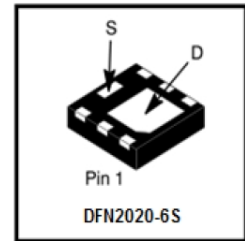


# LN3428DT2AG

## 30V N-Channel Power MOSFET

### 1. FEATURES

- $V_{DS} = 30V$ .  
 $R_{DS(ON)} \leq 12m\Omega, V_{GS}@10V$ .  
 $R_{DS(ON)} \leq 15m\Omega, V_{GS}@4.5V$ .
- Low thermal impedance.
- Fast switching speed.
- We declare that the material of product are Halogen Free and compliance with RoHS requirements.

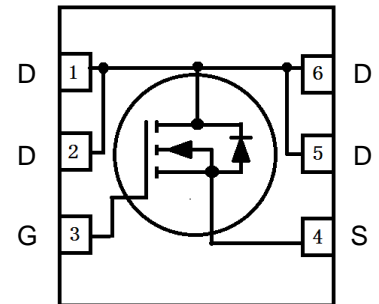


### 2. APPLICATIONS

- DC/DC Conversion
- Power Routing
- Motor Drives

### 3. ORDERING INFORMATION

Device	Marking	Shipping
LN3428DT2AG	28G	5000/Tape&Reel



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

Parameter	Symbol	Limits	Unit
Drain-to-Source Voltage	$V_{DS}$	30	V
Gate-to-Source Voltage	$V_{GS}$	$\pm 20$	V
Continuous Drain Current(Note 1)	$I_D$	$T_A = 25^\circ C$	12
		$T_A = 70^\circ C$	9
Pulsed Drain Current (Note 2)	$I_{DM}$	48	A
Avalanche Current	$I_{AS}$	15	A
Avalanche Energy( $L=0.1mH$ )	$E_{AS}$	11.25	mJ
Power Dissipation(Note 1)	$PD$	$T_A = 25^\circ C$	2
		$T_A = 70^\circ C$	1.3
Operating Junction and Storage Temperature Range	$T_J, T_{STG}$	$-55 \sim +150$	$^\circ C$

### 5. THERMAL CHARACTERISTICS

Parameter	Symbol	Limits	Unit
Maximum Junction-to-Ambient(Note 1)	$R_{\theta JA}$	65	$^\circ C/W$
Maximum Junction-to-Case	$R_{\theta JC}$	12	$^\circ C/W$

