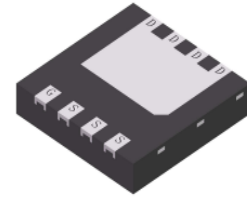


# S-LNB86110DT0AG

100V N-Channel Power MOSFET



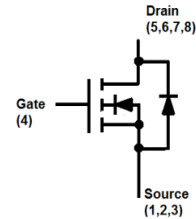
DFN3333-8A

## 1. FEATURES

- Advanced trench cell design
- Low thermal impedance
- High Speed Power Switching
- We declare that the material of product compliance with RoHS requirements and Halogen Free.
- S-prefix for automotive and other applications requiring unique site and control change requirements; AEC-Q101 qualified and PPAP capable.

## 2. APPLICATIONS

- Portable appliances
- Power management



## 3. DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
S-LNB86110DT0AG	B86	2000/Tape&Reel

## 4. MAXIMUM RATINGS(Ta = 25°C)

Parameter		Symbol	Limits	Unit
Drain-Source Voltage		VDS	100	V
Gate-Source Voltage		VGS	±20	
Continuous Drain Current (Note1)	TA = 25°C	ID	4.5	A
	TA = 100°C		2.8	
	TC = 25°C		13	
	TC = 100°C		10	
Pulsed Drain Current (Note2)		IDM	18	
Power Dissipation (Note1)	TA = 25°C	PD	2	W
	TC = 25°C		20	
Operating Junction and Storage Temperature Range		TJ,Tstg	-55~+150	°C

## 5. THERMAL CHARACTERISTICS

Parameter	Symbol	Limits	Unit
Maximum Junction-to-Ambient (Note1)	RθJA	60	°C/W
Maximum Junction-to-Case	RθJC	6	

