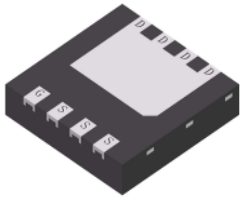
LNB8303DT0AG

N-Channel Logic Level Enhancement Mode MOSFET

1. FEATURES

- Low thermal impedance.
- Fast switching speed.
- We declare that the material of product are Halogen Free and compliance with RoHS requirements.



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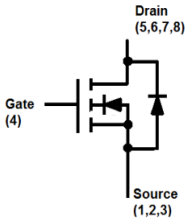


2. APPLICATION

- Power Routing
- DC/DC Conversion
- Motor Drives

3. ORDERING INFORMATION

Device	Marking	Shipping
LNB8303DT0AG	AB	2000/Tape&Reel

4. MAXIMUM RATINGS(Ta = 25ºC)

Parameter		Symbol	Limits	Unit
Drain−to−Source Voltage		VDSS	30	V
Gate−to−Source Voltage		VGS	±20	V
Avalanche Current(L = 0.1mH)		IAS	34	A
Avalanche energy(L = 0.1mH)		EAS	59	mJ
Continuous Drain Current(Note 1)	TC =25°C	ID	37	A
	TA =25°C		22	
	TC =100°C		25	
	TA =100°C		13	
Pulsed Drain Current (Note 2)		IDM	148	
Power Dissipation(Note 1)	TC =25°C	PD	21	W
	TC =100°C		8.3	
	TA =25°C		2.5	
	TA =100°C		1	
Continuous Drain Current(Note 3)	TA =25°C	ID	11	A
	TA =100°C		7.2	
Power Dissipation(Note 3)	TA =25°C	PD	0.7	W
Operating Junction Temperature		TJ	−55 ~+150	℃
Storage Temperature Range		Tstg	−55 ~+150	

5. THERMAL CHARACTERISTICS

Parameter	Symbol	Limits	Unit
Maximum Junction-to-Ambient(Note 1)	RθJA	50	℃/W
Maximum Junction-to-Ambient(Note 3)	RθJA	175	
Maximum Junction-to-Case	RθJC	6	

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.

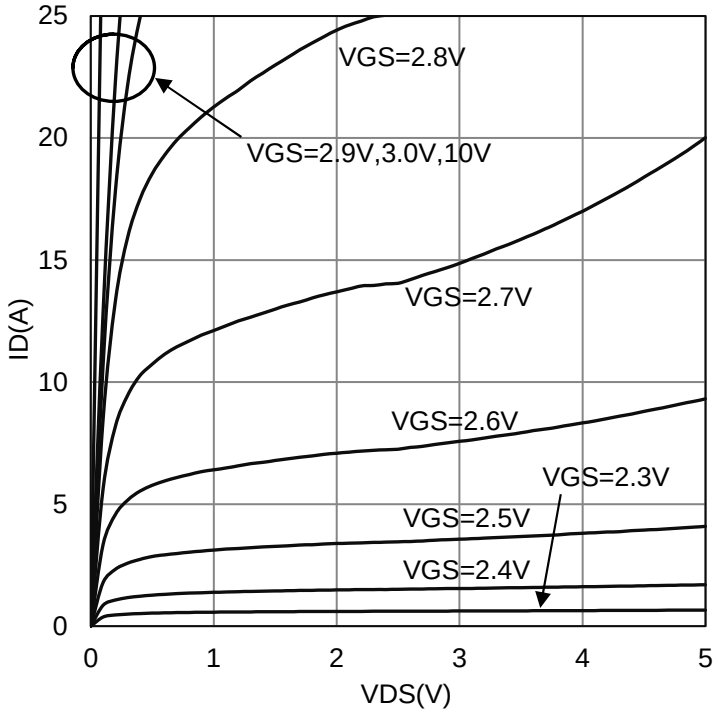
3.Surface mounted on FR4 board using the minimum recommended pad size.

