

LN7508DT1WG

60V N-Channel MOSFET

1. FEATURES

- Improved dv/dt capability
- Fast switching
- We declare that the material of product compliance with RoHS requirements and Halogen Free.

2. APPLICATIONS

- Motor Drive
- Power Tools
- LED Lighting
- Quick Charger

3. DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
LN7508DT1WG	LN7508	3000/Tape&Reel

4. MAXIMUM RATINGS(Ta = 25°C)

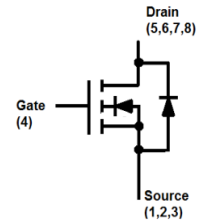
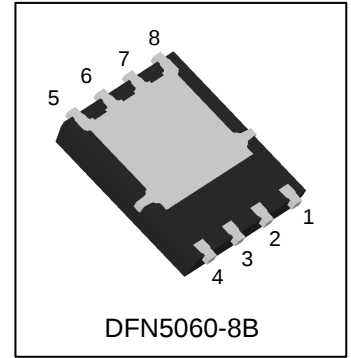
Parameter	Symbol	Limits	Unit
Drain–Source Voltage	VDSS	60	V
Gate–to–Source Voltage – Continuous	VGS	±20	V
Drain Current	ID	60	A
– Continuous TC =25°C		38	
– Continuous TC =100°C			
Pulsed Drain Current	IDM	240	
Avalanched Current (L=0.1mH)	IAS	20	A
Avalanche Energy (L=0.1mH)	EAS	20	mJ
Power Dissipation TC =25°C	PD	67	W
Operating Junction and Storage Temperature Range	Tj/Tstg	-50 to 150	°C

5. THERMAL CHARACTERISTICS

Parameter	Symbol	Limits	Unit
Thermal Resistance,Junction–to–Ambient(Note 1)	RθJA	62	°C/W
Thermal Resistance,Junction–to–Ambient(Note 2)	RθJA	130	
Thermal Resistance,Junction–to–Case	RθJC	1.86	

