

# S-LN7460DT3WG

## 60V N-Channel MOSFET

### 1. FEATURES

- 60V, 104A,  $R_{DS(ON)} \leq 2.5m\Omega @ V_{GS} = 10V$
- Improved  $dv/dt$  capability
- Fast switching
- 100% EAS Guaranteed
- We declare that the material of product compliance with RoHS requirements and Halogen Free.
- S-prefix for automotive and other applications requiring unique site and control change requirements; AEC-Q101 qualified and PPAP capable.

### 2. APPLICATIONS

- Networking
- Load Switch
- LED applications

### 3. DEVICE MARKING AND RESISTOR VALUES

Device	Marking	Shipping
S-LN7460DT3WG	LN7460	5000/Tape&Reel

### 4. MAXIMUM RATINGS( $T_a = 25^\circ C$ )

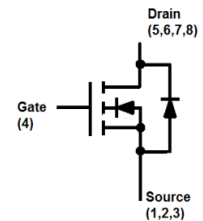
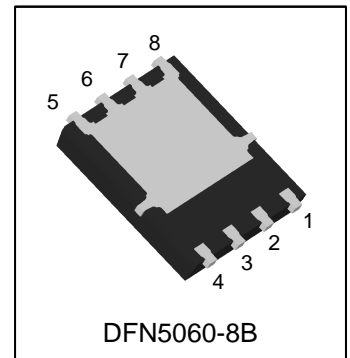
Parameter		Symbol	Limits	Unit
Drain-to-Source Voltage		V <sub>DS</sub>	60	V
Gate-to-Source Voltage		V <sub>GS</sub>	±20	V
Continuous Drain Current	TC=25 °C	I <sub>D</sub>	104	A
	TC=100 °C		80	A
	TA=25 °C		28	A
	TA=100 °C		21	A
Pulsed Drain Current(Note 1)		I <sub>DM</sub>	112	A
Avalanche Current(L=0.1mH)		I <sub>AS</sub>	45	A
Avalanche Energy(L=0.1mH)		E <sub>AS</sub>	101	mJ
Power Dissipation	TC=25 °C	P <sub>D</sub>	35	W
	TA=25 °C		2.5	W
Operating Junction and Storage Temperature Range		T <sub>j</sub> /T <sub>stg</sub>	-50~+150	°C

### 5. THERMAL CHARACTERISTICS

Parameter	Symbol	Limits	Unit
Maximum Junction-to-Ambient(Note 2)	R <sub>θJA</sub>	50	°C/W
Maximum Junction-to-Case	R <sub>θJC</sub>	3.5	

1.Repetitive Rating : Pulsed width limited by maximum junction temperature.

