

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

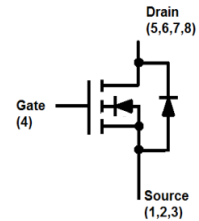
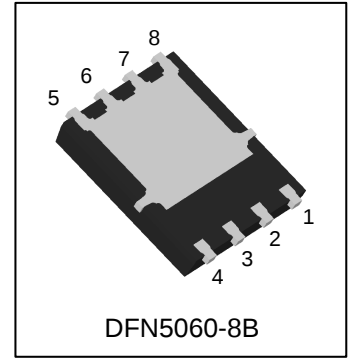
4. MAXIMUM RATINGS(Ta = 25°C)

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–Case	RθJC	1.86	

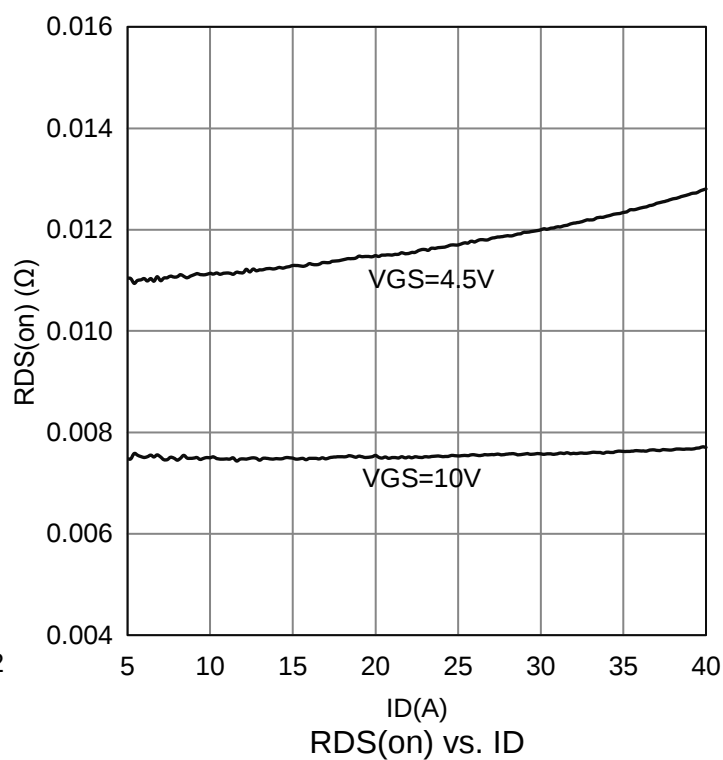
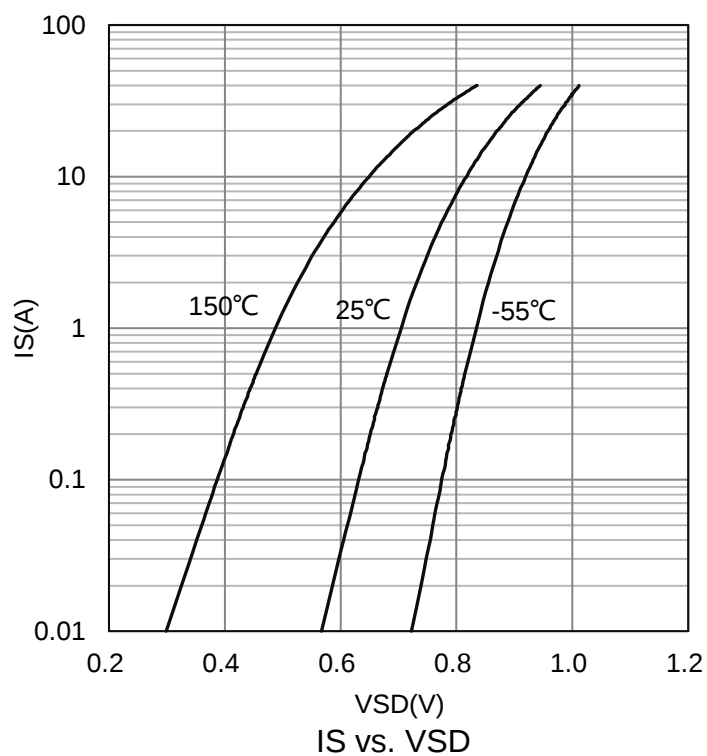
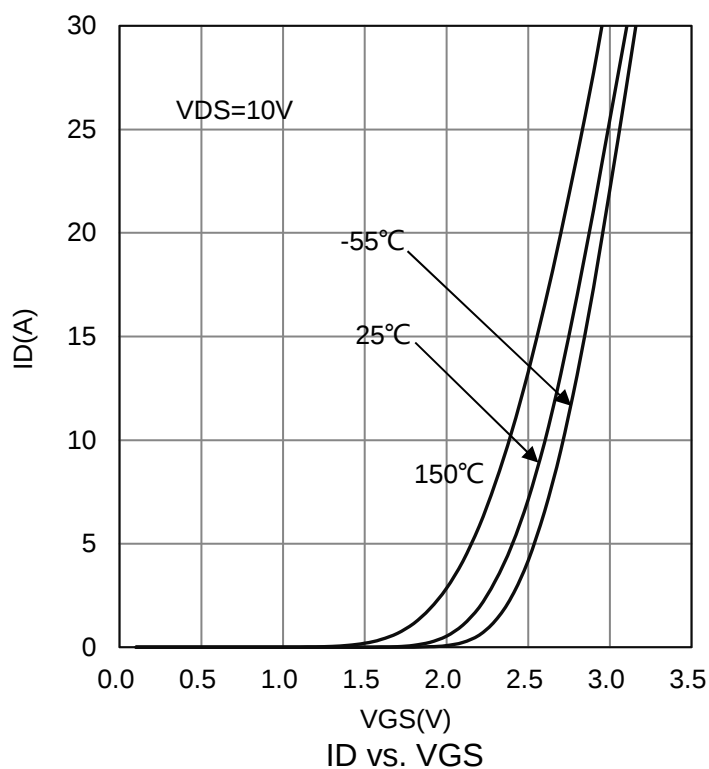
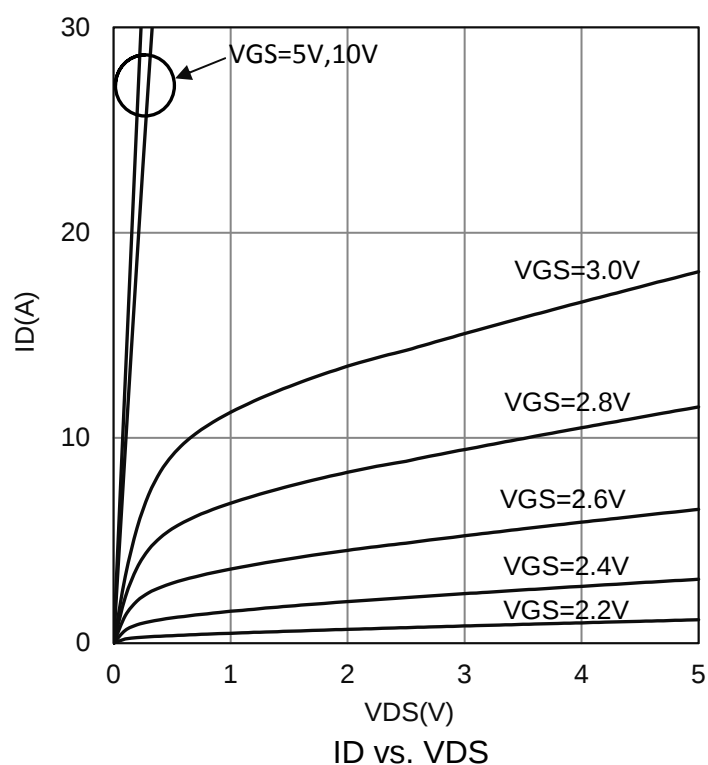
1.Surface mounted on "1.5 x 1.5" FR4 board using 1 sq in pad, 2 oz Cu.



