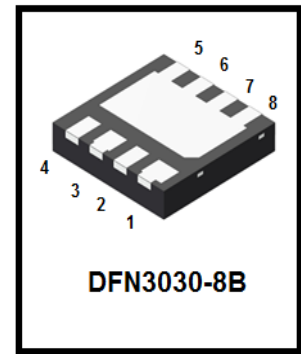


LN8320DT1AG

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

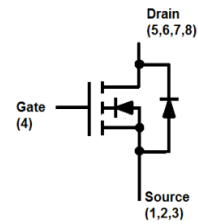
1. FEATURES

- 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	10
		TA =70°C	8.5
Pulsed Drain Current (Note 2)	IDM	40	A
Power Dissipation(Note 1)	PD	TA =25°C	2
		TA =70°C	1.3
Operating Junction Temperature	TJ	-55 ~+150	°C
Storage Temperature Range	Tstg	-55 ~+150	

5. THERMAL CHARACTERISTICS

Parameter	Symbol	Limits	Unit
Maximum Junction-to-Ambient(Note 1)	RθJA	60	°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.

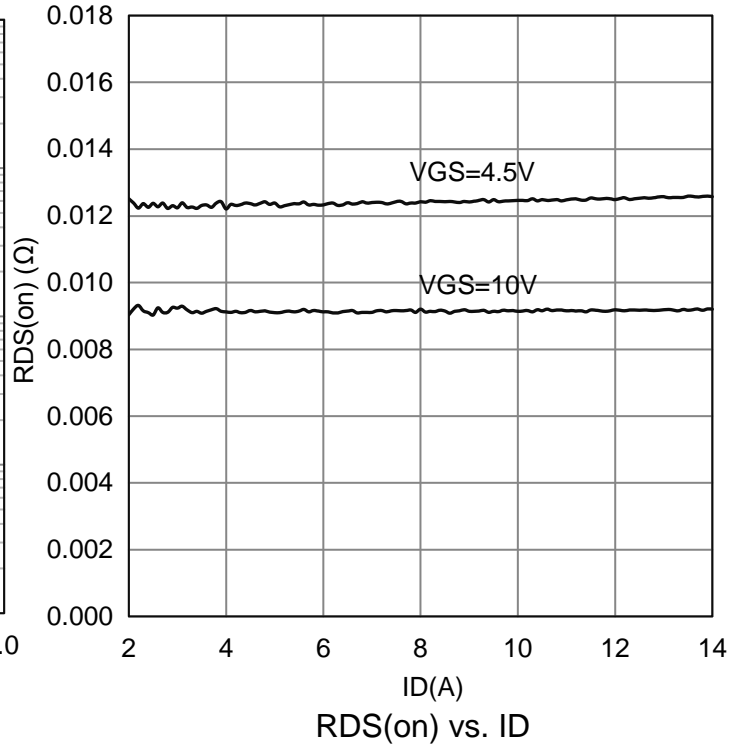
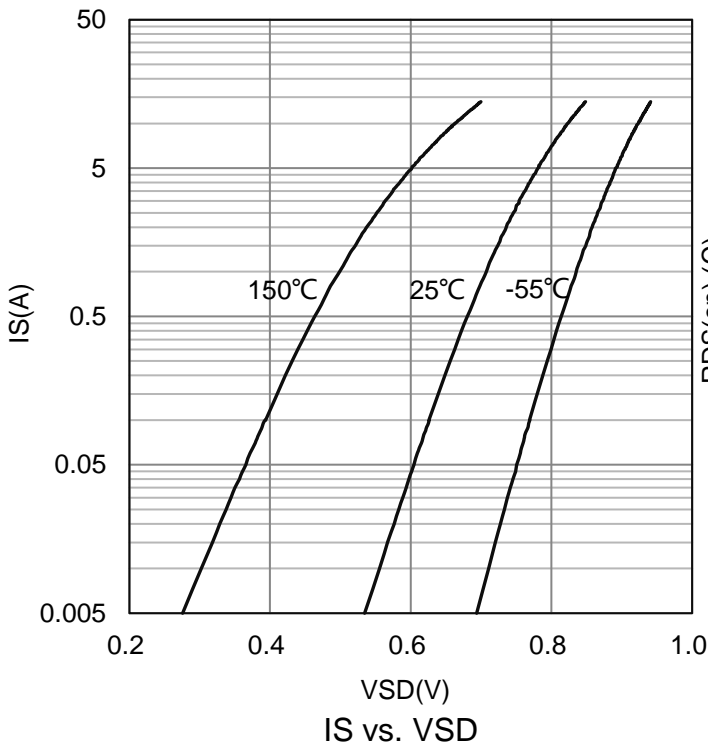
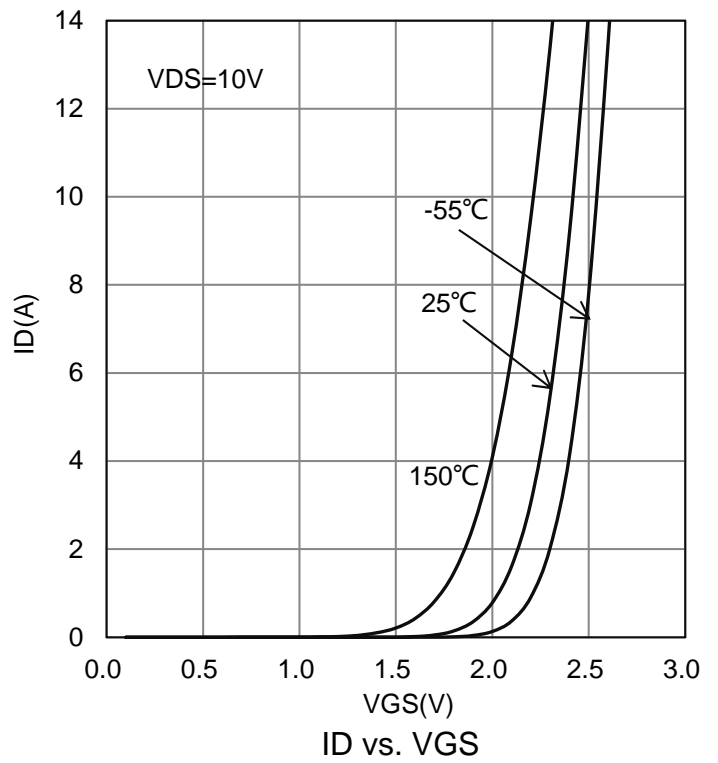
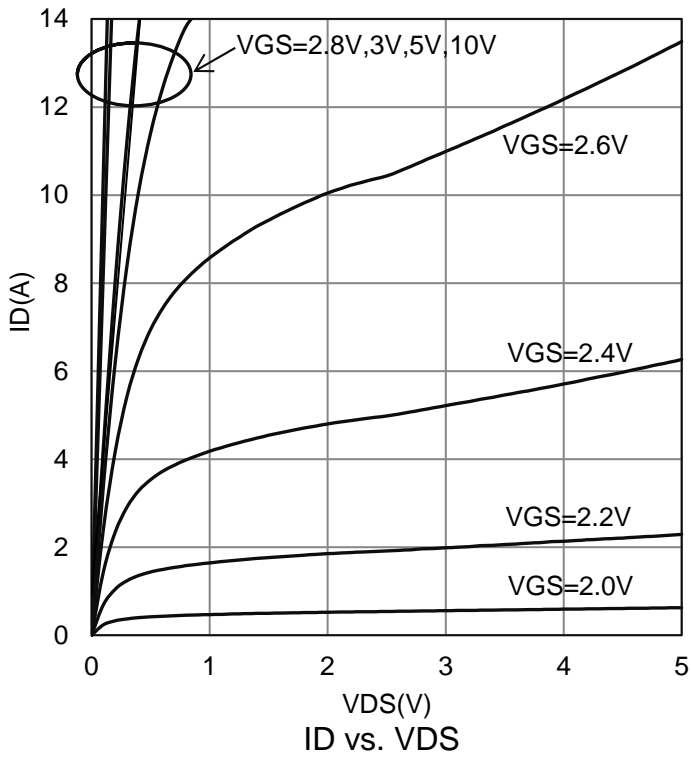
6. ELECTRICAL CHARACTERISTICS