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

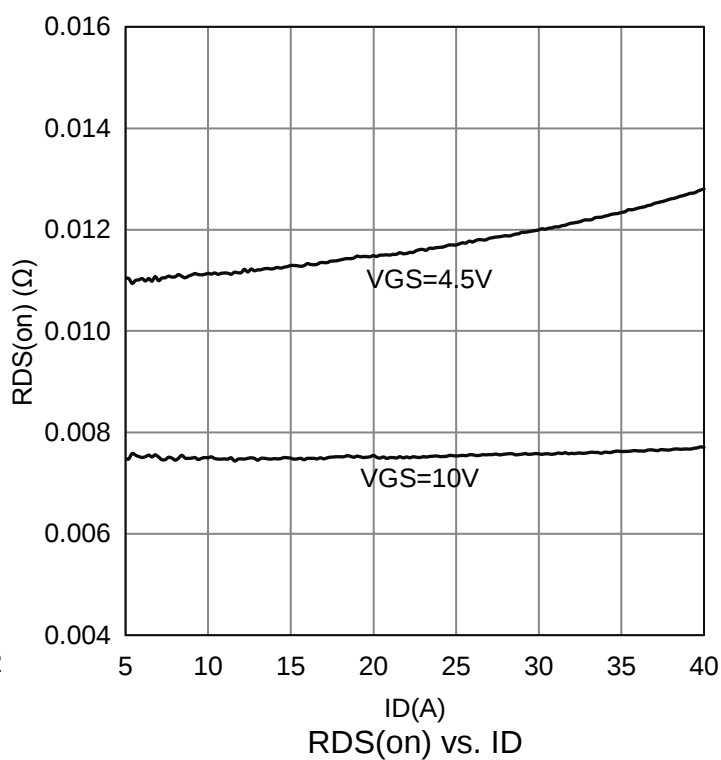
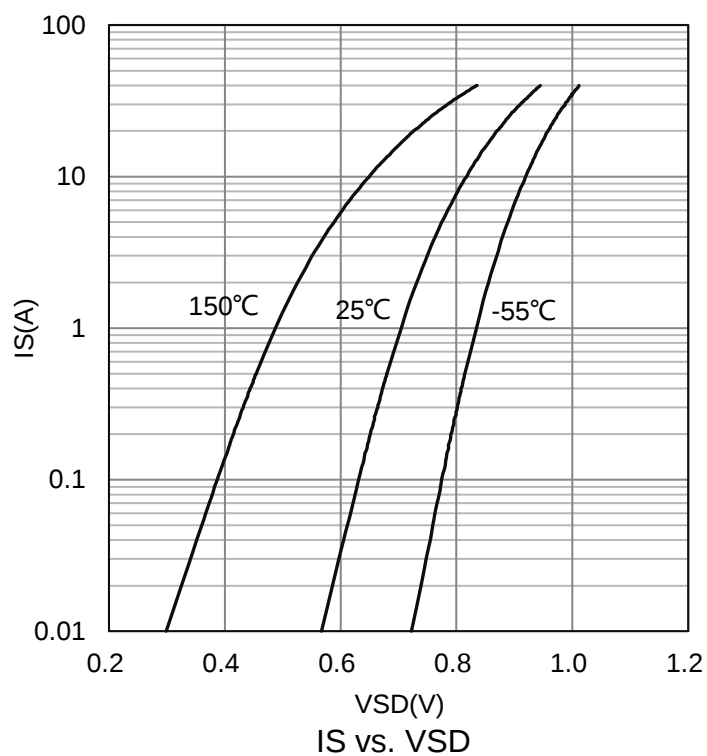
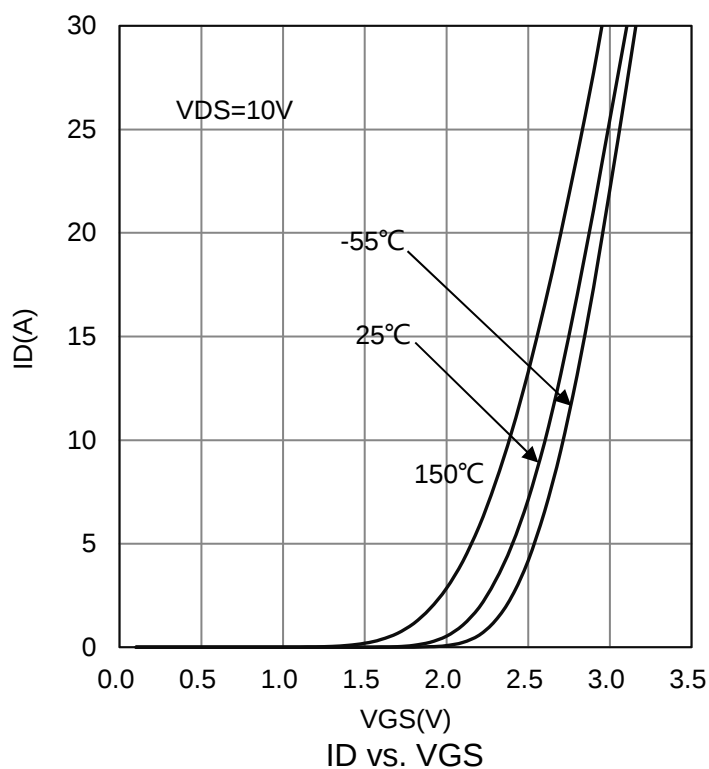
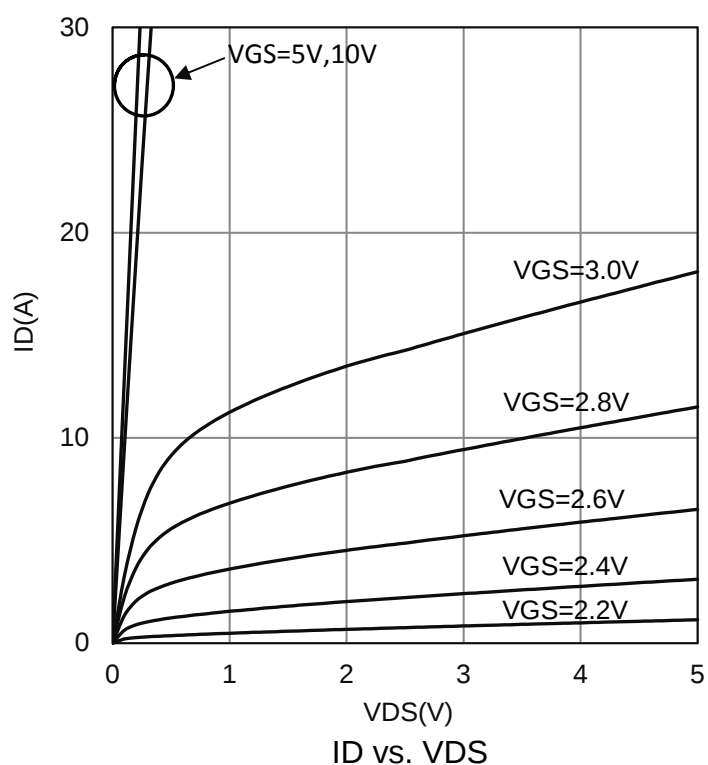
2.Surface mounted on FR4 board using the minimum recommended pad size.



