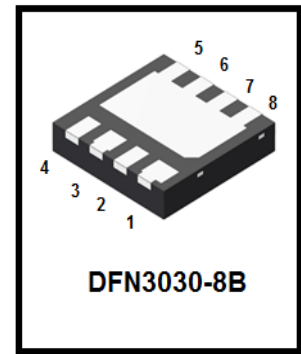


LN8320DT1AG

N-Channel 30-V (D-S) MOSFET

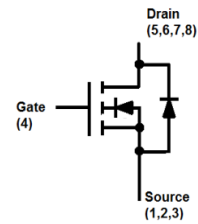
1. FEATURES

- Low RDS(on) trench technology.
- Low thermal impedance.
- Fast switching speed.
- We declare that the material of product are Halogen Free and compliance with RoHS requirements.



2. APPLICATION

- Power Routing
- DC/DC Conversion
- Motor Drives



3. ORDERING INFORMATION

Device	Marking	Shipping
LN8320DT1AG	A20	3000/Tape&Reel

4. MAXIMUM RATINGS(Ta = 25°C unless otherwise stated)

Parameter	Symbol	Limits	Unit
Drain-to-Source Voltage	VDSS	30	V
Gate-to-Source Voltage	VGS	±20	V
Continuous Drain Current(Note 1)	ID	TA =25°C	25
		TA =70°C	18
Pulsed Drain Current (Note 2)	IDM	100	A
Power Dissipation(Note 1)	PD	TA =25°C	3.5
		TA =70°C	2
Operating Junction Temperature	TJ	-55 ~+150	°C
Storage Temperature Range	Tstg	-55 ~+150	

1.Surface Mounted on 1" x 1" FR4 Board.

2.Pulse width limited by maximum junction temperature.

5. THERMAL CHARACTERISTICS

Parameter	Symbol	Limits	Unit
Maximum Junction-to-Ambient(Note 1)	RθJA	t ≤10s	35
		Steady State	81

