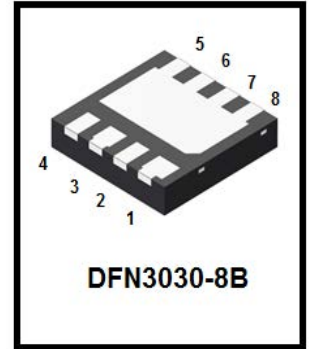


N8315D

N-Channel Logic Level Enhancement Mode 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.

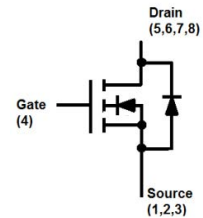


2. APPLICATION

- Power Routing
- DC/DC Conversion
- Motor Drives

3. ORDERING INFORMATION

Device	Marking	Shipping
N8315D	N3A	3000/Tape&Reel



4. MAXIMUM RATINGS(Ta = 25°C)

Parameter		Symbol	Limits	Unit
Drain-to-Source Voltage		VDSS	30	V
Gate-to-Source Voltage		VGS	±20	V
Continuous Drain Current	TC =25°C	ID	20	A
	TA =25°C		13	
	TC =100°C		15	
Pulsed Drain Current (Note 1)		IDM	80	
Avalanche Current		IAS	17	A
Avalanche energy (L=0.1mH)		EAS	14.45	mJ
Power Dissipation	TC =25°C	PD	21	W
	TC =100°C		8.3	
Operating Junction Temperature		TJ	-55 ~+150	°C
Storage Temperature Range		Tstg	-55 ~+150	

1.Pulse width limited by maximum junction temperature.

5. THERMAL CHARACTERISTICS

Parameter	Symbol	Limits	Unit
Maximum Junction-to-Ambient	RθJA	50	°C/W
Maximum Junction-to-Case	RθJC	6	

