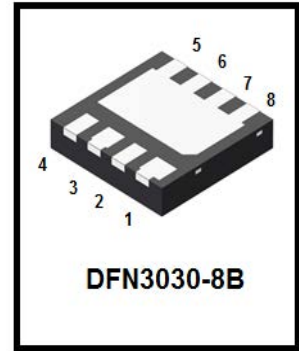


N8320D

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

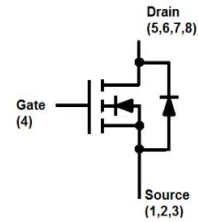
1. FEATURES

- 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
N8320D	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	25
		TA =70°C	18
Pulsed Drain Current (Note 2)	IDM	100	A
Power Dissipation(Note 1)	PD	TA =25°C	3.5
		TA =70°C	2
Operating Junction Temperature	TJ	-55 ~+150	°C
Storage Temperature Range	Tstg	-55 ~+150	

- 1.Surface Mounted on 1" x 1" FR4 Board.
- 2.Pulse width limited by maximum junction temperature.

5. THERMAL CHARACTERISTICS

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



6. ELECTRICAL CHARACTERISTICS

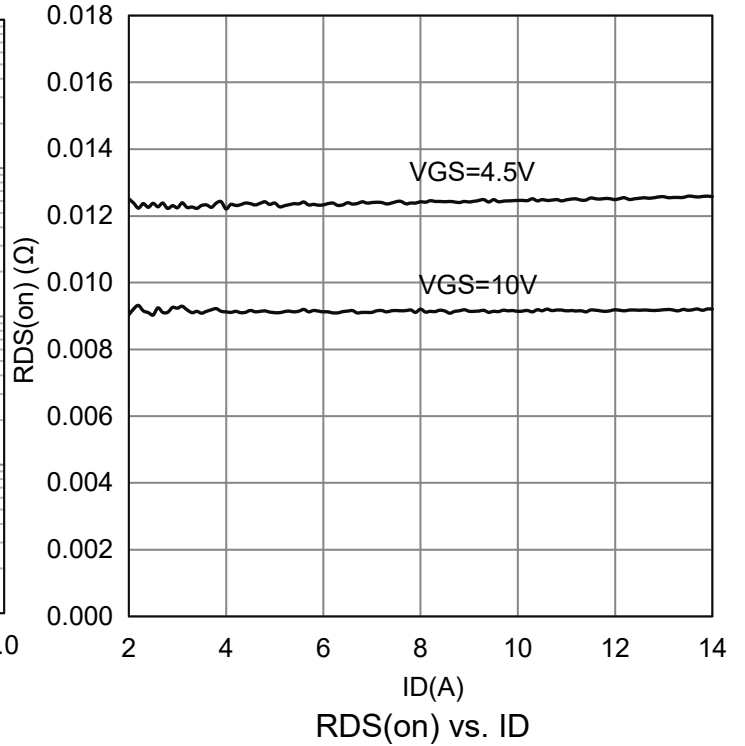
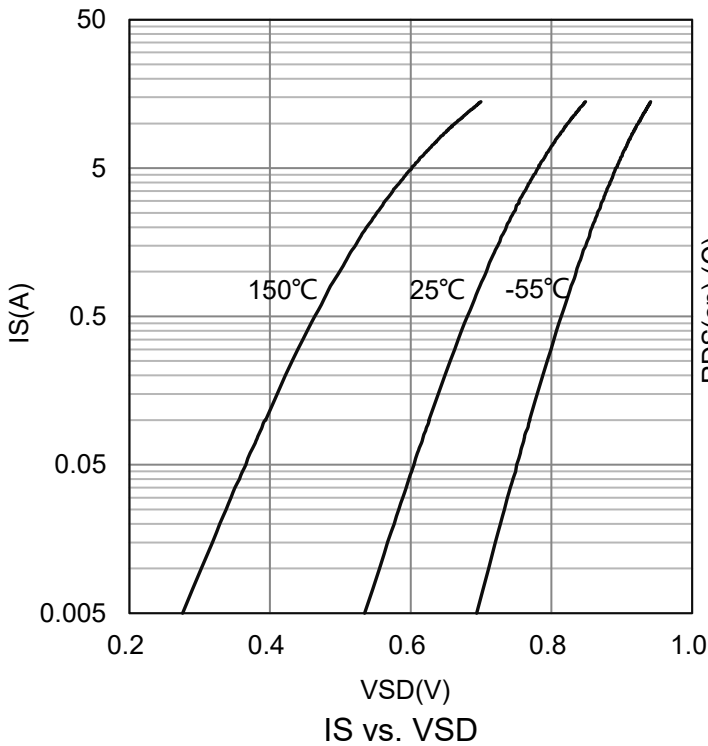
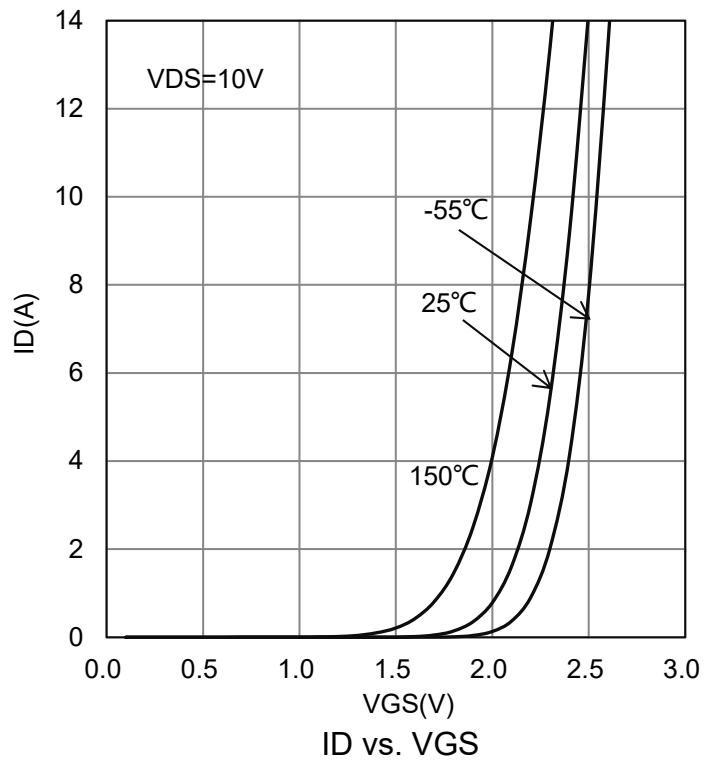
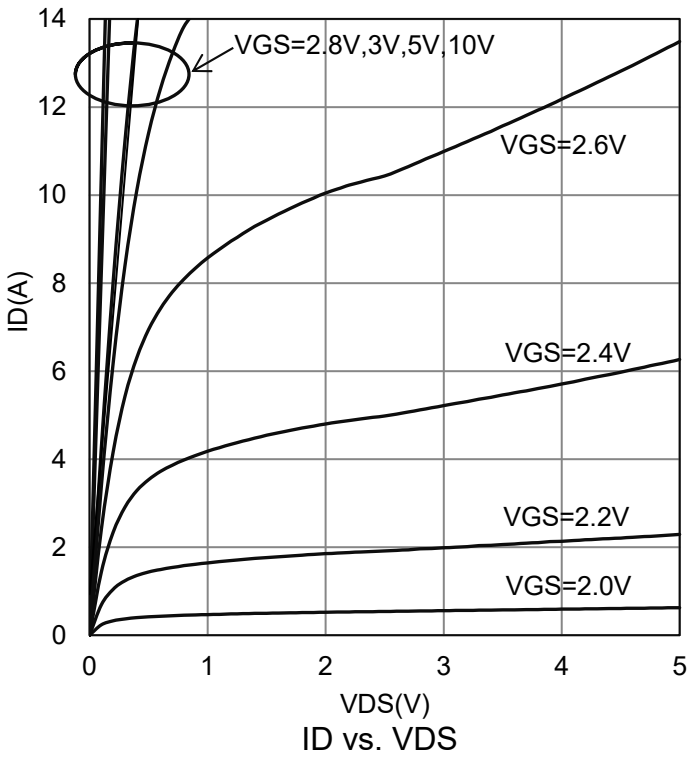
Characteristic	Symbol	Min.	Typ.	Max.	Unit	
Static						
Gate-Source Threshold Voltage (VDS = VGS, ID = 250 μ A)	VGS(th)	1.0	1.3	2.1	V	
Gate-Body Leakage (VDS = 0 V, VGS = \pm 20 V)	IGSS	-	-	\pm 100	nA	
Zero Gate Voltage Drain Current (VDS = 24 V, VGS = 0 V)	IDSS	-	-	1	μ A	
Drain-Source On-Resistance(Note 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	
Gate Resistance (f=1MHz, VGS=0V)	Rg	-	2	-	Ω	
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%.

