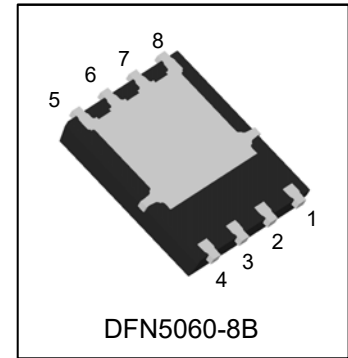


P7204D

20V P-Channel (D-S) MOSFET

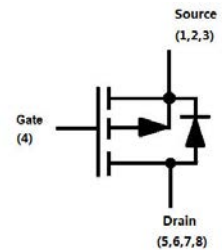


1. FEATURES

- VDS = -20V
RDS(ON) ≤ 4.5mΩ, VGS@-4.5V, IDS@-13A
RDS(ON) ≤ 6mΩ, VGS@-2.5V, IDS@-13A
- Low RDS(ON) trench technology.
- Low thermal impedance.
- Fast switching speed.
- We declare that the material of product compliance with RoHS requirements and Halogen Free.

2. APPLICATIONS

- Load Switches
- DC/DC Conversion
- Motor Drives



3. DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
P7204D	LP7204	3000/Tape&Reel

4. MAXIMUM RATINGS(Ta = 25°C)

Parameter	Symbol	Limits	Unit	
Drain-Source Voltage	VDS	-20	V	
Gate-Source Voltage	VGS	±12		
Continuous Drain Current (Note1)	ID	-21	A	
Pulsed Drain Current (Note2)	IDM	-84		
Power Dissipation (Note1)	PD	TA = 25°C	2.5	W
		TA = 70°C	1.9	
Avalanche Current	IAS	27	A	
Avalanche Energy(L=0.1mH)	EAS	36.45	mJ	
Operating Junction and Storage Temperature Range	TJ , Tstg	-55~+150	°C	

5. THERMAL CHARACTERISTICS

Parameter	Symbol	Max	Unit
Junction-to-Ambient(Note 1)	RθJA	50	°C/W
Junction-to-Ambient(Note 3)	RθJA	130	
Junction-to-Case	RθJC	2.5	

- 1.Surface mounted on "1.5 x 1.5" FR4 board using 1 sq in pad, 2 oz Cu.
- 2.Pulse width limited by maximum junction temperature.
- 3.Surface mounted on FR4 board using the minimum recommended pad size.