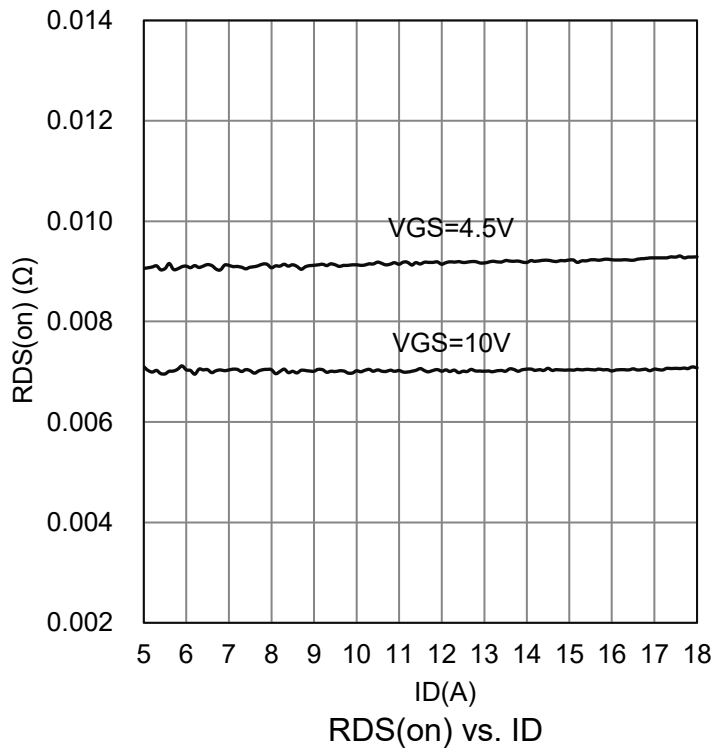
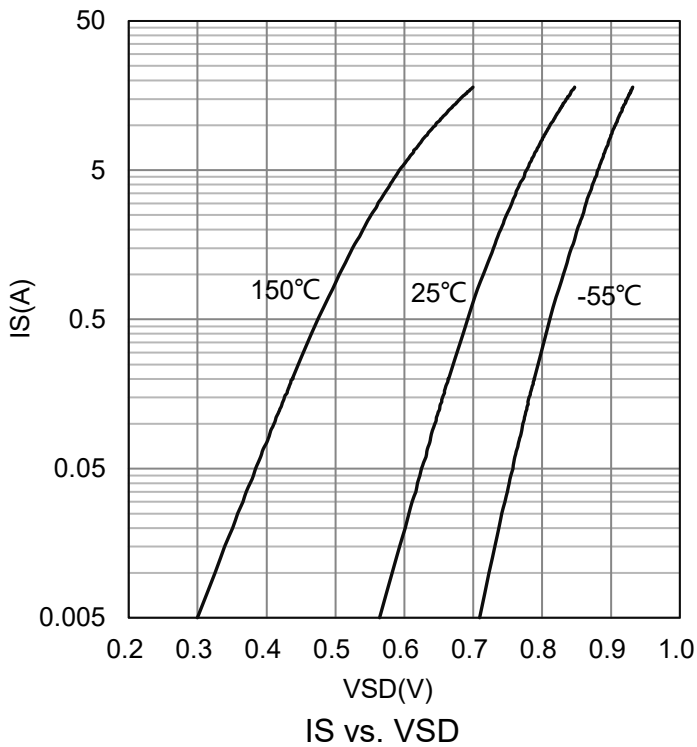
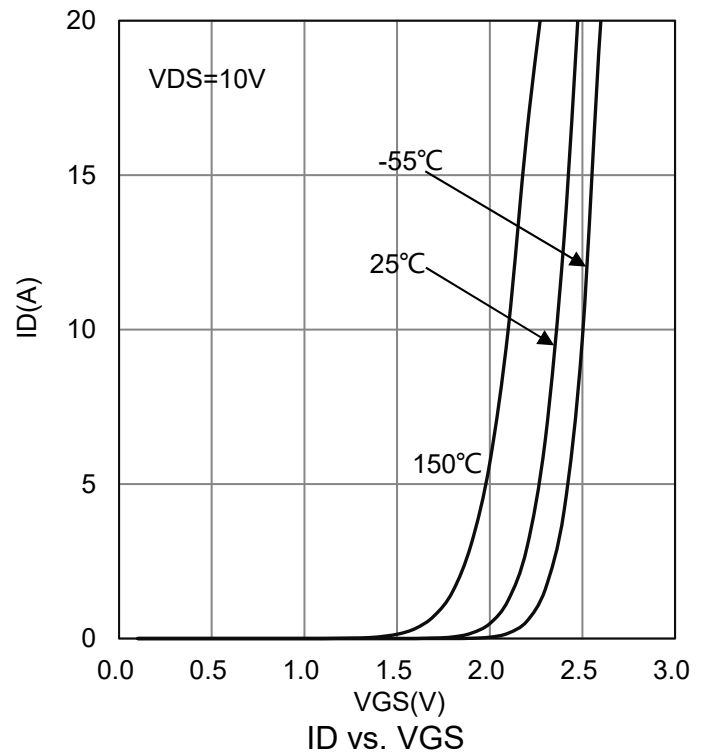
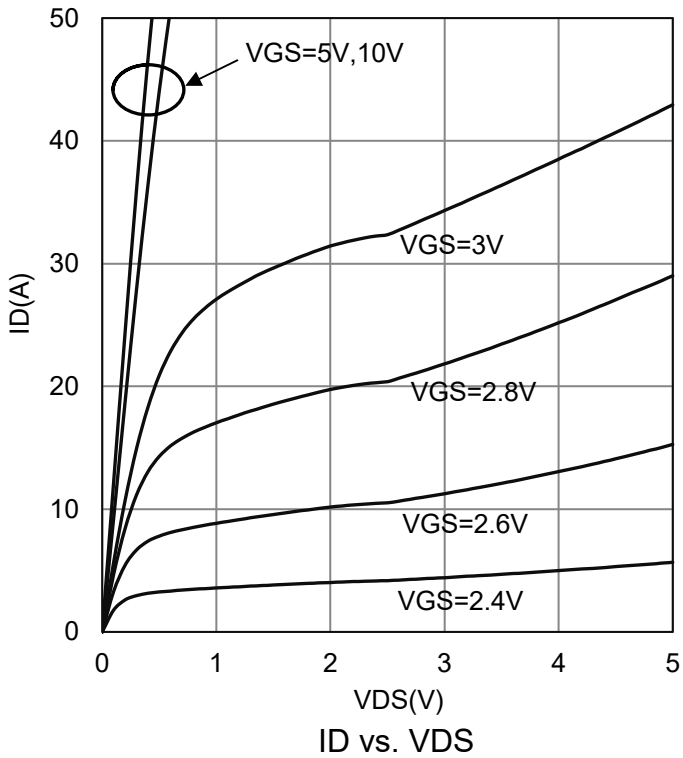


