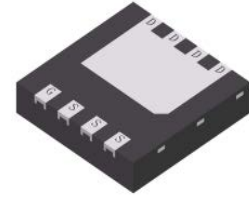


NB8342D

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



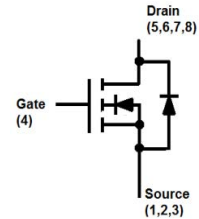
DFN3333-8A

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
NB8342D	B2	2000/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	TA =25°C	ID	23	A
	TA =70°C		17	
	TC =25°C		75	
	TC =70°C		55	
Pulsed Drain Current (Note 2) TA=25°C		IDM	92	
Avalanche Current (L = 0.1mH)		IAS	36	A
Avalanche Energy (L = 0.1mH)		EAS	65	mJ
Power Dissipation	TA =25°C	PD	3.5	W
	TA =70°C		2	
	TC =25°C		39	
	TC =70°C		25	
Operating Junction Temperature		TJ	-55 ~+150	°C
Storage Temperature Range		Tstg	-55 ~+150	

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.

5. THERMAL CHARACTERISTICS

Parameter		Symbol	Limits	Unit
Maximum Junction-to-Ambient(Note 1)	t ≤ 10s	RθJA	35	°C/W
	Steady State		81	
Maximum Junction-to-Case	Steady State	RθJC	3.2	

