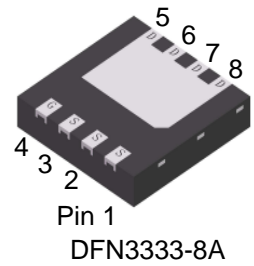


LNB8510DT0AG

60V N-Channel MOSFET

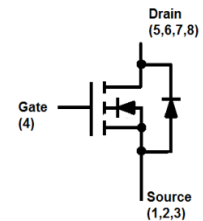


1. FEATURES

- Improved dv/dt capability
- Fast switching
- We declare that the material of product compliance with RoHS requirements and Halogen Free.

2. APPLICATIONS

- Motor Drive
- Power Tools
- LED Lighting
- Quick Charger



3. DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
LNB8510DT0AG	A10	2000/Tape&Reel

4. MAXIMUM RATINGS(Ta = 25°C)

Parameter	Symbol	Limits	Unit
Drain-Source Voltage	VDSS	60	V
Gate-to-Source Voltage – Continuous	VGS	±20	V
Drain Current	ID	17	A
– Continuous TA =25°C			
– Continuous TA =70°C			
Pulsed Drain Current	IDM	68	
Avalanche Current(L=0.1mH)	IAS	18	A
Avalanche Energy(L=0.1mH)	EAS	16.2	mJ
Power Dissipation TA=25°C	PD	3.5	W
Operating Junction and Storage Temperature Range	Tj/Tstg	-50 to 150	°C