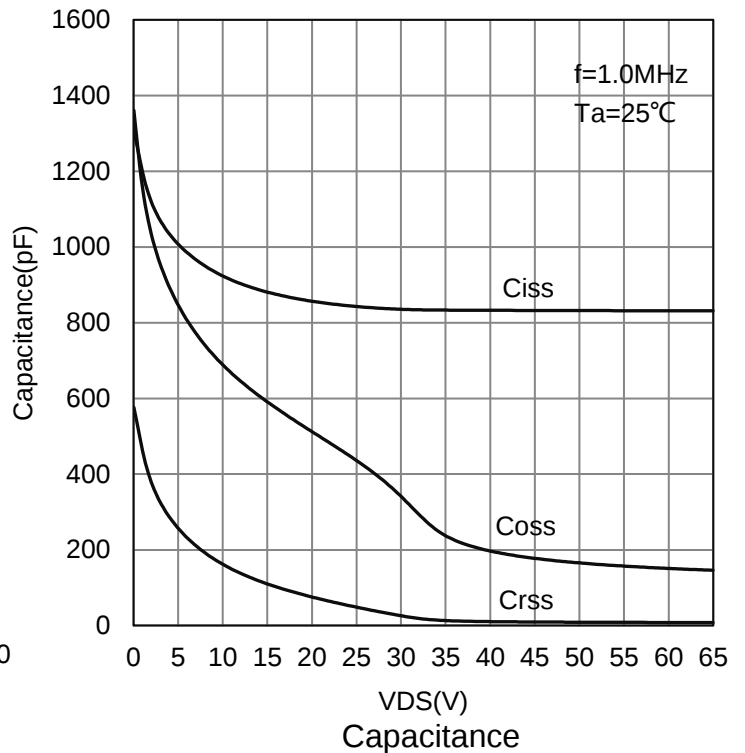
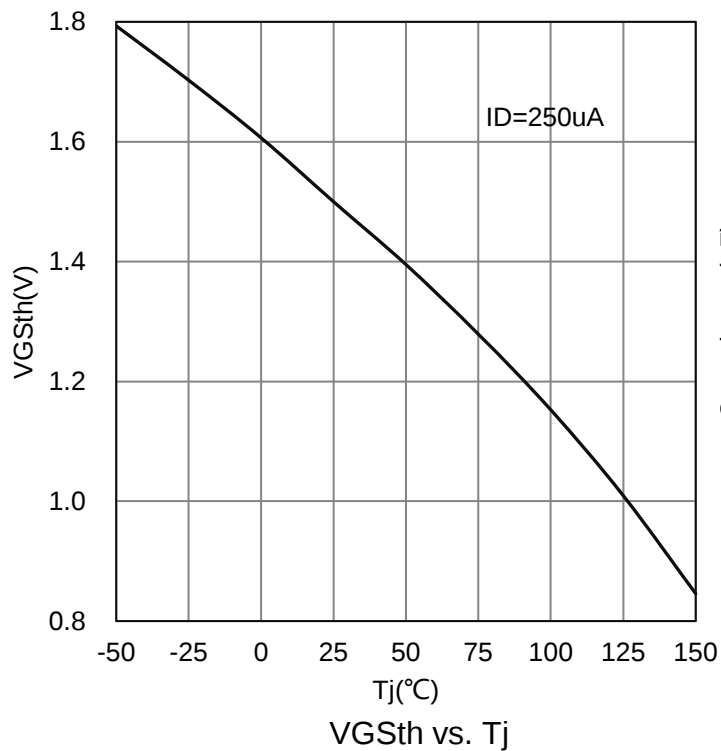
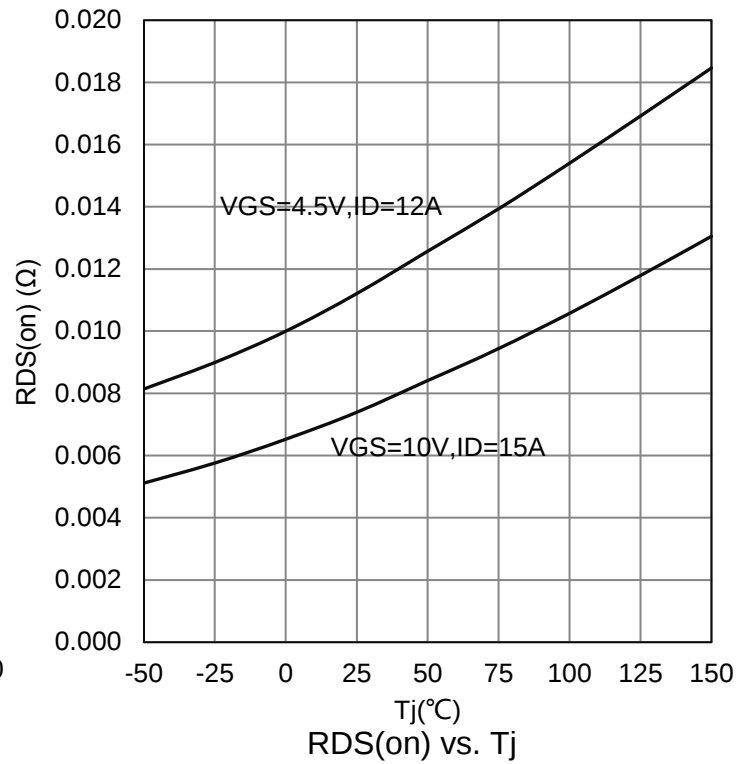
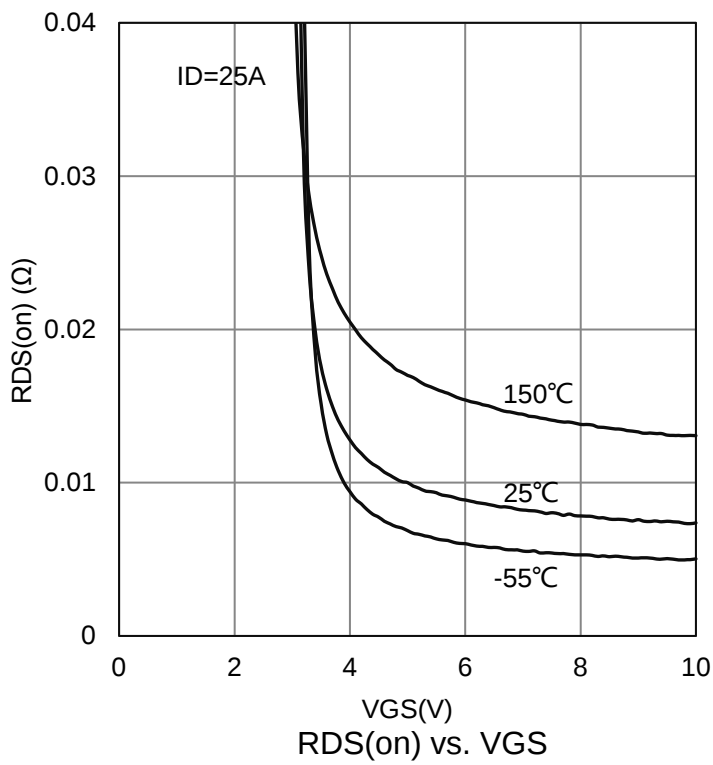
6. ELECTRICAL CHARACTERISTICS (Ta= 25°C)