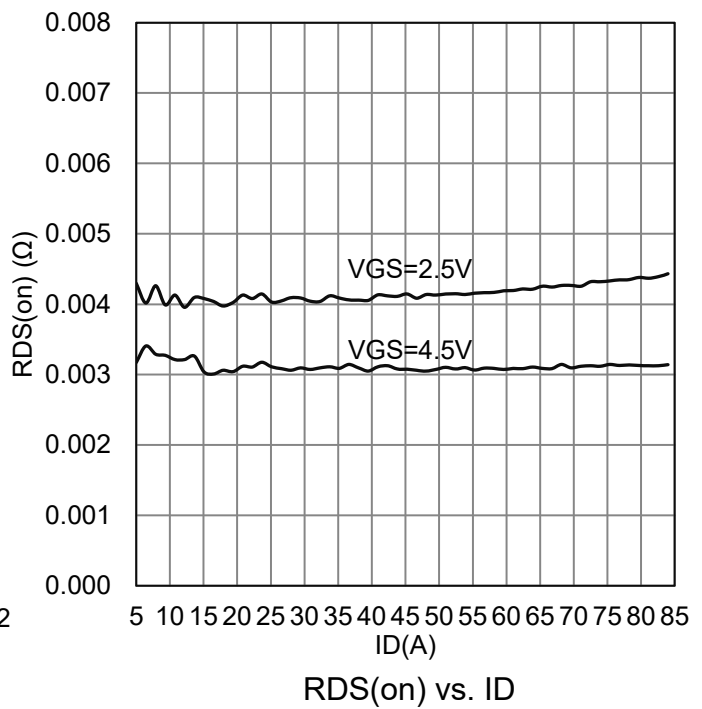
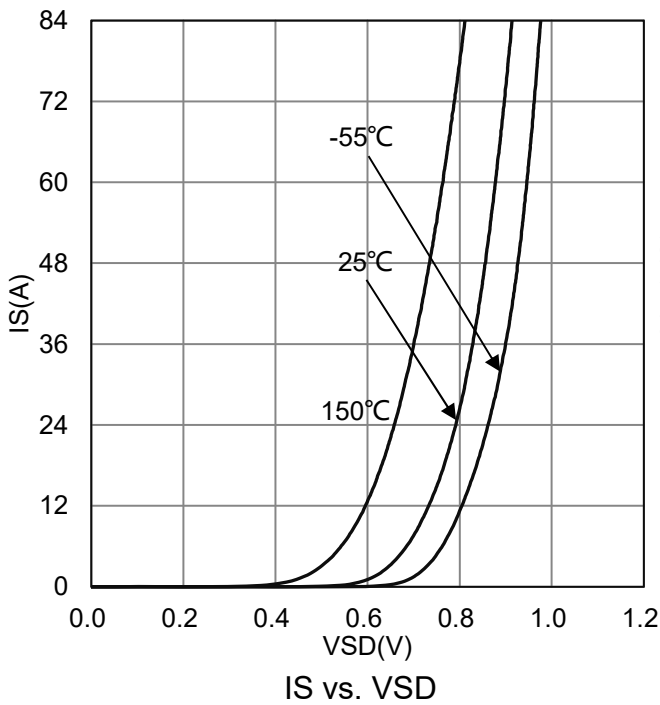
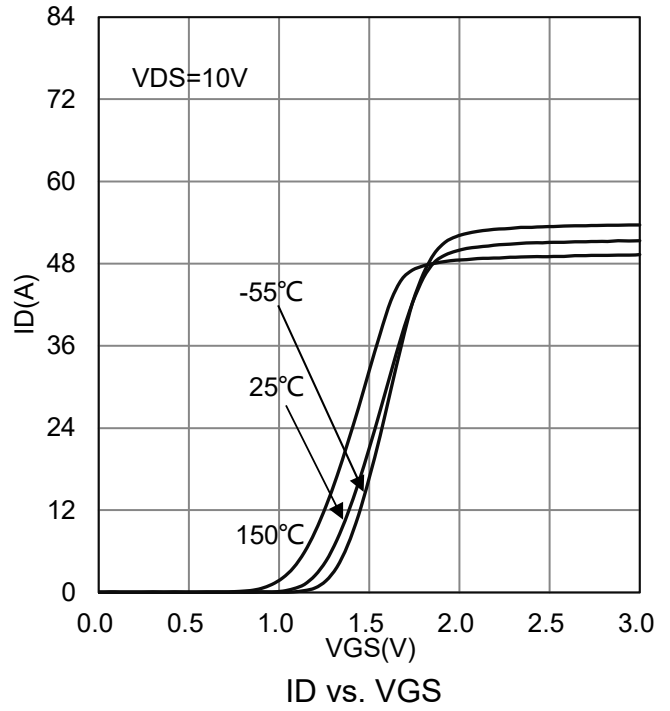
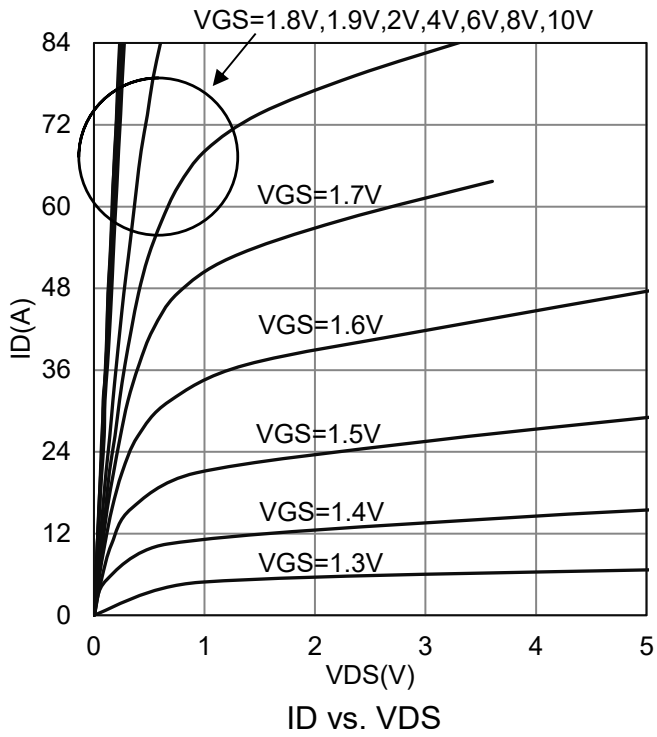
6. ELECTRICAL CHARACTERISTICS (Ta= 25°C)

