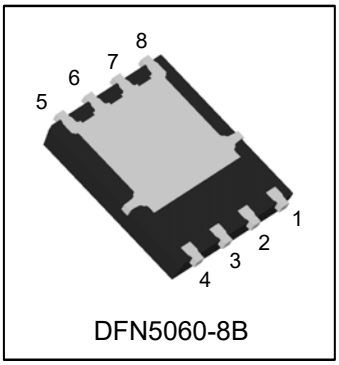
N7618D

100V N-Channel POWER MOSFET



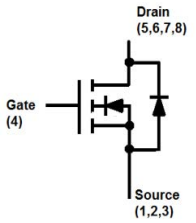
DFN5060-8B

1. FEATURES

- High Speed Power Switching
- We declare that the material of product compliance with RoHS requirements and Halogen Free.

2. APPLICATIONS

- Portable appliances
- Power management



3. DEVICE MARKING AND RESISTOR VALUES

Device	Marking	Shipping
N7618D	LN7618	3000/Tape&Reel

4. MAXIMUM RATINGS(Ta = 25ºC)

Parameter		Symbol	Limits	Unit
Drain-to-Source Voltage		VDS	100	V
Gate-to-Source Voltage		VGS	±20	V
Continuous Drain Current	TC=25℃	ID	56	A
	TC=100℃		27	A
Pulsed Drain Current		IDM	200	A
Avalanche Current		IAS	12	A
Avalanche energy L=0.1mH		EAS	7.2	mJ
Power Dissipation(TC=25° C)		PD	62.5	W
Operating Junction and Storage Temperature Range		Tj/Tstg	-55~+150	℃

5. THERMAL CHARACTERISTICS

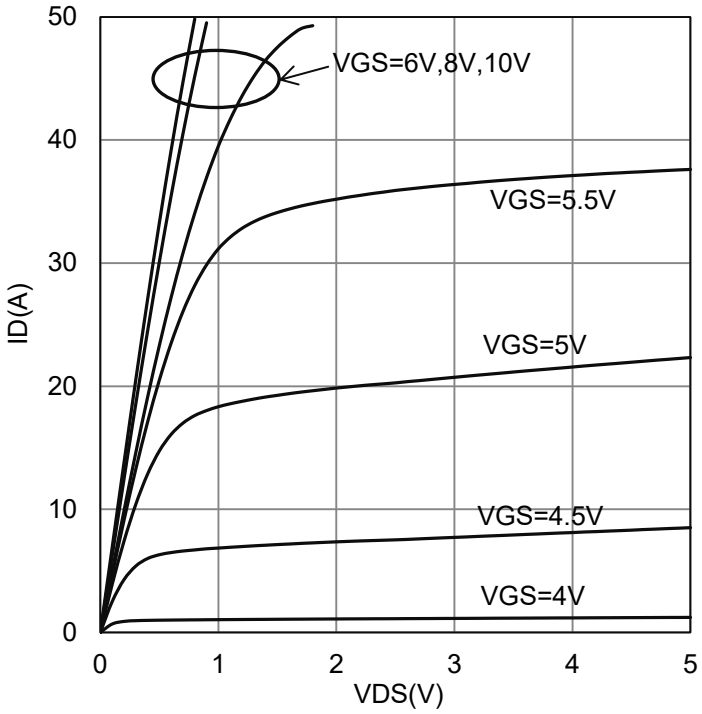
Parameter	Symbol	Max	Unit
Thermal Resistance,Junction-to-Ambient	RθJA	62	℃/W
Thermal Resistance,Junction-to-Case	RθJC	2	

1.Repetitive Rating : Pulsed width limited by maximum junction temperature.