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

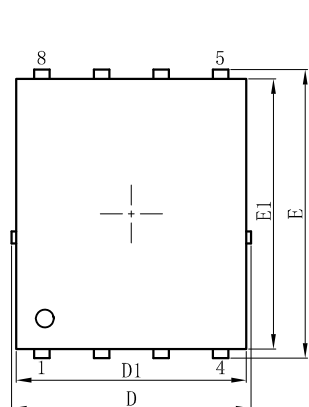


7. ELECTRICAL CHARACTERISTICS CURVES(Con.)

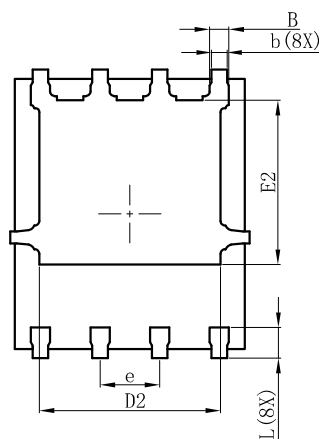


8.OUTLINE AND DIMENSIONS

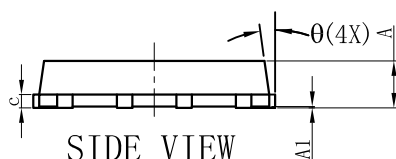
DFN5060-8B



TOP VIEW



BOTTOM VIEW



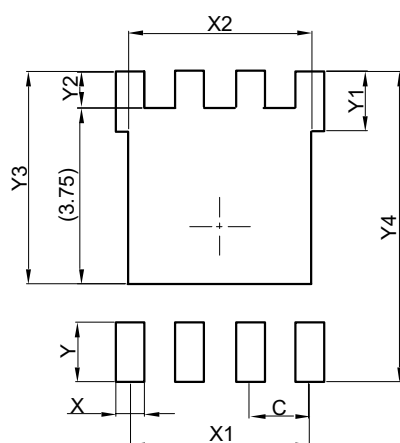
SIDE VIEW

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.

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

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