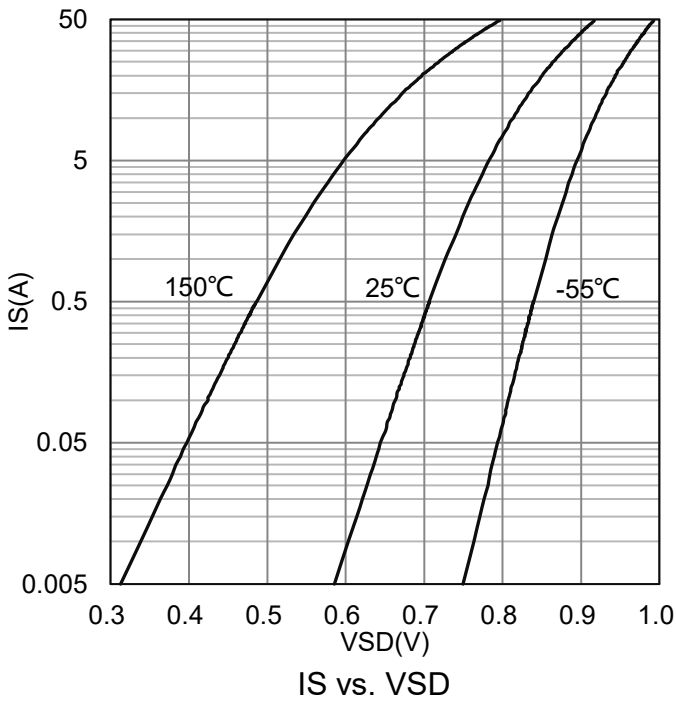
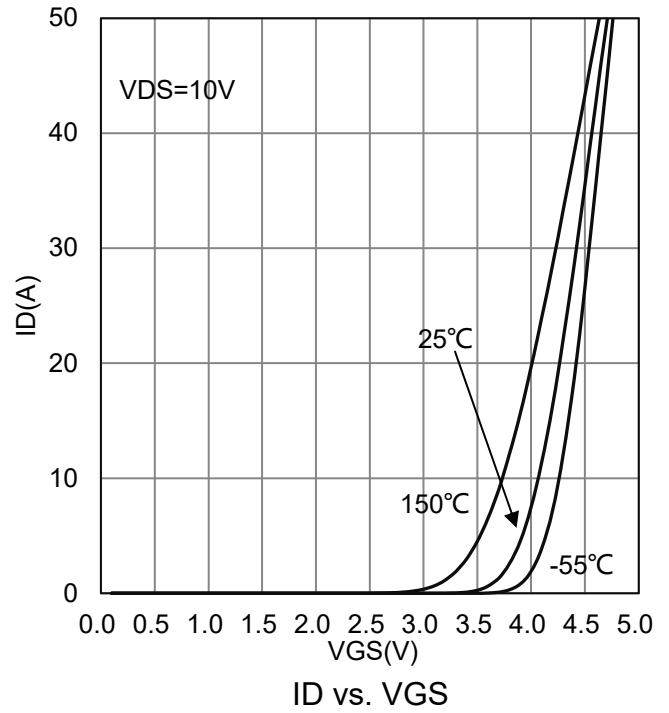
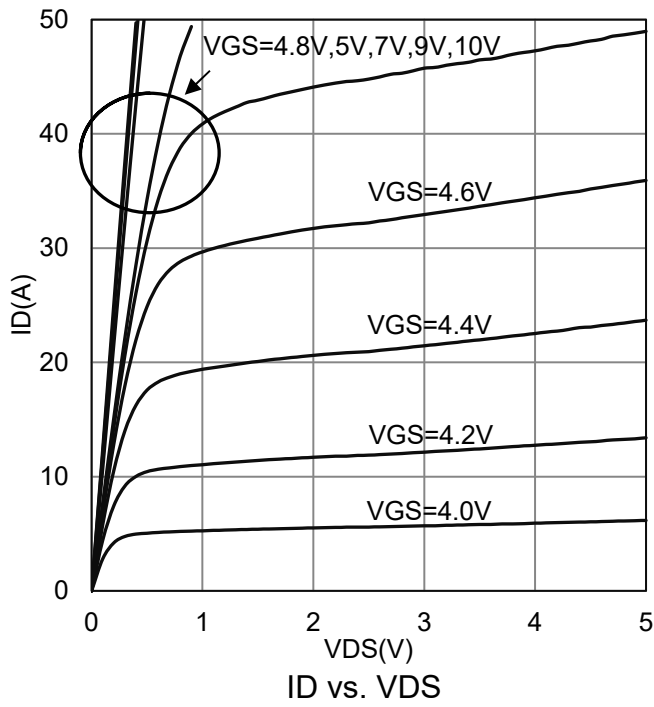
2.Pulse width limited by maximum junction temperature

