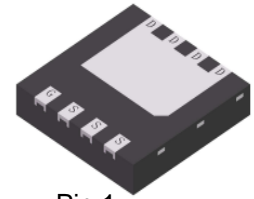


S-LNB8407DT0AG

40V N-Channel Power MOSFET



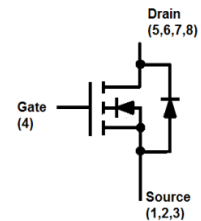
Pin 1
DFN3333-8A

1. FEATURES

- Low thermal impedance.
- Fast switching speed.
- 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

- Power Tools
- DC/DC conversion
- Motor Control



3. DEVICE MARKING AND RESISTOR VALUES

Device	Marking	Shipping
S-LNB8407DT0AG	NA07	2000/Tape&Reel

4. MAXIMUM RATINGS

Parameter		Symbol	Limits	Unit
Drain-to-Source Voltage		V _{DS}	40	V
Gate-to-Source Voltage		V _{GS}	± 20	V
Continuous Drain Current(Note 1)	TA =25°C	ID	14	A
	TA =100°C		9	
Pulsed Drain Current	TA =25°C	IDM	56	
Continuous Drain Current	TC =25°C	ID	58	A
	TC =100°C		37	
Pulsed Drain Current(Note 2)	TC =25°C	IDM	232	
Avalanche Current		IAS	19.8	A
Avalanche energy(L=0.1mH)		EAS	19.6	mJ
Power Dissipation (Note 1)	TA =25°C	PD	2.2	W
	TA =100°C		0.86	
	TC =25°C		41	
	TC =100°C		16	
Operating Junction and Storage Temperature Range		T _J , T _{STG}	-55~+150	°C

5. THERMAL CHARACTERISTICS

Parameter	Symbol	Max	Unit
Junction-to-Ambient(Note 1)	R _{θJA}	58	°C/W
Junction-to-Case	R _{θJC}	3	