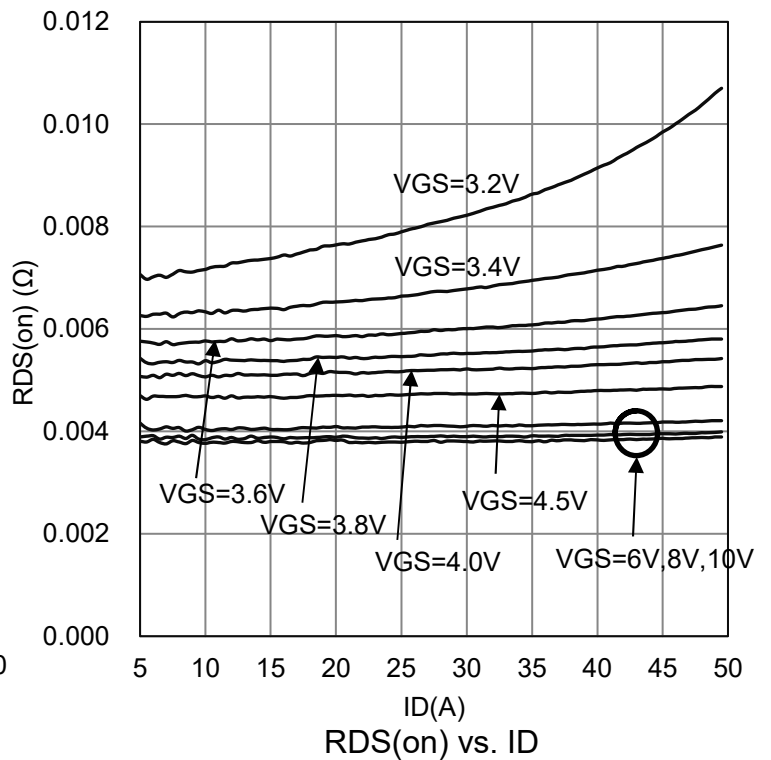
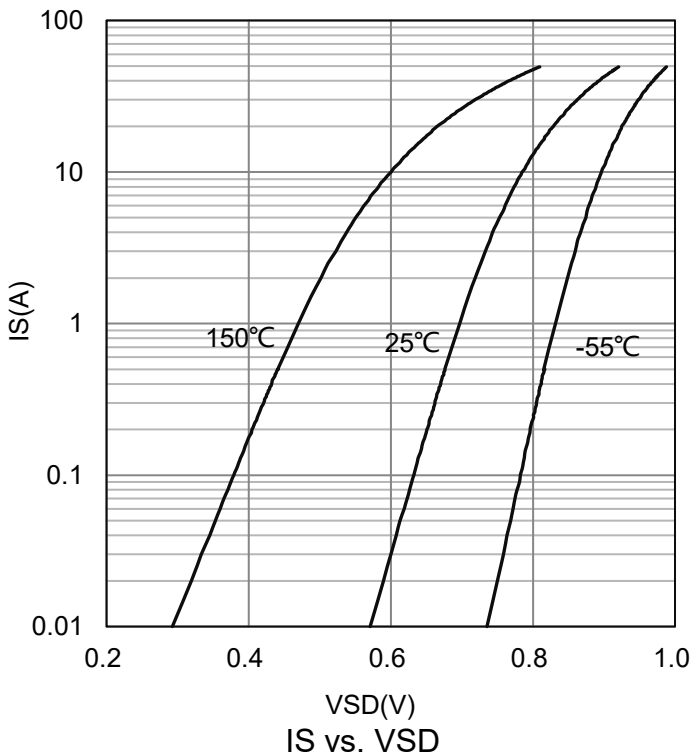
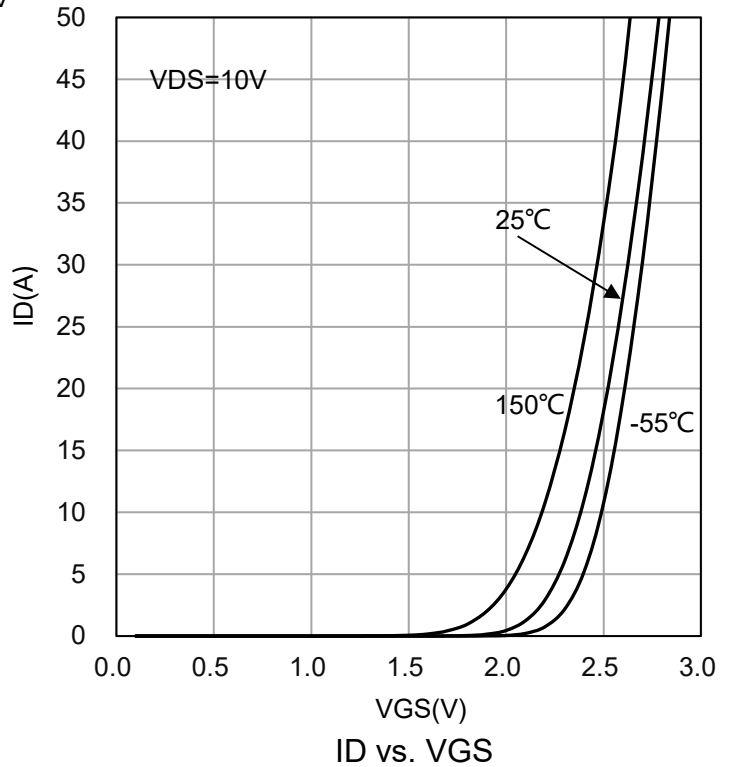
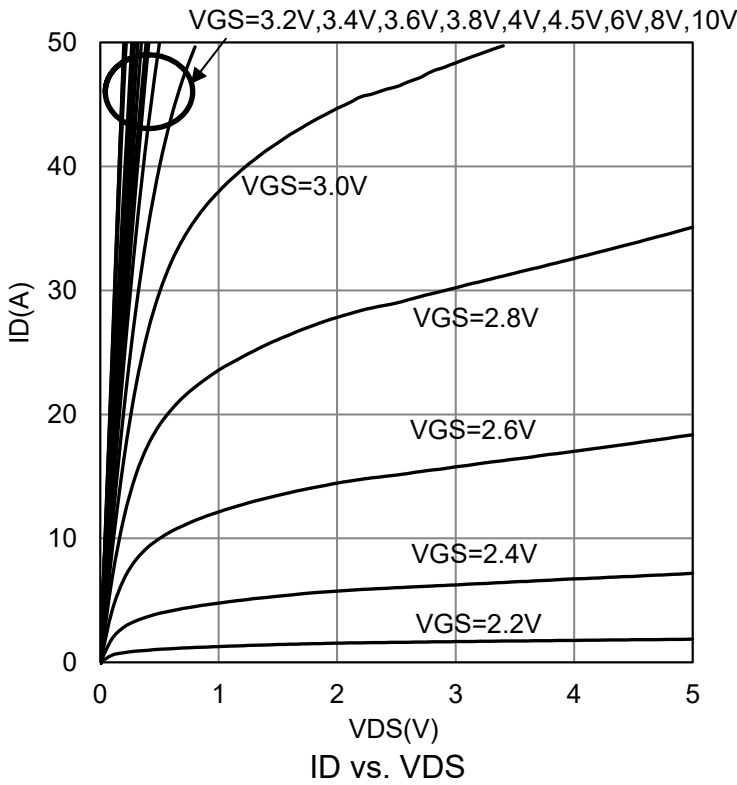