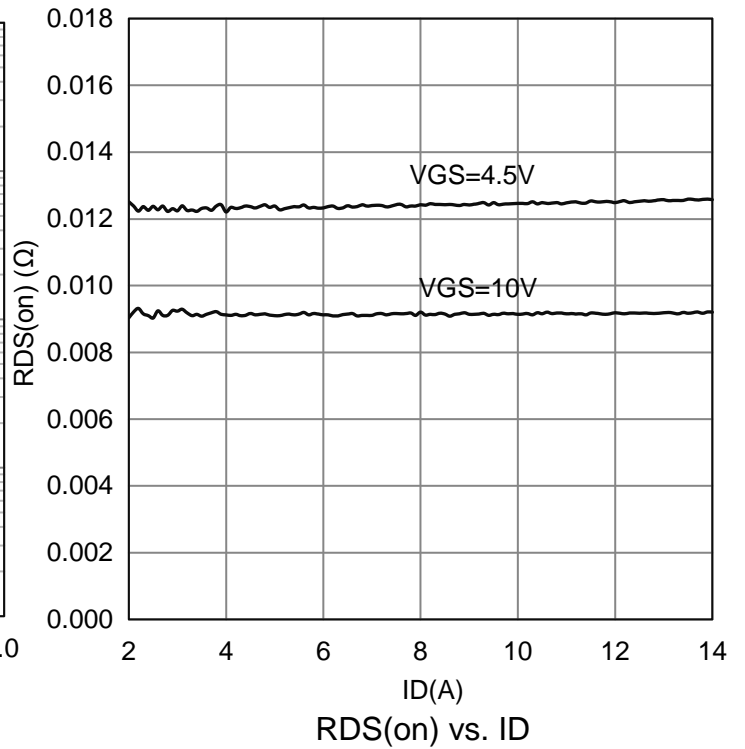
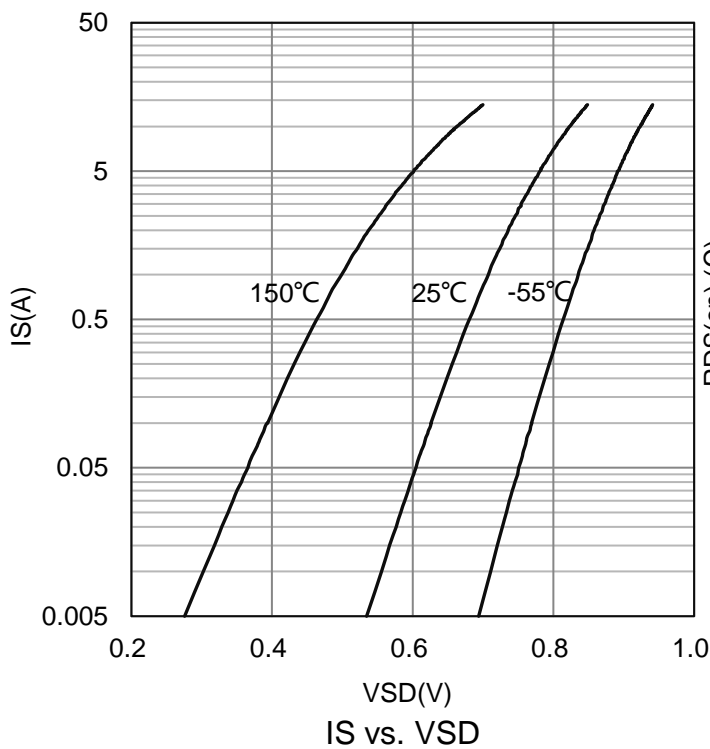
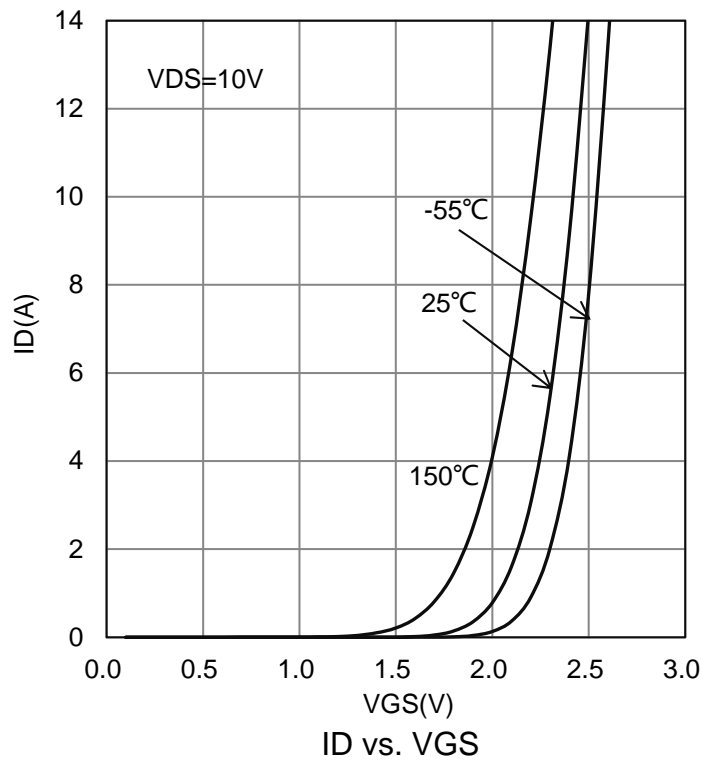
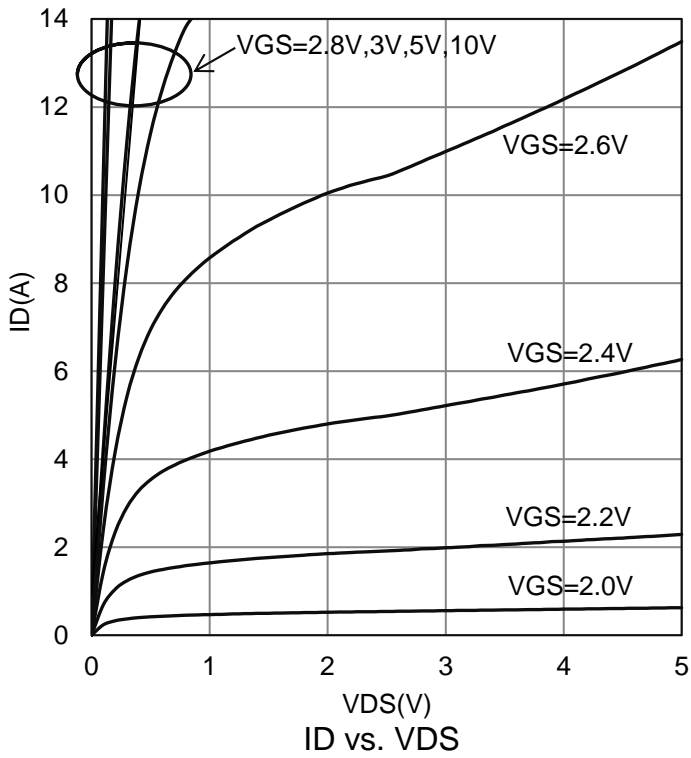
6. ELECTRICAL CHARACTERISTICS