Characteristic	Symbol	Min.	Typ.	Max.	Unit
Static					
Drain-Source Breakdown Voltage (VGS = 0V, ID = -250uA)	V(BR)DSS	-20	-	-	V
Gate Threshold Voltage (VDS =VGS , ID =-250μA)	VGS(th)	-0.55	-	-0.9	V
Gate Leakage Current (VDS =0V, VGS =±12V)	IGSS	-	-	±100	nA
Zero Gate Voltage Drain Current (VDS =-16V, VGS =0V)	IDSS	-	-	-1	μA
Drain-Source On-Resistance(Note 3) (VGS = -4.5 V, ID = -13 A) (VGS = -2.5 V, ID = -13 A)	RDS(ON)	-	-	4.5 6	mΩ
Diode Forward Voltage (Note 3) (IS =-2.5 A, VGS =0V)	VSD	-	-	-1.5	V
Dynamic					
Total Gate Charge	(VDS = -10 V, VGS = -4.5 V, ID = -7 A)	Qg	-	80	-
Gate-Source Charge		Qgs	-	12.4	-
Gate-Drain Charge		Qgd	-	16.6	-
Turn-On Delay Time	(VDS = -10 V, RL = 1.4 Ω, ID = -7 A, VGEN = -4.5 V, RGEN = 6 Ω)	td(on)	-	6	-
Rise Time		tr	-	12	-
Turn-Off Delay Time		td(off)	-	85	-
Fall Time		tf	-	35	-
Input Capacitance	(VDS = -15 V, VGS = 0 V, f = 1 MHz)	Ciss	-	7042	-
Output Capacitance		Coss	-	647	-
Reverse Transfer Capacitance		Crss	-	584	-
Gate Resistance (VDS=0V,VGS=0V,f=1.0MHz)	Rg	-	5.6	-	Ω