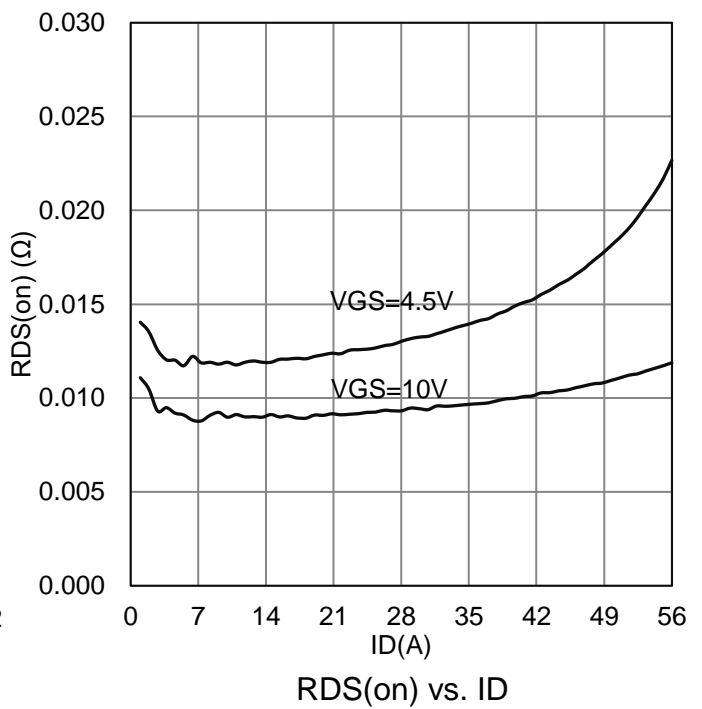
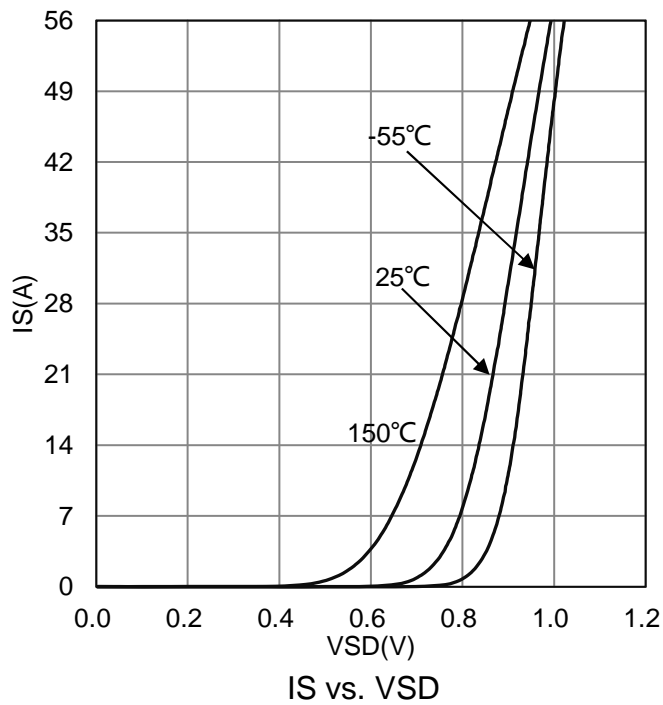
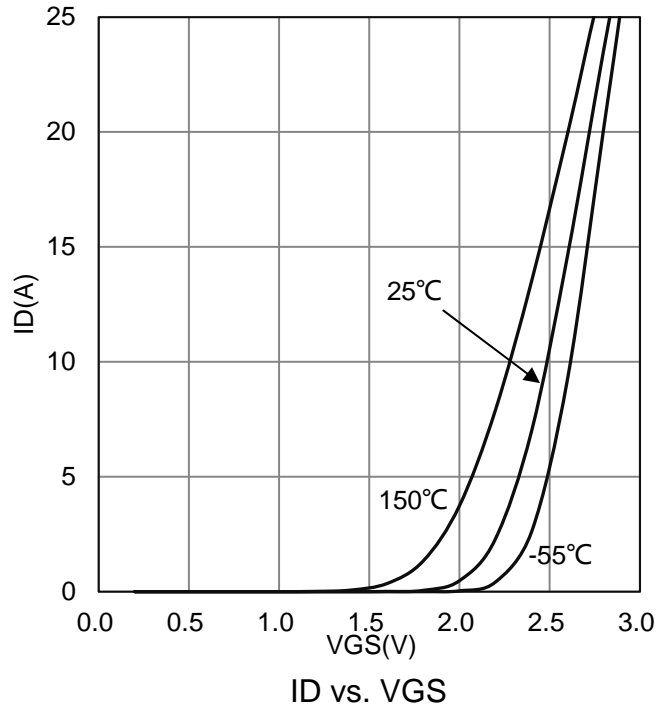
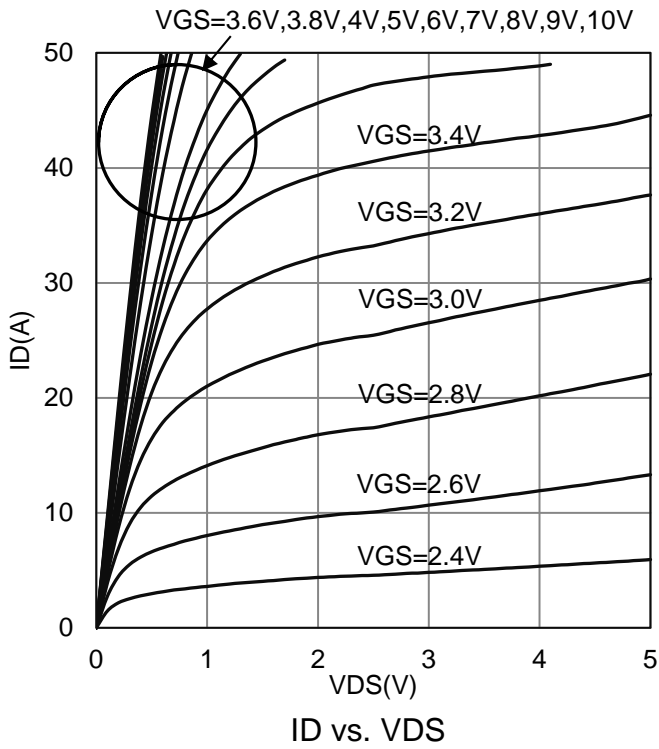
- 1.Surface mounted on "1.5 x 1.5" FR4 board using 1 sq in pad, 2 oz Cu.
- 2.Pulse width limited by maximum junction temperature.

