

S-LNB85042DT0AG

60V N-Channel Power MOSFET

1. FEATURES

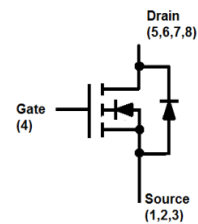
- Low RDS(on) trench technology.
- Low thermal impedance.
- Fast switching speed.
- We declare that the material of product are Halogen Free and compliance with RoHS requirements.
- S-prefix for automotive and other applications requiring unique site and control change requirements; AEC-Q101 qualified and PPAP capable.



DFN3333-8A

2. APPLICATION

- Power Routing
- UPS
- Motor Drives



3. ORDERING INFORMATION

Device	Marking	Shipping
S-LNB85042DT0AG	NB2	2000/Tape&Reel

4. MAXIMUM RATINGS(Ta = 25°C)

Parameter		Symbol	Limits	Unit
Drain-to-Source Voltage		VDSS	60	V
Gate-to-Source Voltage		VGS	±20	V
Continuous Drain Current(Note 1)	TC =25° C	ID	63	A
	TC =100° C		48	
	TA =25° C		22	
	TA =100° C		17	
Pulsed Drain Current (Note 2)		IDM	88	
Avalanche Current		IAS	32	A
Avalanche Energy(L=0.1mH)		EAS	51.2	mJ
Power Dissipation	TC =25° C	PD	20	W
	TA =25° C		2.5	
Operating Junction Temperature		TJ	-55 ~+150	°C
Storage Temperature Range		Tstg	-55 ~+150	

5. THERMAL CHARACTERISTICS

Parameter	Symbol	Limits	Unit
Maximum Junction-to-Ambient(Note 1)	RθJA	50	°C/W
Maximum Junction-to-Ambient(Note 3)	RθJA	160	
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.