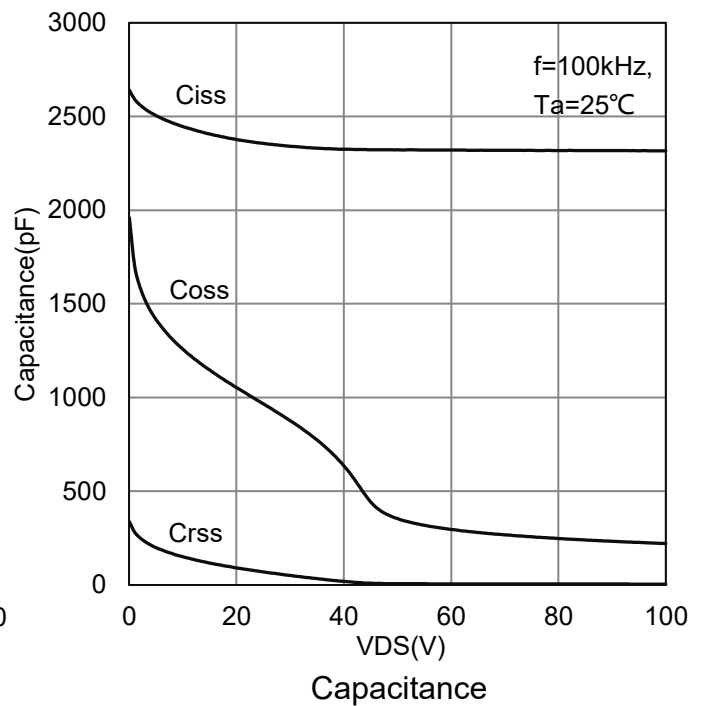
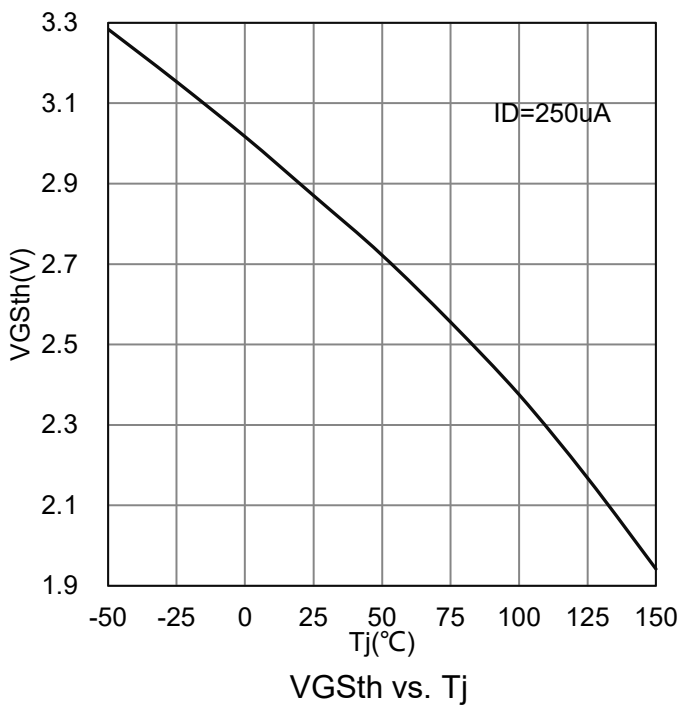