Characteristic	Symbol	Min.	Typ.	Max.	Unit	
Static						
Gate-Source Threshold Voltage ($V_{DS} = V_{GS}$, $I_D = 250 \mu A$)	$V_{GS(th)}$	1.0	1.3	2.1	V	
Gate-Body Leakage ($V_{DS} = 0 V$, $V_{GS} = \pm 20 V$)	I_{GSS}	-	-	± 100	nA	
Zero Gate Voltage Drain Current ($V_{DS} = 24 V$, $V_{GS} = 0 V$)	I_{DSS}	-	-	1	μA	
Drain-Source On-Resistance(Note 3) ($V_{GS} = 10 V$, $I_D = 12.8 A$) ($V_{GS} = 4.5 V$, $I_D = 10.3 A$)	$R_{DS(on)}$	-	9.5 13	11 16	m Ω	
Diode Forward Voltage(Note 3) ($I_S = 2.3 A$, $V_{GS} = 0 V$)	V_{SD}	-	-	1.2	V	
Gate Resistance ($f=1MHz, V_{GS}=0V$)	R_g	-	2	-	Ω	
Dynamic(Note 4)						
Total Gate Charge	(VDS = 15 V, VGS = 4.5 V, ID = 12.8 A)	Q_g	-	10	-	nC
Gate-Source Charge		Q_{gs}	-	3.5	-	
Gate-Drain Charge		Q_{gd}	-	4	-	
Input Capacitance	(VDS = 15 V, VGS = 0 V, f = 1 Mhz)	C_{iss}	-	1000	-	pF
Output Capacitance		C_{oss}	-	130	-	
Reverse Transfer Capacitance		C_{rss}	-	110	-	
Turn-On Delay Time	(VDS = 15 V, RL = 1.2 Ω , ID = 12.8 A, VGEN = 10 V, RGEN = 6 Ω)	$t_{d(on)}$	-	6	-	ns
Rise Time		t_r	-	6	-	
Turn-Off Delay Time		$t_{d(off)}$	-	28	-	
Fall Time		t_f	-	8	-	