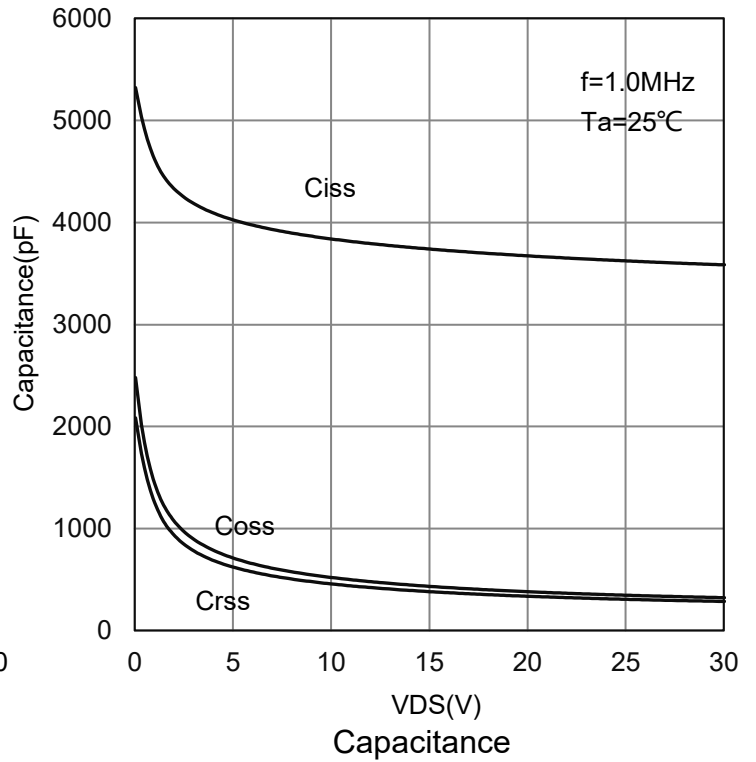
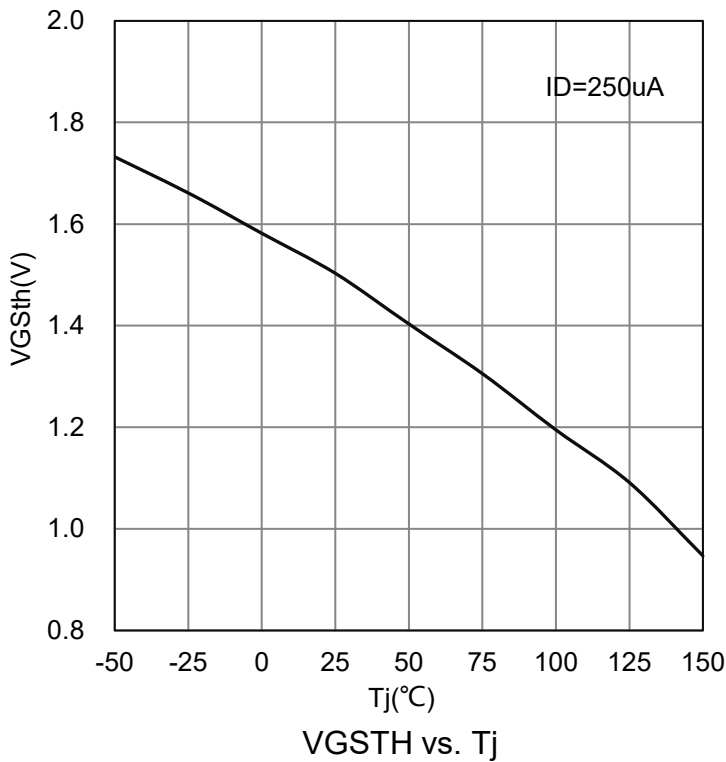
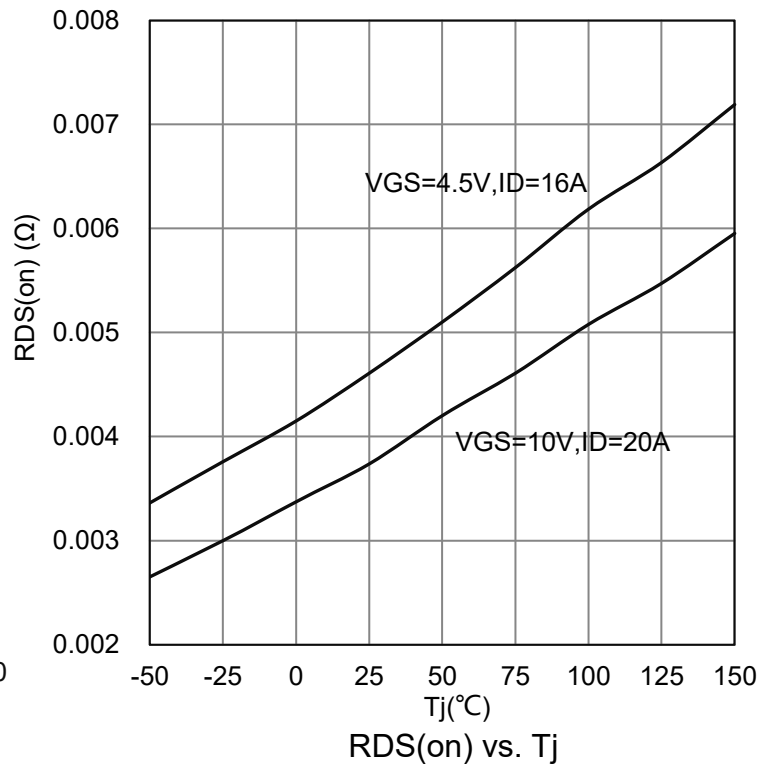
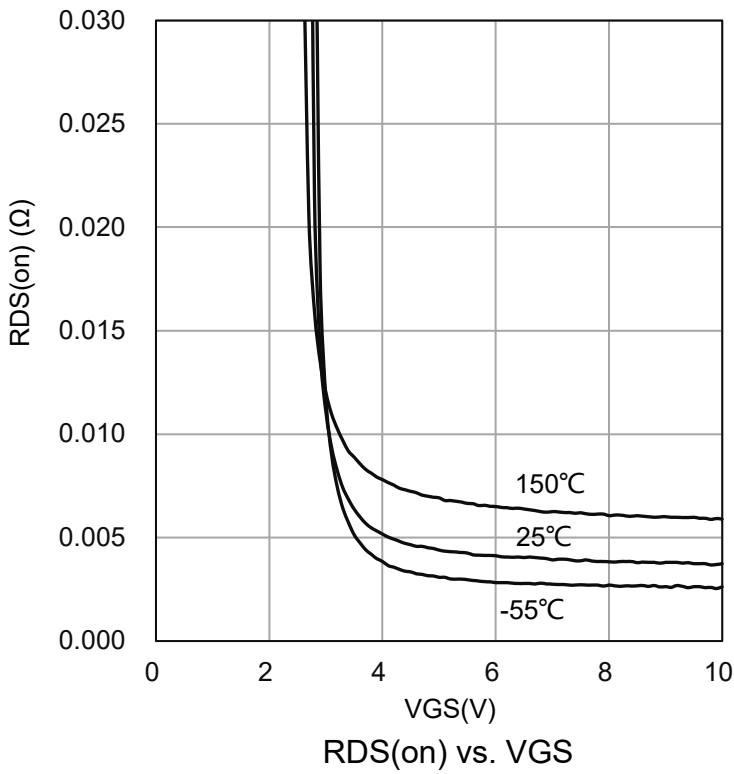
6. ELECTRICAL CHARACTERISTICS