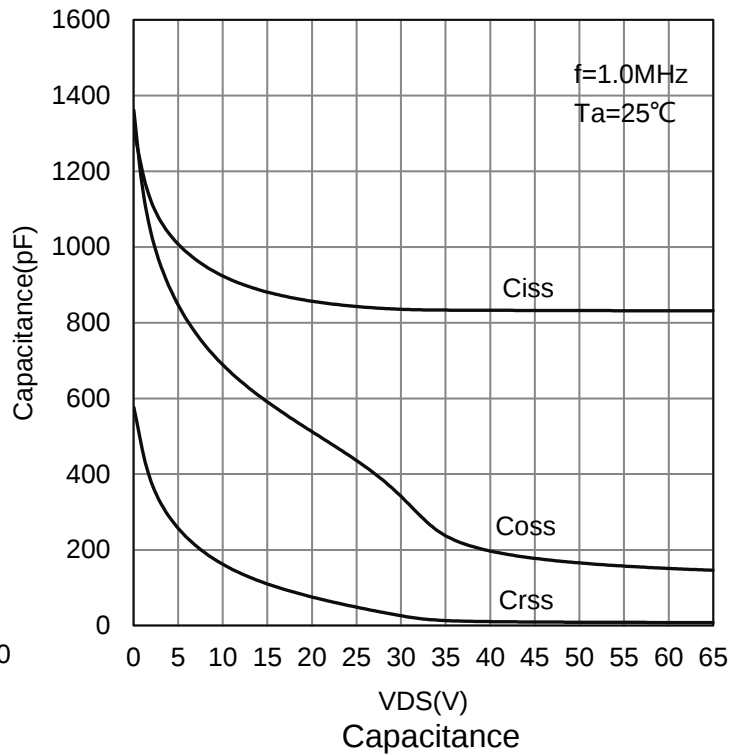
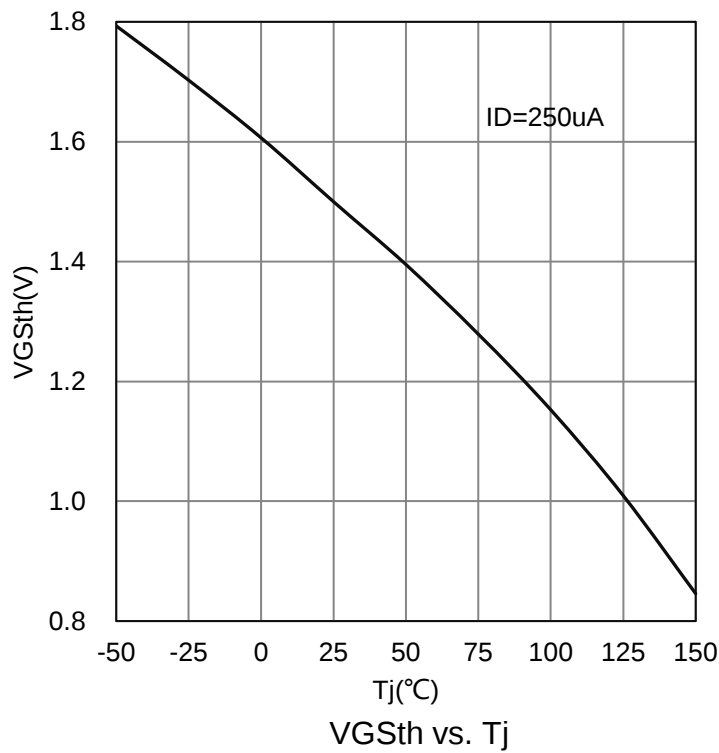
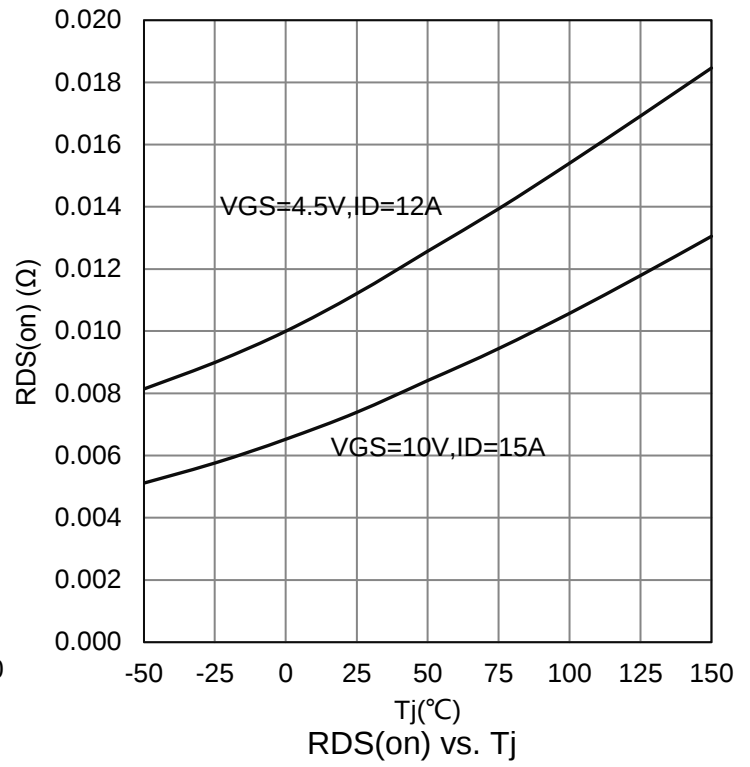