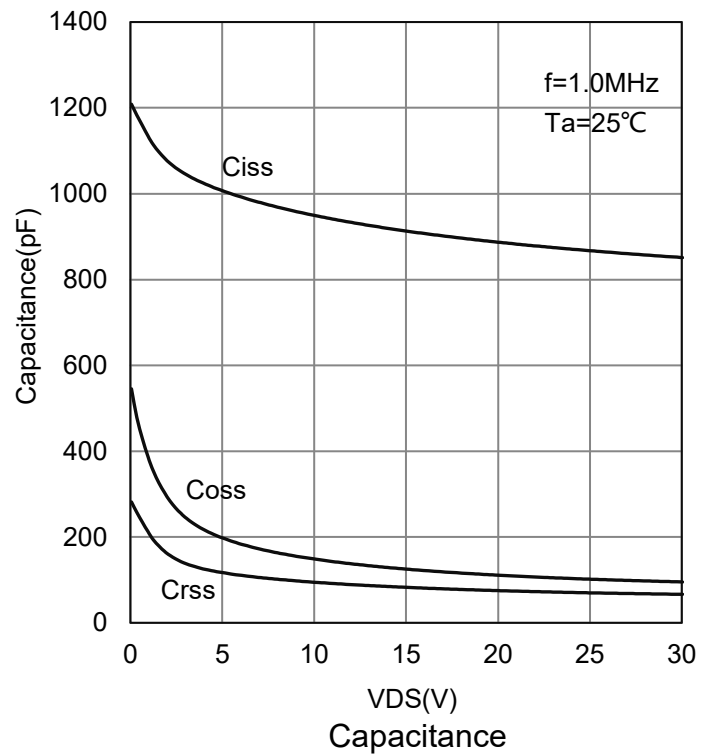
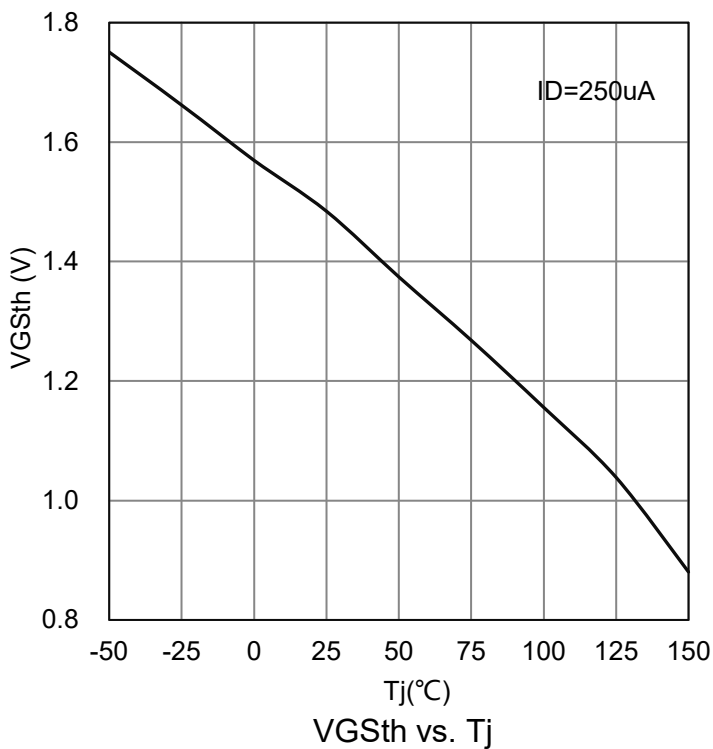
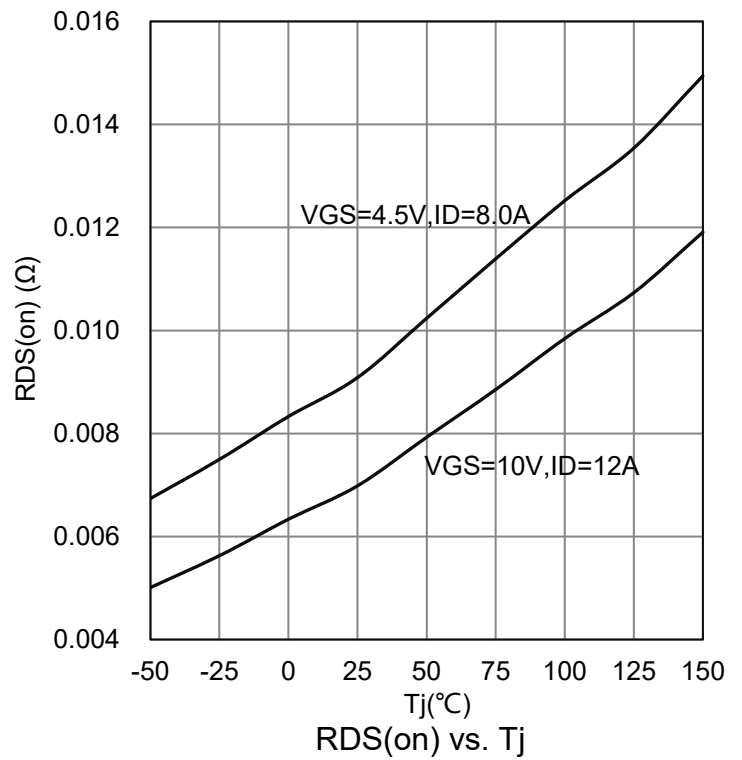