6. ELECTRICAL CHARACTERISTICS(Ta = 25ºC)

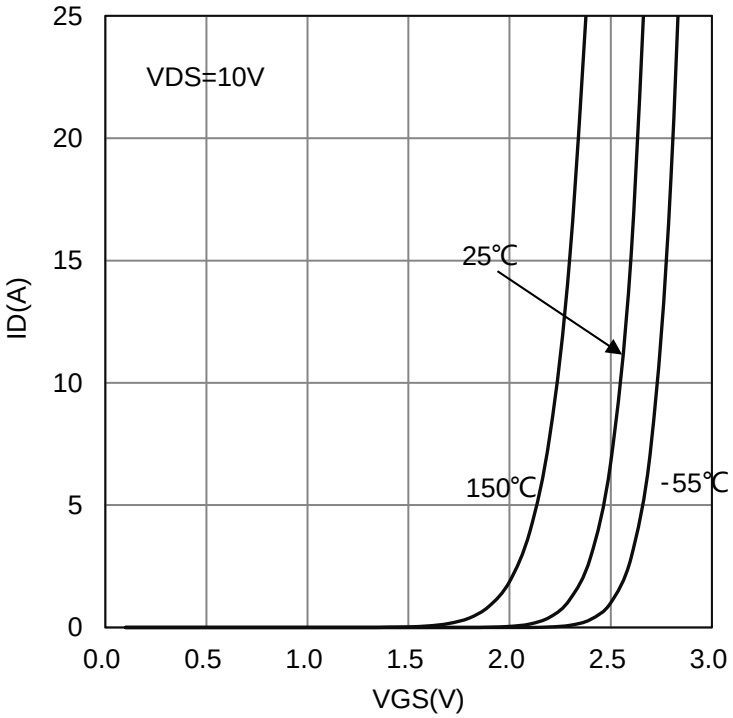
Characteristic		Symbol	Min.	Typ.	Max.	Unit
Static						
Drain-Source Breakdown Voltage (VGS = 0V, ID = 250 uA)		V(BR)DSS	30	-	-	V
Gate-Source Threshold Voltage (VDS = VGS , ID = 250 uA)		VGS(th)	1	1.5	3	V
Gate-Body Leakage (VDS = 0 V, VGS = ±20 V)		IGSS	-	-	± 100	nA
Zero Gate Voltage Drain Current (VDS = 24 V, VGS = 0 V)		IDSS	-	-	1	μA
Drain-Source On-Resistance(Note 4)		RDS(on)				mΩ
(VGS = 10 V, ID = 18 A)			-	2.5	3.3	
(VGS = 4.5 V, ID = 14 A)			-	3	4.3	
Dynamic						
Total Gate Charge(VGS =4.5V)	(VDS = 15 V, VGS = 10 V,ID = 18 A)	Qg	-	36	-	nC
Total Gate Charge(VGS =10V)		Qg	-	67.3	-	
Gate-Source Charge		Qgs	-	7.4	-	
Gate-Drain Charge		Qgd	-	14.7	-	
Input Capacitance	(VDS = 15 V, VGS = 0 V, f = 1 MHz)	Ciss	-	3178	-	pF
Output Capacitance		Coss	-	402	-	
Reverse Transfer Capacitance		Crss	-	311.9	-	
Turn-On Delay Time	(VDS = 15 V,ID= 1A,VGS = 10 V, RGS = 2.7 Ω)	td(on)	-	15	-	ns
Rise Time		tr	-	10	-	
Turn-Off Delay Time		td(off)	-	50	-	
Fall Time		tf	-	10	-	
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS (TC = 25 ° C)						
Continuous Current		IS	-	-	37	A
Pulsed Current		ISM	-	-	148	A
Diode Forward Voltage (IF = 18A, VGS = 0V)		VSD	-	-	1.3	V