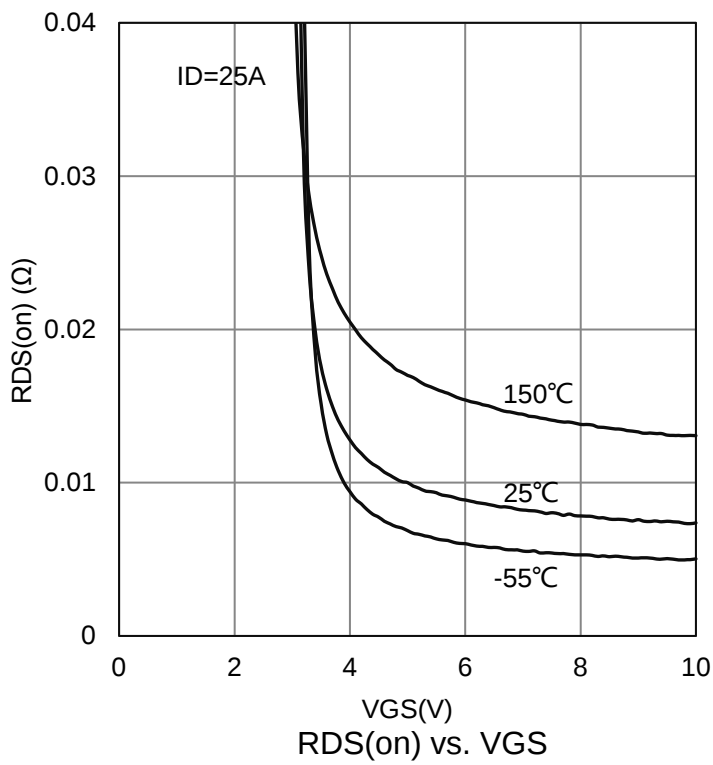
6. ELECTRICAL CHARACTERISTICS (Ta= 25°C)

