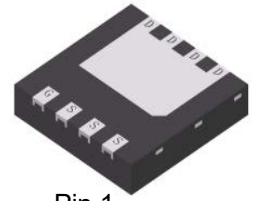


NB8380D

N-Channel Logic Level Enhancement Mode Field MOSFET

1. FEATURES

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



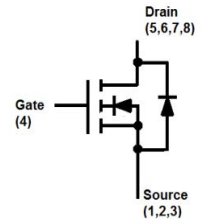
Pin 1
DFN3333-8A

2. APPLICATIONS

- DC-DC Conversion

3. DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
NB8380D	N8B	2000/Tape&Reel



4. MAXIMUM RATINGS(Ta = 25°C)

Parameter		Symbol	Limits	Unit
Drain-to-Source Voltage		VDS	100	V
Gate-to-Source Voltage		VGS	±20	V
Continuous Drain Current	TA=25°C	ID	5	A
	TA=100°C		3	
Pulsed Drain Current(Note 2)		IDM	20	A
Avalanche Current(L=0.1mH)		IAS	3	A
Avalanche energy(L=0.1mH)		EAS	0.45	mJ
Power Dissipation	TA=25°C	PD	1.2	W
	TA=100°C		0.6	
Operating Junction and Storage Temperature Range		Tj/Tstg	-55~+150	°C