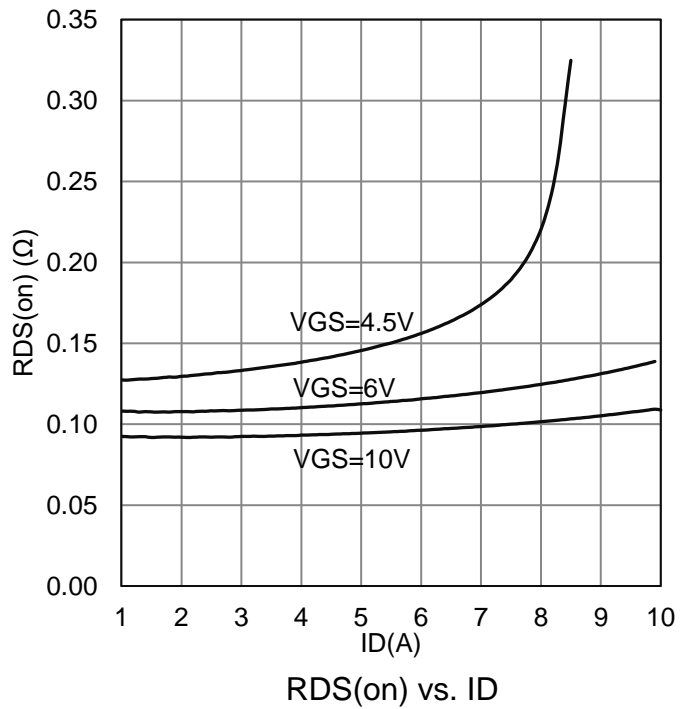
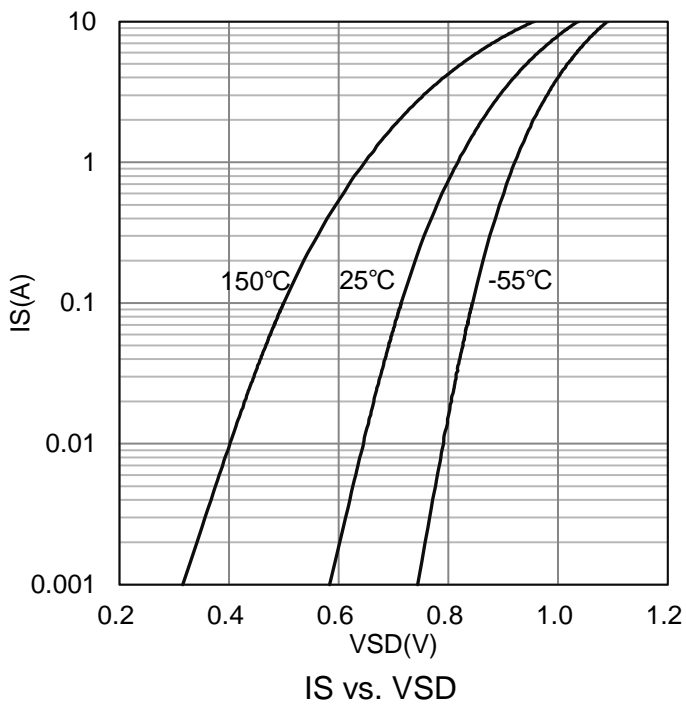
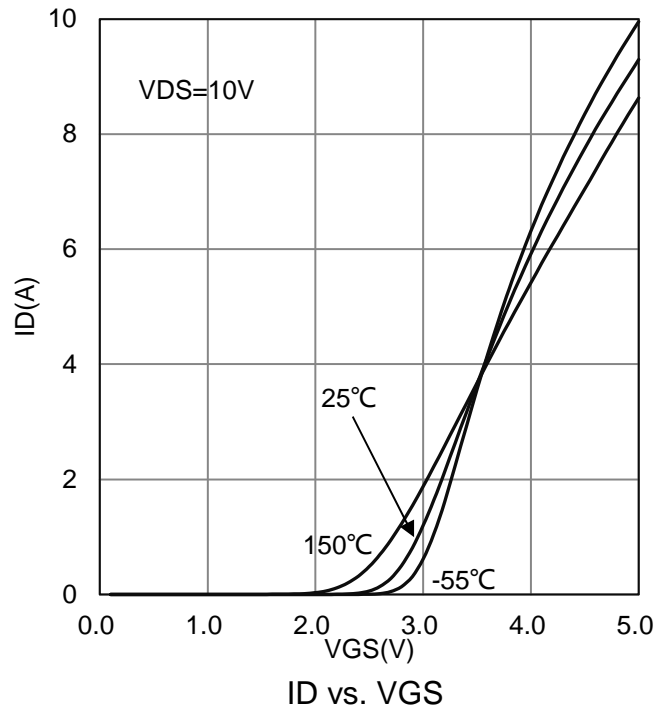
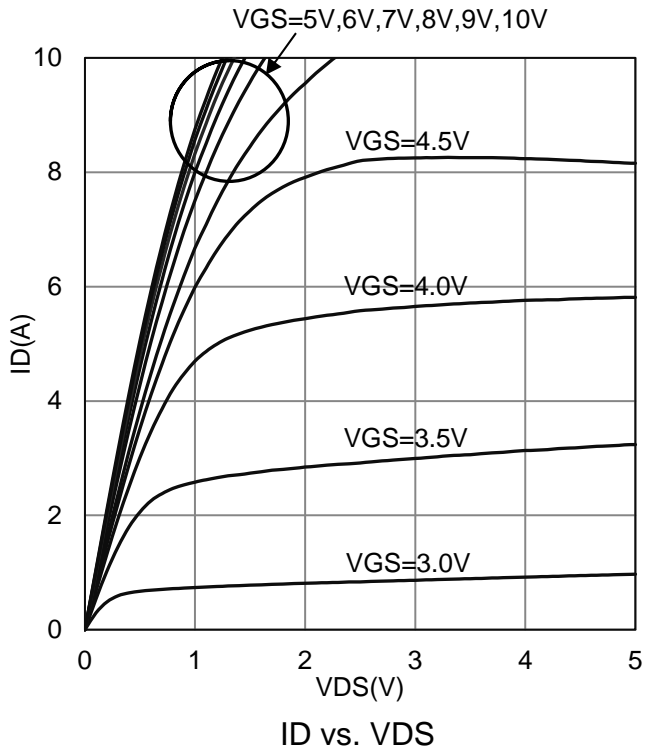
- 1.Surface mounted on "1.5 x 1.5" FR4 board using 1 sq in pad, 2 oz Cu
- 2.Pulse width limited by maximum junction temperature