Characteristic	Symbol	Min.	Typ.	Max.	Unit
Static					
Drain–Source Breakdown Voltage (VGS = 0, ID = 250μA)	V(BR)DSS	60	-	-	V
Drain-Source Leakage Current (VDS =60V, VGS =0V, TJ =25°C)	IDSS	-	-	1	μA
Gate–Body Leakage Current (VGS =±20V , VDS =0V)	IGSS	-	-	±100	nA
Gate Threshold Voltage (VDS = VGS, ID = 250μA)	VGS(th)	1.2	1.6	2.5	V
Static Drain–Source On–State Resistance (VGS =10V, ID =15A) (VGS =4.5V, ID =12A)	RDS(on)	- -	- -	9.5 14	mΩ
Forward Voltage (VGS =0V, IS =1A, TJ =25°C)	VSD	-	-	1	V
Dynamic					
Input Capacitance (VGS = 0 V, f = 1.0MHz, VDS= 30 V)	Ciss	-	836	-	pF
Output Capacitance (VGS = 0 V, f = 1.0MHz, VDS= 30 V)	Coss	-	343	-	
Reverse Transfer Capacitance (VGS = 0 V, f = 1.0MHz, VDS= 30 V)	Crss	-	26	-	
Total Gate Charge	(VDS =30V , VGS =10V , ID =15A)	Qg	-	19	nC
Gate-Source Charge		Qgs	-	2	
Gate-Drain Charge		Qgd	-	6.7	
Turn-On Delay Time	(VDD =30V, VGS =10V, RG =3.3Ω, ID =1A)	td(on)	-	10	ns
Rise Time		tr	-	13.5	
Turn-Off Delay Time		td(off)	-	28	
Fall Time		tf	-	20	
Gate Resistance (VGS = 0V, VDS = 0V, f = 1MHz)	Rg	-	1	3	Ω

