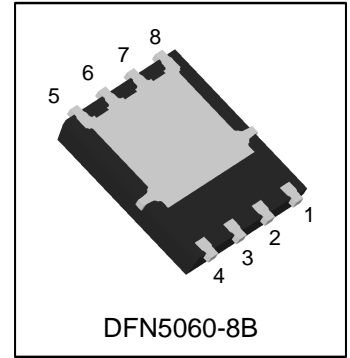


# LN7616DT1WG

## N-Channel Enhancement Mode MOSFET

### 1. FEATURES

- Advanced trench cell design
- Low Thermal Resistance
- We declare that the material of product compliance with RoHS requirements and Halogen Free.

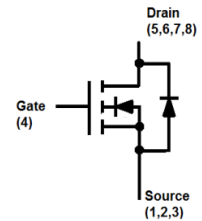


### 2. APPLICATIONS

- Motor drivers
- DC-DC Converter

### 3. DEVICE MARKING AND RESISTOR VALUES

Device	Marking	Shipping
LN7616DT1WG	LN7616	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(TC = 25 °C, VGS = 10 V)	ID	59	A
Pulsed Drain Current(TC = 25 °C, VGS = 10 V)	IDM	236	A
Single Pulse Avalanche Energy L=0.1mH	EAS	13	mJ
Power Dissipation(TC = 25 °C )	PD	35	W
Operating Junction and Storage Temperature Range	Tj/Tstg	-55~+150	°C
Diode Forward Current	IS	55	A

### 5. THERMAL CHARACTERISTICS

Parameter	Symbol	Max	Unit
Thermal Resistance Junction-to-Ambient	RθJA	62.5	°C/W
Thermal Resistance Junction-to-Case	RθJC	3.5	