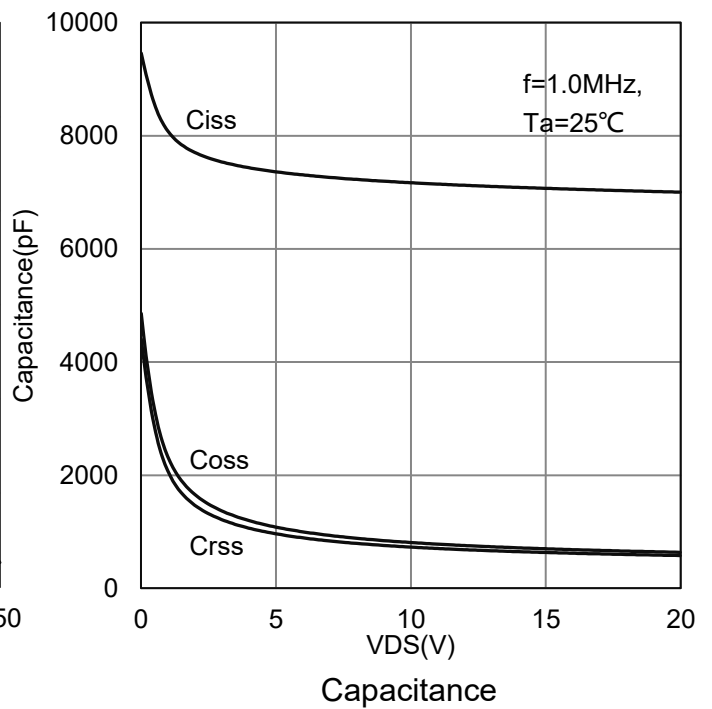
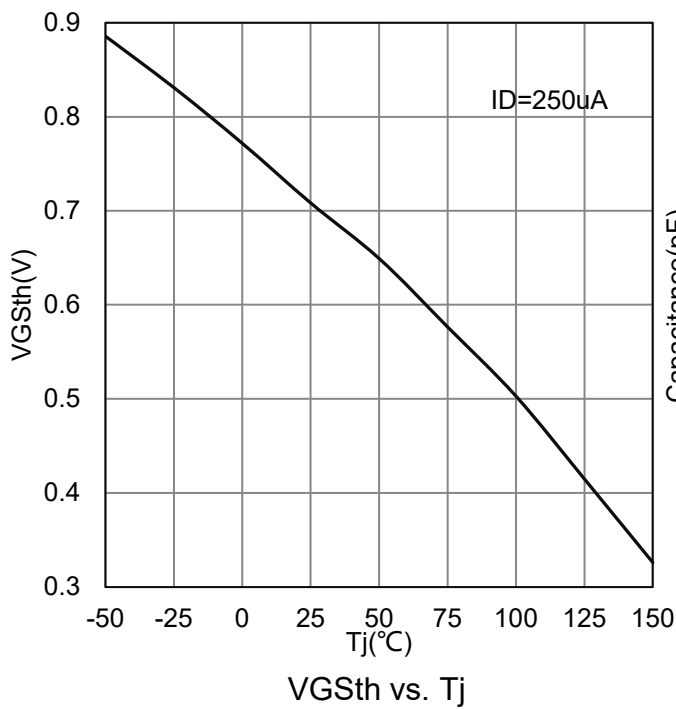
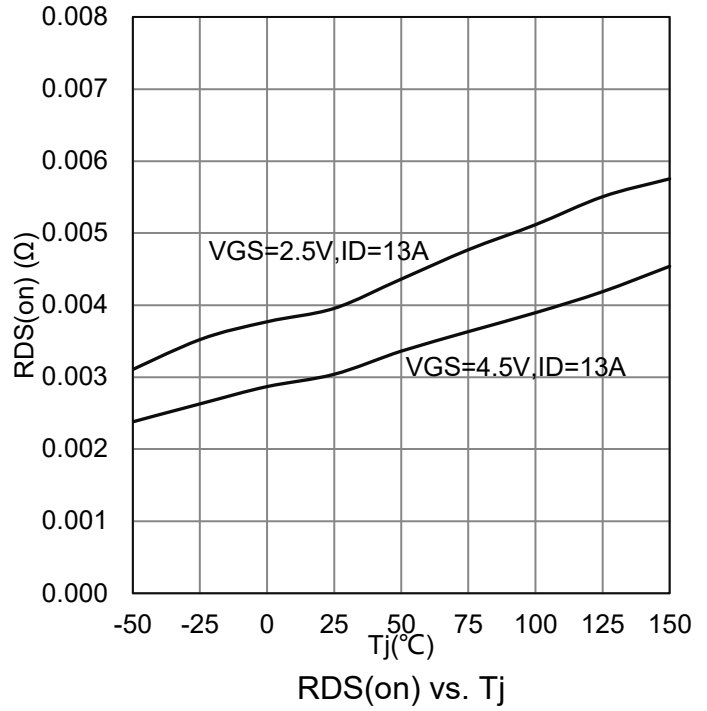
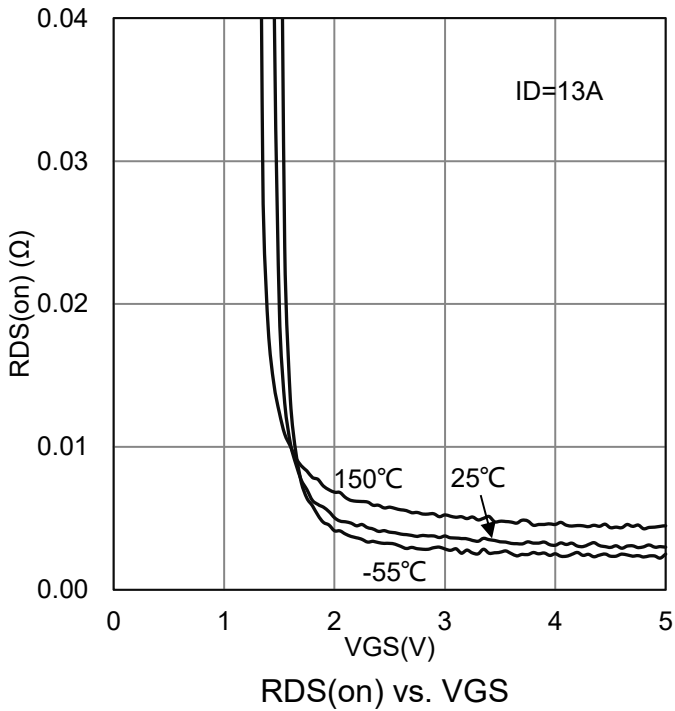
4. Pulse test: PW ≤ 300us , duty cycle ≤ 2%.