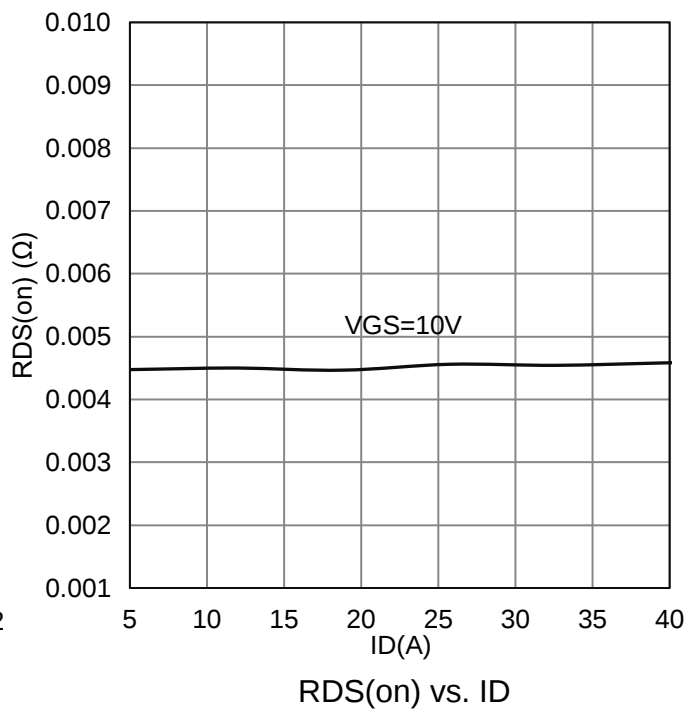
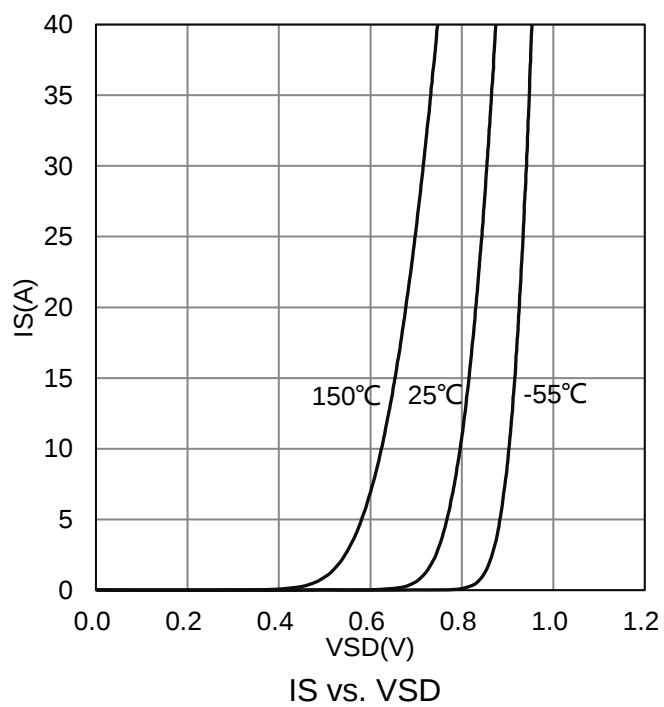
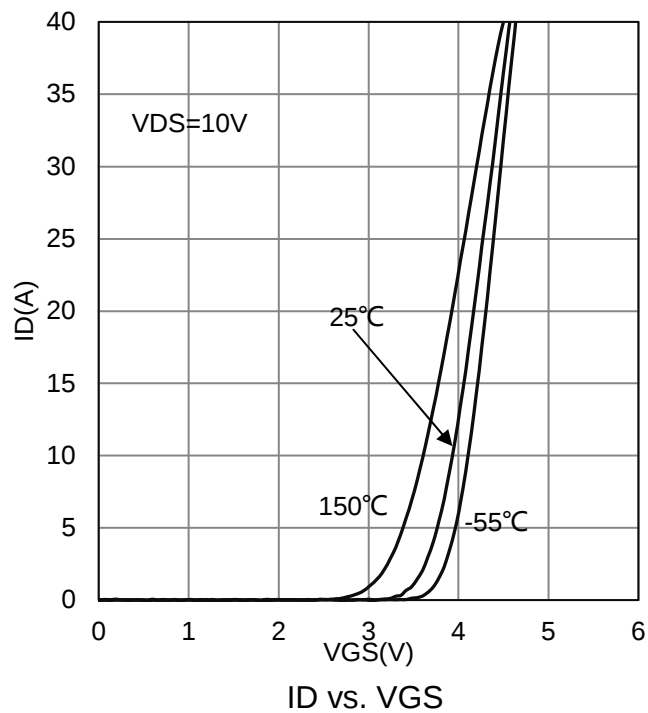
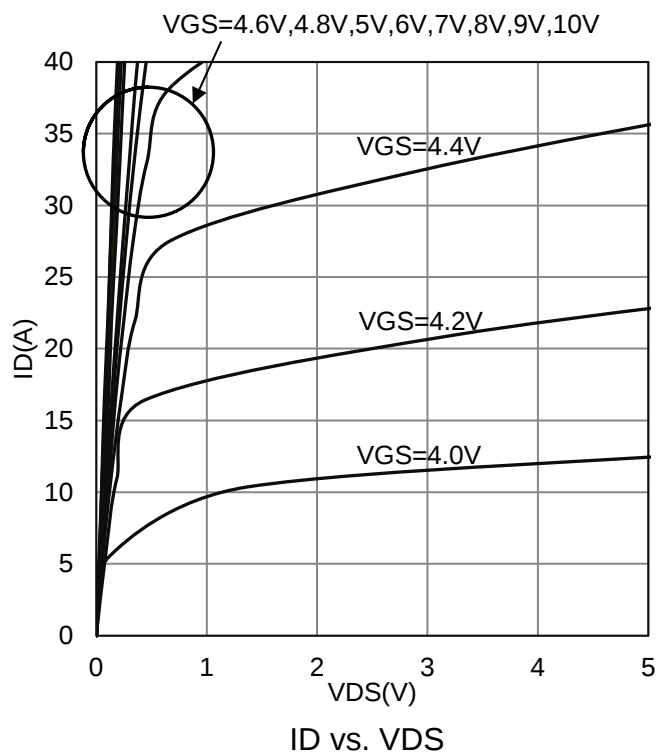
3.Surface mounted on FR4 board using the minimum recommended pad size.