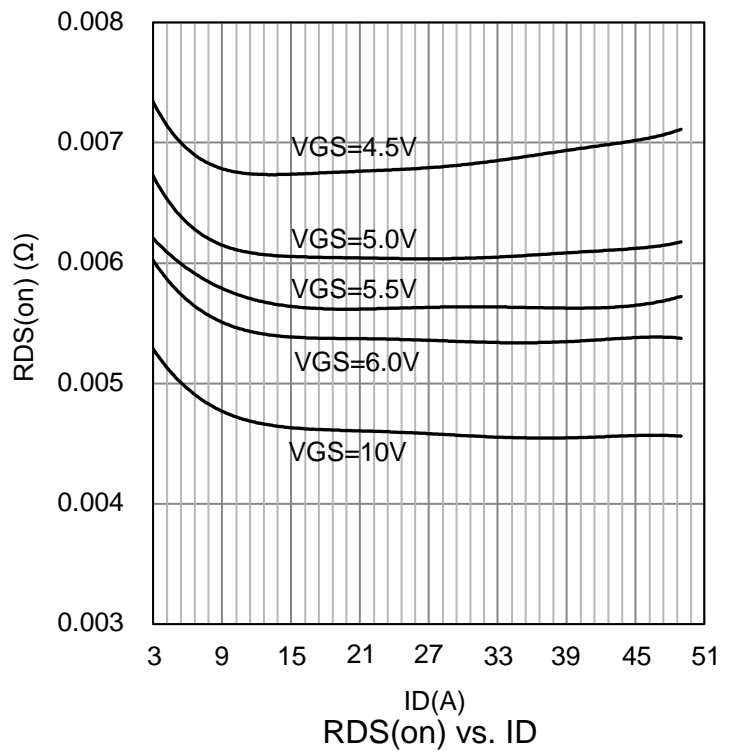
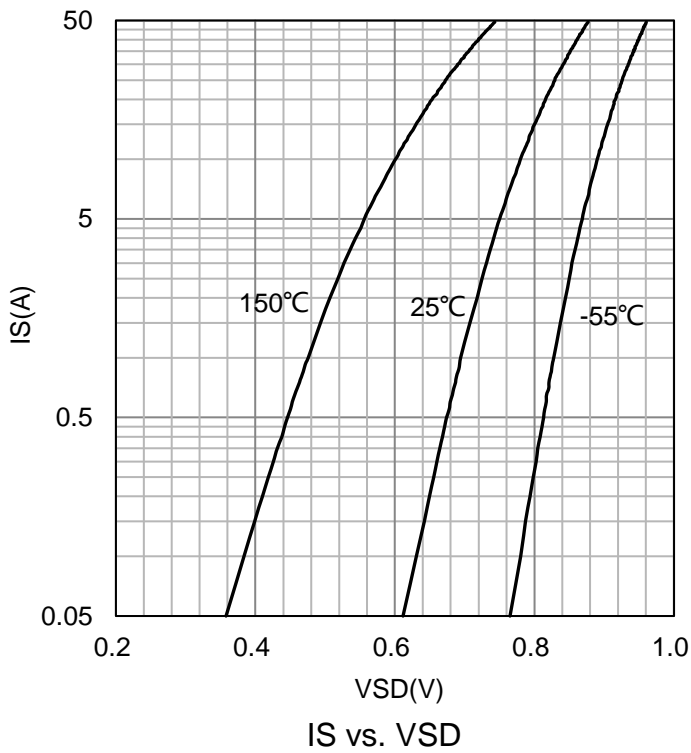
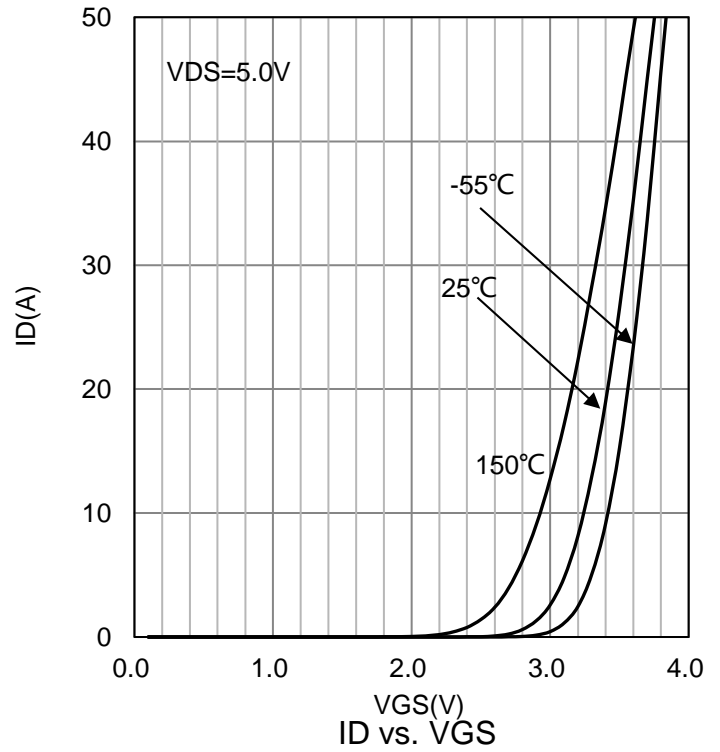