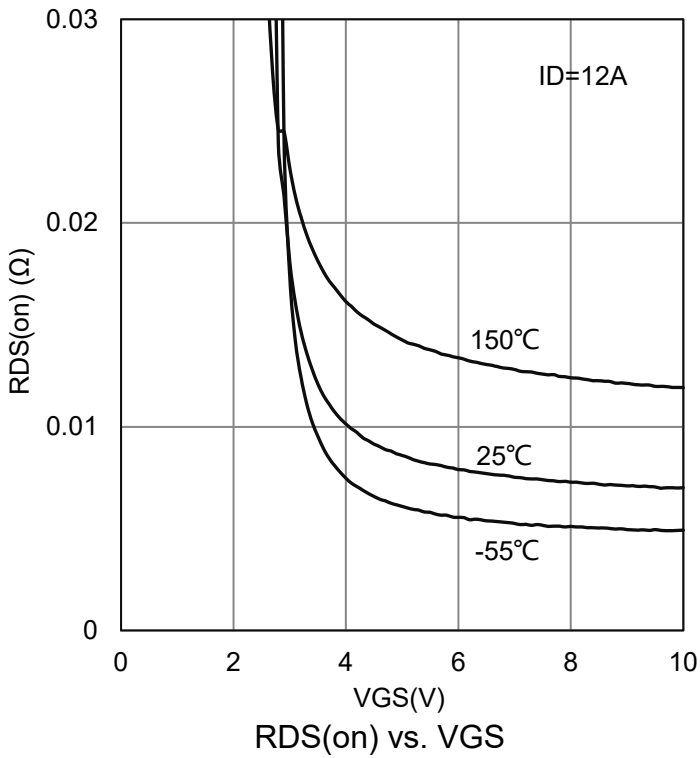
6. ELECTRICAL CHARACTERISTICS(Ta = 25°C)