**6. ELECTRICAL CHARACTERISTICS (Ta= 25°C)**

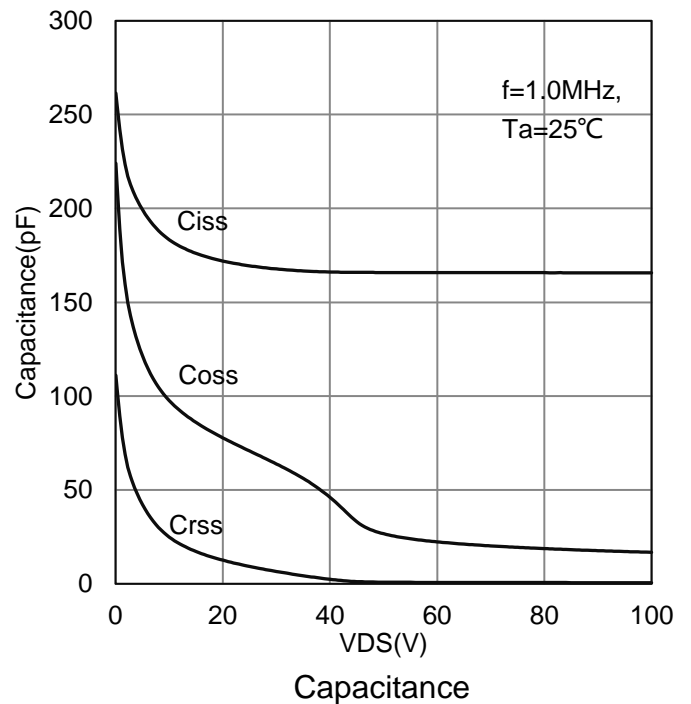
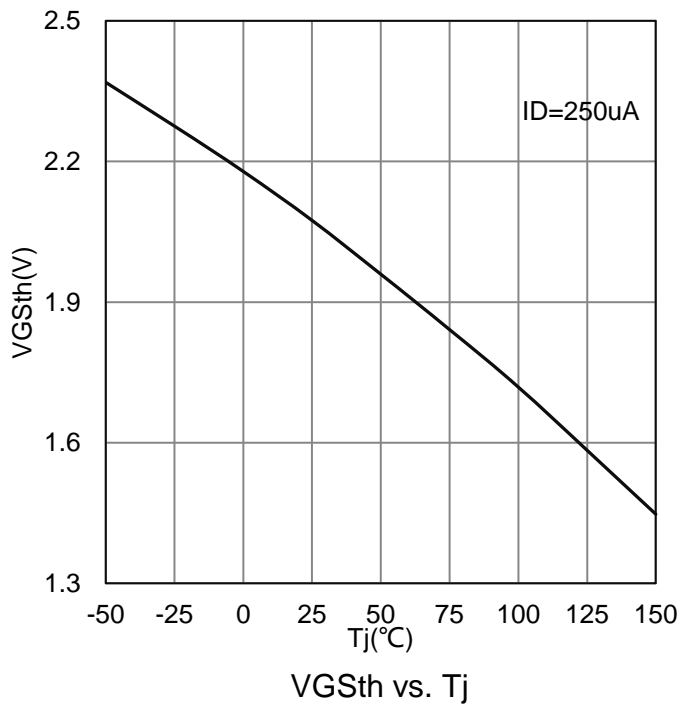
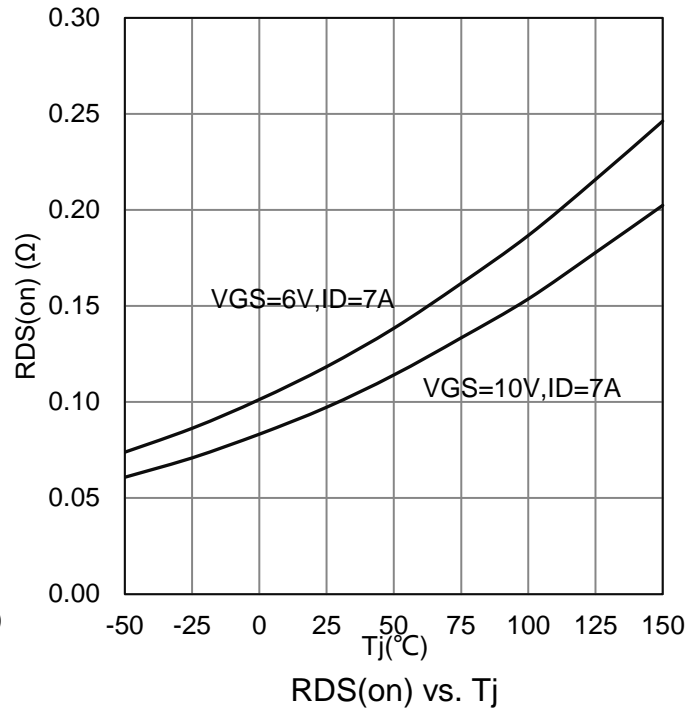
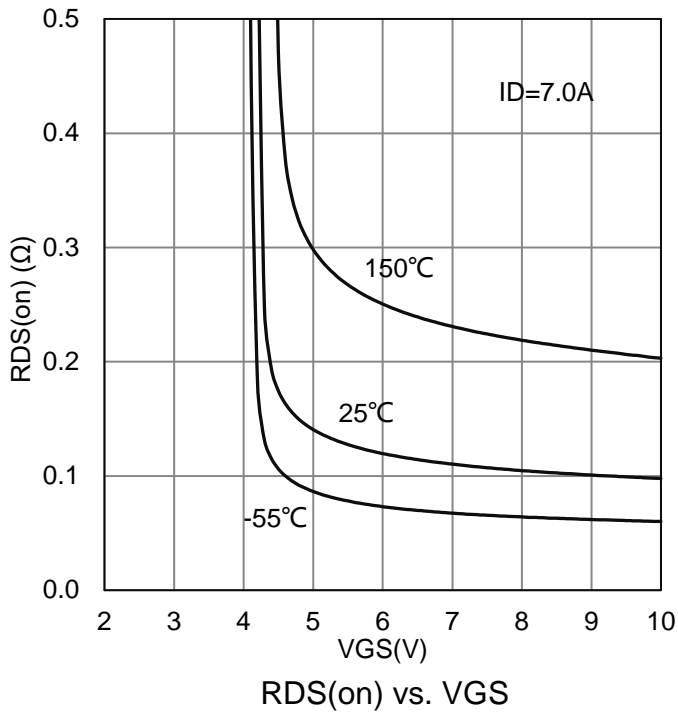
Characteristic	Symbol	Min.	Typ.	Max.	Unit
<b>Static</b>					
Drain-Source Breakdown Voltage (VGS = 0 V, ID = 250 μA)	V(BR)DSS	100	-	-	V
Gate Threshold Voltage (VDS = VGS, ID = 250 μA)	VGS(th)	1.3	1.8	2.5	V
Gate Leakage Current (VDS = 0 V, VGS = ±20 V)	IGSS	-	-	±100	nA
Zero Gate Voltage Drain Current (VDS = 80 V, VGS = 0 V)	IDSS	-	-	1	μA
Drain-Source On-Resistance(Note 3) (VGS = 10 V, ID = 7 A) (VGS = 6 V, ID = 7 A) (VGS = 4.5 V, ID = 7 A)	RDS(ON)	-	86 103 125	113 133 185	mΩ
Diode Forward Voltage (Note 3) (IS = 1 A, VGS = 0 V)	VSD	-	0.7	1.3	V
<b>Dynamic</b>					
Total Gate Charge	Qg	-	4.9	-	nC
Gate-Source Charge	Qgs	-	1.9	-	
Gate-Drain Charge	Qgd	-	1.2	-	
Input Capacitance	Ciss	-	155	-	pF
Output Capacitance	Coss	-	26.5	-	
Reverse Transfer Capacitance	Crss	-	0.85	-	
Turn-On Delay Time	td(on)	-	3.6	-	ns
Rise Time	tr	-	4.1	-	
Turn-Off Delay Time	td(off)	-	12.7	-	
Fall Time	tf	-	4.4	-	