5. THERMAL CHARACTERISTICS

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

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

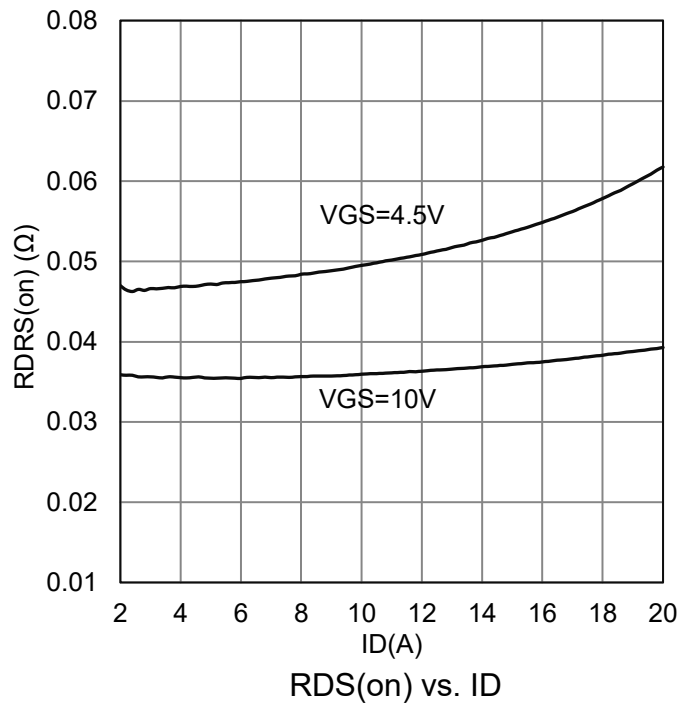
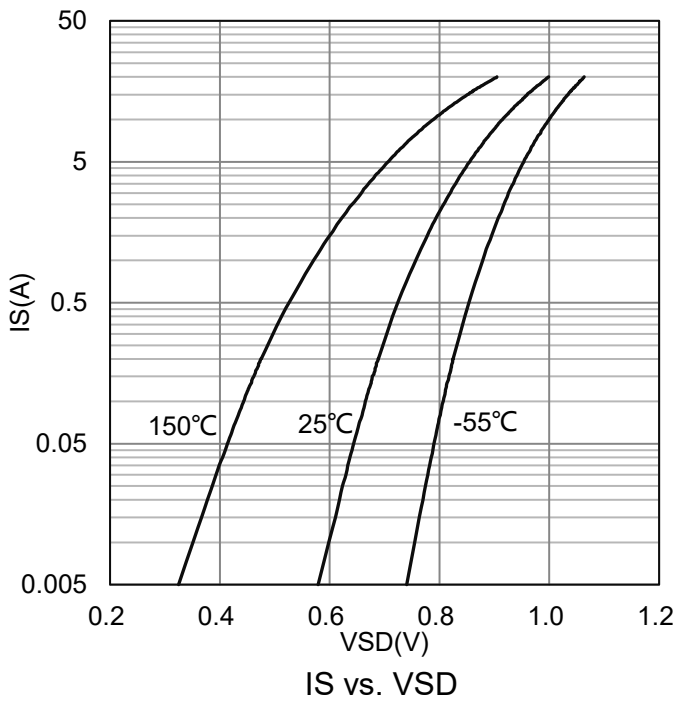
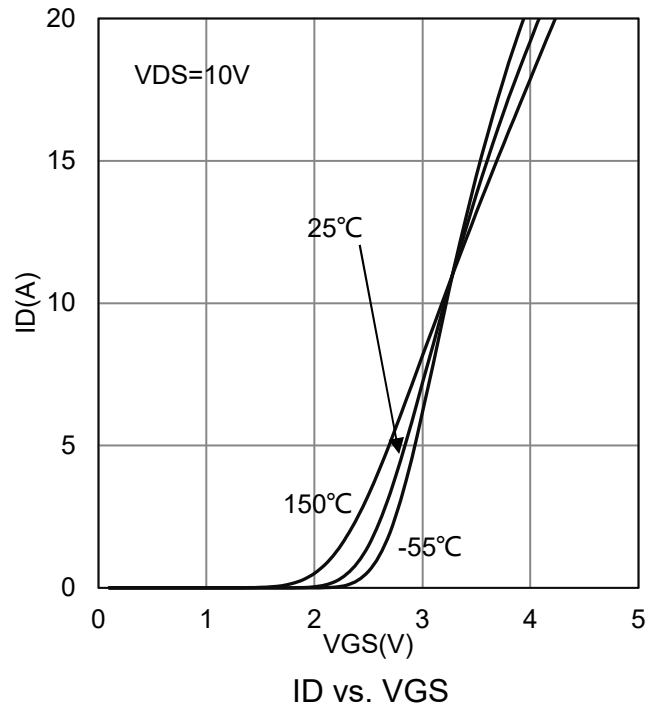
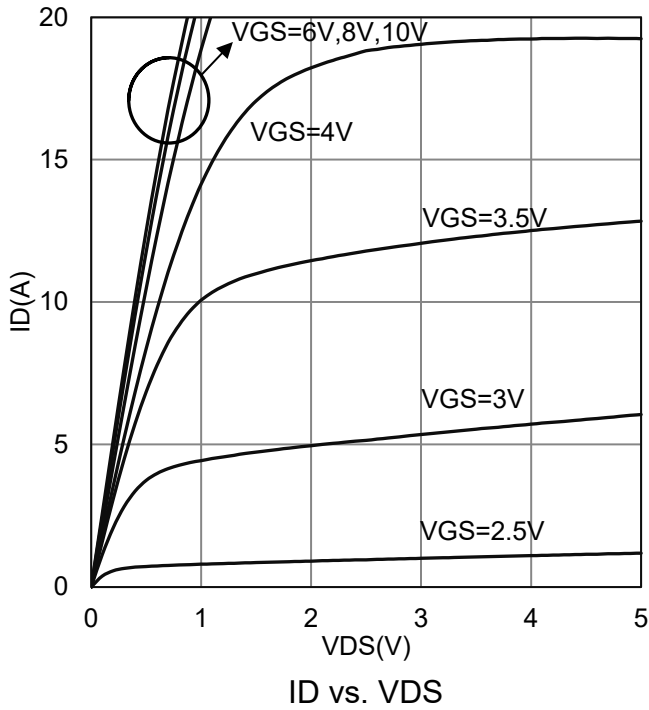