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

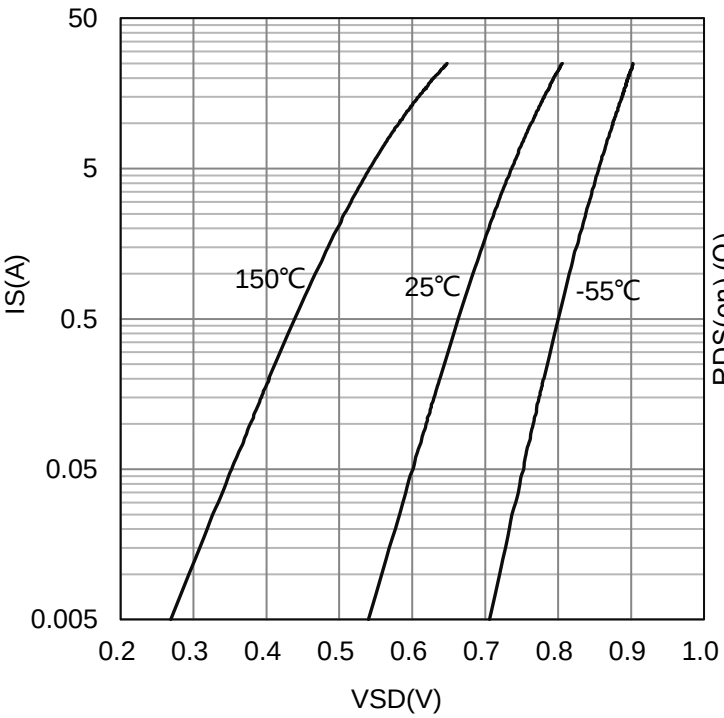
7.ELECTRICAL CHARACTERISTICS CURVES



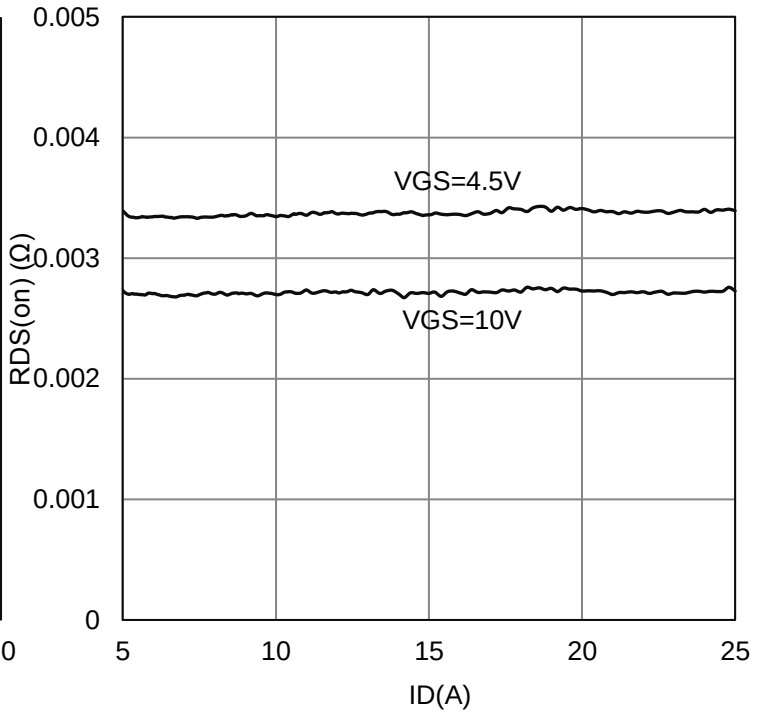
ID vs. VDS



ID vs. VGS

