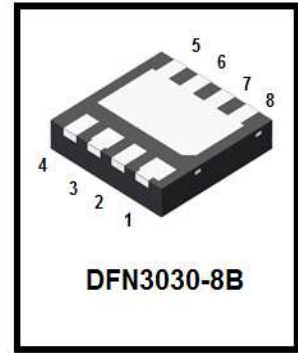


N8342D

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

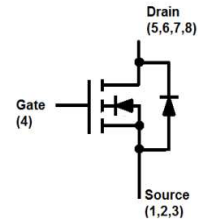
1. FEATURES

- 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
N8342D	A42	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
Avalanche Current		IAS	35	A
Avalanche energy L=0.1mH		EAS	61	mJ
Continuous Drain Current	TA =25°C	ID	23	A
	TA =70°C		17	
	TC =25°C		40	
	TC =70°C		32	
Pulsed Drain Current (Note 2)		IDM	160	
Continuous Source Current (Diode Conduction)(Note 3)		IS	40	A
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" x 1" FR4 Board.
- 2.Pulse width limited by maximum junction temperature.
- 3.Package limited

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

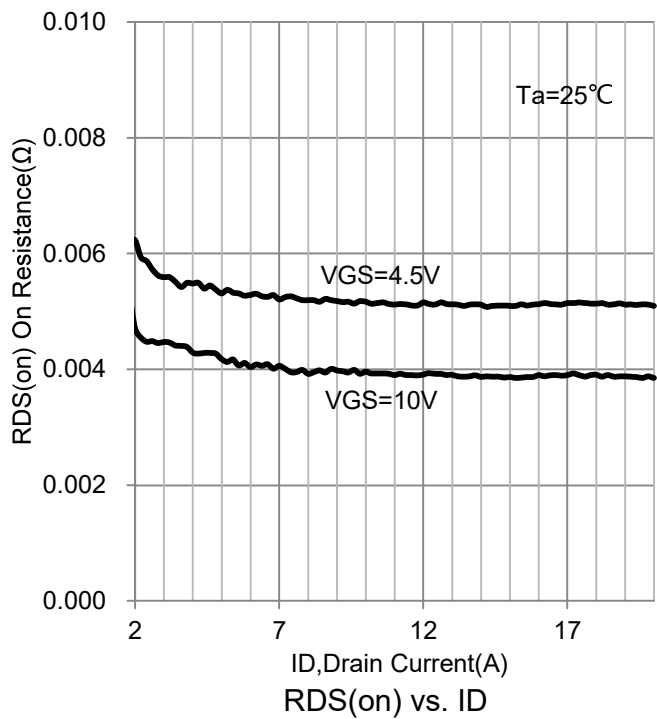
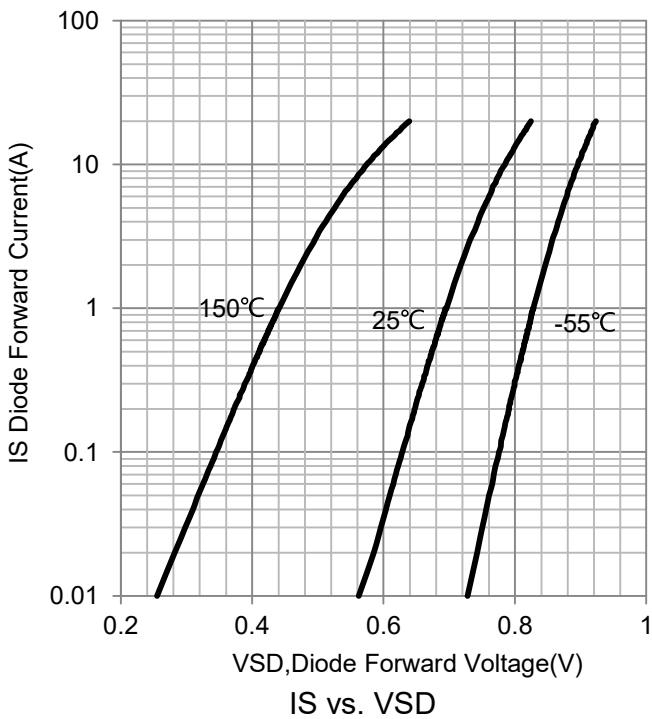
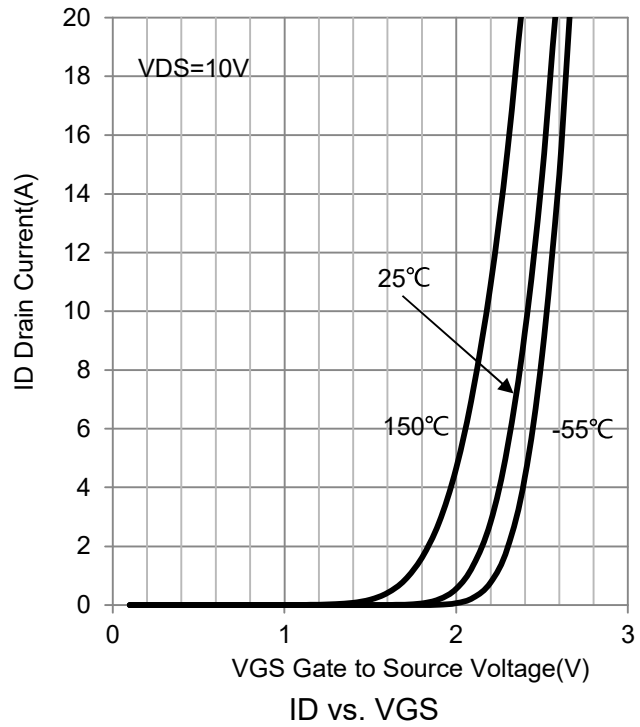
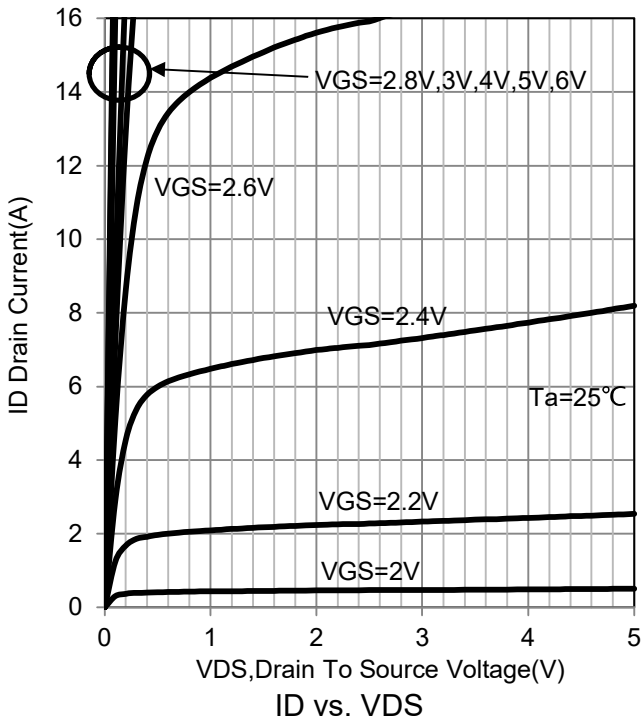
Characteristic	Symbol	Min.	Typ.	Max.	Unit	
Static						