Characteristic	Symbol	Min.	Typ.	Max.	Unit
Static					
Drain-Source Breakdown Voltage (VGS = 0 V, ID = 250 μ A)	V(BR)DSS	30	-	-	V
Gate-Source Threshold Voltage (VDS = VGS, ID = 250 μ A)	VGS(th)	1.0	1.3	2.1	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	μ A
Drain-Source On-Resistance(Note 3) (VGS = 10 V, ID = 12.8 A) (VGS = 4.5 V, ID = 10.3 A)	RDS(on)	-	9.5 13	11 16	m Ω
Diode Forward Voltage(Note 3) (IS = 2.3 A, VGS = 0 V)	VSD	-	-	1.2	V
Dynamic(Note 4)					
Total Gate Charge	(VDS = 15 V, VGS = 4.5 V, ID = 12.8 A)	Qg	-	10	nC
Gate-Source Charge		Qgs	-	3.5	
Gate-Drain Charge		Qgd	-	4	
Input Capacitance	(VDS = 15 V, VGS = 0 V, f = 1 Mhz)	Ciss	-	1000	pF
Output Capacitance		Coss	-	130	
Reverse Transfer Capacitance		Crss	-	110	
Turn-On Delay Time	(VDS = 15 V, RL = 1.2 Ω , ID = 12.8 A, VGEN = 10 V, RGEN = 6 Ω)	td(on)	-	6	ns
Rise Time		tr	-	6	
Turn-Off Delay Time		td(off)	-	28	
Fall Time		tf	-	8	