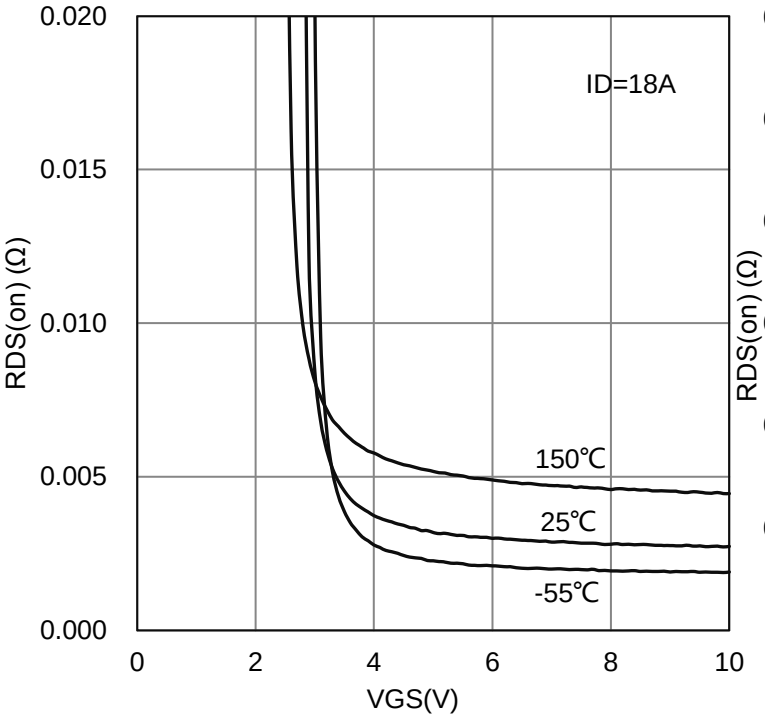


IS vs. VSD

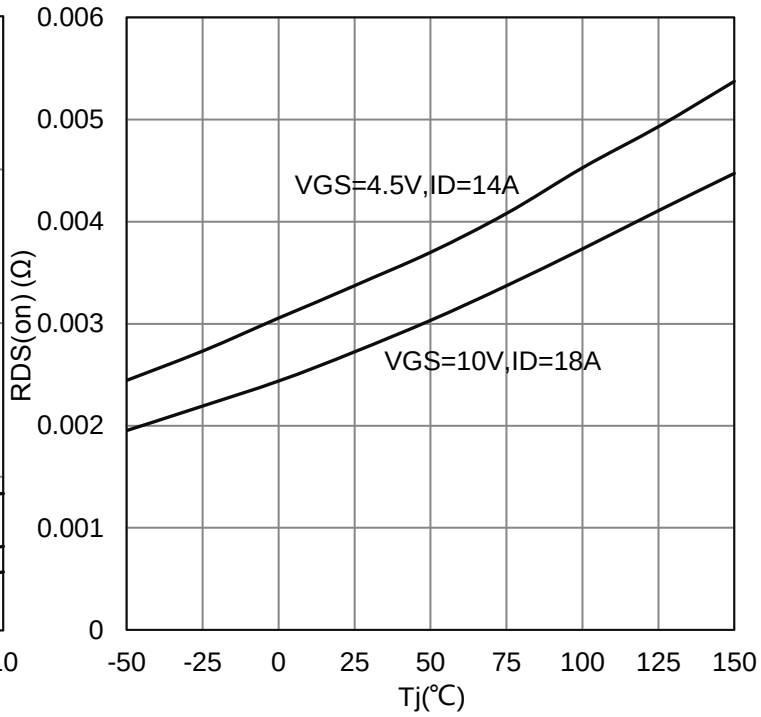


RDS(on) vs. ID

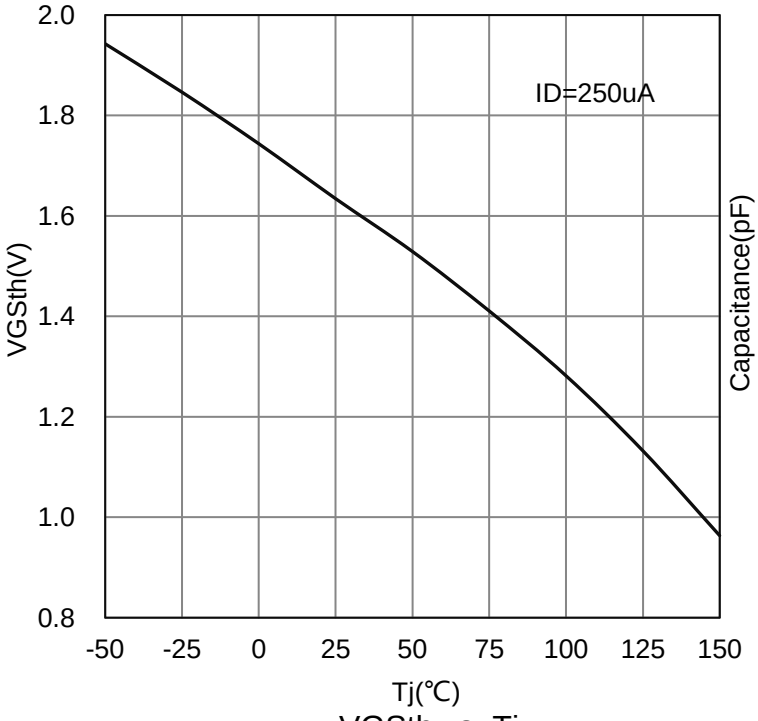
7.ELECTRICAL CHARACTERISTICS CURVES(Con.)