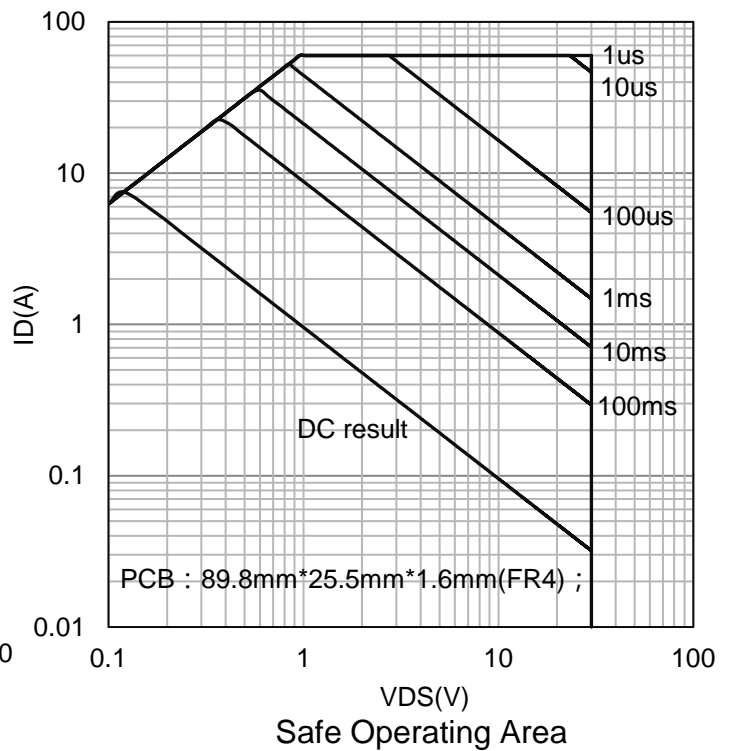
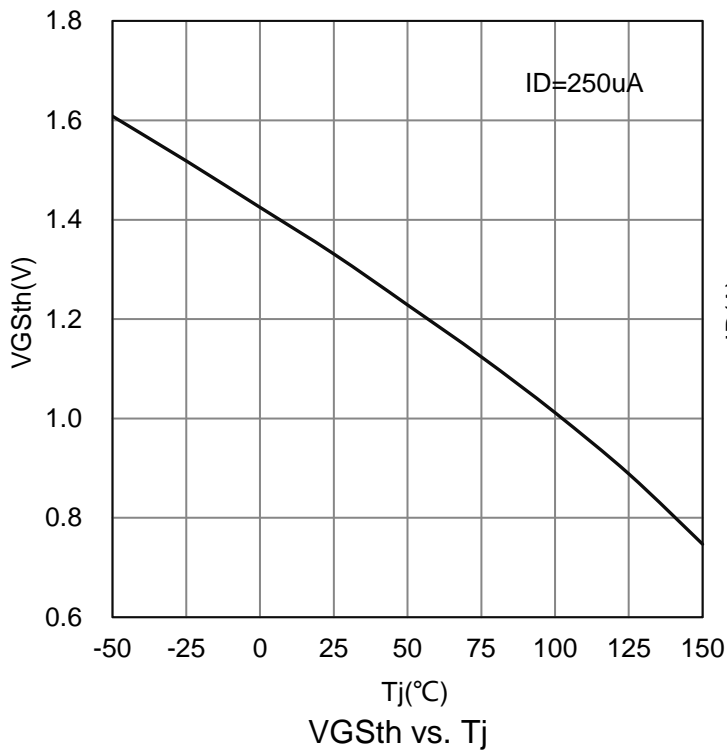
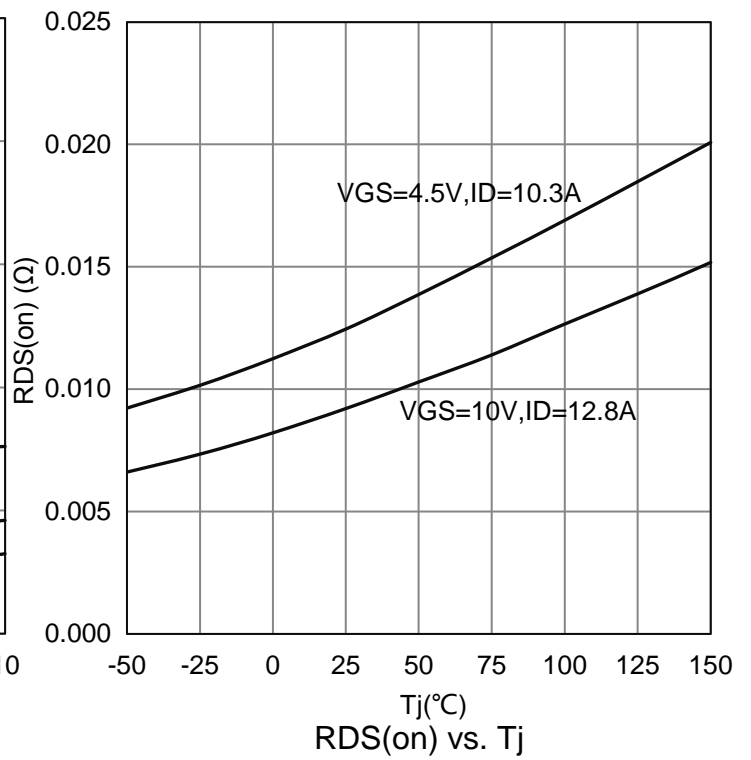
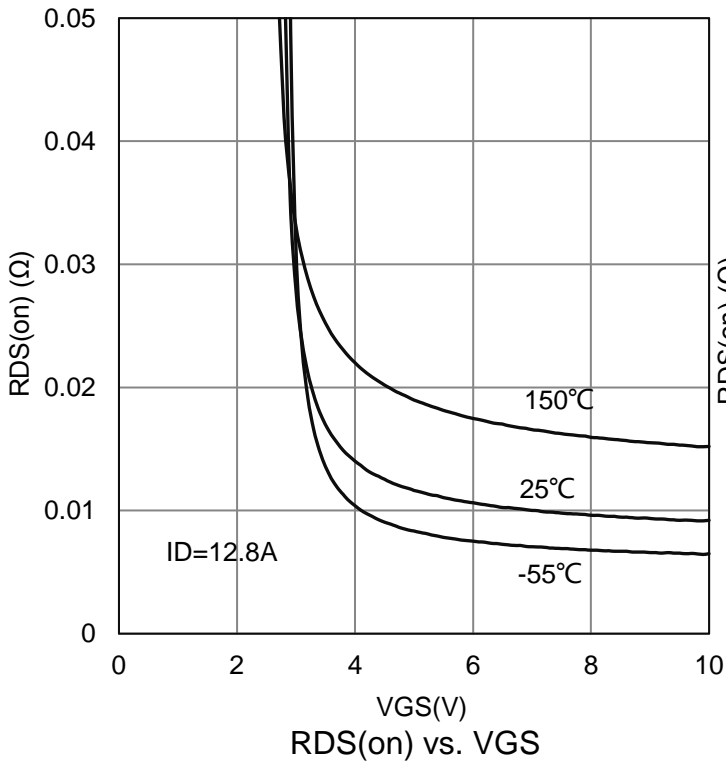
3.Pulse test: $PW \leq 300 \mu s$ duty cycle $\leq 2\%$.