Drain-Source Breakdown Voltage (VGS = 0V, ID = 250μA)	V(BR)DSS	30	-	-	V	
Gate-Source Threshold Voltage (VDS = VGS, ID = 250 μA)	VGS(th)	1	-	-	V	
Gate-Body Leakage (VDS = 0 V, VGS = ±20 V)	IGSS	-	-	±10	μA	
Zero Gate Voltage Drain Current (VDS = 24 V, VGS = 0 V) (VDS = 24 V, VGS = 0 V, TJ = 55°C)	IDSS	-	-	1 5	μA	
On-State Drain Current(Note 4) (VDS = 5 V, VGS = 10 V)	ID(on)	30	-	-	A	
Drain-Source On-Resistance(Note 4) (VGS = 10 V, ID = 20 A) (VGS = 4.5 V, ID = 16 A)	RDS(on)	-	-	4.8 6.8	mΩ	
Forward Transconductance(Note 4) (VDS = 15 V, ID = 20 A)	gfs	-	25	-	S	
Diode Forward Voltage(Note 4) (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	-	32	-	nC
Gate-Source Charge		Qgs	-	13	-	
Gate-Drain Charge		Qgd	-	13	-	
Input Capacitance	(VDS = 30 V, VGS = 0 V, f = 1MHz)	Ciss	-	4153	-	pF
Output Capacitance		Coss	-	301	-	
Reverse Transfer Capacitance		Crss	-	283	-	
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 (VDS=0V, VGS=0V, f=1.0MHz)	Rg	-	0.6	-	Ω	