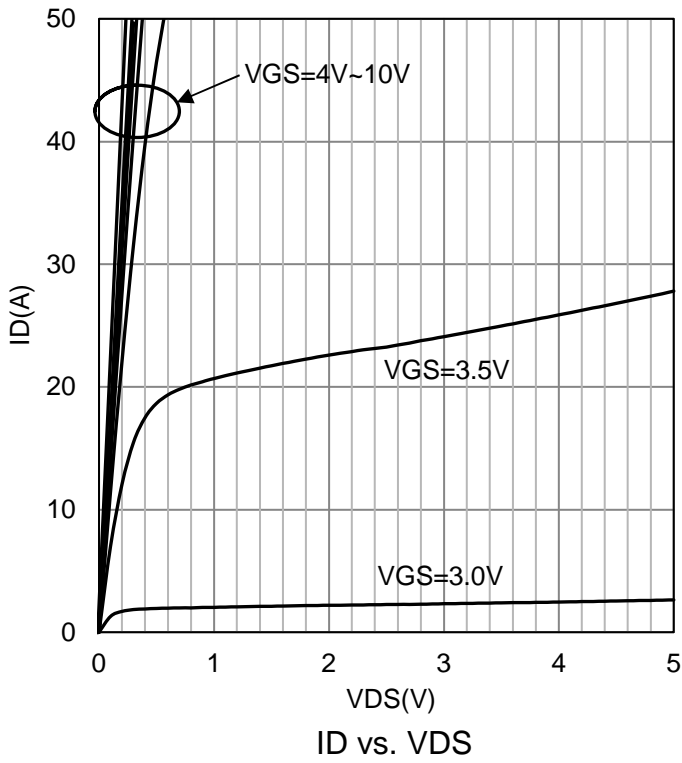
1. Surface Mounted on 1 in<sup>2</sup>pad area, t ≤ 10 sec