6. ELECTRICAL CHARACTERISTICS(Ta = 25°C)

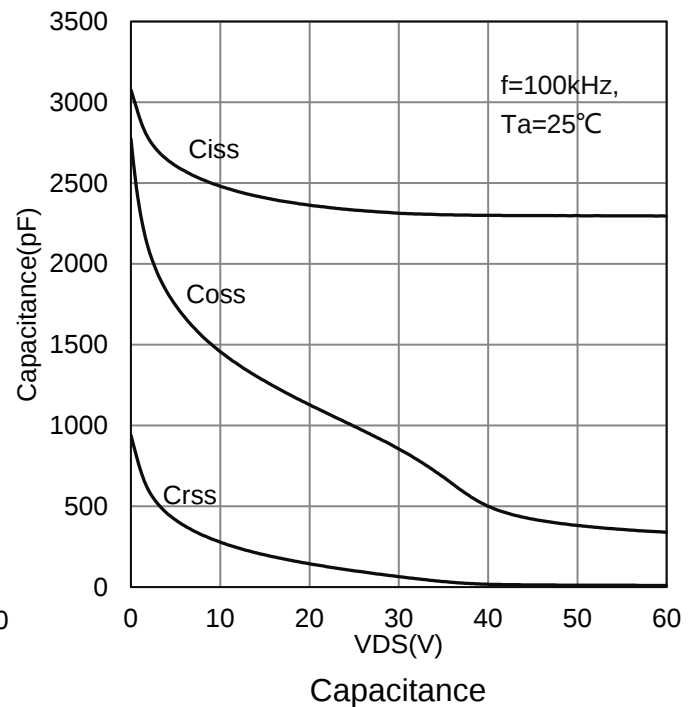
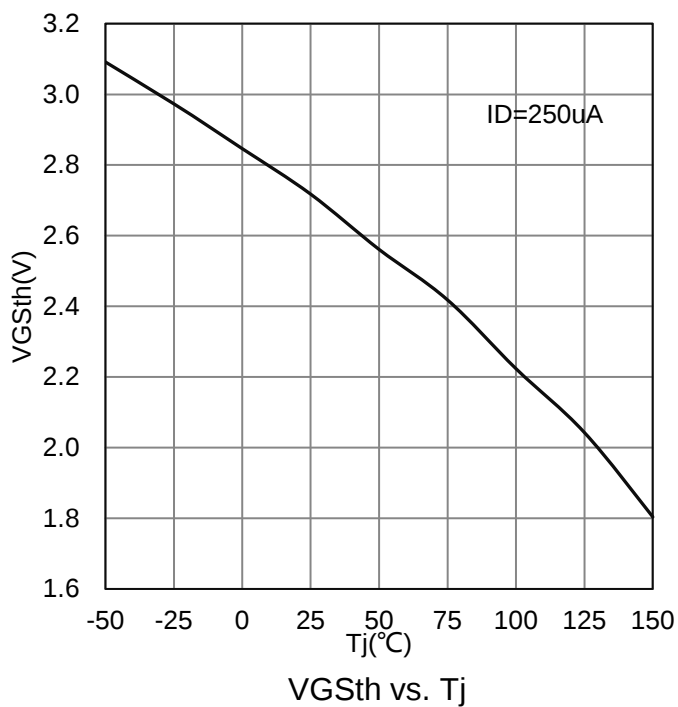
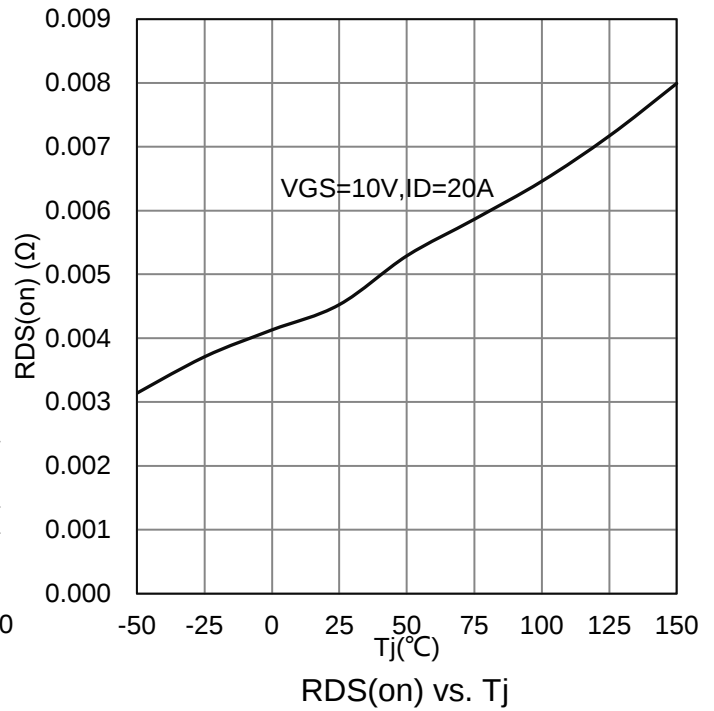
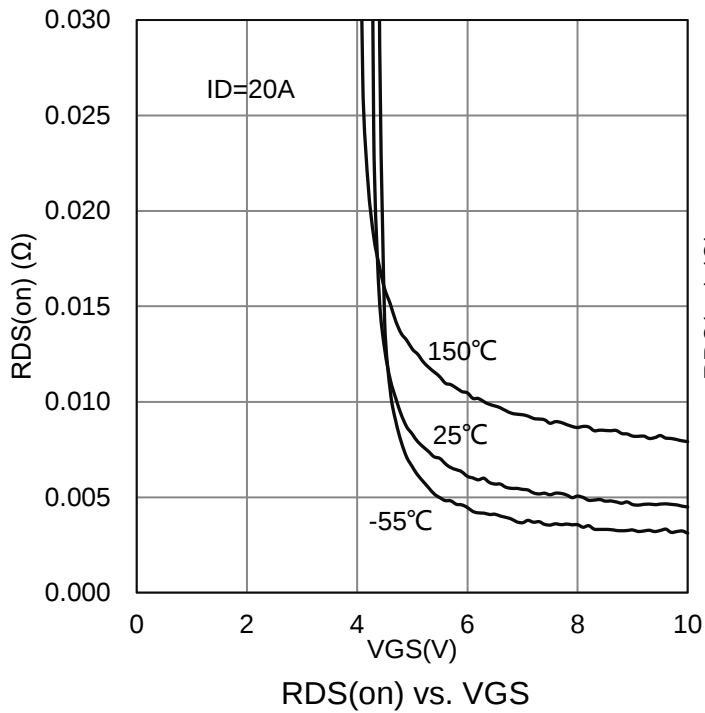
Characteristic		Symbol	Min.	Typ.	Max.	Unit
Static						
Drain-Source Breakdown Voltage (VGS = 0V, ID = 250 uA)		V(BR)DSS	60	-	-	V
Gate-Source Threshold Voltage (VDS = VGS , ID = 250 uA)		VGS(th)	2	2.7	4	V
Gate-Body Leakage (VDS = 0 V, VGS = ±20 V)		IGSS	-	-	± 100	nA
Zero Gate Voltage Drain Current (VDS = 60 V, VGS = 0 V)		IDSS	-	-	1	μA
Drain-Source On-Resistance(Note 4) (VGS = 10 V, ID = 20 A)		RDS(on)	-	4.7	5.2	mΩ
Dynamic						
Total Gate Charge	(VDS = 30 V, VGS = 10 V,ID = 20 A)	Qg	-	40	-	nC
Gate-Source Charge		Qgs	-	8.2	-	
Gate-Drain Charge		Qgd	-	12.4	-	
Input Capacitance	(VDS = 30 V, VGS = 0 V, f = 100kHz)	Ciss	-	2314	-	pF
Output Capacitance		Coss	-	855	-	
Reverse Transfer Capacitance		Crss	-	65	-	
Turn-On Delay Time	(VDS = 30 V,ID = 20 A,VGS= 10 V, RG = 10 Ω, RL = 1.5 Ω)	td(on)	-	21.5	-	ns
Rise Time		tr	-	24	-	
Turn-Off Delay Time		td(off)	-	59	-	
Fall Time		tf	-	36	-	
Diode Forward Voltage (IS =20A,VGS = 0V)		VSD	-	0.9	1.2	V