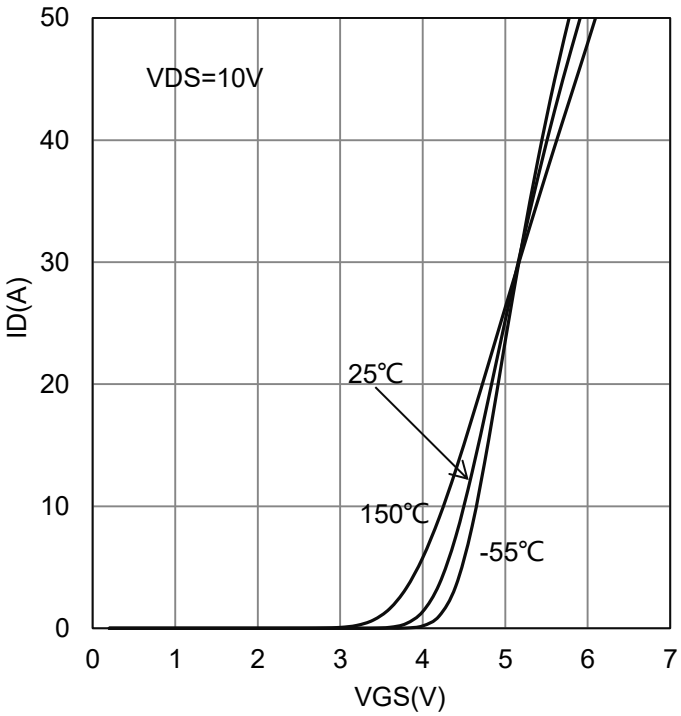
6. ELECTRICAL CHARACTERISTICS (Ta= 25°C)

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 (VDS = 80 V, VGS = 0 V)		IDSS	-	-	1	μA
Drain-to-Source On-Resistance (VGS =10V, ID =1A) (VGS =6V, ID =1A)		RDS(ON)	- -	13 19	15 24	mΩ
Gate Resistance (VDS=0V,VGS=0V,f=1.0MHz)		Rg	-	60	-	Ω
Total Gate Charge	(VDS =50V , VGS =10V , ID =1A)	Qg	-	24	-	nC
Gate to Source Charge		Qgs	-	4.2	-	
Gate to Drain Charge		Qgd	-	10	-	
Input Capacitance	(VGS = 0V ,VDS = 50V, f = 1MHz)	Ciss	-	1189	-	pF
Output Capacitance		Coss	-	189	-	
Reverse Transfer Capacitance		Crss	-	3.5	-	
Turn-on Delay Time	(VDD =50V , VGS =10V , RG =6Ω,ID =1A)	td(on)	-	14.2	-	nS
Rise Time		tr	-	20.8	-	
Turn-Off Delay Time		td(off)	-	42	-	
Fall Time		tf	-	30	-	
Diode Forward Voltage (IS =1A, VGS =0V)		VSD	-	0.7	1.3	V