5. THERMAL CHARACTERISTICS

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

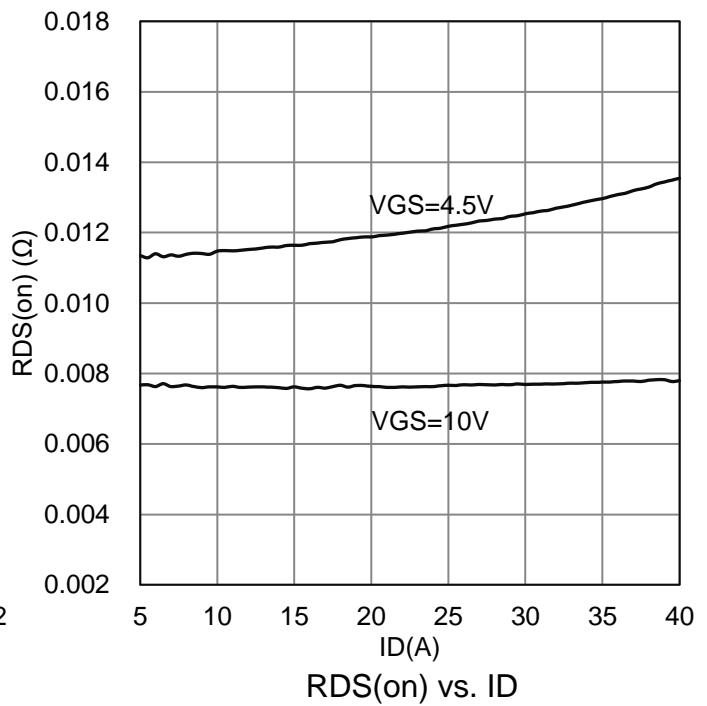
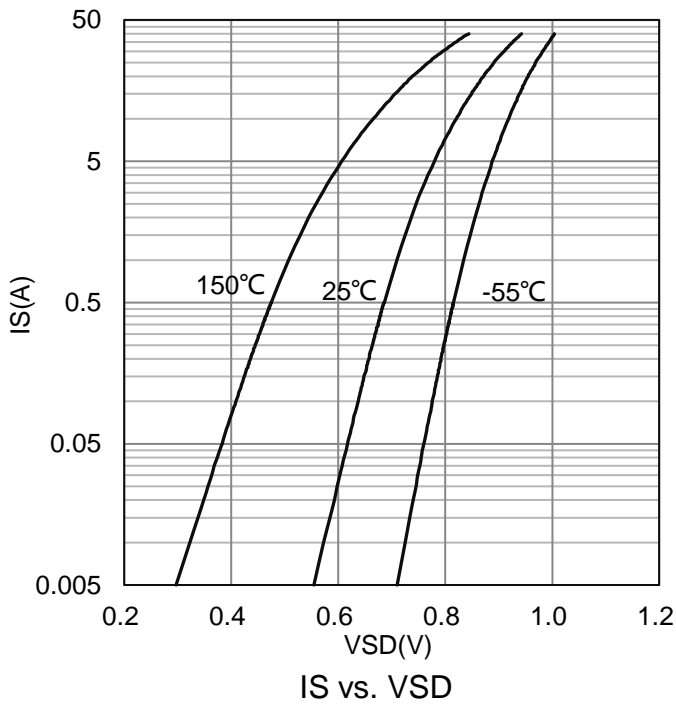
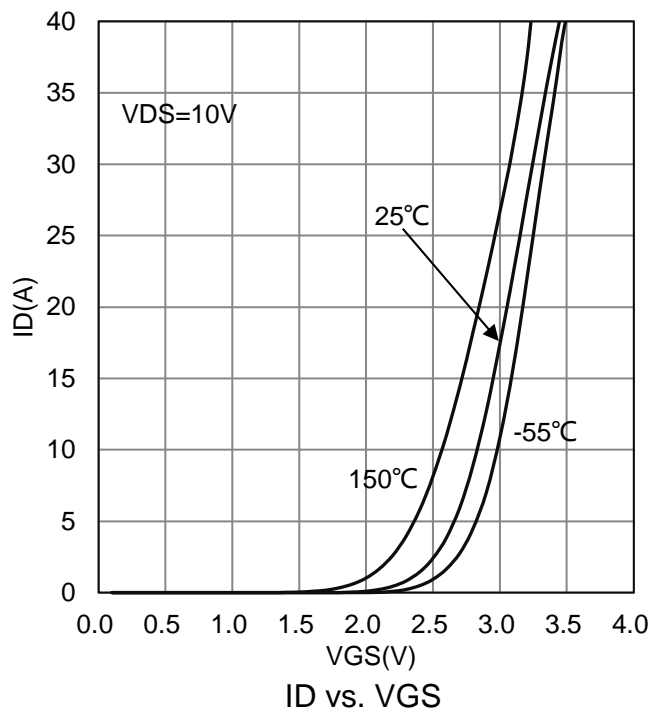
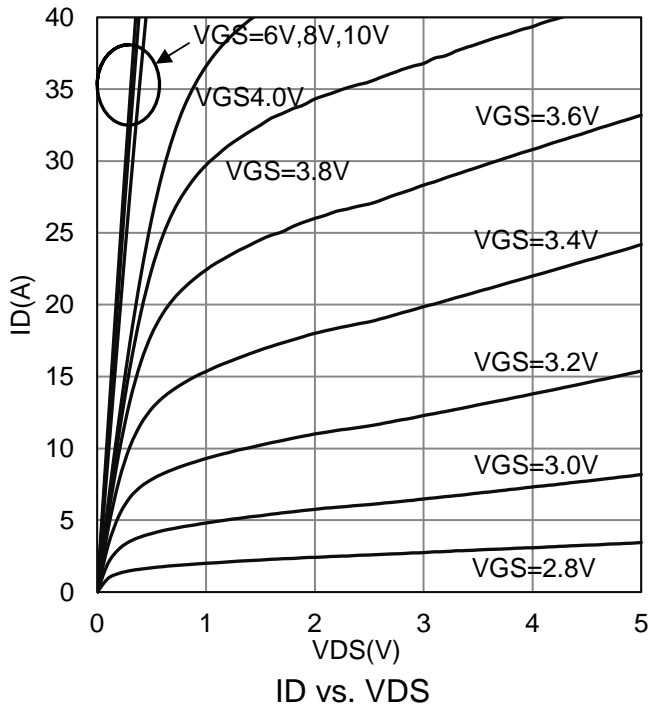
1.Surface mounted on "1.5 x 1.5" FR4 board using 1 sq in pad, 2 oz Cu