**6. ELECTRICAL CHARACTERISTICS (Ta= 25°C)**

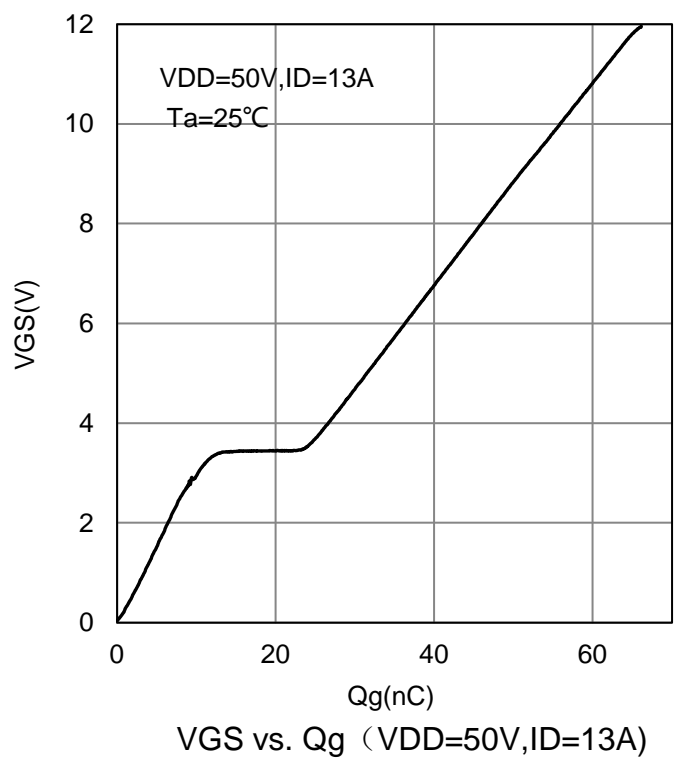
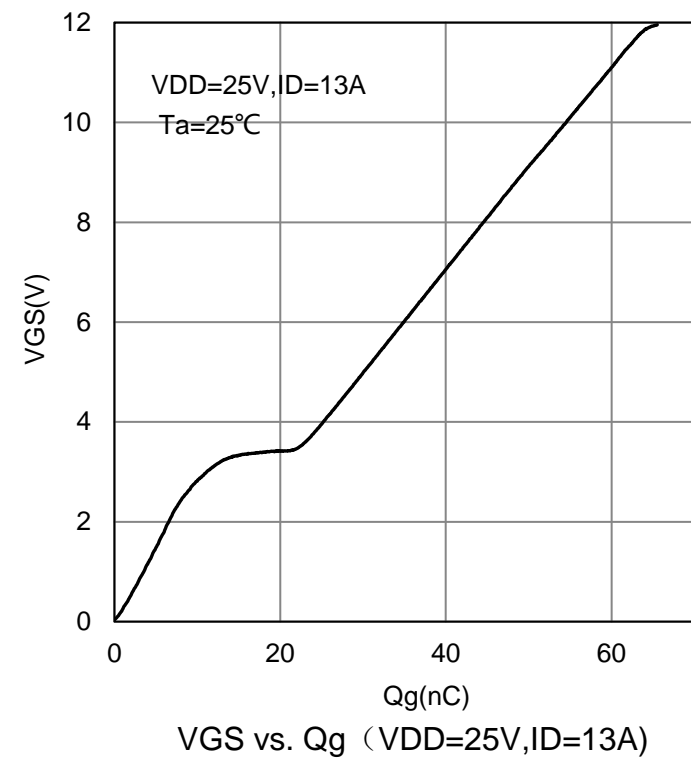
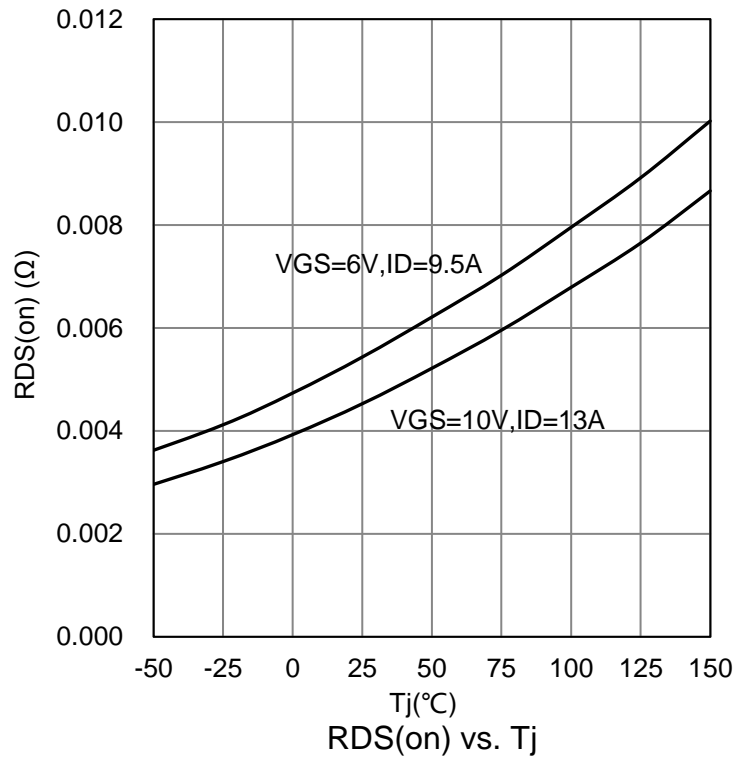
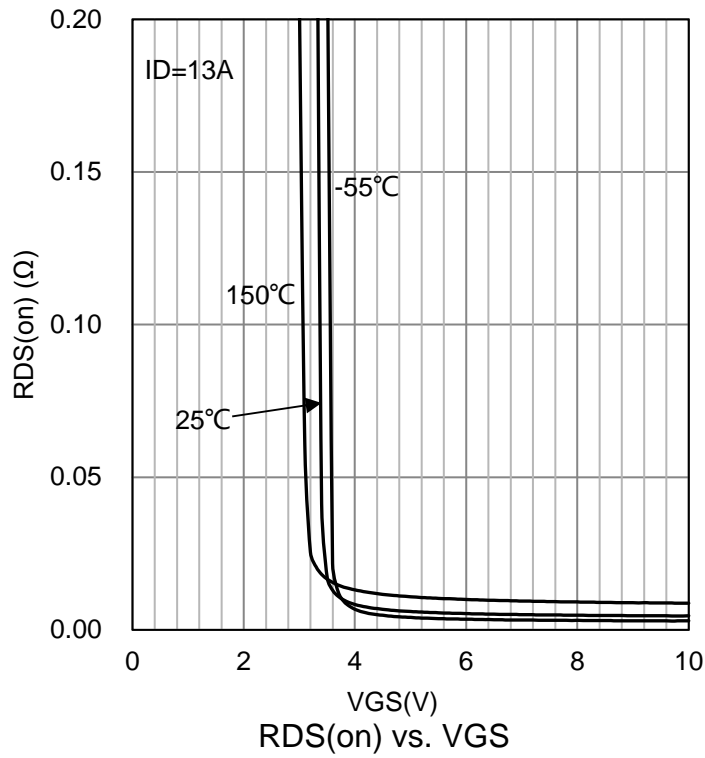
Characteristic	Symbol	Min.	Typ.	Max.	Unit
Static					
Drain to Source Breakdown Voltage (VGS =0V, ID =250μA)	VDSS	100	-	-	V
Zero Gate Voltage Source Current (VDS =80V, VGS =0V) (VDS =80V, VGS =0V, TJ = 85 °C )	IDSS	-	-	1 30	uA
Gate-Body current (VDS =0V, VGS = ±20V)	IGSS	-	-	±100	nA
Gate Threshold Voltage (VDS = VGS , ID = 250μA)	VGS(th)	1.5	-	2.5	V
Drain-to-Source On-Resistance (VGS = 10 V, ID = 20 A) (VGS = 6 V, ID = 10 A) (VGS = 4.5 V, ID = 10 A)	RDS(ON)	-	4.5 5.3 6	5.2 8 9	mΩ
Diode Forward Voltage (ISD = 20 A, VGS = 0 V)	VSD	-	0.8	1.2	V