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

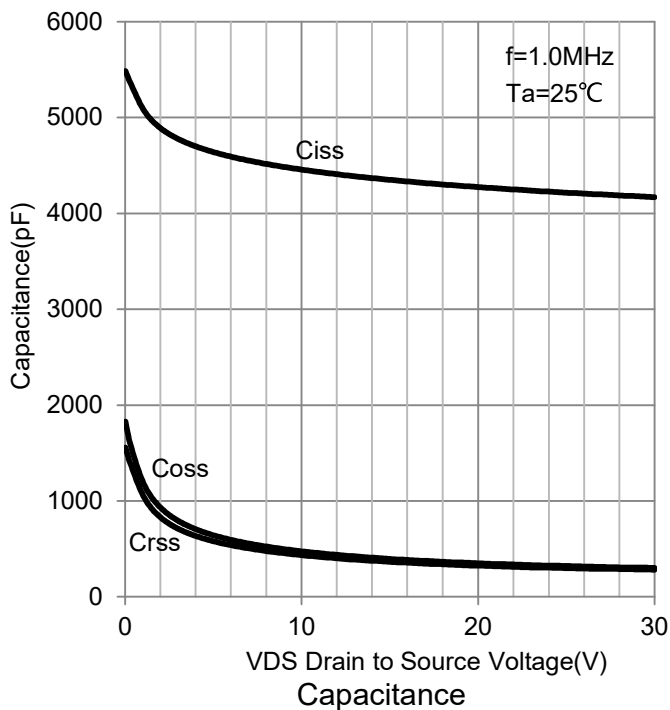
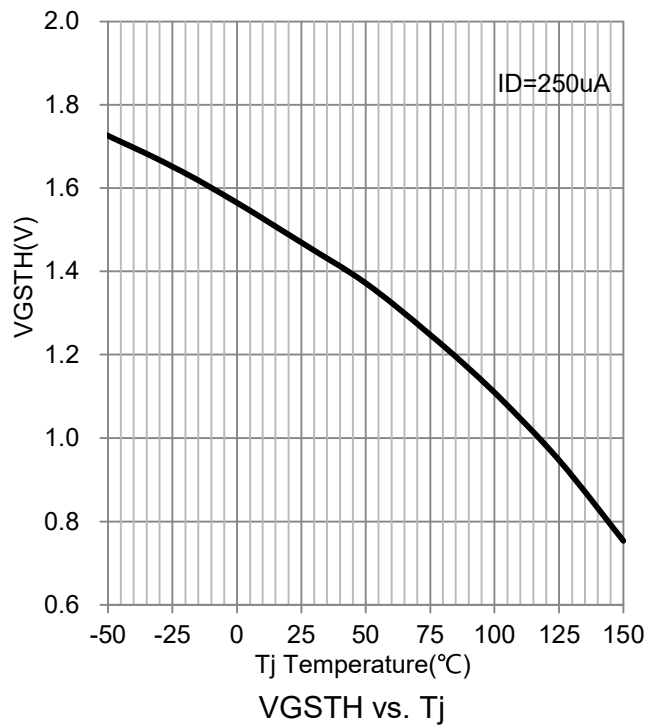
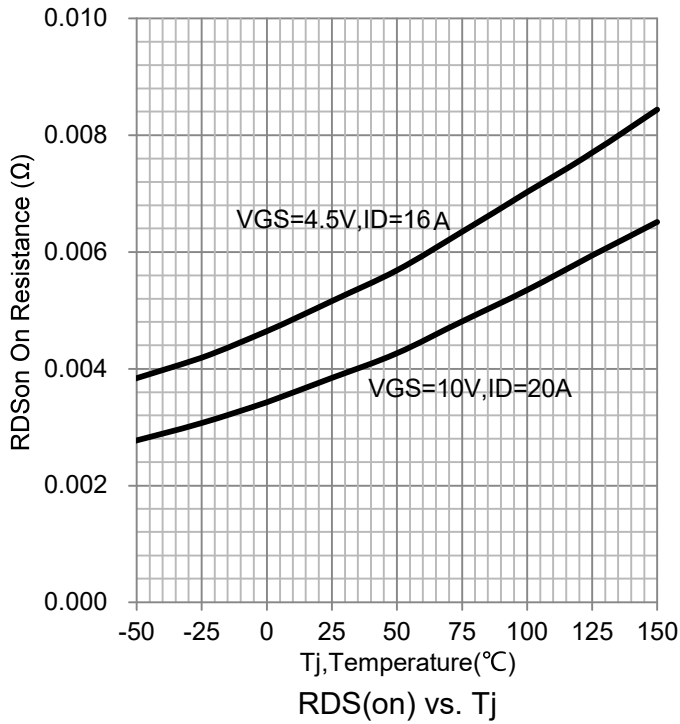
5. Guaranteed by design, not subject to production testing.