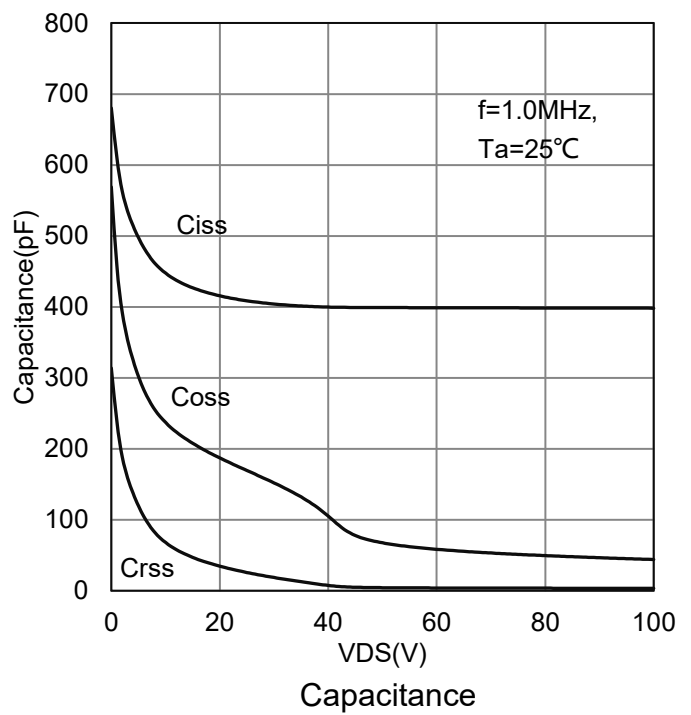
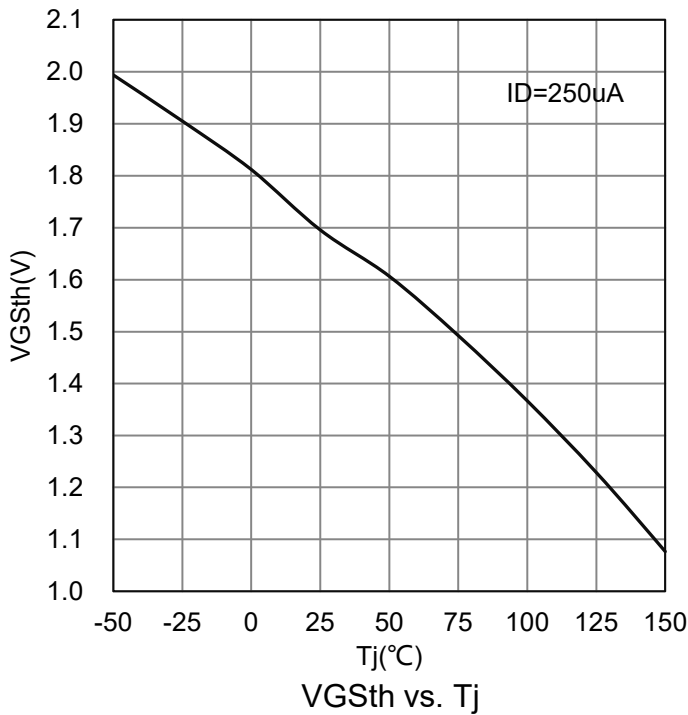
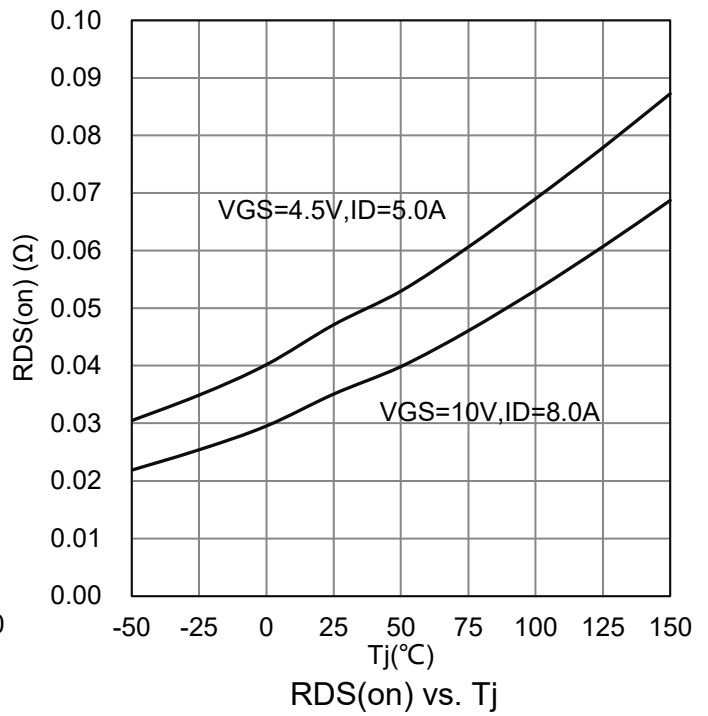