6. ELECTRICAL CHARACTERISTICS (Ta= 25°C)

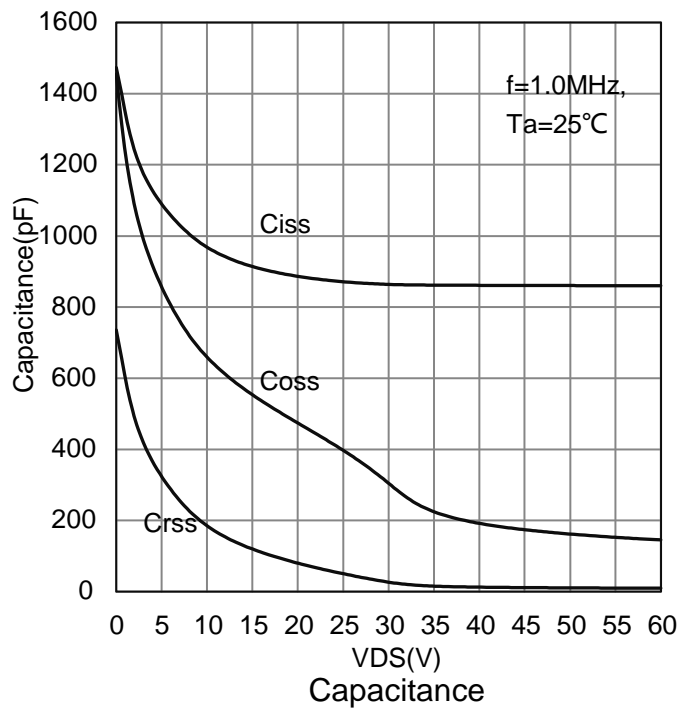
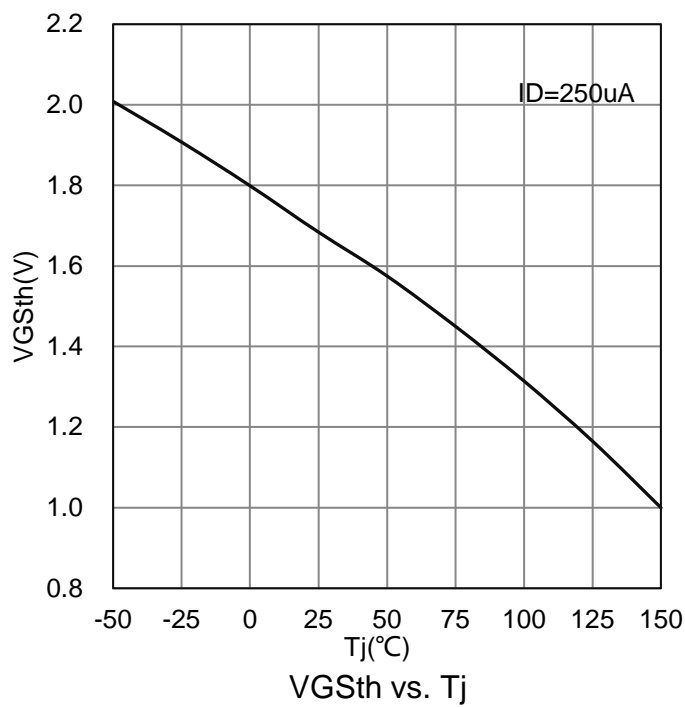
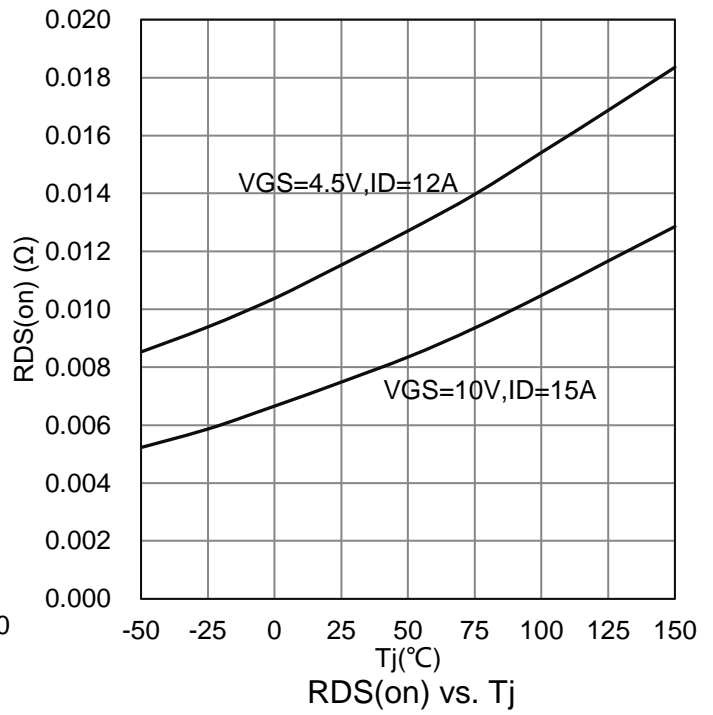
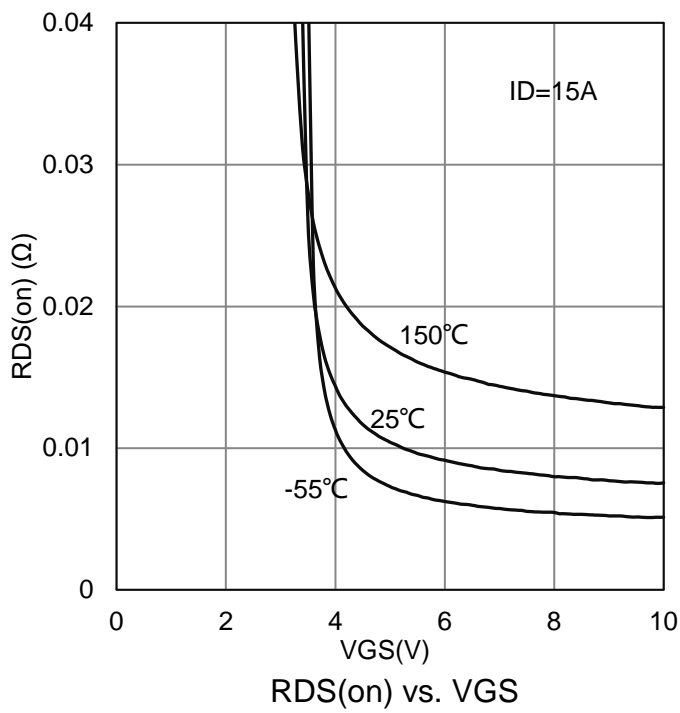
Characteristic	Symbol	Min.	Typ.	Max.	Unit
Static					
Drain-Source Breakdown Voltage (VGS = 0, ID = 250μA)	V(BR)DSS	60	-	-	V
Drain-Source Leakage Current (VDS =60V, VGS =0V, TJ =25°C)	IDSS	-	-	1	μA
Gate-Body Leakage Current (VGS =±20V , VDS =0V)	IGSS	-	-	±100	nA
Gate Threshold Voltage (VDS = VGS, ID = 250μA)	VGS(th)	1.2	1.6	2.5	V
Static Drain-Source On-State Resistance (VGS =10V, ID =15A) (VGS =4.5V, ID =12A)	RDS(on)	- -	- -	9.5 14	mΩ
Dynamic					
Input Capacitance (VGS = 0 V, f = 1.0MHz, VDS= 30 V)	Ciss	-	864	-	pF
Output Capacitance (VGS = 0 V, f = 1.0MHz, VDS= 30 V)	Coss	-	305	-	
Reverse Transfer Capacitance (VGS = 0 V, f = 1.0MHz, VDS= 30 V)	Crss	-	27	-	
Total Gate Charge	(VDS =30V , VGS =10V , ID =15A)	Qg	-	22	nC
Gate-Source Charge		Qgs	-	2.3	
Gate-Drain Charge		Qgd	-	8	
Turn-On Delay Time	(VDD =30V, VGS =10V, RG =3.3Ω, ID =1A)	td(on)	-	10	ns
Rise Time		tr	-	13.5	
Turn-Off Delay Time		td(off)	-	28	
Fall Time		tf	-	20	
Forward Voltage (VGS =0V, IS =1A, TJ =25°C)	VSD	-	-	1	V