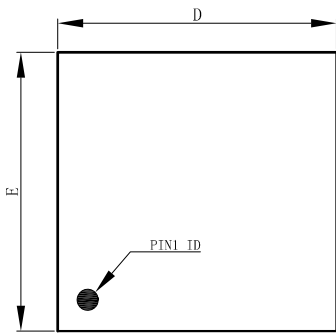
Characteristic	Symbol	Min.	Typ.	Max.	Unit
Static					
Drain-Source Breakdown Voltage (VGS = 0V, ID = 250μA)	V(BR)DSS	30	-	-	V
Gate-Source Threshold Voltage (VDS = VGS, ID = 250 μA)	VGS(th)	1	-	-	V
Gate-Body Leakage (VDS = 0 V, VGS = ±20 V)	IGSS	-	-	±1	μA
Zero Gate Voltage Drain Current (VDS = 24 V, VGS = 0 V)	IDSS	-	-	1	μA
Drain-Source On-Resistance(Note 3) (VGS = 10 V, ID = 20 A) (VGS = 4.5 V, ID = 16 A)	RDS(on)	-	-	4.2 5.5	mΩ
Diode Forward Voltage(Note 3) (IS = 2.5 A, VGS = 0 V)	VSD	-	-	1.1	V
Dynamic					
Total Gate Charge	(VDS = 15 V, VGS = 4.5 V, ID = 20A)	Qg	-	36.7	nC
Gate-Source Charge		Qgs	-	11.8	
Gate-Drain Charge		Qgd	-	12.5	
Input Capacitance	(VDS = 15 V, VGS = 0 V, f = 1MHz)	Ciss	-	3748	pF
Output Capacitance		Coss	-	433	
Reverse Transfer Capacitance		Crss	-	383	
Turn-On Delay Time	(VDS=15 V, RL=0.8 Ω, ID=20 A, VGEN=10 V, RGEN=6 Ω)	td(on)	-	13	ns
Rise Time		tr	-	15	
Turn-Off Delay Time		td(off)	-	75	
Fall Time		tf	-	25	
Gate-Resistance (VGS = 0 V, VDS=0V, f=1MHz)	Rg	-	0.8	-	Ω