## 6. ELECTRICAL CHARACTERISTICS

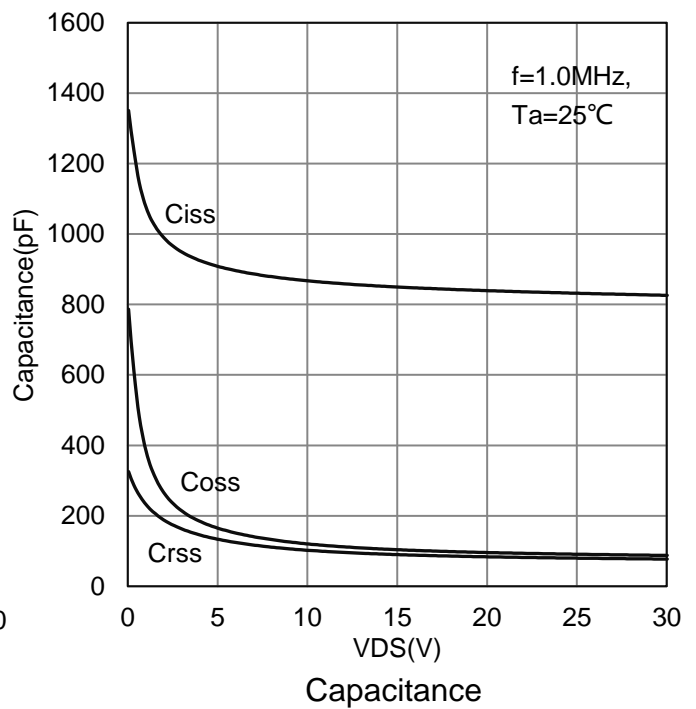
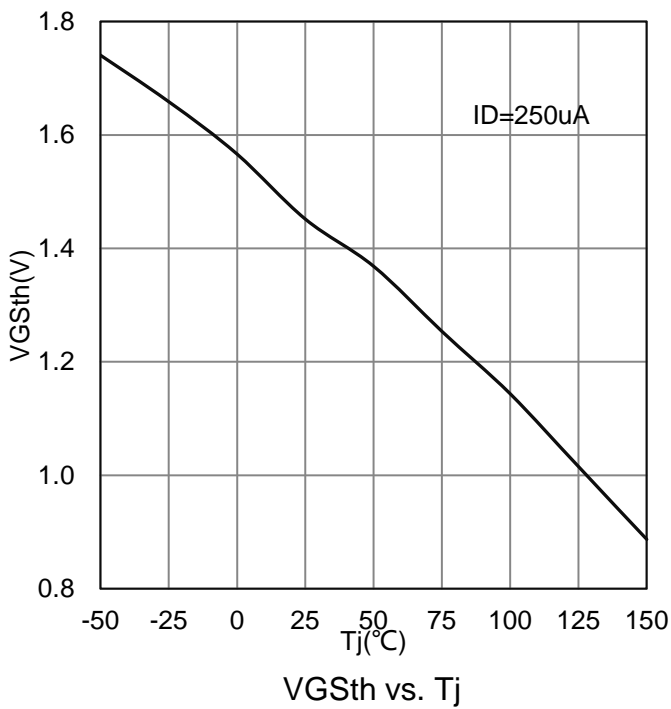
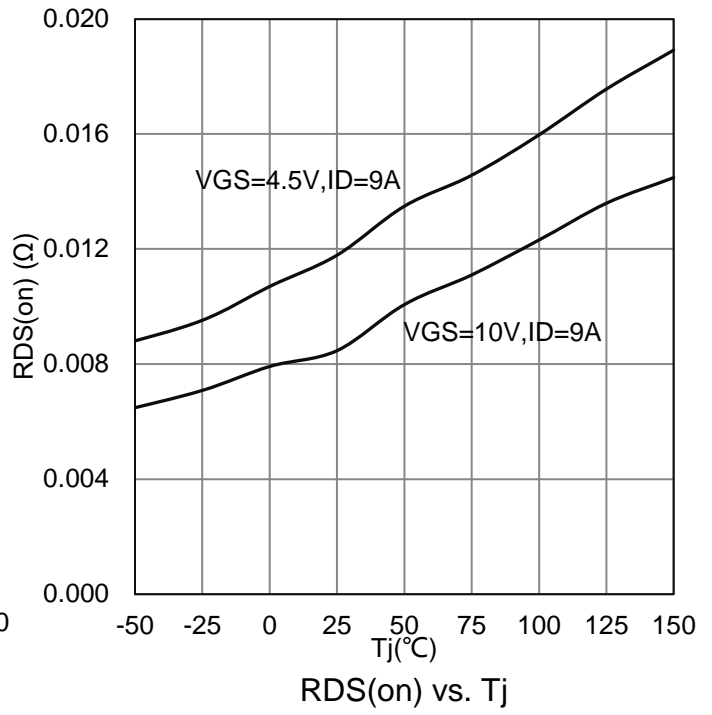
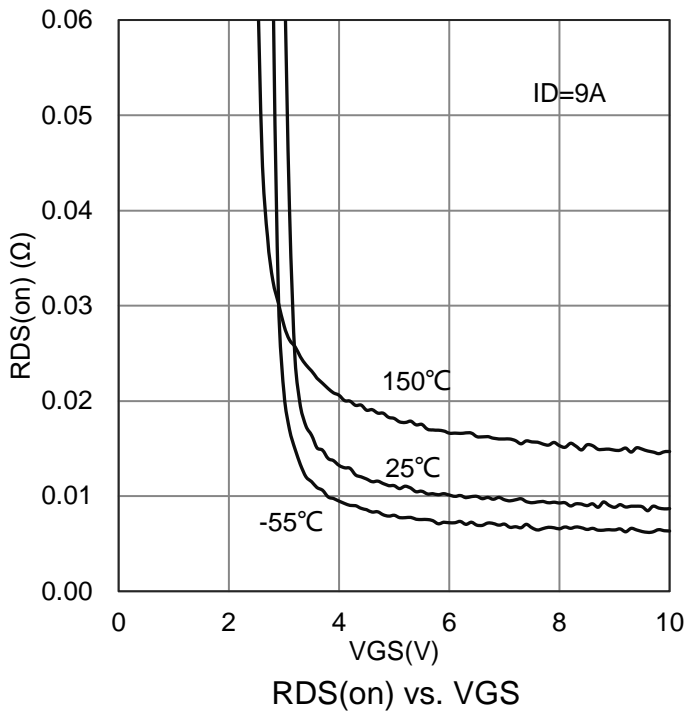
Characteristic	Symbol	Min.	Typ.	Max.	Unit
<b>Static</b>					
Drain-Source Breakdown Voltage (VGS = 0 V, ID = 250 $\mu$ A)	VBRDSS	30	-	-	V
Gate-Source Threshold Voltage (VDS = VGS, ID = 250 $\mu$ A)	VGS(th)	1	-	2.5	V
Gate-Body Leakage (VDS = 0 V, VGS = $\pm$ 20 V)	IGSS	-	-	$\pm$ 100	nA
Zero Gate Voltage Drain Current (VDS = 24 V, VGS = 0 V)	IDSS	-	-	1	$\mu$ A
Drain-Source On-Resistance(Note 3) (VGS = 10 V, ID = 9 A) (VGS = 4.5 V, ID = 9 A)	RDS(on)	-	-	12 15	m $\Omega$
Diode Forward Voltage(Note 3) (IS = 2A, VGS = 0V)	VSD	-	-	1.2	V
<b>Dynamic</b>					
Total Gate Charge	(VDS = 15 V, VGS = 4.5 V, ID = 9 A)	Qg	-	8.5	nC
Gate-Source Charge		Qgs	-	2	
Gate-Drain Charge		Qgd	-	4.4	
Turn-On Delay Time	(VDS = 15 V, RL=15 $\Omega$ , ID =1 A, VGEN = 10 V, RGEN = 6 $\Omega$ )	td(on)	-	7	ns
Rise Time		tr	-	7	
Turn-Off Delay Time		td(off)	-	39	
Fall Time		tf	-	9	
Input Capacitance	(VDS = 15 V, VGS = 0 V, f = 1 Mhz)	Ciss	-	850	pF
Output Capacitance		Coss	-	104	
Reverse Transfer Capacitance		Crss	-	90	