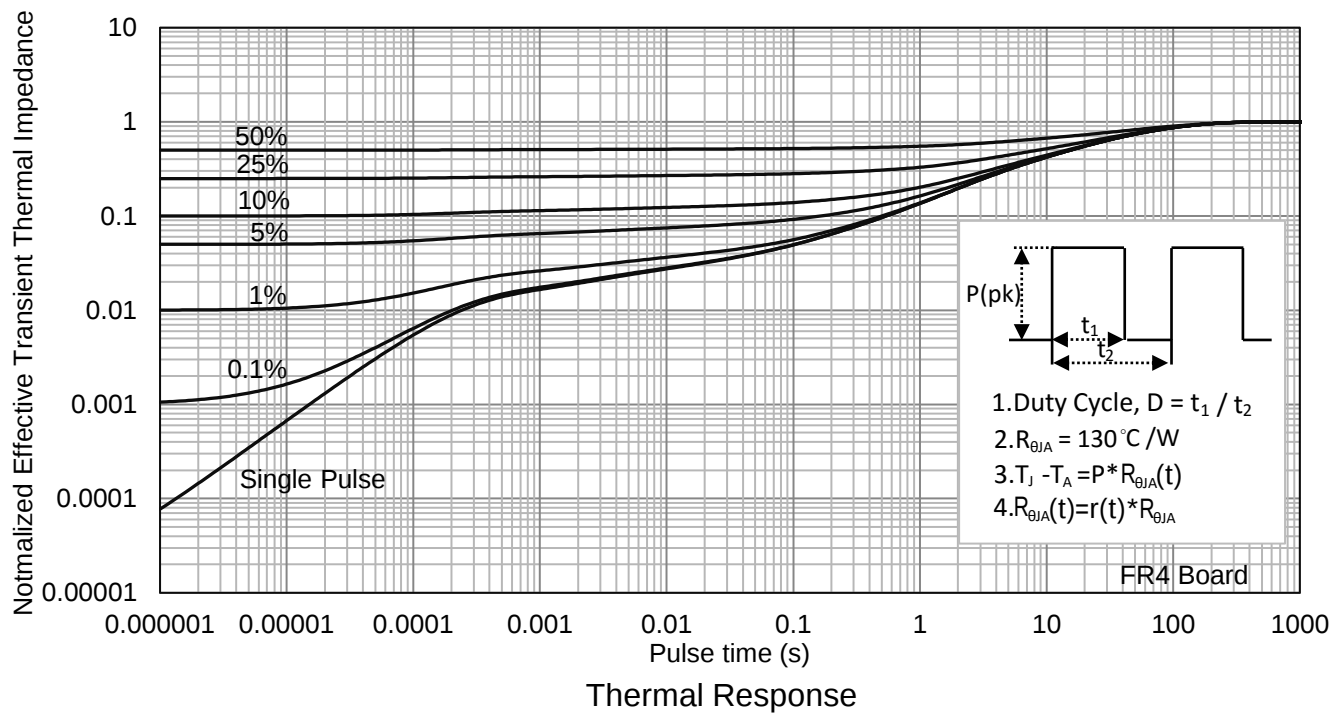
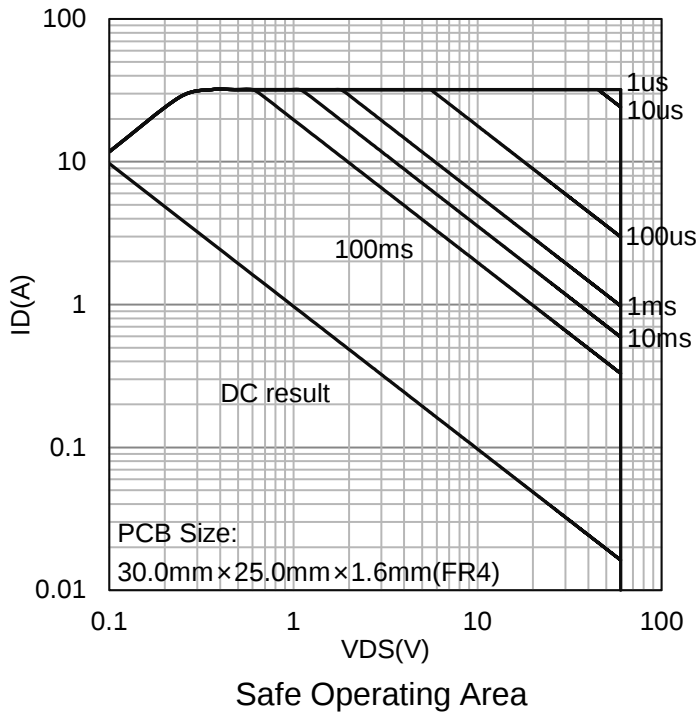
7. ELECTRICAL CHARACTERISTICS CURVES