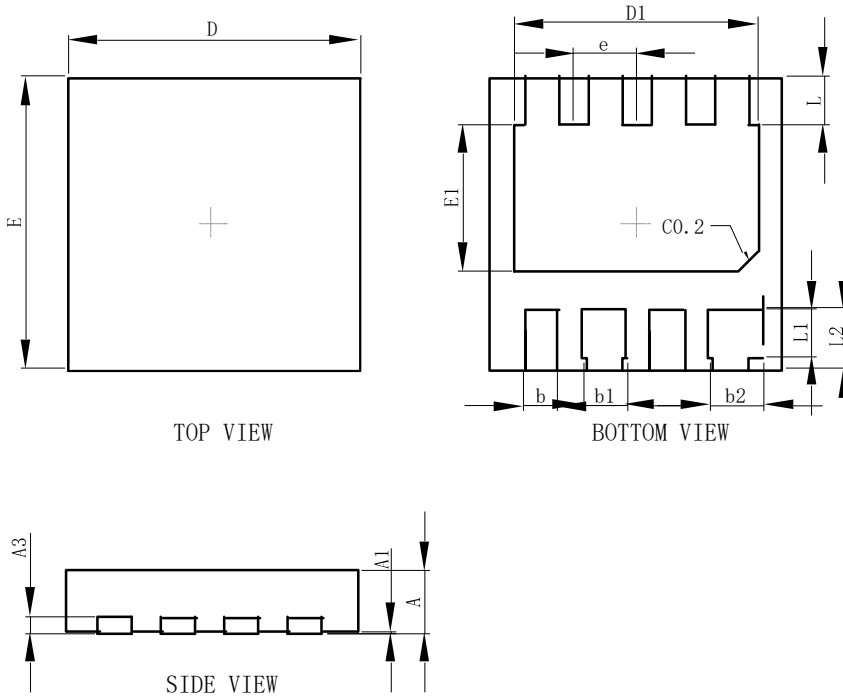


7. ELECTRICAL CHARACTERISTICS CURVES

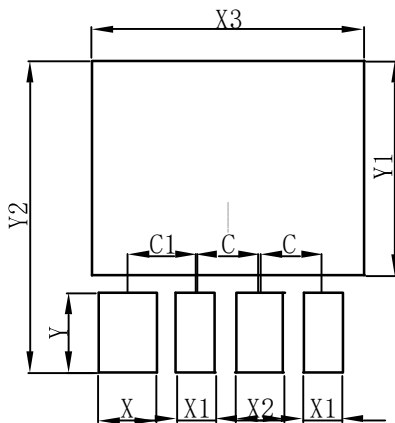


7. ELECTRICAL CHARACTERISTICS CURVES(Con.)



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
Y	0.82