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

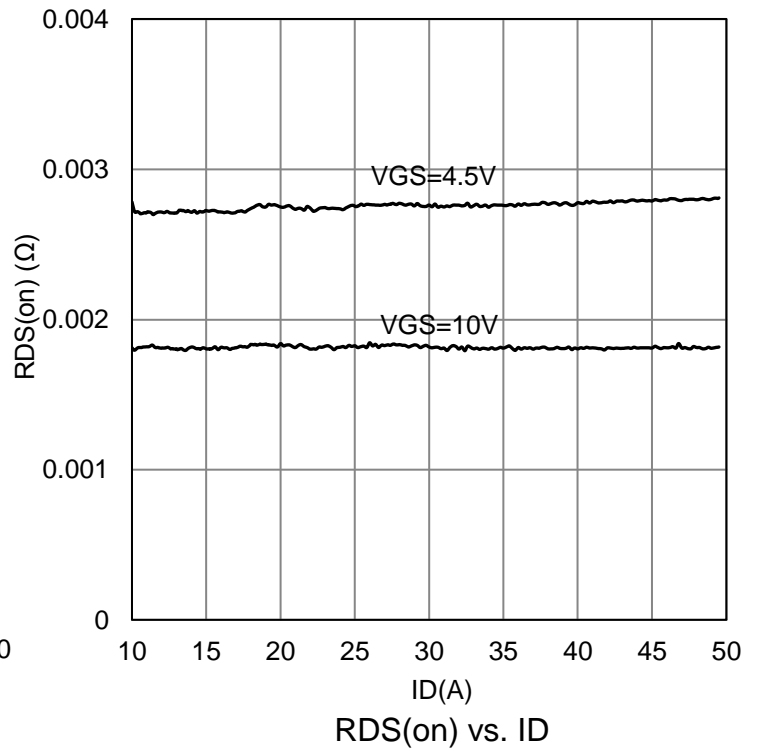
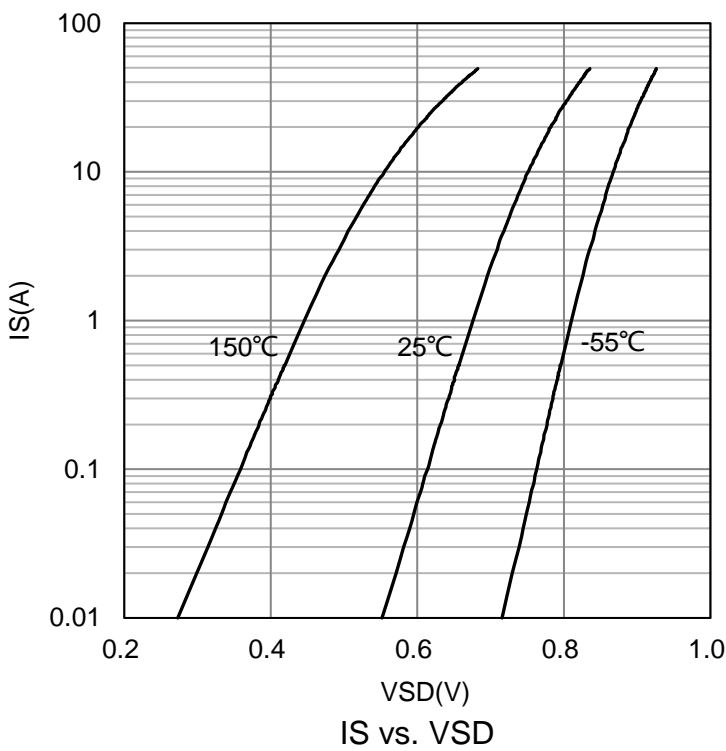
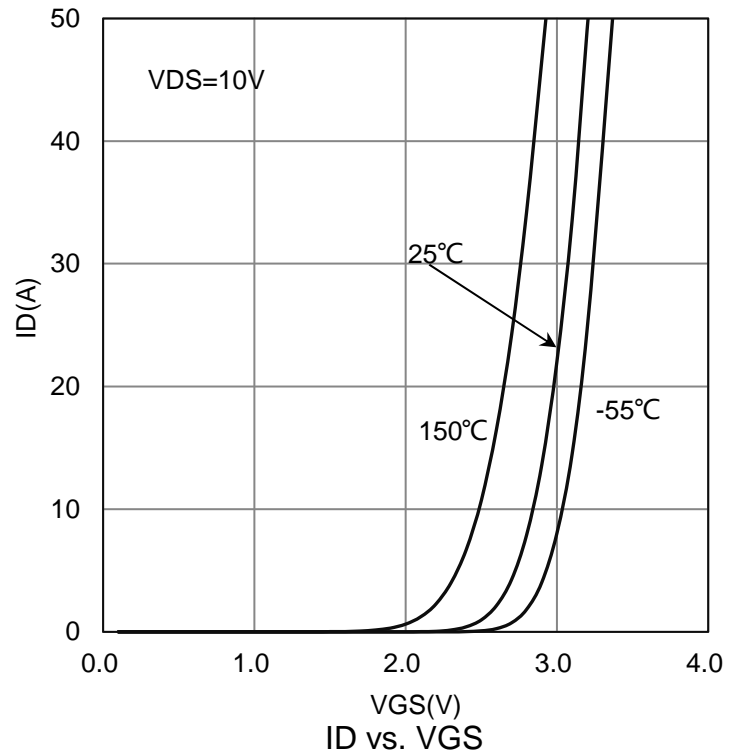
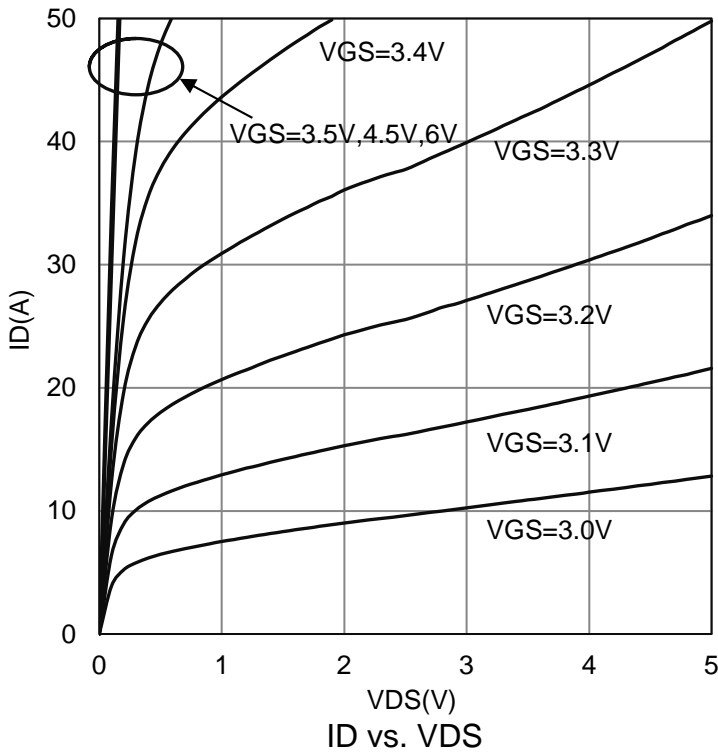