Dynamic					
Input Capacitance	(VGS = 0V ,VDS = 50V, f = 1MHz)	Ciss	-	3353	-
Output Capacitance		Coss	-	520	-
Reverse Transfer Capacitance		Crss	-	5.2	-
Turn-on Delay Time	(VDS=50 V, VG EN=10V,RG = 6 Ω ID=13A)	td(on)	-	19	-
Rise Time		tr	-	4.7	-
Turn-Off Delay Time		td(off)	-	59.5	-
Fall Time		tf	-	21	-
Total Gate Charge (VDD=50V,VGS=10V,ID=13A)	Qg	-	55.7	72	nC
Total Gate Charge (VDD=50V,VGS=5V,ID=13A)	Qg	-	32	-	
Gate to Source Charge (VDD=40V,VGS=5V,ID=68A)	Qgs	-	11.8	-	
Gate to Drain Charge (VDD=40V,VGS=5V,ID=68A)	Qgd	-	14.4	-	
Gate Resistance (VDS=0V,VGS=0V,f=1.0MHz)	Rg	-	1	3	Ω
Reverse Recovery Time (VR=30V,IF=20 A, dI/dt = 100 A/us)	trr	-	65	-	ns
Reverse Recovery Charge (VR=30V,IF=20 A, dI/dt = 100 A/us)	Qrr	-	105	-	nC