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

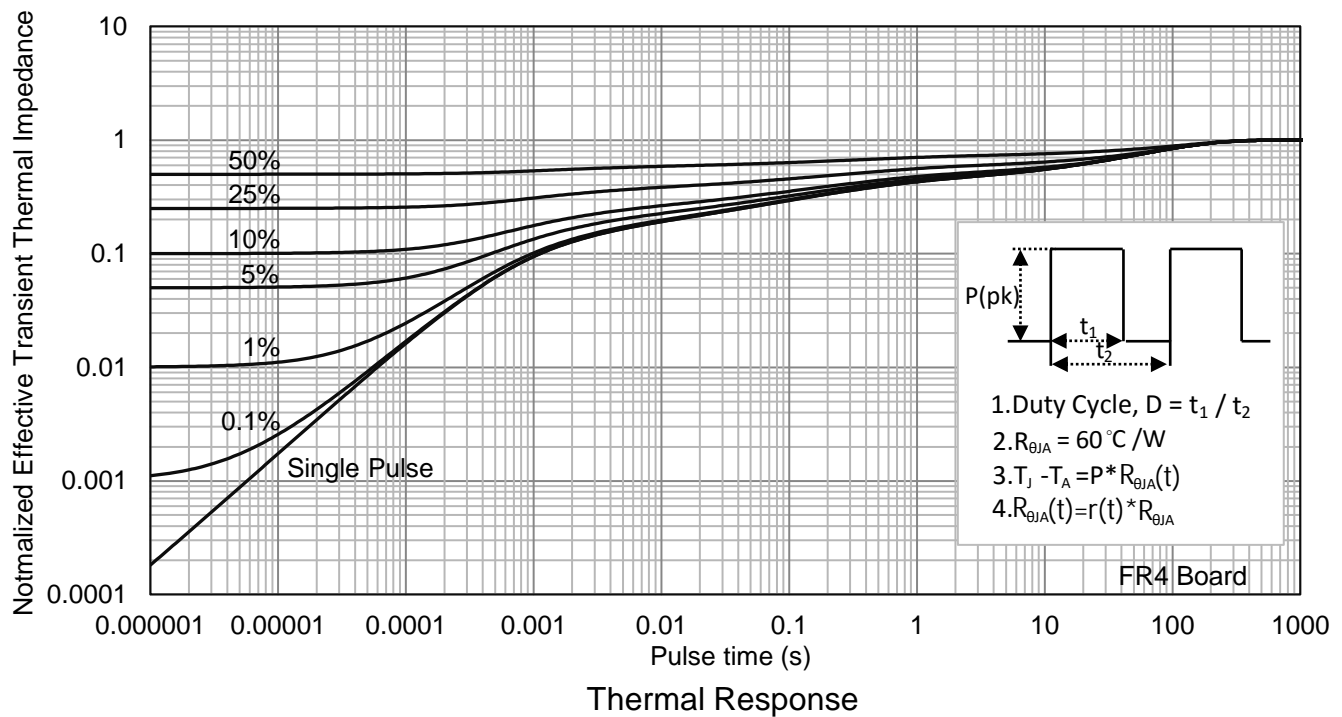
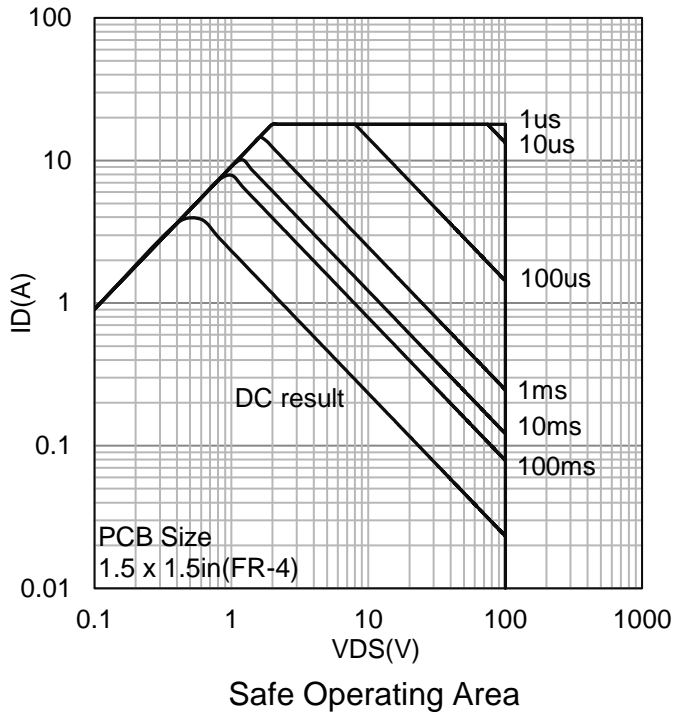
**7. ELECTRICAL CHARACTERISTICS CURVES**