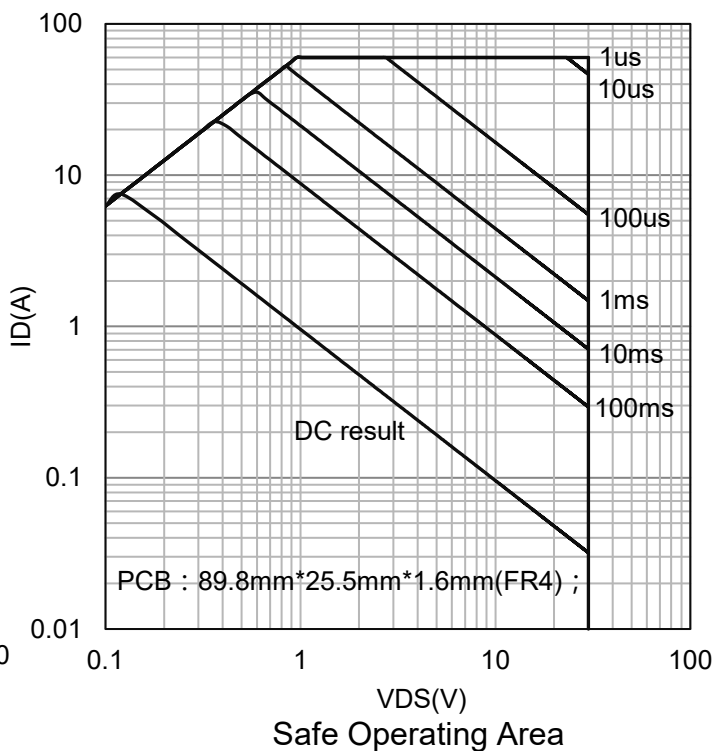
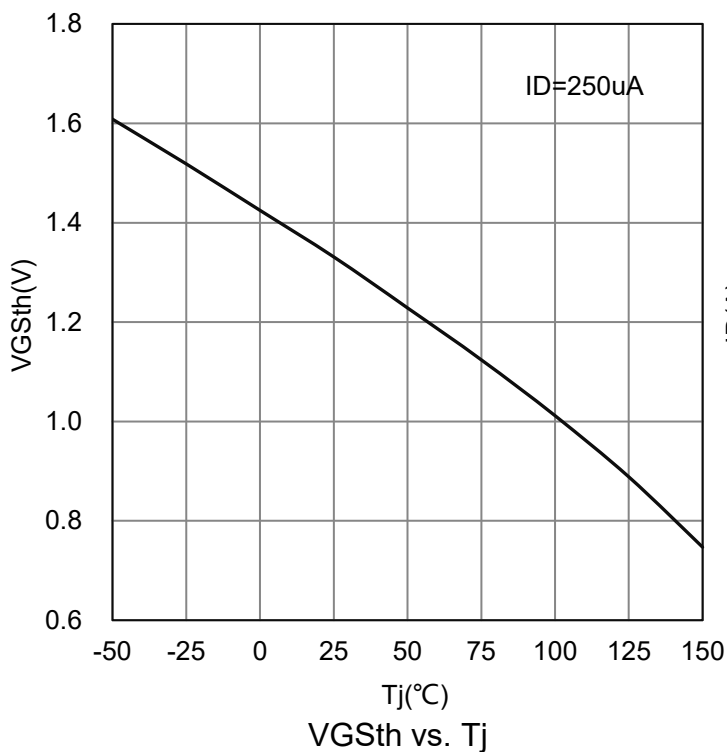
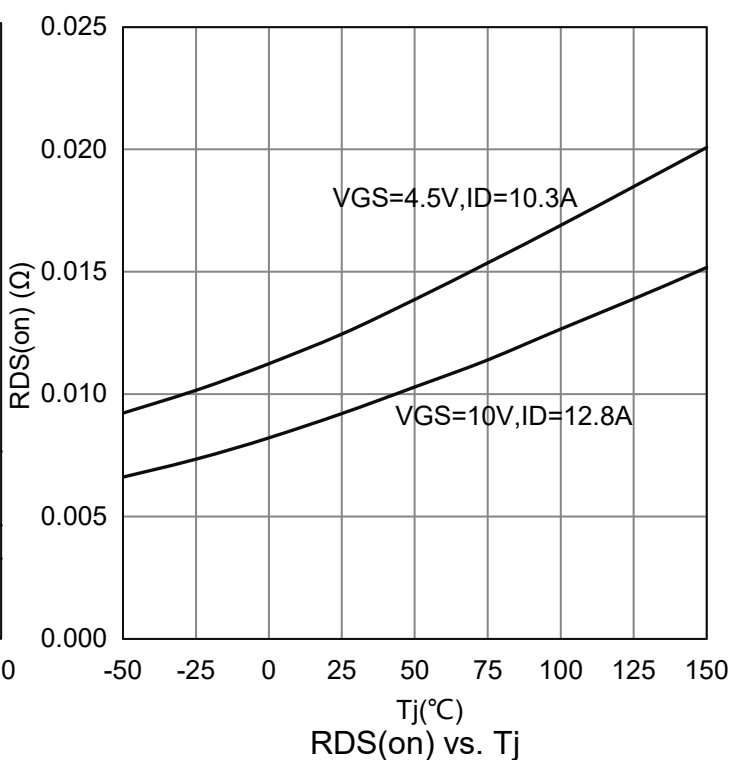
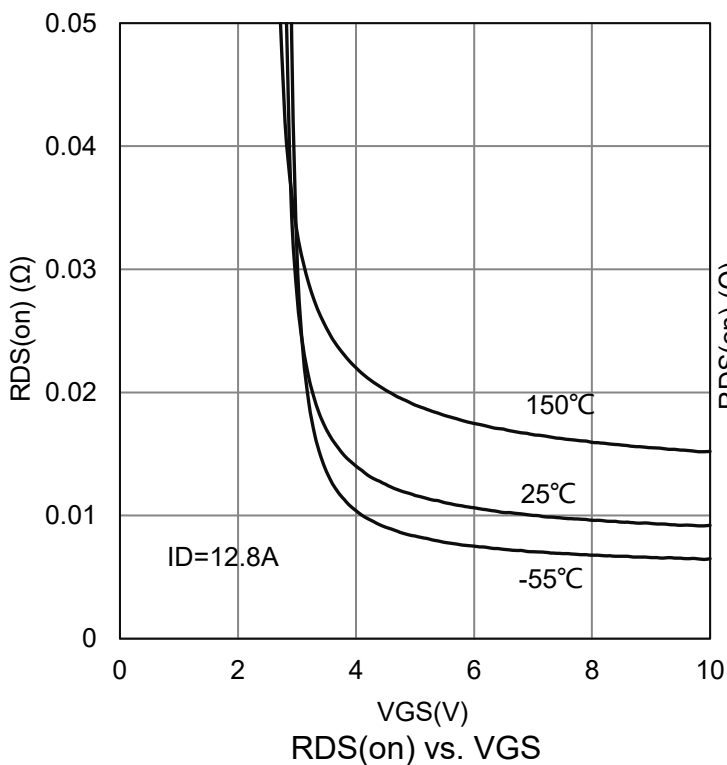
4. Guaranteed by design, not subject to production testing.