2.Pulse test ; pulse width ≤ 300μs, duty cycle ≤ 2 %

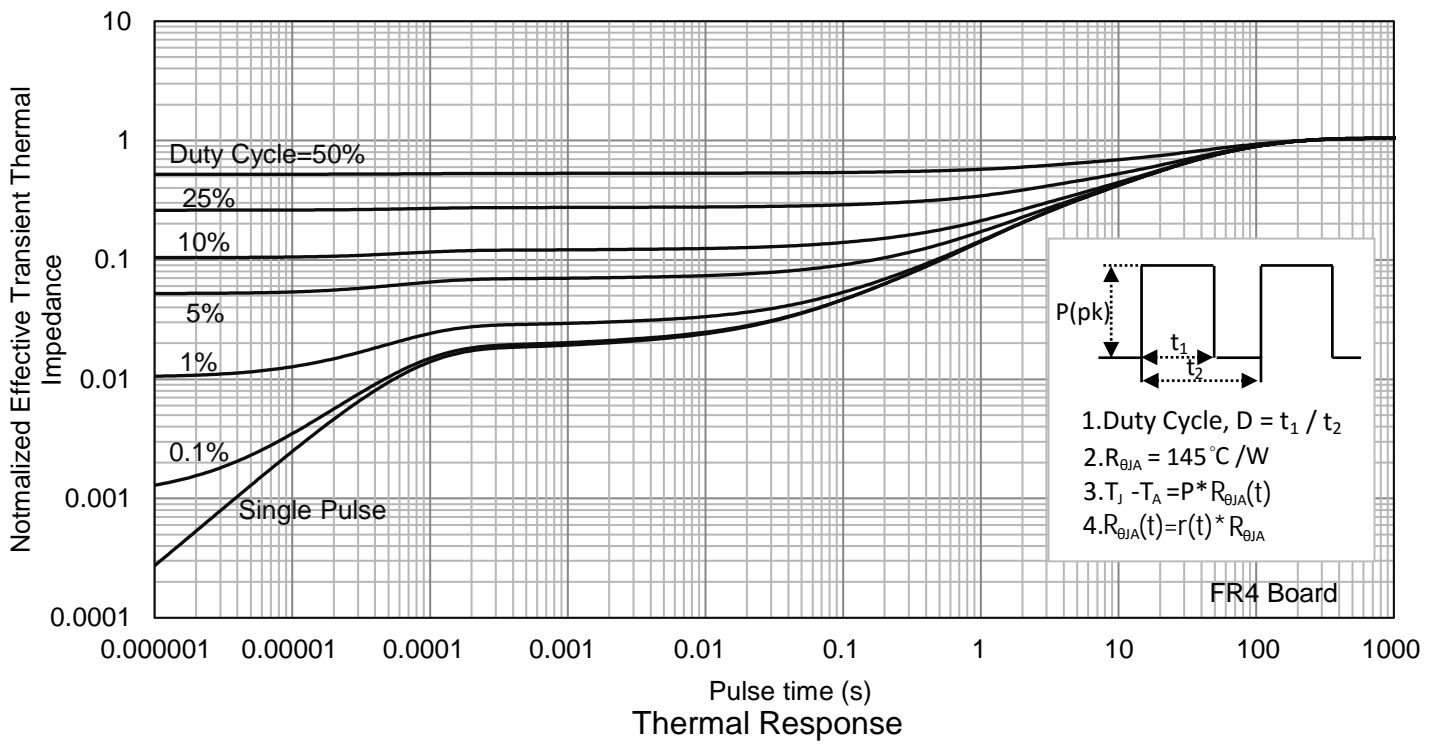
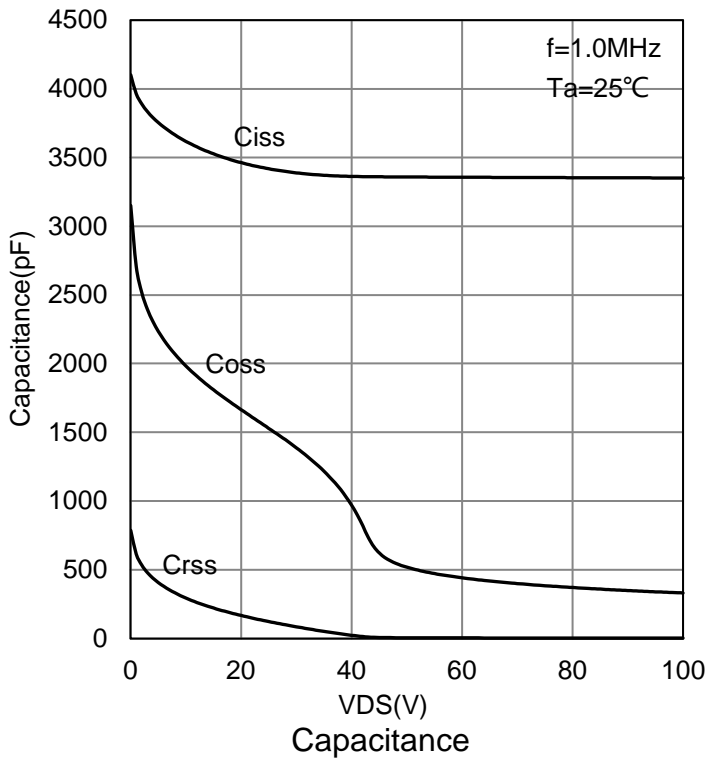
**7.ELECTRICAL CHARACTERISTICS CURVES**