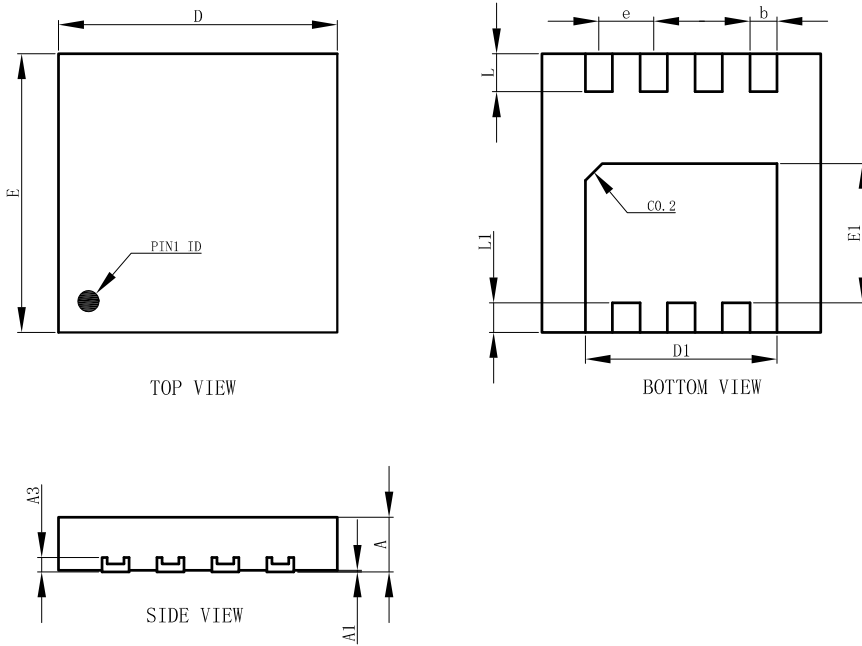
**7. ELECTRICAL CHARACTERISTICS CURVES(Con.)**



### 7. ELECTRICAL CHARACTERISTICS CURVES(Con.)

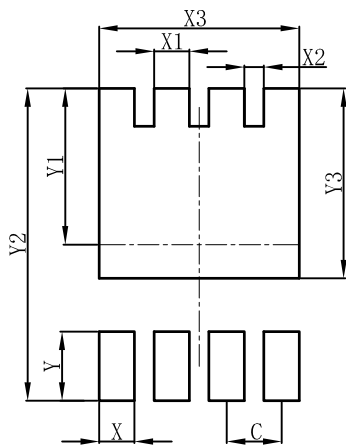


**8.OUTLINE AND DIMENSIONS**



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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