**6. ELECTRICAL CHARACTERISTICS (Ta= 25°C)**

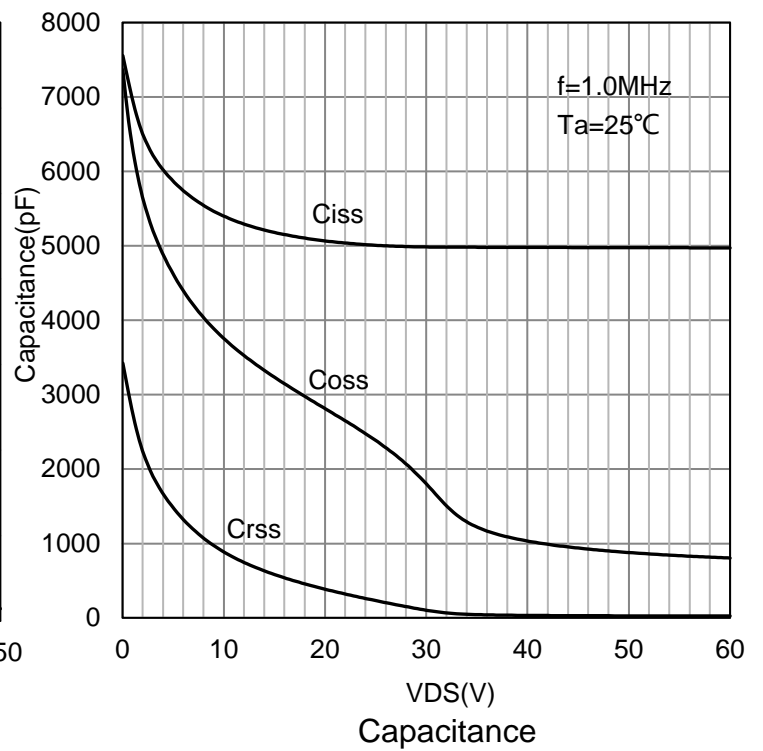
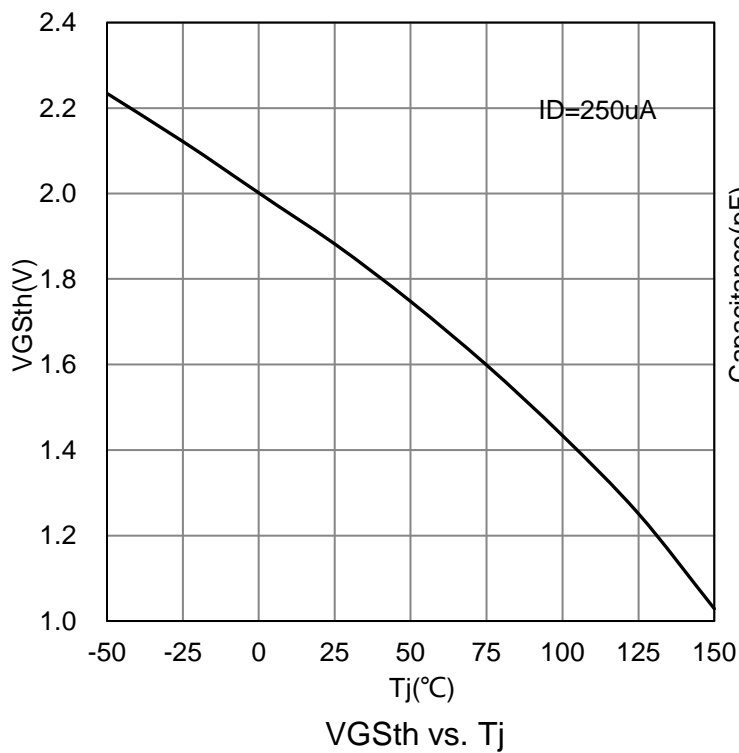
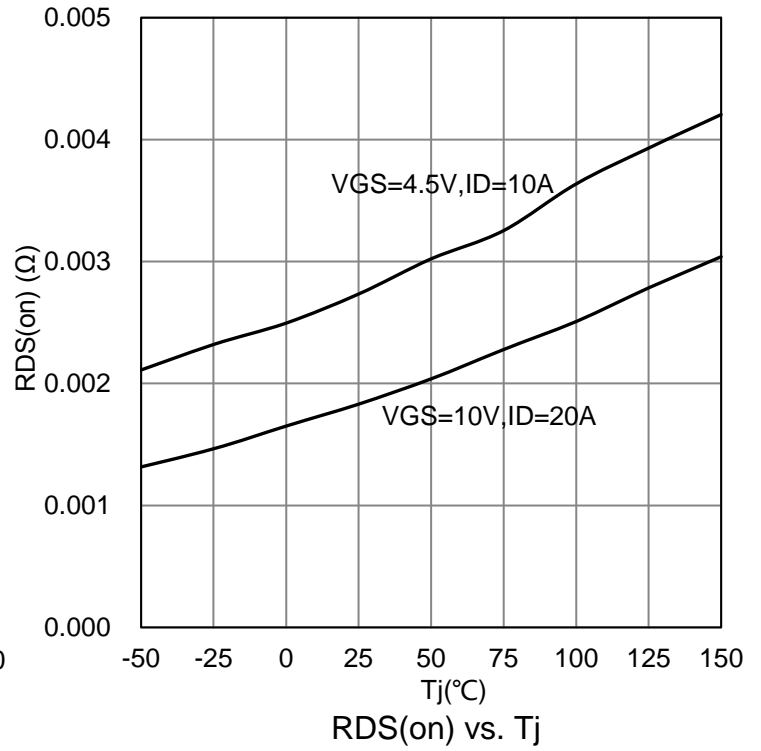
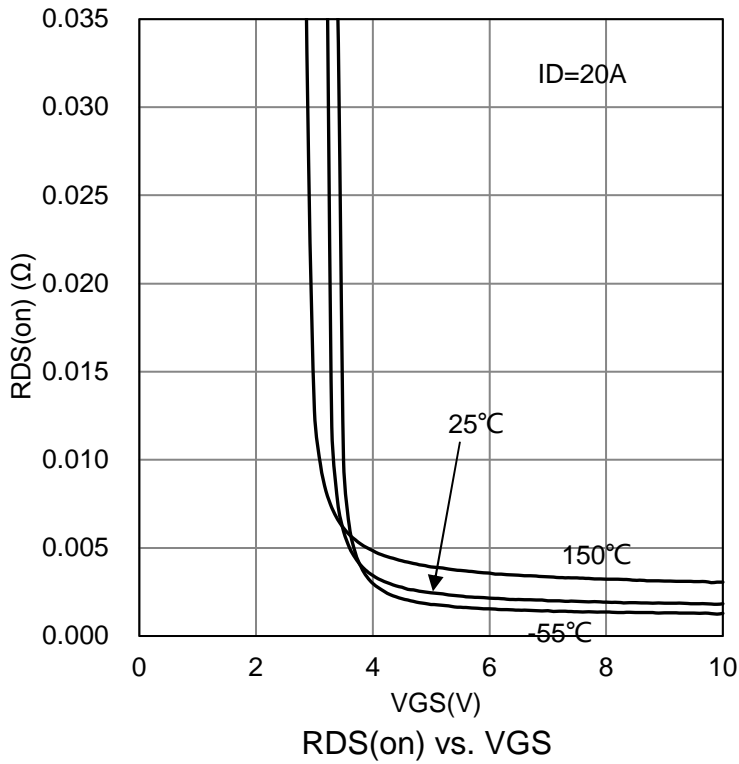
Characteristic	Symbol	Min.	Typ.	Max.	Unit
<b>Static</b>					
Drain to Source Breakdown Voltage (VGS =0V, ID =250μA)	VDSS	60	-	-	V
Drain-to-Source Leakage Current (VDS =60V, VGS =0V)	IDSS	-	-	1	μA
Gate-Body leakage current (VDS =0V, VGS = ±20V)	IGSS	-	-	±100	nA
Gate Threshold Voltage (VDS = VGS , ID = 250μA)	VGS(TH)	1.2	1.7	2.5	V
Drain-to-Source On-Resistance(Note 3) (VGS =10V, ID =20A) (VGS =4.5V, ID =10A)	RDS(ON)	- -	2 2.8	2.5 3.3	mΩ
<b>Dynamic</b>					
Total Gate Charge	(VDS =30V, VGS =10V, ID =50A)	Qg	-	113	-
Gate to Source Charge		Qgs	-	20	-
Gate to Drain Charge		Qgd	-	31.5	-
Turn-on Delay Time	(VDD =15V, VGS =10V, RG =3.3 Ω, ID =1A)	td(ON)	-	19	-
Rise Time		tr	-	12	-
Turn-Off Delay Time		td(OFF)	-	62	-
Fall Time		tf	-	130	-
Input Capacitance	(VDS =30V, VGS =0V, F=1MHz)	Ciss	-	4984	-
Output Capacitance		Coss	-	1798	-
Reverse Transfer Capacitance		Crss	-	102.8	-
Internal Gate Resistance	Rg	-	1.1	-	Ω
Diode Forward Voltage (VGS =0V, IS =1A, TJ =25°C)	VSD	-	-	1	V
Continuous Source Current (VG =VD =0V , Force Current)	IS	-	-	28	A
Pulsed Source Current (VG =VD =0V , Force Current)	ISM	-	-	112	A
Reverse Recovery Time	(VGS=10V, IS=10A, di/dt=100 A/μs, TJ=25°C)	trr	-	88	-
Reverse Recovery Charge		Qrr	-	175	-