**7.ELECTRICAL CHARACTERISTICS CURVES(Con.)**

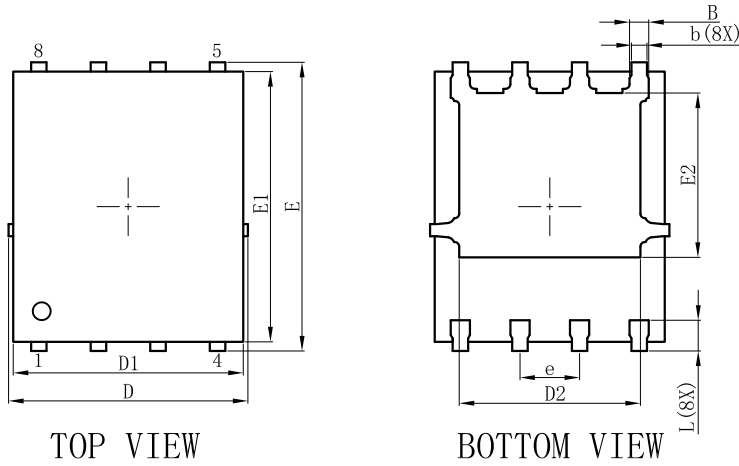


**7.ELECTRICAL CHARACTERISTICS CURVES(Con.)**

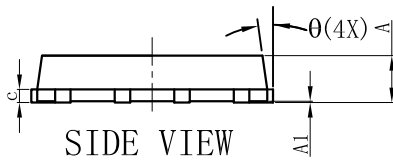


### 8. OUTLINE AND DIMENSIONS

DFN5060-8B



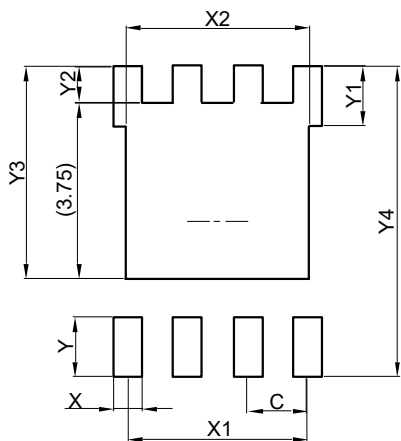
DFN5060-8B			
DIM	MIN	NOR	MAX
A	0.90	1.00	1.10
A1	0.00	0.02	0.05
E	6.00	6.15	6.30
E1	5.66	5.76	5.86
E2	3.40	3.50	3.60
D	4.95	5.10	5.25
D1	4.80	4.90	5.00
D2	3.76	3.86	3.96
b	0.30	0.35	0.40
B	0.36	0.41	0.46
L	0.56	0.66	0.76
e	1.27BSC		
c	0.254REF.		
θ	0°	-	12°
All Dimensions in mm			



**GENERAL NOTES**

1. Top package surface finish Ra0.4±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

## DISCLAIMER

- Before you use our Products, you are requested to carefully read this document and fully understand its contents. LRC shall not be in any way responsible or liable for failure, malfunction or accident arising from the use of any LRC's Products against warning, caution or note contained in this document.
- All information contained in this document is current as of the issuing date and subject to change without any prior notice. Before purchasing or using LRC's Products, please confirm the latest information with a LRC sales representative.

单击下面可查看定价，库存，交付和生命周期等信息

[>>LRC\(乐山无线电\)](#)