3. Pulse test: PW  $\leq$  300us duty cycle  $\leq$  2%.

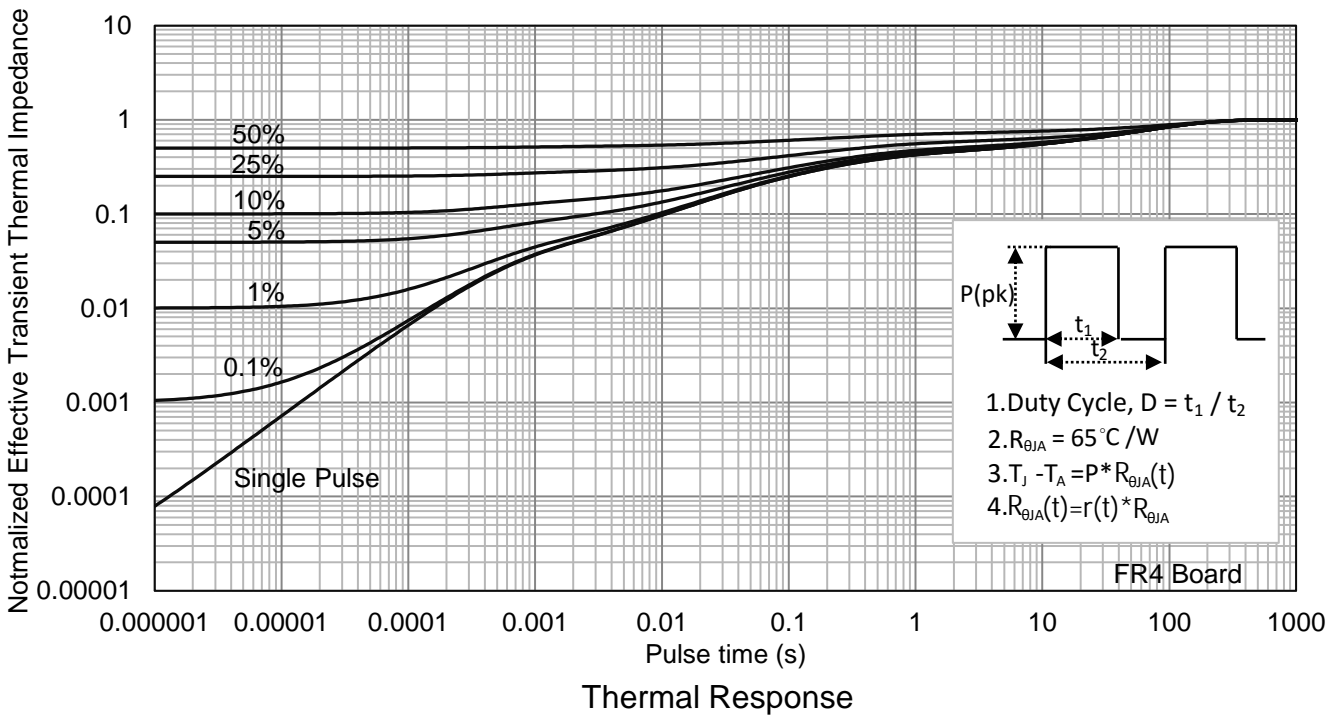
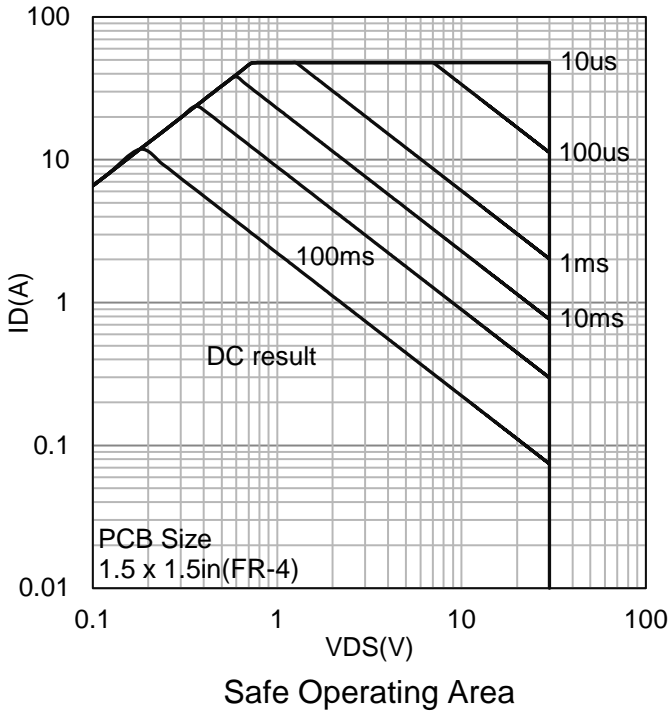
**7. ELECTRICAL CHARACTERISTICS CURVES**