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

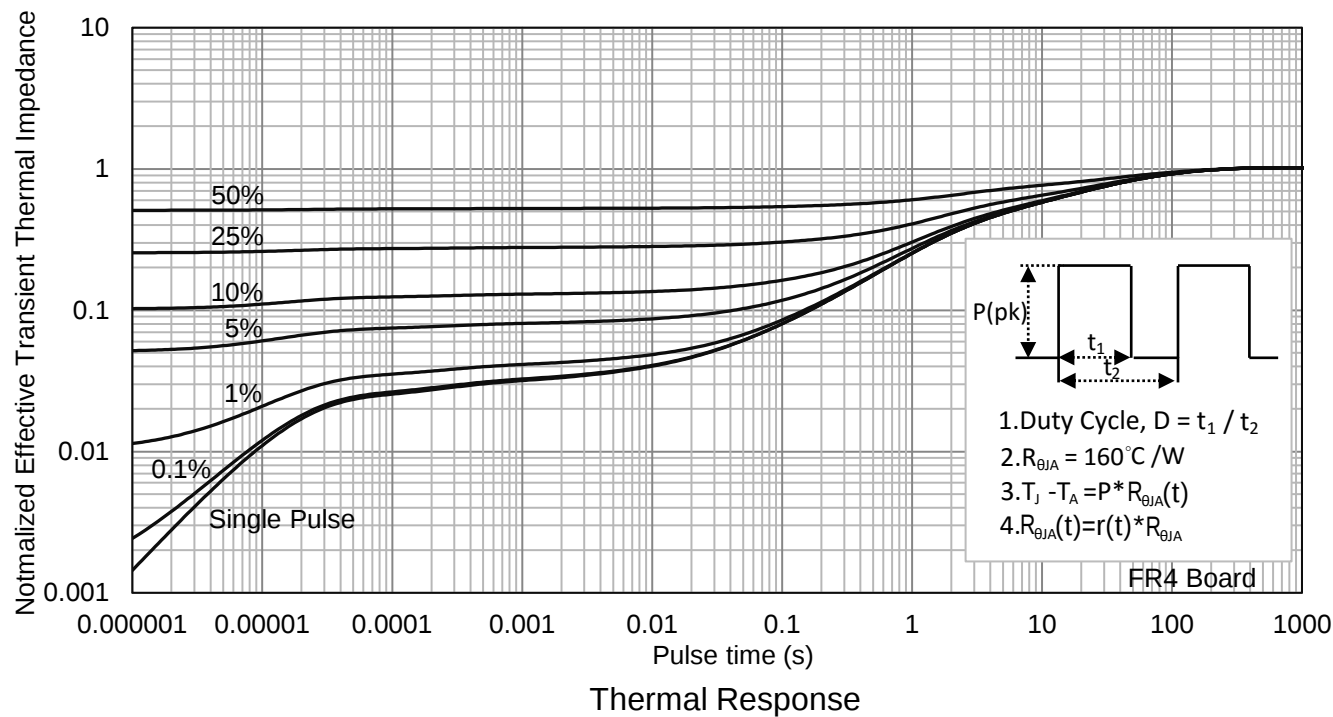
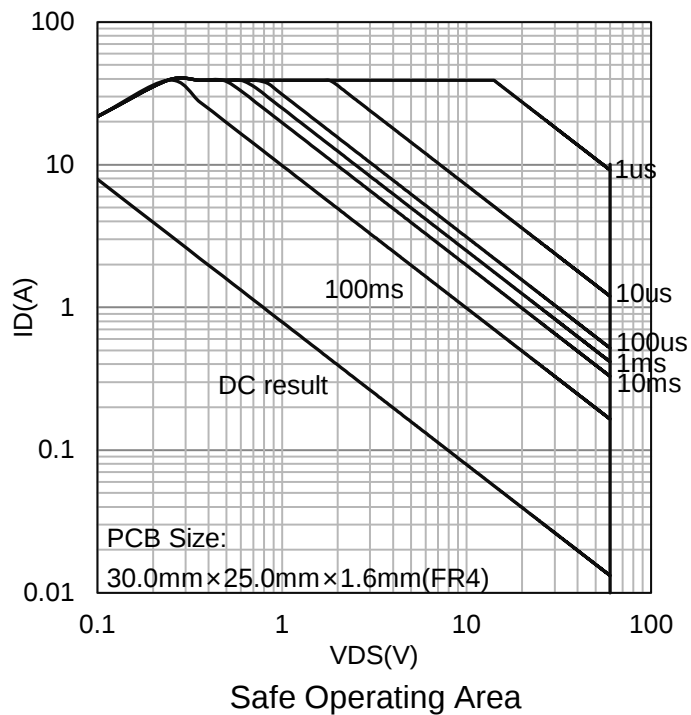
7. ELECTRICAL CHARACTERISTICS CURVES



