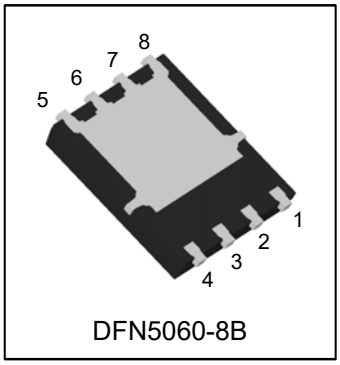
N7607HD

N-Channel Power Trench MOSFET



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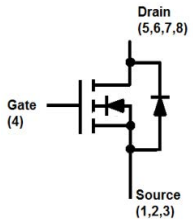

1. FEATURES

- 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
N7607HD	LN7607H	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 TA=25℃	ID	15	A
Pulsed Drain Current	IDM	60	A
Power Dissipation TA=25℃	PD	2.5	W
Operating Junction and Storage Temperature Range	Tj/Tstg	-55~+150	℃

5. THERMAL CHARACTERISTICS

Parameter	Symbol	Max	Unit
Junction-to-Ambient	Rthja	50	℃/W
Junction-to-Case	Rthjc	1.2	

6. ELECTRICAL CHARACTERISTICS (Ta= 25°C)

Characteristic		Symbol	Min.	Typ.	Max.	Unit
Drain to Source Breakdown Voltage (VGS =0V, ID =250μA)		VDSS	100	-	-	V
Drain-to-Source Leakage Current (VDS =100V, 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 = 10 A) (VGS = 6 V, ID =10 A)		RDS(ON)	- -	6 8	7 11	mΩ
Total Gate Charge (VGS=5 V)	(ID =10A,VDS =50V)	Qg	-	20	-	nC
Total Gate Charge (VGS=10 V)		Qg	-	33	-	
Gate to Source Charge		Qgs	-	7	-	
Gate to Drain Charge		Qgd	-	11.3	-	
Turn-on Delay Time	(VDD = 50V, ID = 10A, RG = 6 Ω,VGS = 10V)	td(on)	-	15	-	nS
Rise Time		tr	-	8	-	
Turn-Off Delay Time		td(off)	-	23	-	
Fall Time		tf	-	7	-	
Input Capacitance	(VGS = 0V ,VDS = 50V, f = 1MHz)	Ciss	-	1957	-	pF
Output Capacitance		Coss	-	359	-	
Reverse Transfer Capacitance		Crss	-	13.2	-	
Diode Forward Voltage (VGS = 0 V, IS = 1 A)		VSD	-	0.7	1.2	V

7.OUTLINE AND DIMENSIONS

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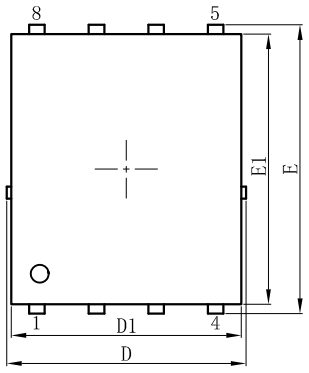
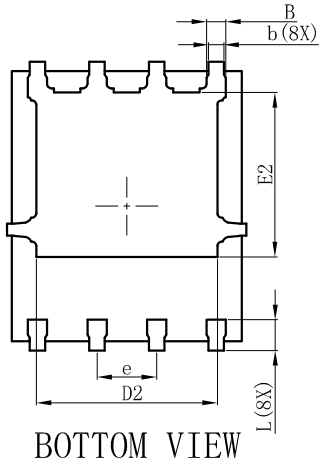


TOP VIEW



BOTTOM VIEW

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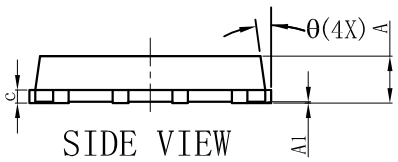
DIM	MIN	NOR	MAX
A	0.90	1.00	1.10
A1	0.00	0.02	0.05
E	6.00	6.15	6.30
E1	5.66	5.76	5.86
E2	3.40	3.50	3.60
D	4.95	5.10	5.25
D1	4.80	4.90	5.00
D2	3.76	3.86	3.96
b	0.30	0.35	0.40
B	0.36	0.41	0.46
L	0.56	0.66	0.76
e	1.27BSC		
c	0.254REF.		
θ	0°	-	12°
All Dimensions in mm			

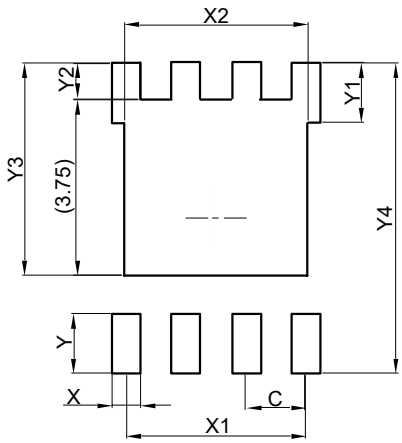


SIDE VIEW

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. 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