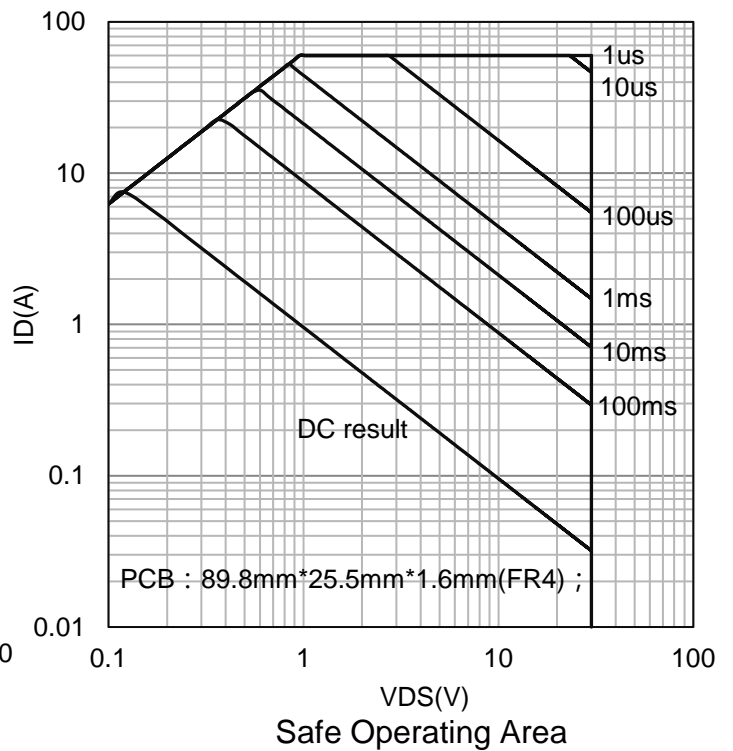
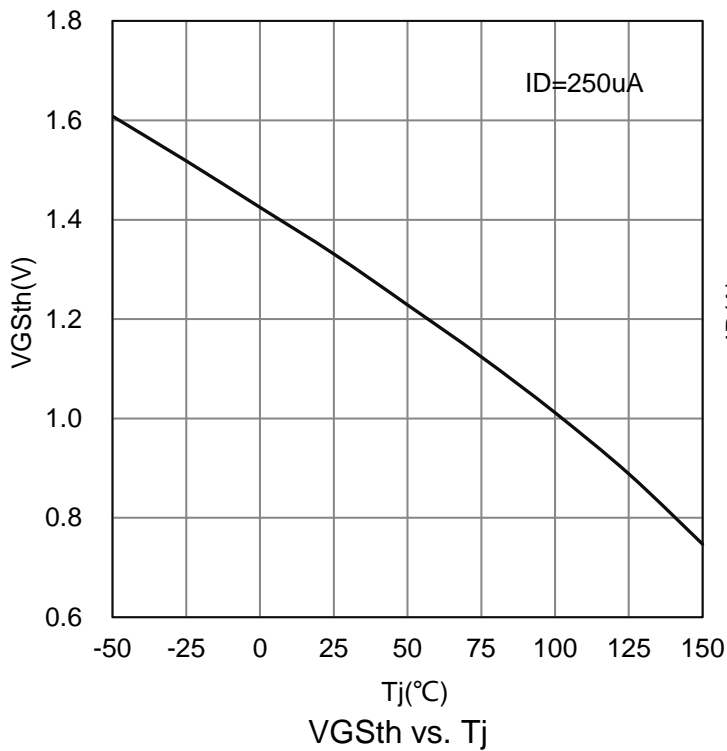
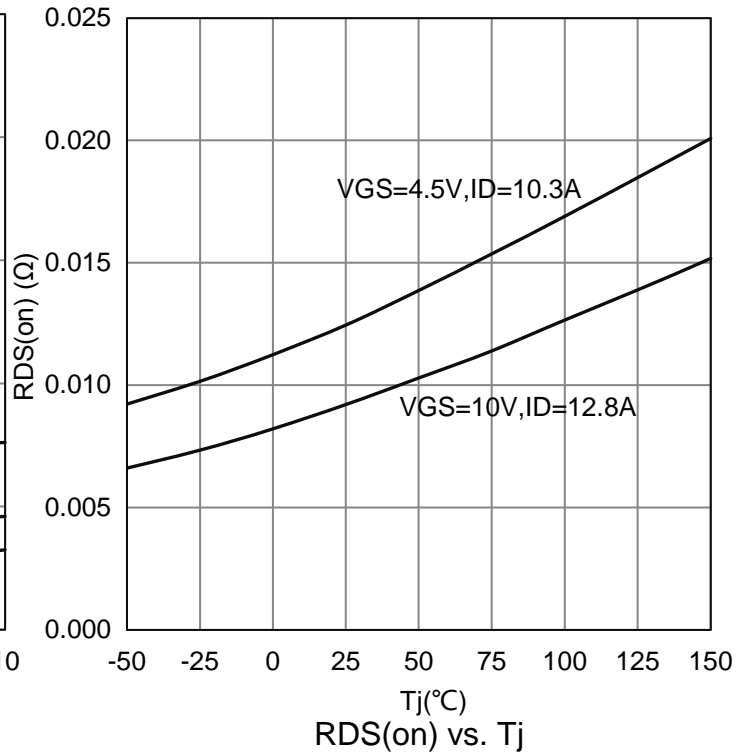
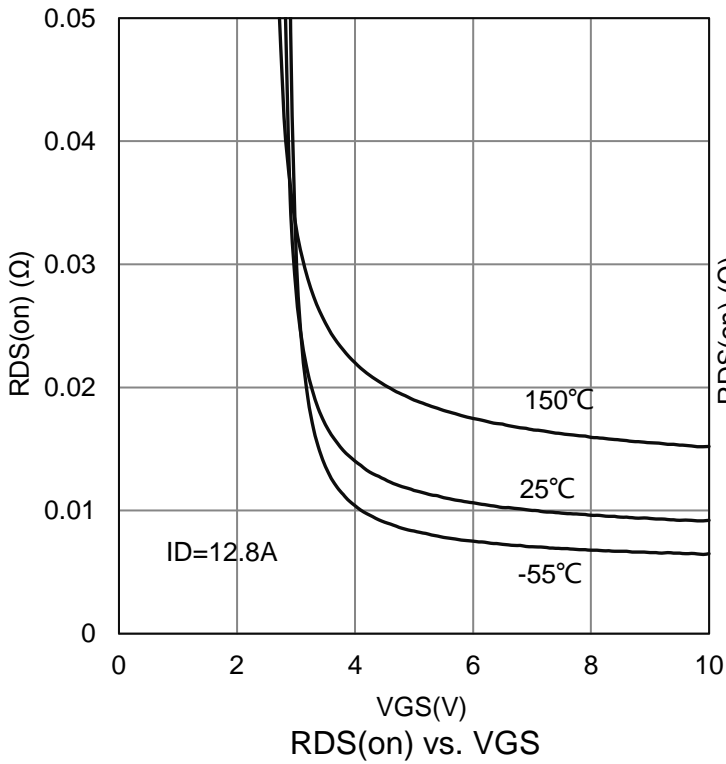
3. Pulse test: PW \leq 300 μ s duty cycle \leq 2%.