7. ELECTRICAL CHARACTERISTICS CURVES(Con.)

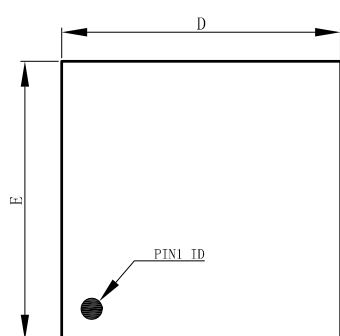


7. ELECTRICAL CHARACTERISTICS CURVES(Con.)

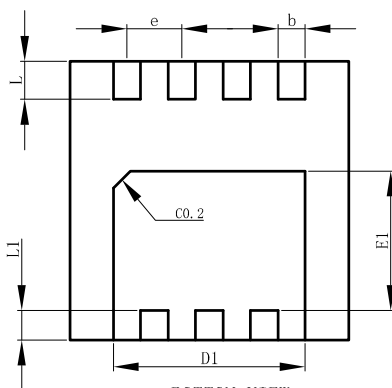


8.OUTLINE AND DIMENSIONS

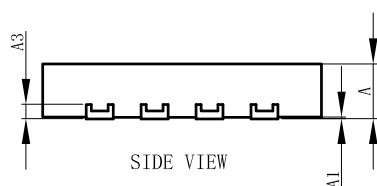
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TOP VIEW



BOTTOM VIEW

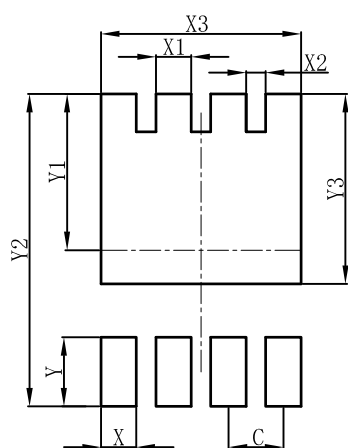


SIDE VIEW

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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

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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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