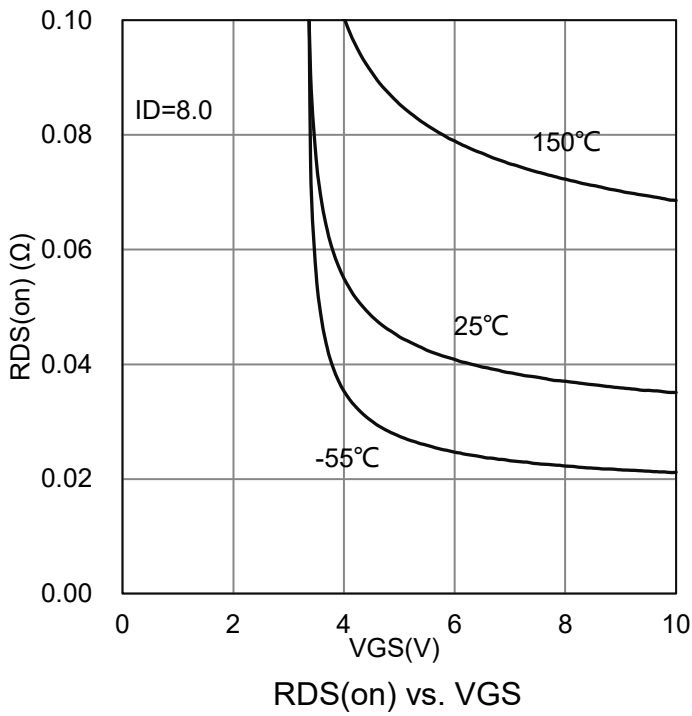
6. ELECTRICAL CHARACTERISTICS (Ta= 25°C)