3. Pulse test: PW ≤ 300μs duty cycle ≤ 2%.

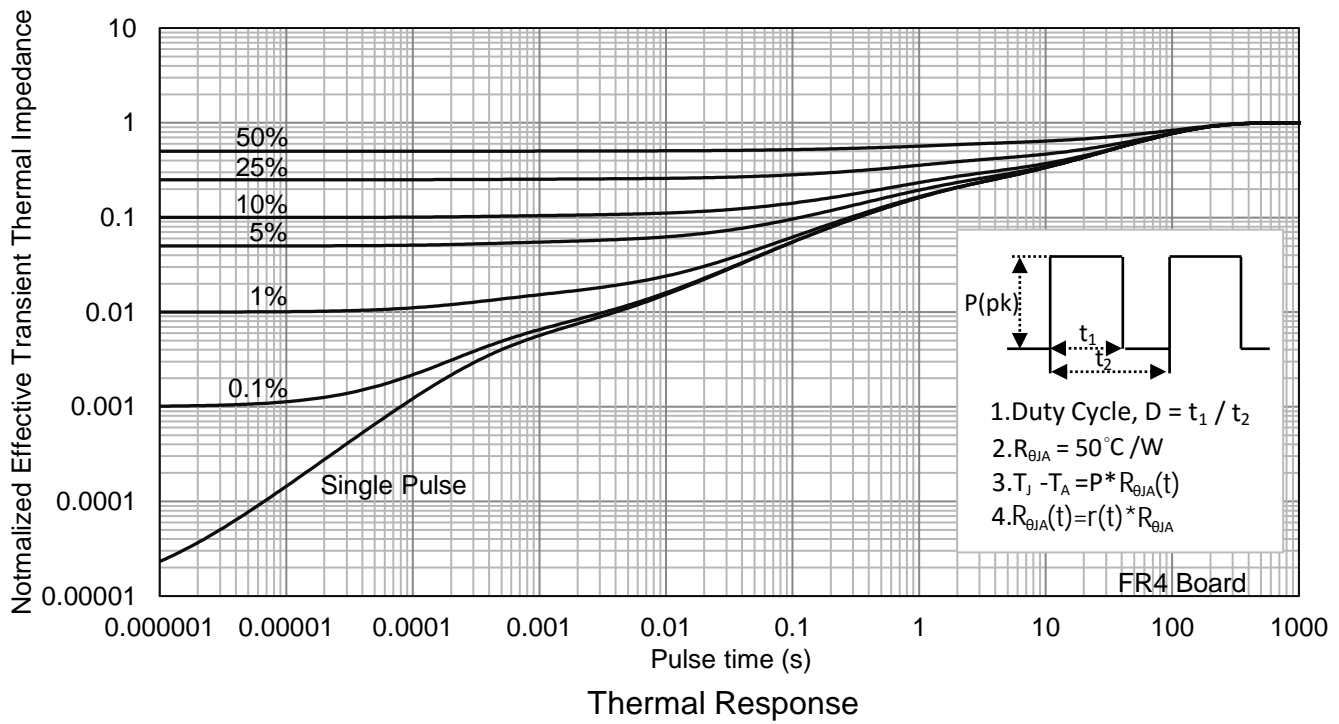
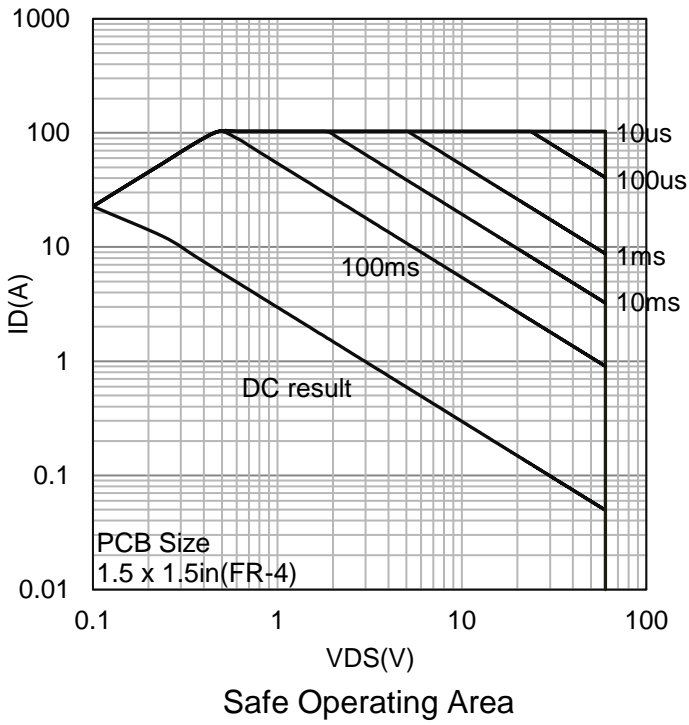
**7.ELECTRICAL CHARACTERISTICS CURVES**