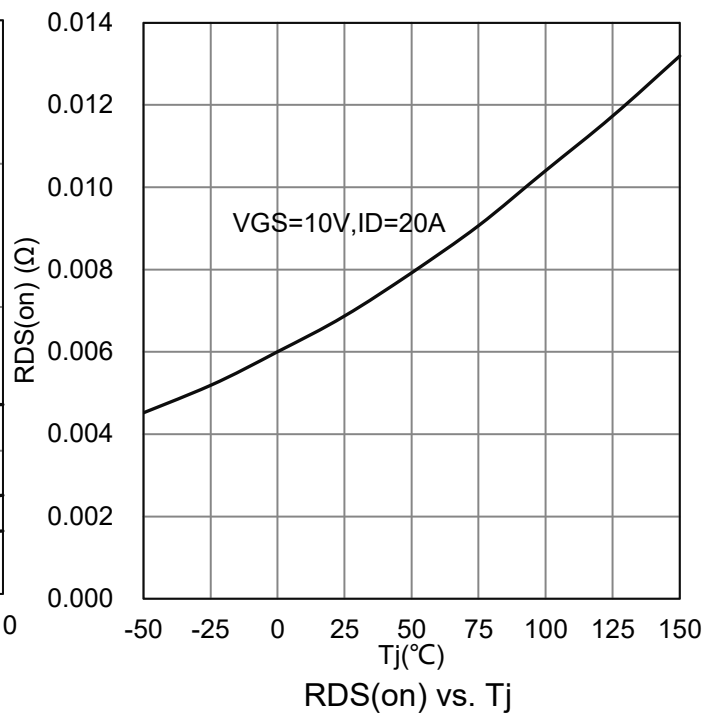
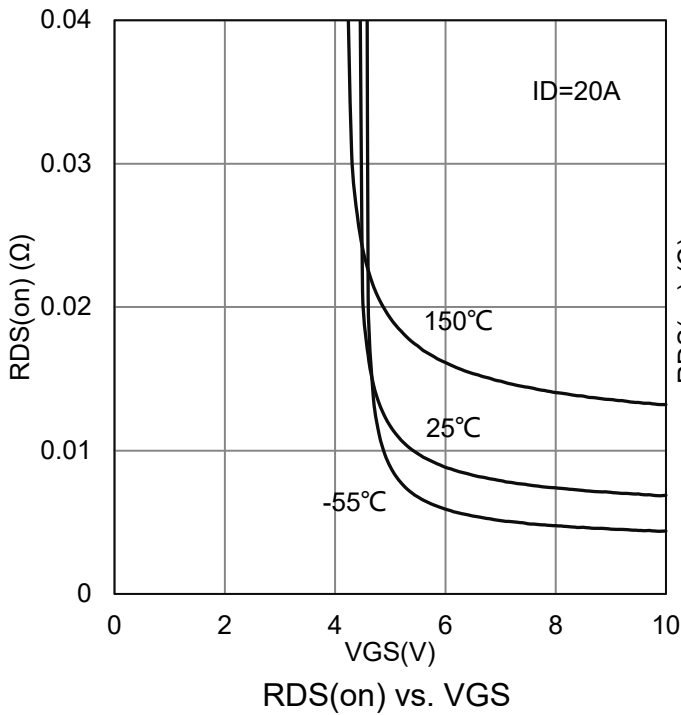