7. ELECTRICAL CHARACTERISTICS CURVES(Con.)

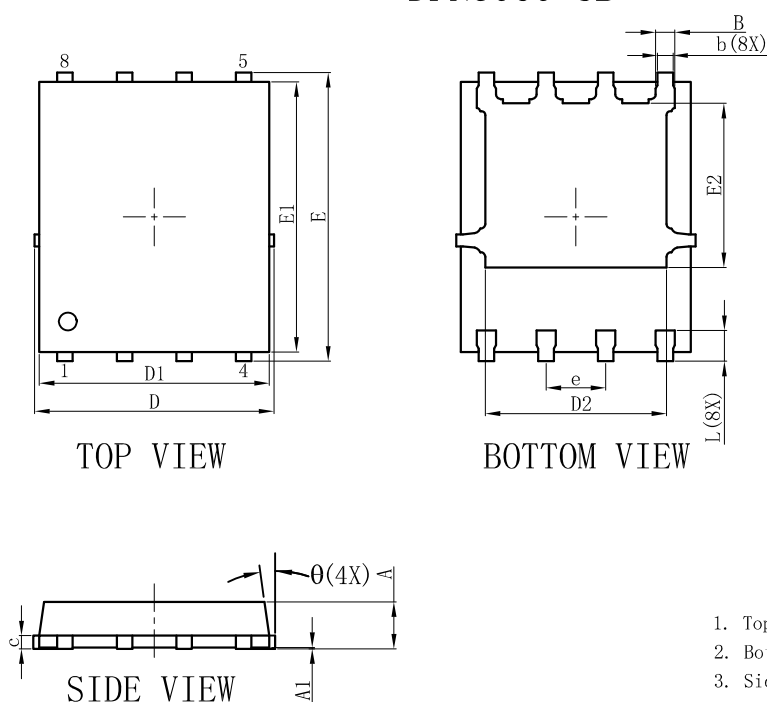


7. ELECTRICAL CHARACTERISTICS CURVES(Con.)



8.OUTLINE AND DIMENSIONS

DFN5060-8B

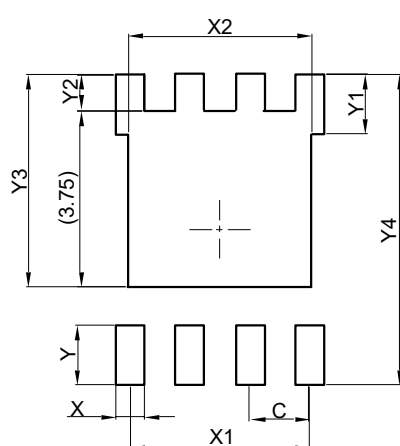


DFN5060-8B			
DIM	MIN	NOR	MAX
A	0.90	1.00	1.10
A1	0.00	0.02	0.05
E	6.00	6.15	6.30
E1	5.66	5.76	5.86
E2	3.40	3.50	3.60
D	4.95	5.10	5.25
D1	4.80	4.90	5.00
D2	3.76	3.86	3.96
b	0.30	0.35	0.40
B	0.36	0.41	0.46
L	0.56	0.66	0.76
e	1.27BSC		
c	0.254REF.		
θ	0 °	-	12 °
All Dimensions in mm			

GENERAL NOTES

1. Top package surface finish $Ra0.4 \pm 0.2\mu m$
2. Bottom package surface finish $Ra0.7 \pm 0.2\mu m$
3. Side package surface finish $Ra0.4 \pm 0.2\mu m$
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

- Curve guarantee in the specification. The curve of test items with electric parameter is used as quality guarantee. The curve of test items without electric parameter is used as reference only.
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