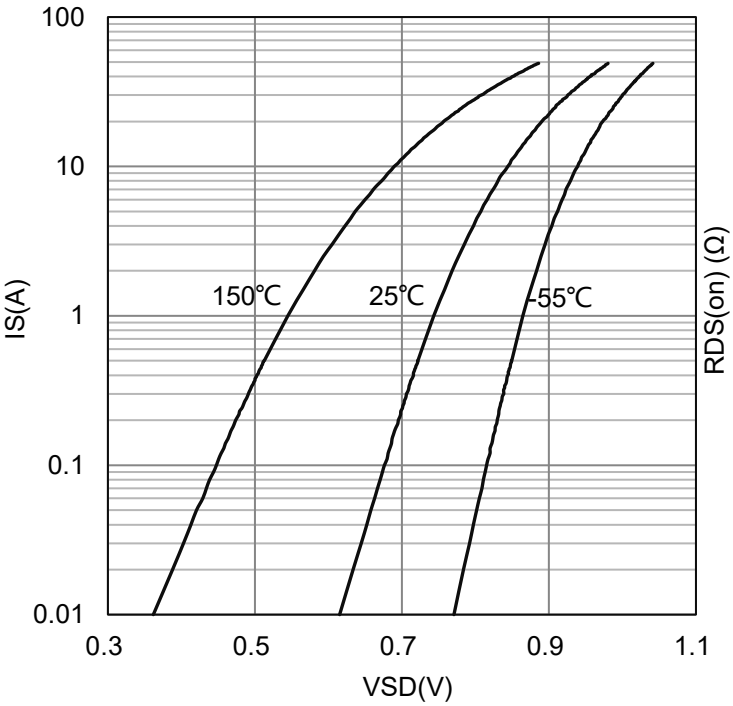
7.ELECTRICAL CHARACTERISTICS CURVES



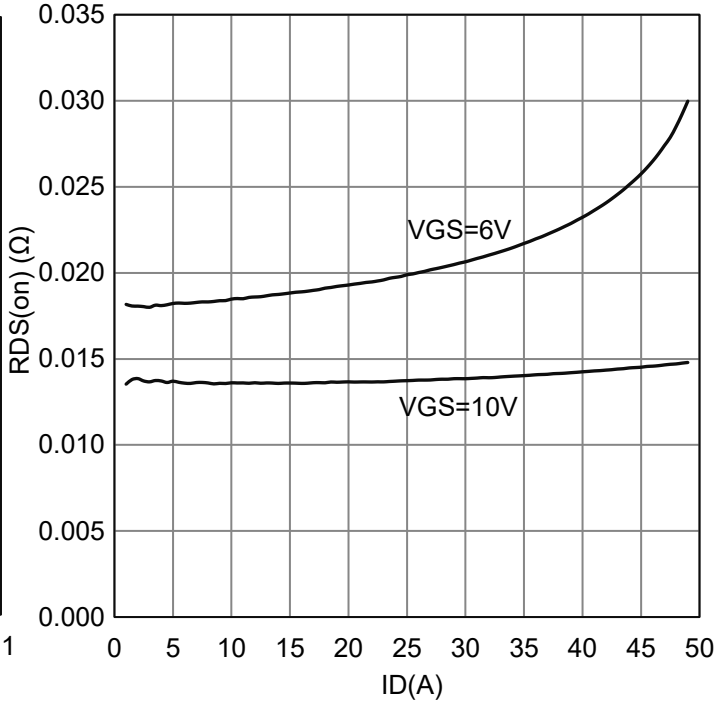
ID vs. VDS



ID vs. VGS

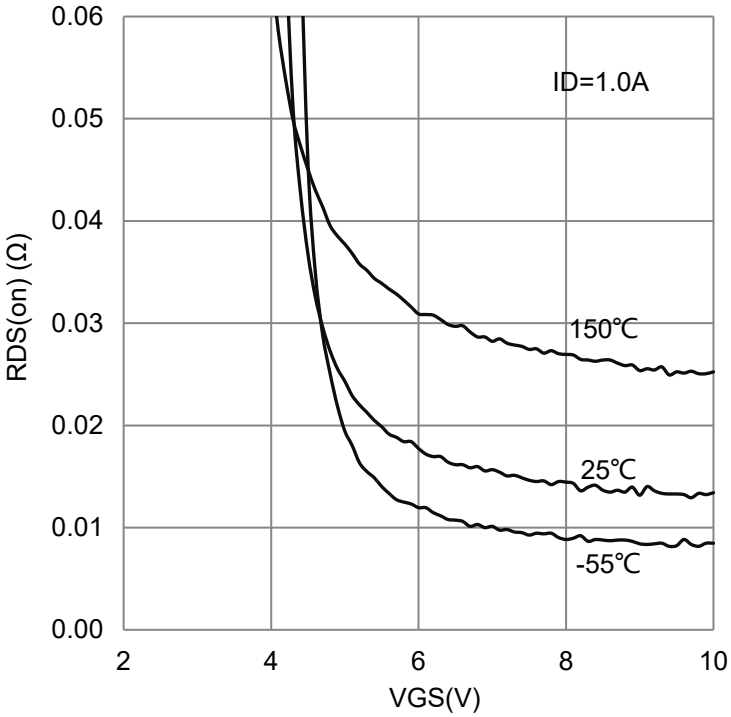