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

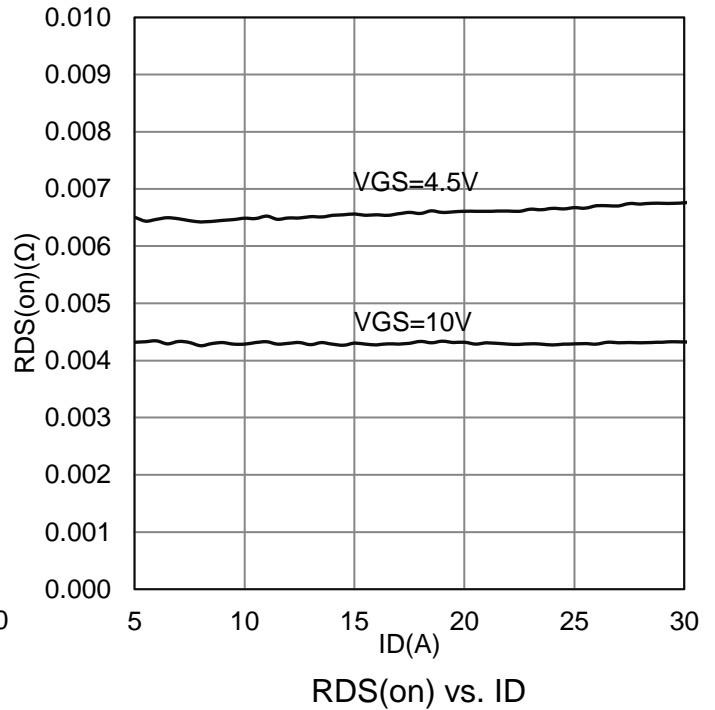
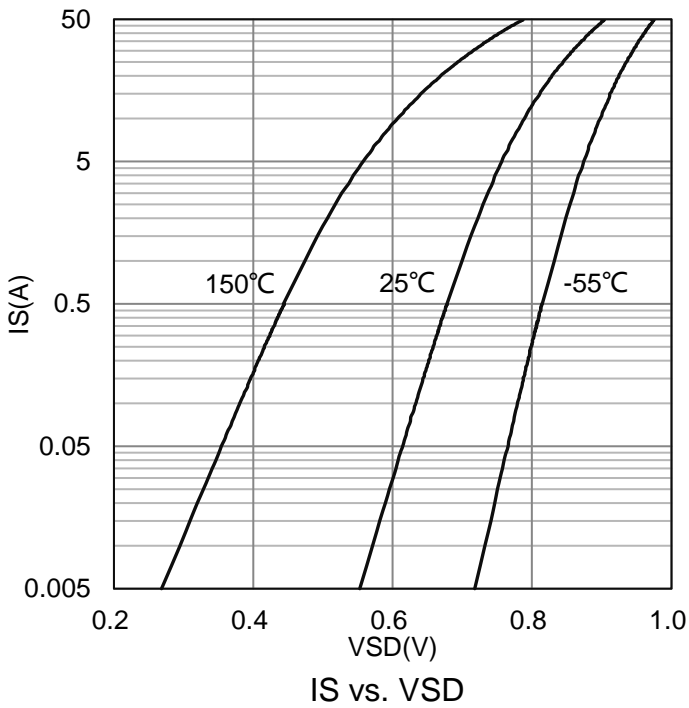
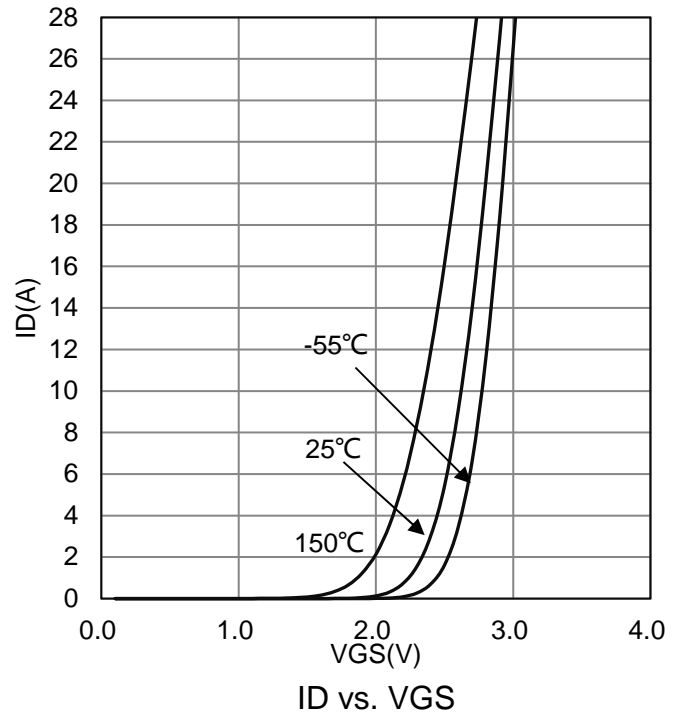
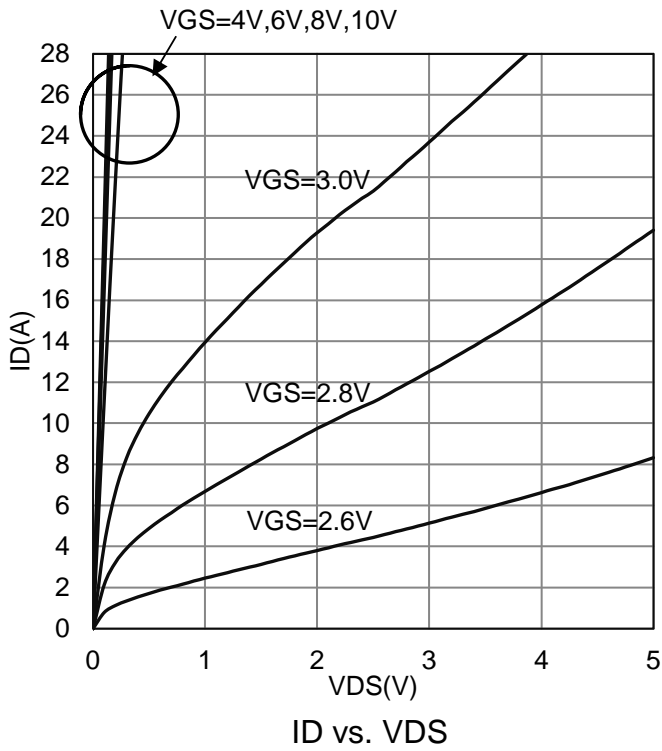
2.Pulse width limited by maximum junction temperature.