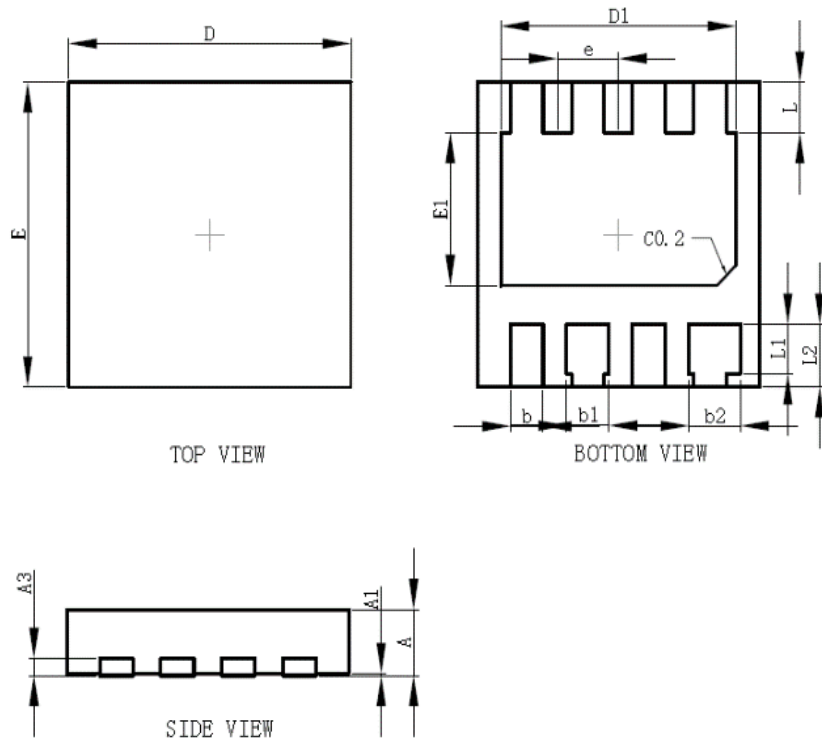
7.ELECTRICAL CHARACTERISTICS CURVES



7.ELECTRICAL CHARACTERISTICS CURVES(Con.)

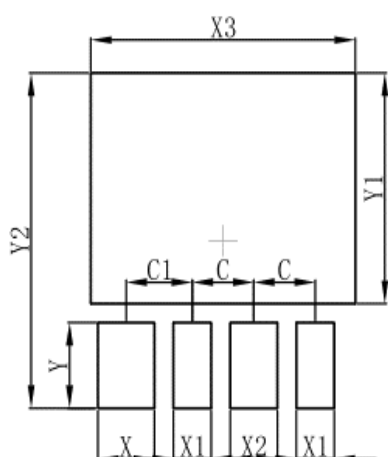


8. OUTLINE AND DIMENSIONS



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