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

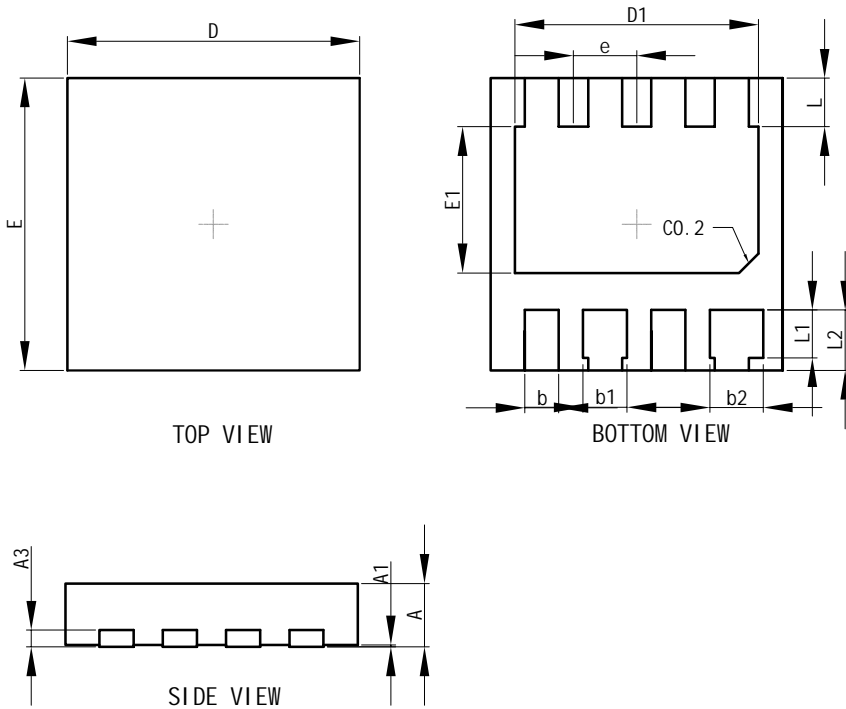
7. ELECTRICAL CHARACTERISTICS CURVES



7.ELECTRICAL CHARACTERISTICS CURVES(Con.)

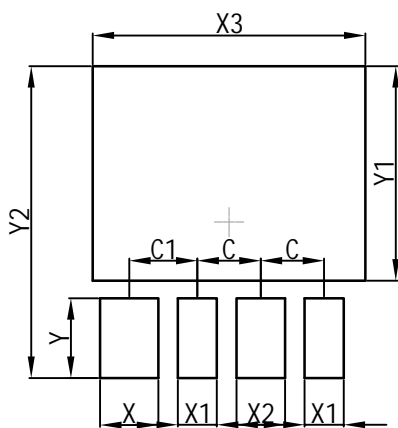


8. OUTLINE AND DIMENSIONS



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
Y	0.82

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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