4.Guaranteed by design, not subject to production testing.

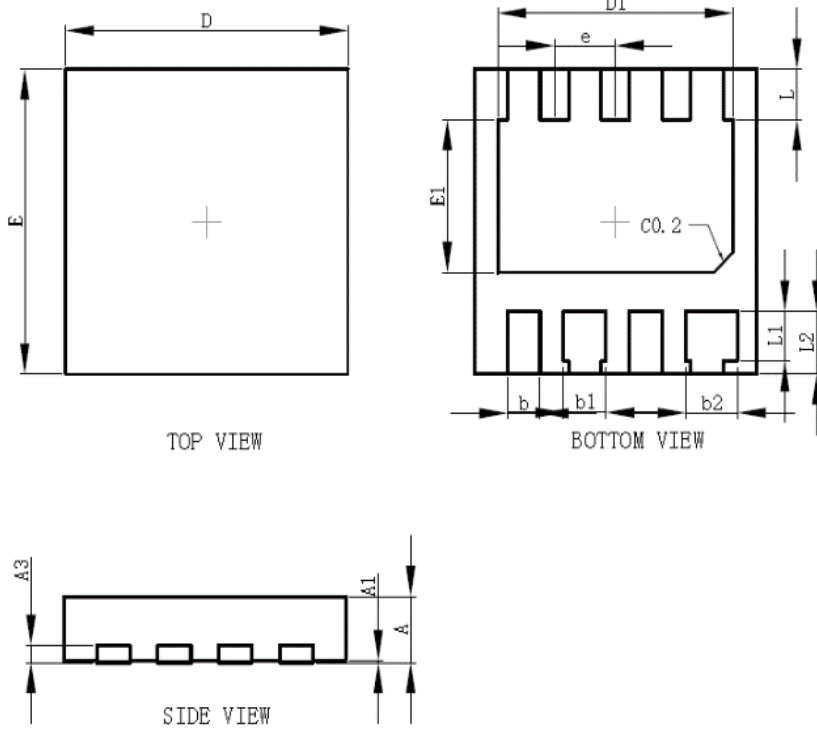
7. ELECTRICAL CHARACTERISTICS CURVES



7.ELECTRICAL CHARACTERISTICS CURVES(Con.)

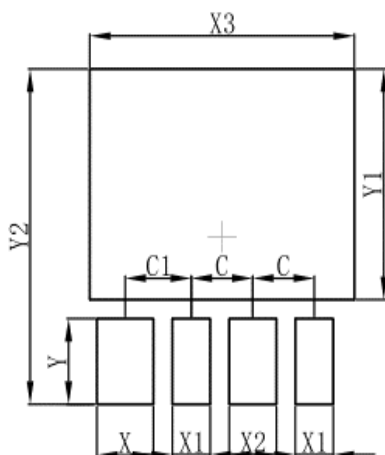


8. OUTLINE AND DIMENSIONS



DFN3030-8B			
Dim	Min	Nor	Max
A	0.60	0.65	0.70
A1	0.00	0.03	0.05
b	0.30	0.35	0.40
b1	0.40	0.45	0.50
b2	0.50	0.55	0.60
D	2.95	3.00	3.05
E	2.95	3.00	3.05
D1	2.45	2.50	2.55
E1	1.45	1.50	1.55
e	0.65BSC		
L	0.45	0.50	0.55
L1	0.44	0.49	0.54
L2	0.57	0.62	0.67
A3	0.152REF.		
All Dimensions in mm			

9. SOLDERING FOOTPRINT



DFN3030-8B	
Dim	(mm)
C	0.65
C1	0.70
X	0.60
X1	0.40
X2	0.50
X3	2.80
Y1	2.20
Y2	3.20