IS vs. VSD

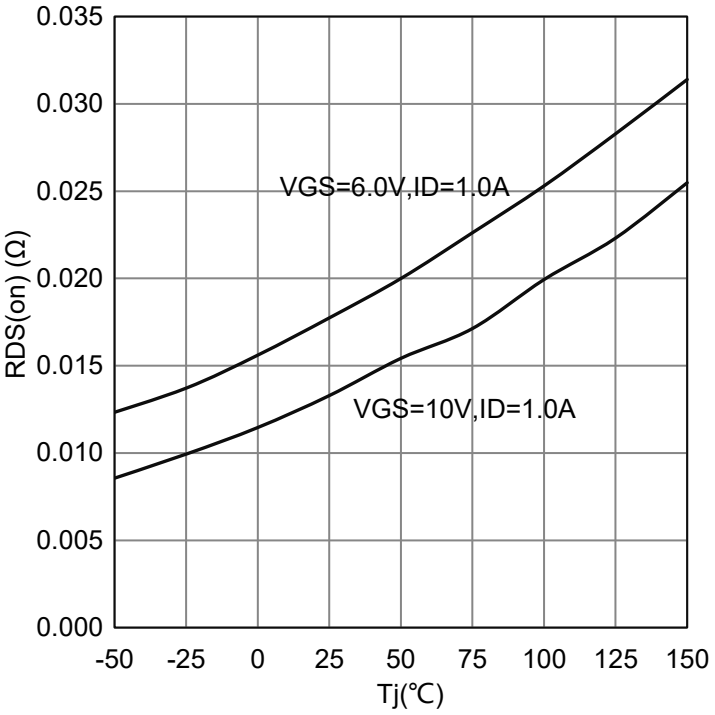


RDS(on) vs. ID

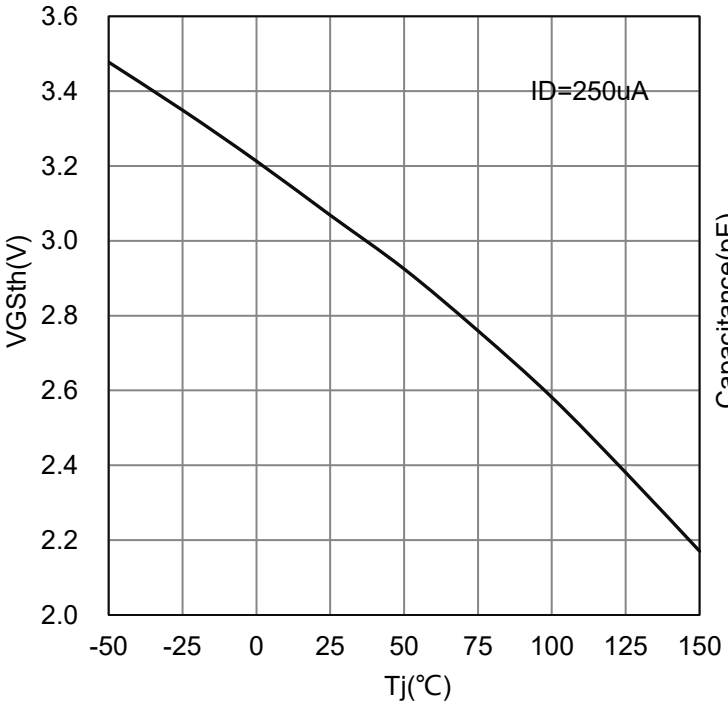
7.ELECTRICAL CHARACTERISTICS CURVES(Con.)