2.Pulse Test: Pulse Width ≤300 μs, Duty Cycle ≤2.0%.

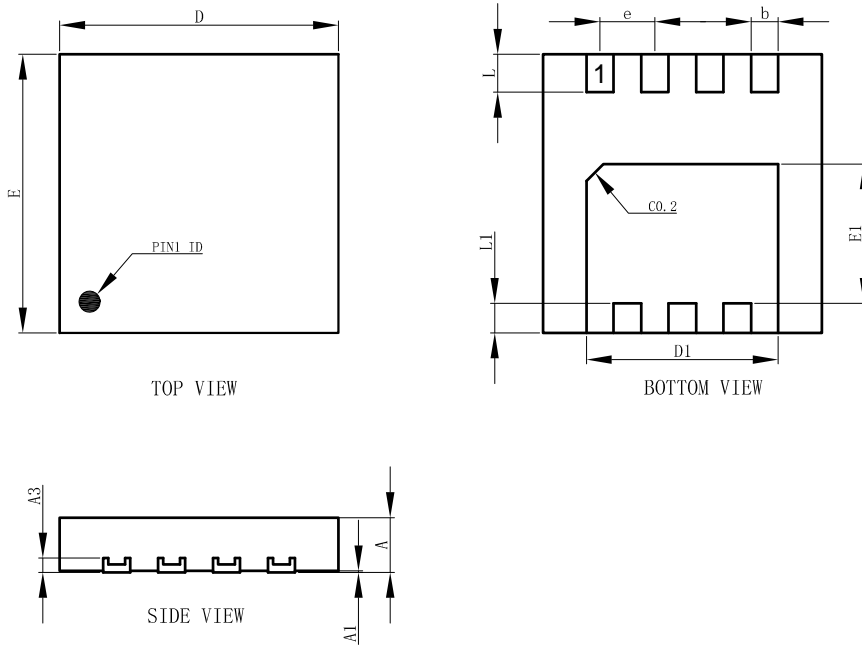
7. ELECTRICAL CHARACTERISTICS CURVES



7. ELECTRICAL CHARACTERISTICS CURVES(Con.)

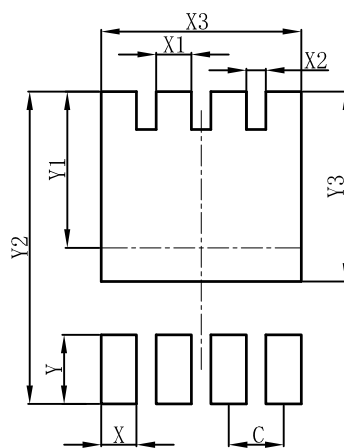


8. OUTLINE AND DIMENSIONS



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	
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

DISCLAIMER

- Curve guarantee in the specification. The curve of test items with electric parameter is used as quality guarantee. The curve of test items without electric parameter is used as reference only.
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