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

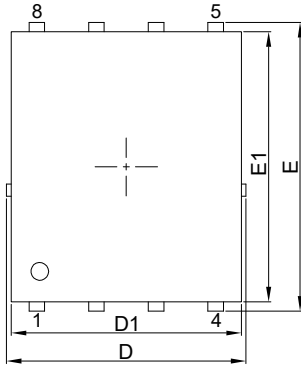


**7.ELECTRICAL CHARACTERISTICS CURVES(Con.)**

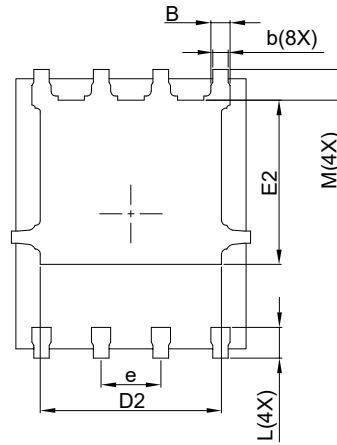


## 8. OUTLINE AND DIMENSIONS

### DFN5060-8B

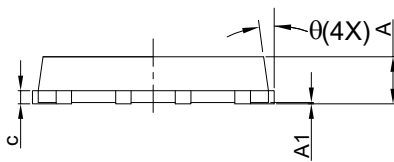


TOP VIEW



BOTTOM 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
M	0.56	0.66	0.76
e	1.27BSC		
c	0.254REF.		
θ	0°	-	12°

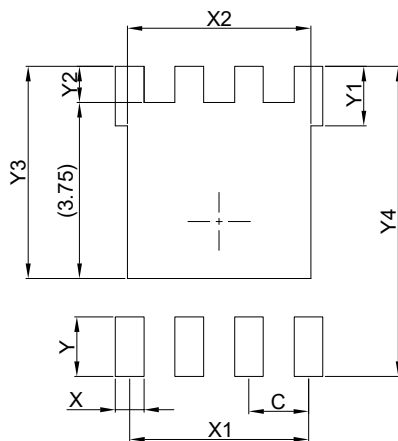


SIDE VIEW

#### GENERAL NOTES

1. Top package surface finish Ra Max0.4um
2. Bottom package surface finish Ra Max0.4um
3. Side package surface finish Ra Max0.4um
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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