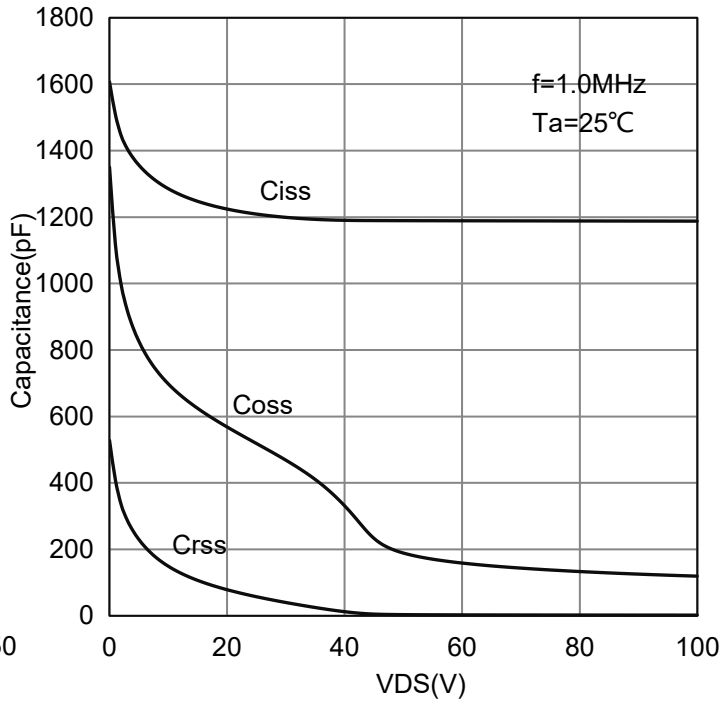
RDS(on) vs. VGS



RDS(on) vs. Tj

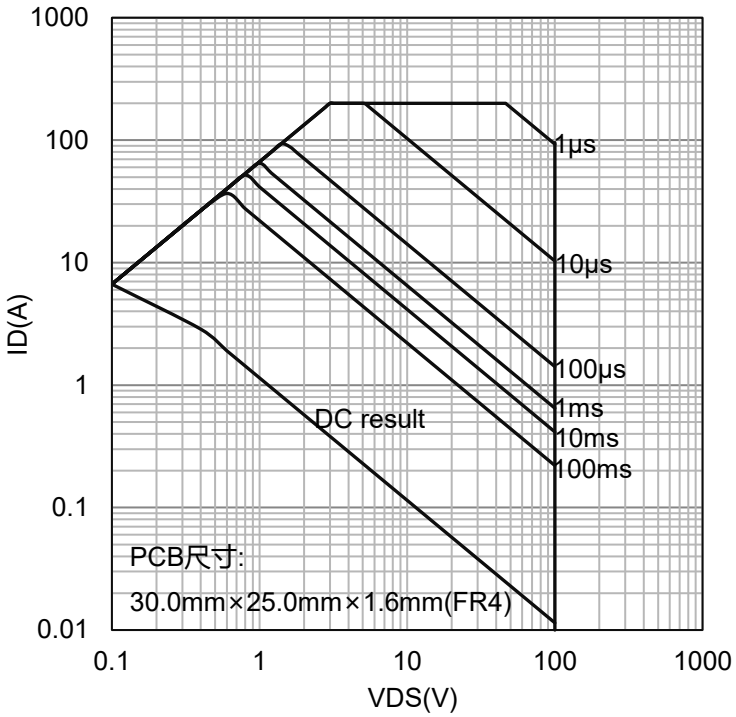


VGSth vs. Tj



Capacitance

7.ELECTRICAL CHARACTERISTICS CURVES(Con.)



Safe Operating Area

8.OUTLINE AND DIMENSIONS

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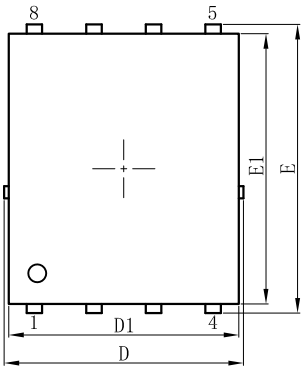
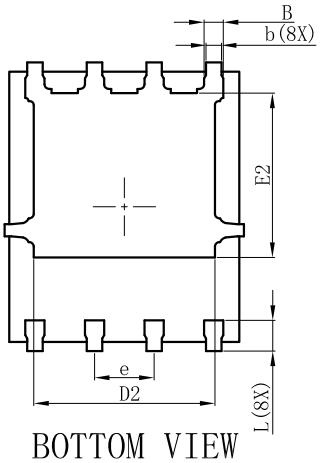
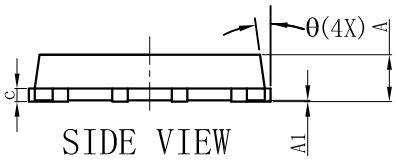


TOP VIEW



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			

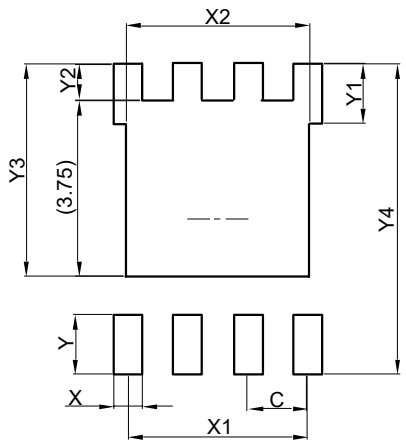


SIDE VIEW

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. Off-enter 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