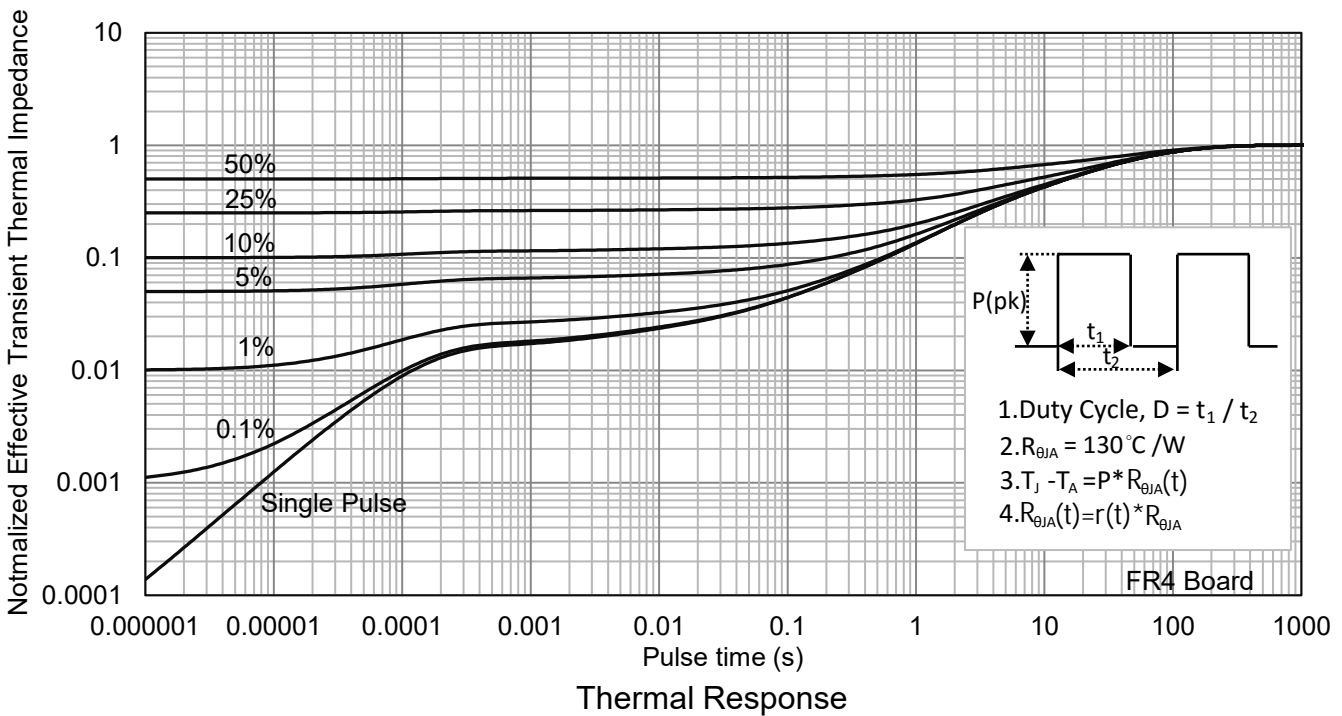
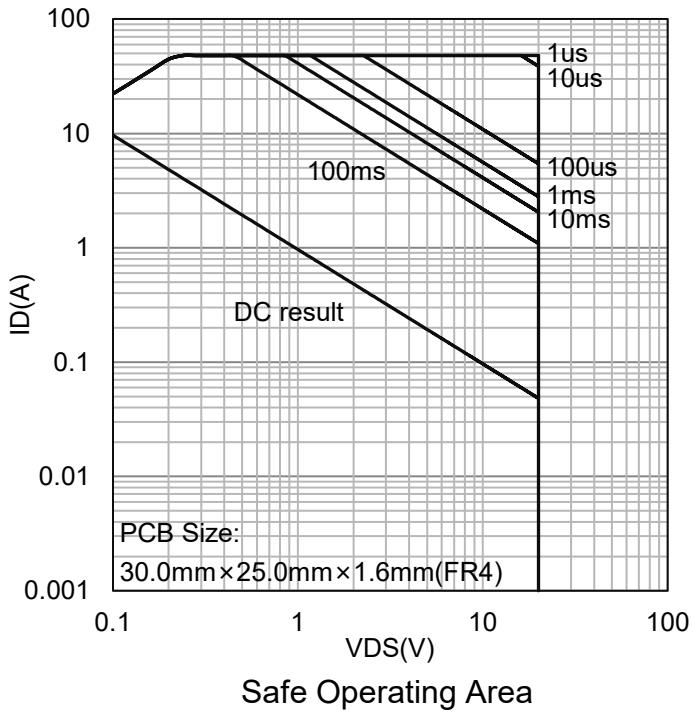
7. ELECTRICAL CHARACTERISTICS CURVES