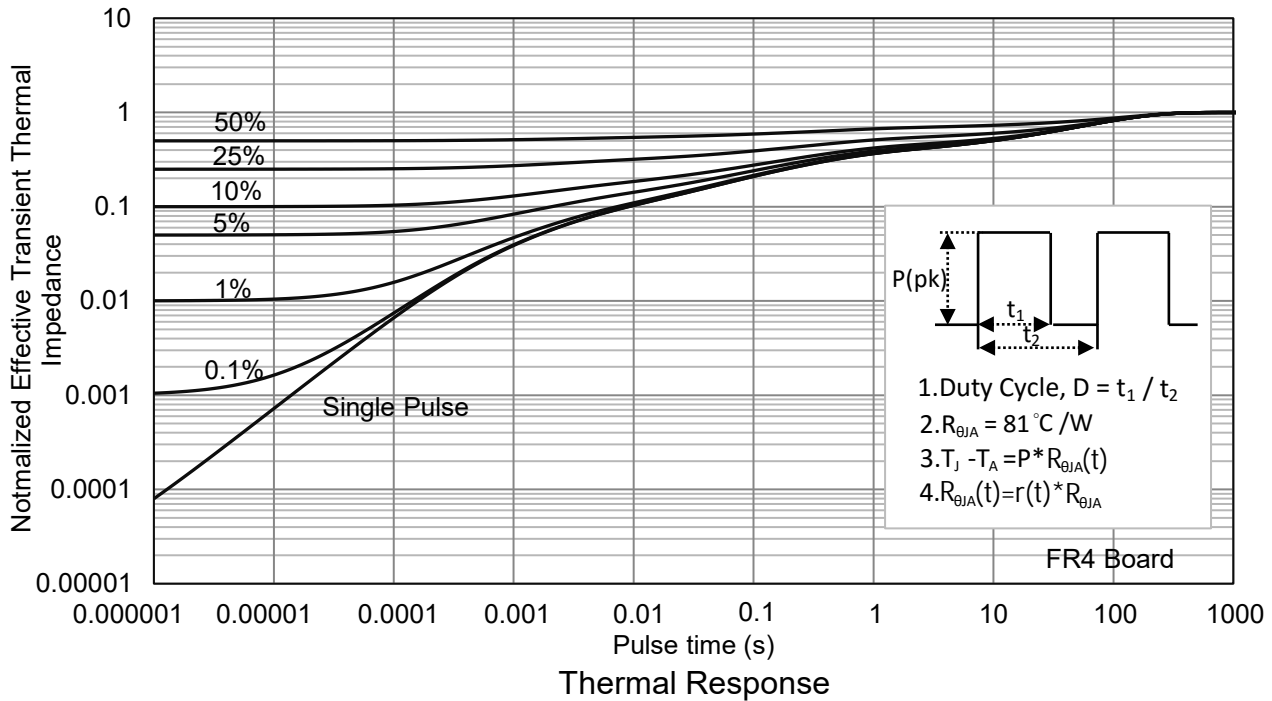
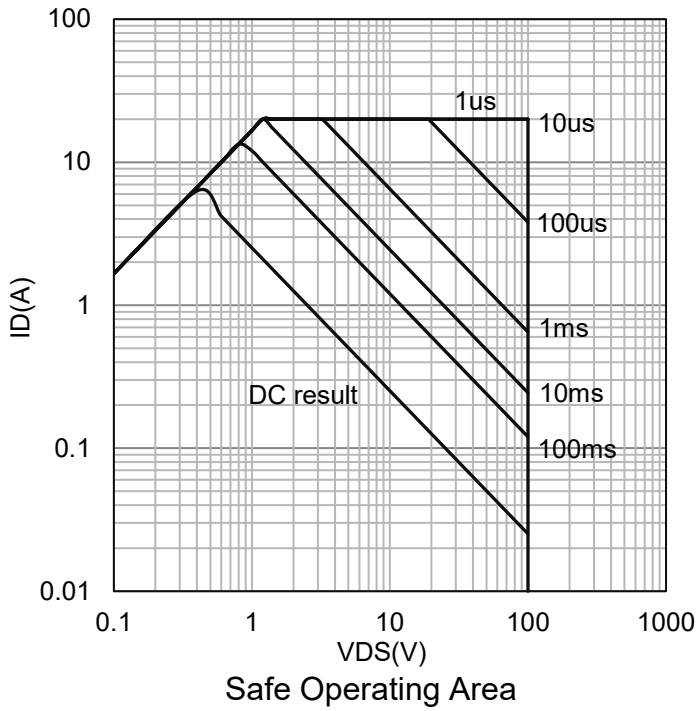
Characteristic	Symbol	Min.	Typ.	Max.	Unit	
Drain to Source Breakdown Voltage (VGS =0V, ID =250μA)	VDSS	100	-	-	V	
Zero Gate Voltage Source Current (VDS =80V, VGS =0V)	IDSS	-	-	1	uA	
Gate to Source Leakage Current (VDS =0V, VGS = ±20V)	IGSS	-	-	±100	nA	
Gate Threshold Voltage (VDS = VGS , ID = 250μA)	VGS(th)	1	1.8	3	V	
Drain-to-Source On-Resistance(Note 3) (VGS=10V, ID=8A) (VGS=4.5V, ID=5A)	RDS(ON)	- -	40 55	60 80	mΩ	
Input Capacitance	(VGS = 0V ,VDS = 50V, f = 1MHz)	-	Ciss	400	-	pF
Output Capacitance			Coss	67	-	
Reverse Transfer Capacitance			Crss	4.3	-	
Turn-on Delay Time	(VDD=50V,VGS =10V,RG = 6.8 Ω,ID= 14 A)	-	td(on)	4.6	-	nS
Rise Time			tr	4.3	-	
Turn-Off Delay Time			td(off)	12.9	-	
Fall Time			tf	1.7	-	
Total Gate Charge	(VDS=50V,VGS =10V,ID=8A)	-	Qg	10	-	nC
Gate to Source Charge			Qgs	2.5	-	
Gate to Drain Charge			Qgd	3	-	
Gate Resistance	Rg	-	1	-	Ω	
Diode Forward Voltage(Note 2) (IF = 1 A, VGS = 0 V)	VSD	-	-	1.3	V	