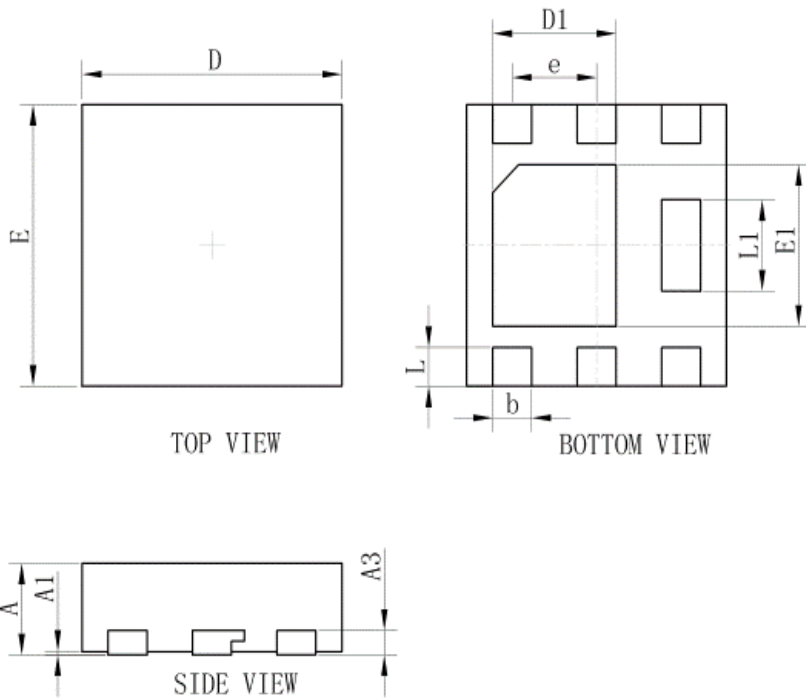
**7. ELECTRICAL CHARACTERISTICS CURVES(Con.)**



7. ELECTRICAL CHARACTERISTICS CURVES(Con.)

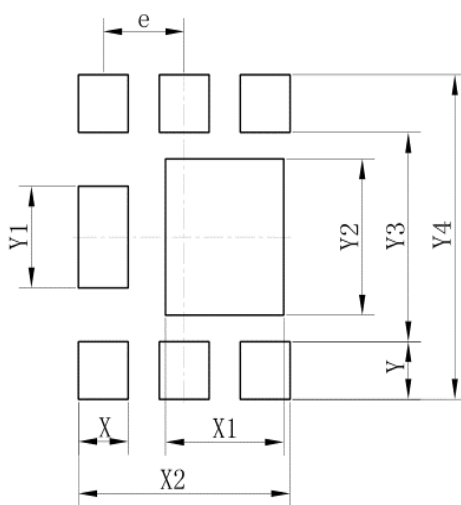


### 8. OUTLINE AND DIMENSIONS



DFN2020-6S			
DIM	MIN	NOR	MAX
A	0.60	0.65	0.70
A1	0.01	0.03	0.05
b	0.25	0.30	0.35
D	1.95	2.00	2.05
E	1.95	2.00	2.05
e	0.65TYP.		
L	0.23	0.28	0.33
L1	0.60	0.65	0.70
D1	0.90	0.95	1.00
E1	1.10	1.15	1.20
A3	0.152REF		
All Dimensions in mm			

### 9. SOLDERING FOOTPRINT



DFN2020-6S	
Dim	(mm)
X	0.40
X1	0.95
X2	1.70
e	0.65
Y	0.43
Y1	0.75
Y2	1.15
Y3	1.54
Y4	2.39

## **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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