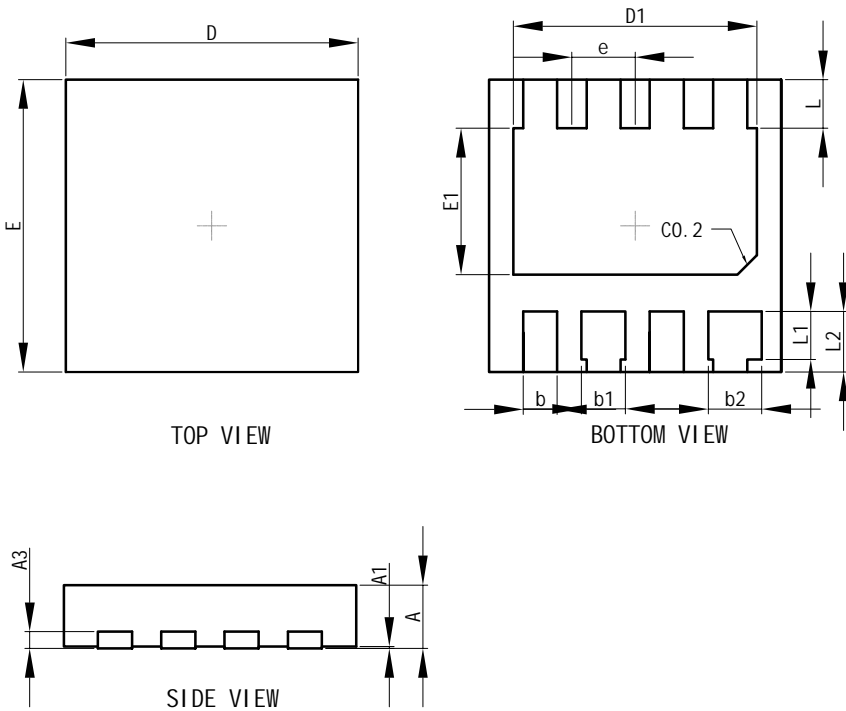
Characteristic	Symbol	Min.	Typ.	Max.	Unit
Static					
Drain-Source Breakdown Voltage (VGS = 0V, ID = 250μA)	V(BR)DSS	30	-	-	V
Gate-Source Threshold Voltage (VDS = VGS, ID = 250 uA)	VGS(th)	1	1.5	3	V
Gate-Body Leakage (VDS = 0 V, VGS = ±20 V)	IGSS	-	-	±100	nA
Zero Gate Voltage Drain Current (VDS = 24 V, VGS = 0 V) (VDS = 20 V, VGS = 0 V, TJ = 125°C)	IDSS	-	-	1 25	μA
Drain-Source On-Resistance(Note 2) (VGS = 10 V, ID = 12 A) (VGS = 4.5 V, ID = 8 A)	RDS(on)	-	7.5 10	9 13.5	mΩ
Dynamic					
Total Gate Charge(VGS=10V)	(VDS = 15 V, VGS = 10 V, ID = 12 A)	Qg	-	17	nC
Total Gate Charge(VGS=4.5V)		Qg	-	8	
Gate-Source Charge		Qgs	-	2.6	
Gate-Drain Charge		Qgd	-	2.6	
Input Capacitance	(VDS = 15 V, VGS = 0 V, f = 1 MHz)	Ciss	-	913	pF
Output Capacitance		Coss	-	125	
Reverse Transfer Capacitance		Crss	-	83	
Turn-On Delay Time	(VDS = 15 V, ID=1A, VGS= 10V, RGS = 6Ω)	td(on)	-	8	ns
Rise Time		tr	-	15	
Turn-Off Delay Time		td(off)	-	20	
Fall Time		tf	-	20	
Gate-Resistance (VDS=0V, VGS=0V, f=1.0MHz)	Rg	-	2.6	-	Ω
Continuous Current	IS	-	-	20	A
Pulsed Current	ISM	-	-	80	
Diode Forward Voltage (IF = 12 A, VGS = 0 V)	VSD	-	-	1.2	V

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

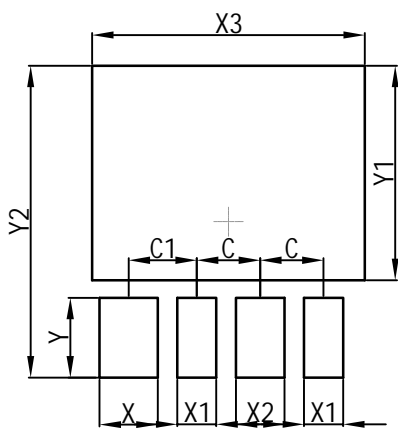

7.ELECTRICAL CHARACTERISTICS CURVES



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

