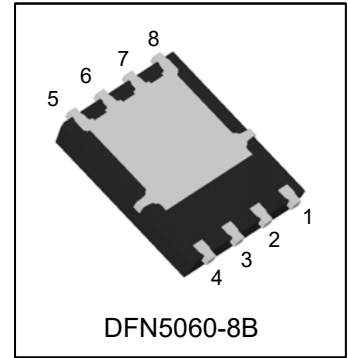


N7308D

N-Channel 30-V (D-S) MOSFET

1. FEATURES

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

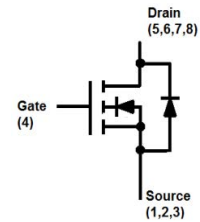


2. APPLICATION

- Power Routing
- DC/DC Conversion
- Motor Drives

3. ORDERING INFORMATION

Device	Marking	Shipping
N7308D	LN7308	3000/Tape&Reel



4. MAXIMUM RATINGS(Ta = 25°C)

Parameter		Symbol	Limits	Unit
Drain-to-Source Voltage		VDSS	30	V
Gate-to-Source Voltage		VGS	±20	V
Continuous Drain Current(Note 1)	TC =25°C	ID	50	A
	TC =70°C		40	
Pulsed Drain Current (Note 2)		IDM	140	
Continuous Source Current (Diode Conduction)(Note 1)		IS	24	A
Pulsed Source Current (Diode Conduction)(Note 1)		ISM	96	A
Valanche Current		IAS		A
Valanche energy L=0.1mH		EAS		mJ
Power Dissipation(Note 1)	TC =25°C	PD	35	W
	TC =70°C		22	
Operating Junction Temperature		TJ	-55 ~+150	°C
Storage Temperature Range		Tstg	-55 ~+150	

1.Surface Mounted on 1" x 1" FR4 Board.

2.Pulse width limited by maximum junction temperature.

5. THERMAL CHARACTERISTICS

Parameter		Symbol	Limits	Unit
Maximum Junction-to-Ambient(Note 1)	t ≤ 10s	RθJA	25	°C/W
	Steady State		65	
Maximum Junction-to-Case		RθJC	3.5	°C/W



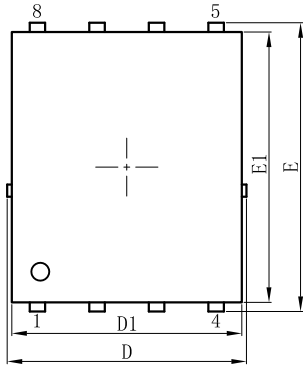
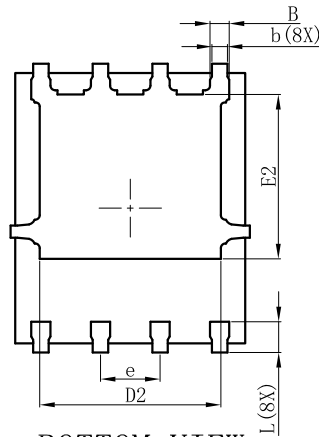
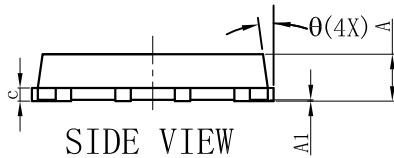
6. ELECTRICAL CHARACTERISTICS(Ta = 25°C)

Characteristic	Symbol	Min.	Typ.	Max.	Unit	
Static						
Gate-Source Threshold Voltage (VDS = VGS , ID = 250 μ A)	VGS(th)	1	1.5	3	V	
Gate-Body Leakage (VDS = 0 V, VGS = \pm 20 V)	IGSS	-	-	\pm 1	μ A	
Zero Gate Voltage Drain Current (VDS = 24 V, VGS = 0 V) (VDS = 24 V, VGS = 0 V, TJ = 55°C)	IDSS	-	-	1 25	μ A	
On-State Drain Current(Note 3) (VDS = 5 V, VGS = 10 V)	ID(on)	25	-	-	A	
Drain-Source On-Resistance(Note 3) (VGS = 10 V, ID = 25 A) (VGS = 4.5 V, ID = 20 A)	RDS(on)	-	5.5 6.5	7 9	m Ω	
Forward Transconductance(Note 3) (VDS = 15 V, ID = 12.8 A)	gfs	-	25	-	S	
Diode Forward Voltage(Note 3) (IS = 2.3 A, VGS = 0 V)	VSD	-	0.78	1.2	V	
Dynamic(Note 4)						
Total Gate Charge(VGS=10V)	(VDS = 15 V, VGS = 10 V, ID = 20 A)	Qg	-	15	23	nC
Total Gate Charge(VGS=4.5V)		Qg	-	8.5	15	
Gate-Source Charge		Qgs	-	3.3	4.6	
Gate-Drain Charge		Qgd	-	3.5	5.1	
Input Capacitance	(VDS = 15 V, VGS = 0 V, f = 1 Mhz)	Ciss	-	1064	1670	pF
Output Capacitance		Coss	-	186	279	
Reverse Transfer Capacitance		Crss	-	116	182	
Turn-On Delay Time	(VDS = 15 V, RL = 1.2 Ω , ID = 12.8 A, VGEN = 10 V, RGEN = 6 Ω)	td(on)	-	10	-	ns
Rise Time		tr	-	10	-	
Turn-Off Delay Time		td(off)	-	20	-	
Fall Time		tf	-	15	-	
Gate-Resistance (VDS=0V, VGS=15mV, f=1.0MHz)	Rg	0.8	2.2	4.5	Ω	

3. Pulse test: PW \leq 300 μ s duty cycle \leq 2%.

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

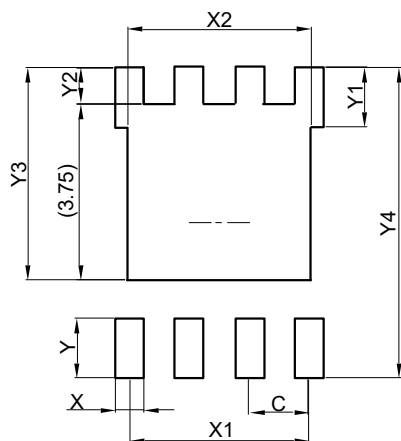


7.OUTLINE AND DIMENSIONS
DFN5060-8B

TOP VIEW

BOTTOM VIEW

SIDE 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			

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.

8.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