6. ELECTRICAL CHARACTERISTICS (Ta= 25°C)

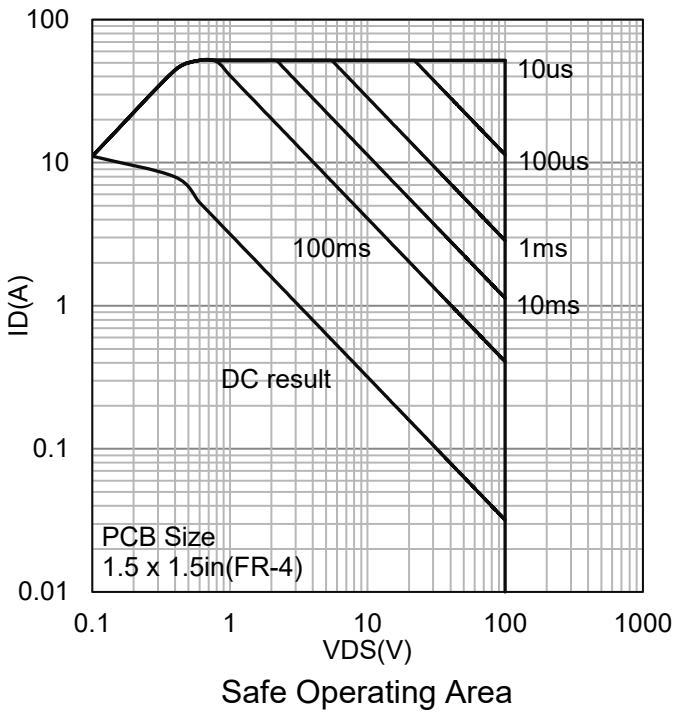
Characteristic	Symbol	Min.	Typ.	Max.	Unit	
Drain-Source Breakdown Voltage (VGS =0V, ID =250μA)	BVDSS	100	-	-	V	
Gate-Source Threshold Voltage (VDS = VGS , ID = 250μA)	VGS(th)	2	3	4	V	
Gate-Body leakage current (VDS =0V, VGS = ±20V)	IGSS	-	-	±100	nA	
Drain-Source Leakage Current (VGS =0V, VDS =100V, Tj =25°C)	IDSS	-	-	1	μA	
Drain-to-Source On-Resistance (VGS =10V, ID =20A)	RDS(ON)	-	7	9	mΩ	
Total Gate Charge	(VDD =50V, ID =20A, VGS =10V)	Qg(10V)	-	32.3	-	nC
Gate to Source Charge		Qgs	-	9.5	-	
Gate to Drain Charge		Qgd	-	7	-	
Input Capacitance	(VGS =0V, VDS =50V, f=100KHz)	Ciss	-	2322	-	pF
Output Capacitance		Coss	-	353	-	
Reverse Transfer Capacitance		Crss	-	6.5	-	
Turn-on Delay Time	(VDD =50V, ID =20A, VGS =10V, RG =10 Ω)	td(on)	-	7	-	nS
Rise Time		tr	-	4	-	
Turn-Off Delay Time		td(off)	-	19	-	
Fall Time		tf	-	3	-	
Gate Resistance (VDS=0V, VGS=0V, f=1.0MHz)	Rg	-	1.5	-	Ω	
Diode Forward Voltage (IS =20A, VGS =0V)	VSD	-	0.9	1.2	V	

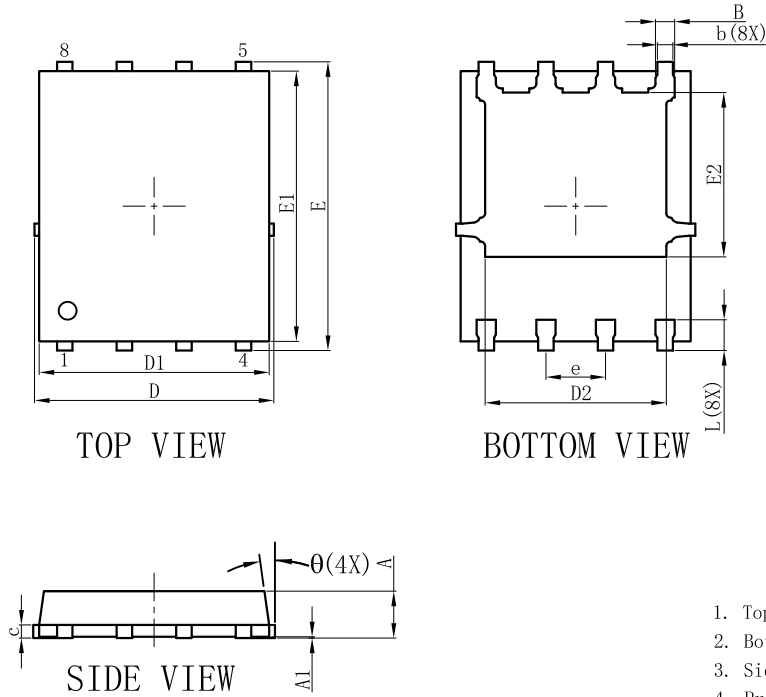


7. ELECTRICAL CHARACTERISTICS CURVES


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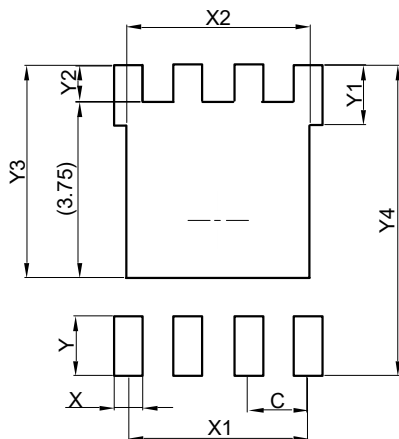


8. OUTLINE AND DIMENSIONS
DFN5060-8B


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±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