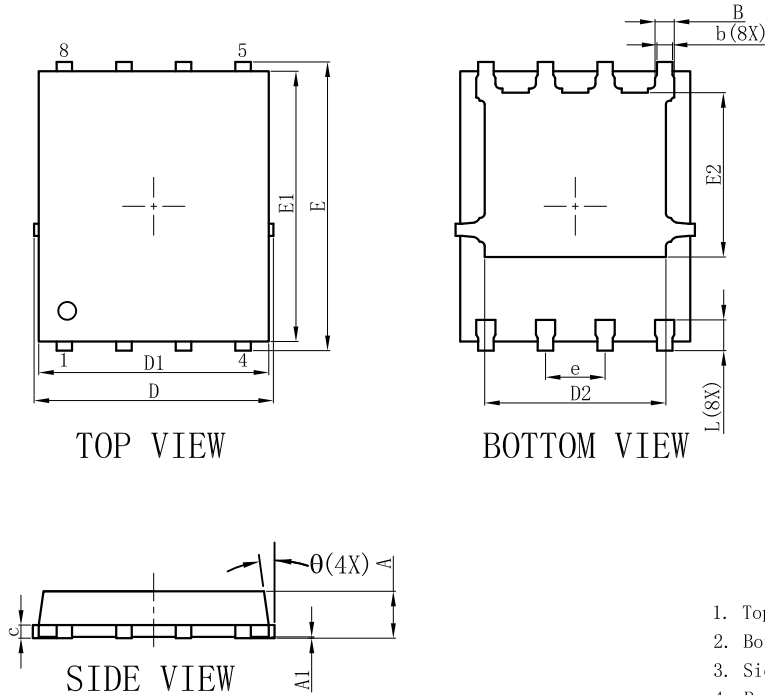


7. ELECTRICAL CHARACTERISTICS CURVES(Con.)



7. ELECTRICAL CHARACTERISTICS CURVES(Con.)

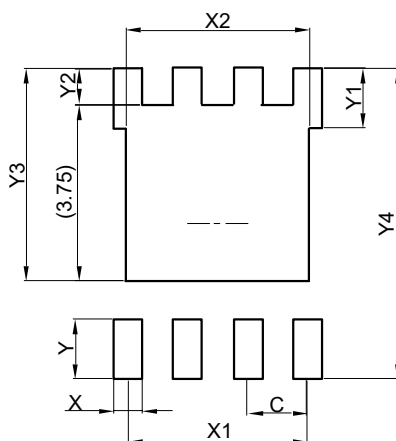


8. OUTLINE AND DIMENSIONS
DFN5060-8B


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