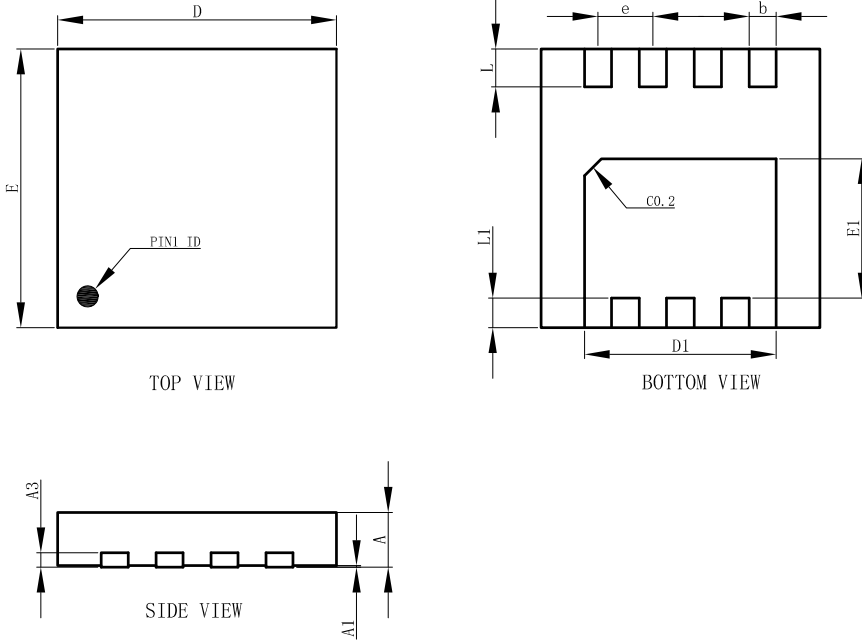
3.Pulse test : Pulse Width ≤300 μs, Duty Cycle ≤2%.



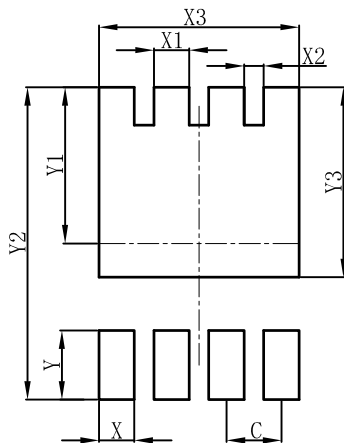
7. ELECTRICAL CHARACTERISTICS CURVES


7. ELECTRICAL CHARACTERISTICS CURVES(Cons.)


7. ELECTRICAL CHARACTERISTICS CURVES(Con.)


8.OUTLINE AND DIMENSIONS
DFN3333-8A


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
DFN3333-8A


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