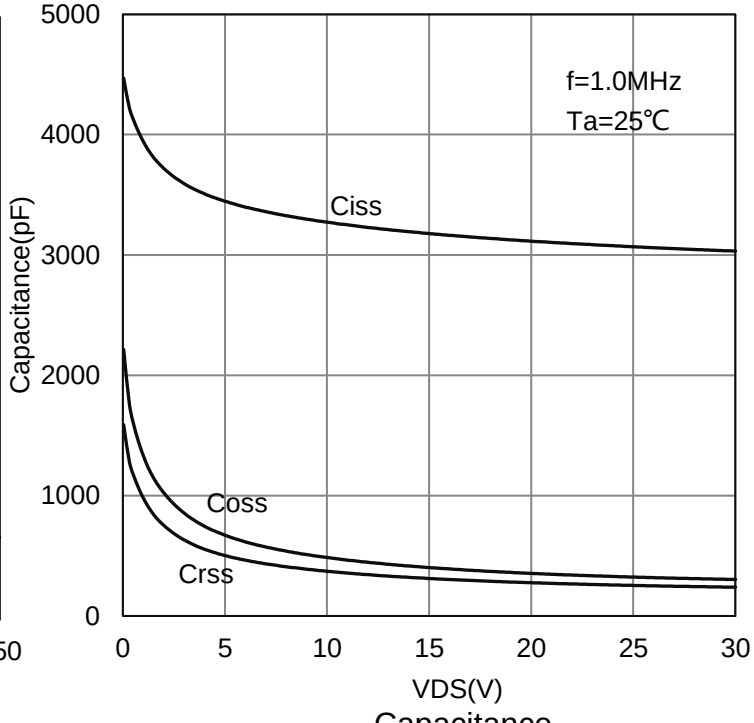
RDS(on) vs. VGS



RDS(on) vs. Tj

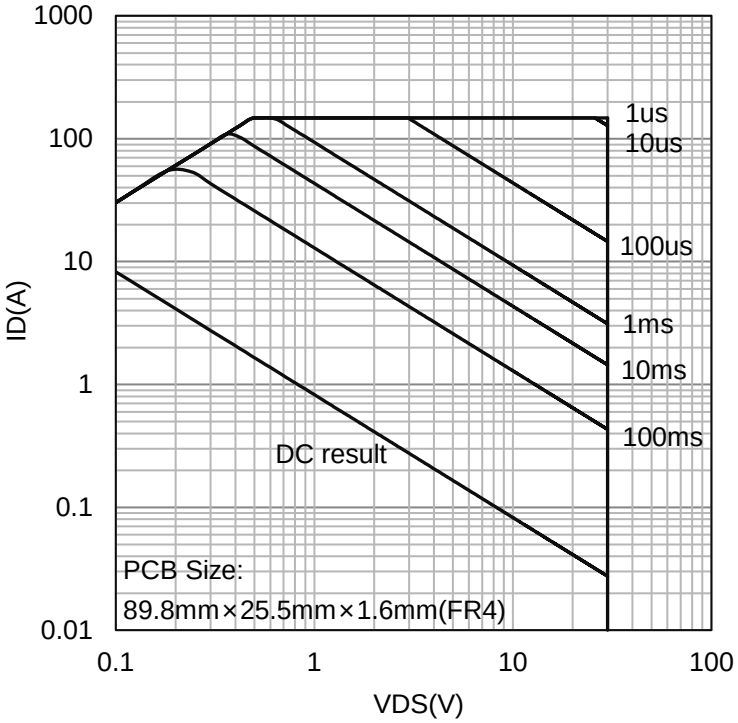


VGSth vs. Tj



Capacitance

7.ELECTRICAL CHARACTERISTICS CURVES(Con.)



Safe Operating Area

8.OUTLINE AND DIMENSIONS

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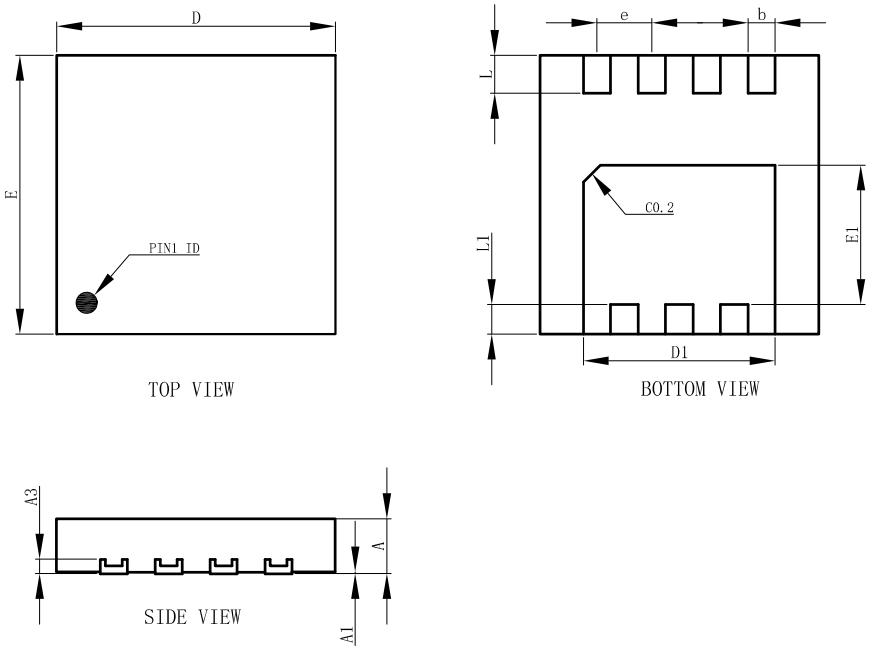

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DIM	MIN	NOR	MAX
A	0.60	0.65	0.70
A1	0.00	0.03	0.05
b	0.27	0.32	0.37
D	3.25	3.30	3.35
E	3.25	3.30	3.35
D1	2.22	2.27	2.32
E1	1.60	1.65	1.70
e	0.65BSC		
L	0.40	0.45	0.50
L1	0.30	0.35	0.40
A3	0.152REF.		
All Dimensions in mm			

9.SOLDERING FOOTPRINT

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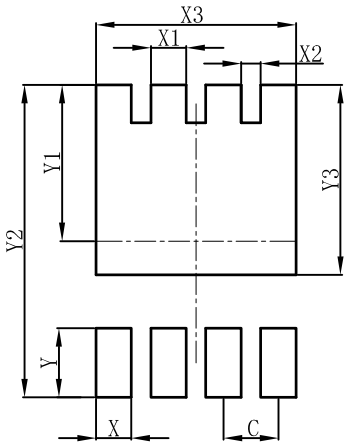

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DIM	(mm)
C	0.65
X	0.42
X1	0.42
X2	0.23
X3	2.37
Y	0.70
Y1	1.85
Y2	3.70
Y3	2.25

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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