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

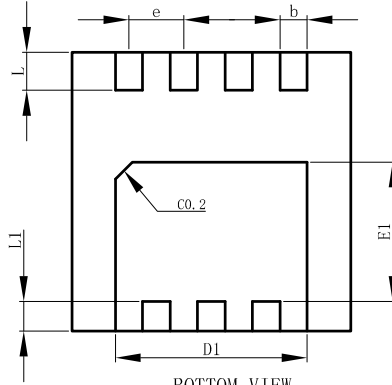


7. ELECTRICAL CHARACTERISTICS CURVES


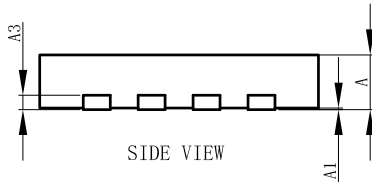
7. ELECTRICAL CHARACTERISTICS CURVES(Con.)


8. OUTLINE AND DIMENSIONS
DFN3333-8A


TOP VIEW

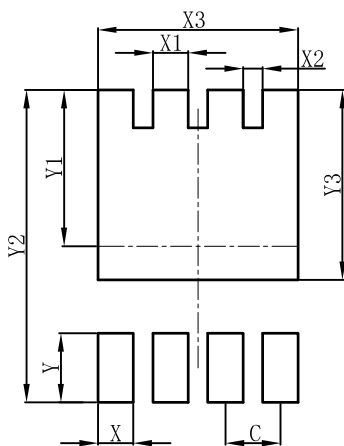


BOTTOM VIEW



SIDE VIEW

DFN3333-8A			
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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DFN3333-8A	
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