6. ELECTRICAL CHARACTERISTICS (Ta= 25°C)

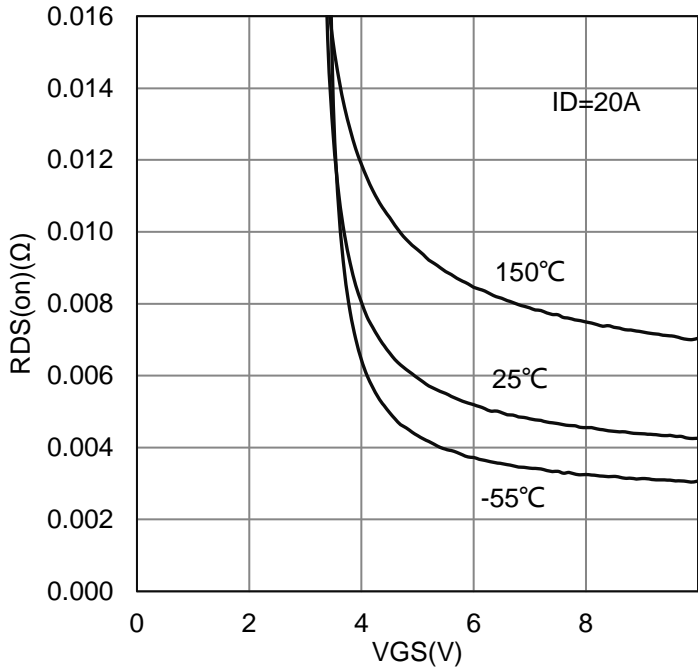
Characteristic	Symbol	Min.	Typ.	Max.	Unit
Static					
Drain to Source Breakdown Voltage (VGS = 0 V, ID = 250 μA)	BVDSS	40	-	-	V
Gate-Source Threshold Voltage (VDS = VGS, ID = 250 μA)	VGS(th)	1	-	2.5	V
Gate-Body Leakage (VDS = 0 V, VGS = ±20 V)	IGSS	-	-	±100	nA
Zero Gate Voltage Drain Current (VDS = 40 V, VGS = 0 V)	IDSS	-	-	1	μA
Drain-Source On-Resistance(Note 3) (VGS = 10 V, ID = 20 A) (VGS = 4.5 V, ID = 12 A)	RDS(on)	-	4.1 6.3	4.9 8.1	mΩ
Diode Forward Voltage (IS = 20 A, VGS = 0 V)	VSD	-	0.8	1.3	V
Dynamic					
Input Capacitance	(VDS = 20 V, VGS = 0 V, f = 1MHz)	Ciss	-	935	pF
Output Capacitance		Coss	-	364	
Reverse Transfer Capacitance		Crss	-	37	
Total Gate Charge	(VDS = 20 V, VGS = 10 V, ID = 20 A)	Qg	-	19.2	nC
Gate-Source Charge		Qgs	-	2.3	
Gate-Drain Charge		Qgd	-	6	
Turn-On Delay Time	(VDS = 20 V, ID = 20 A, VGS = 10 V, RG = 6 Ω)	td(on)	-	8.2	ns
Rise Time		tr	-	12	
Turn-Off Delay Time		td(off)	-	35	
Fall Time		tf	-	17	

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

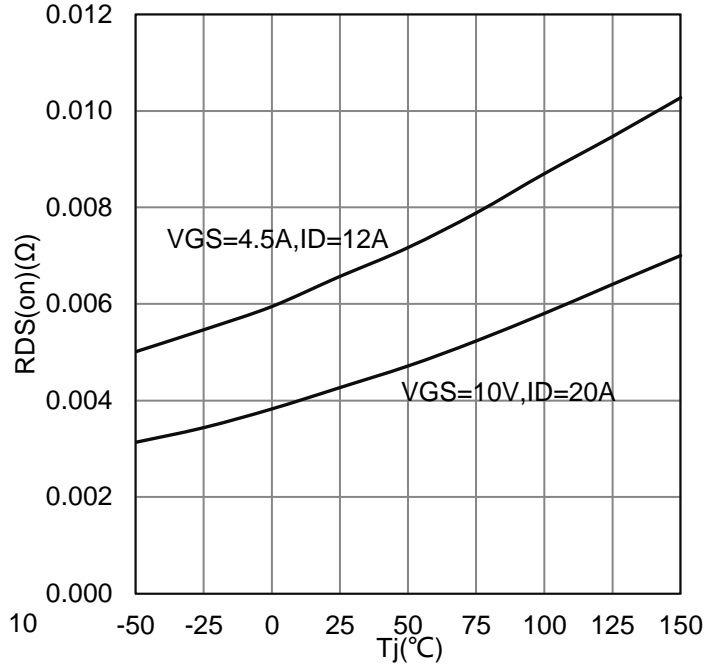
7. ELECTRICAL CHARACTERISTICS CURVES



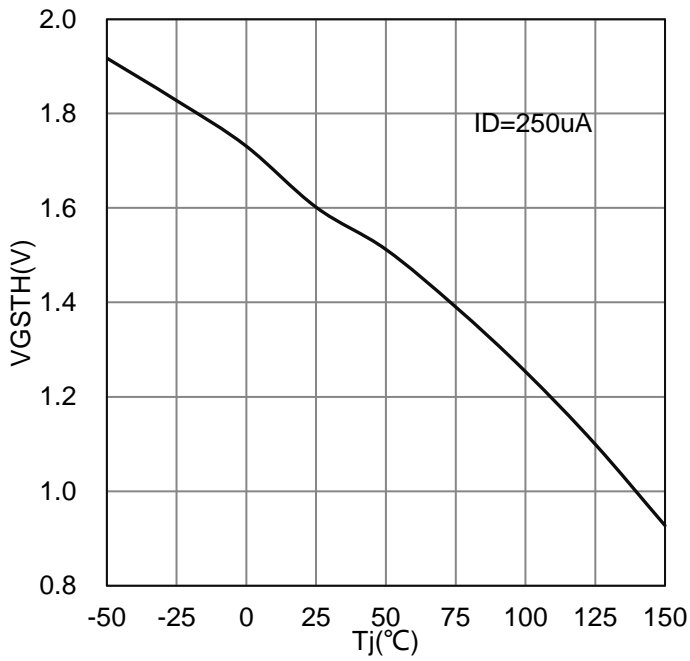
7. ELECTRICAL CHARACTERISTICS CURVES(Con.)



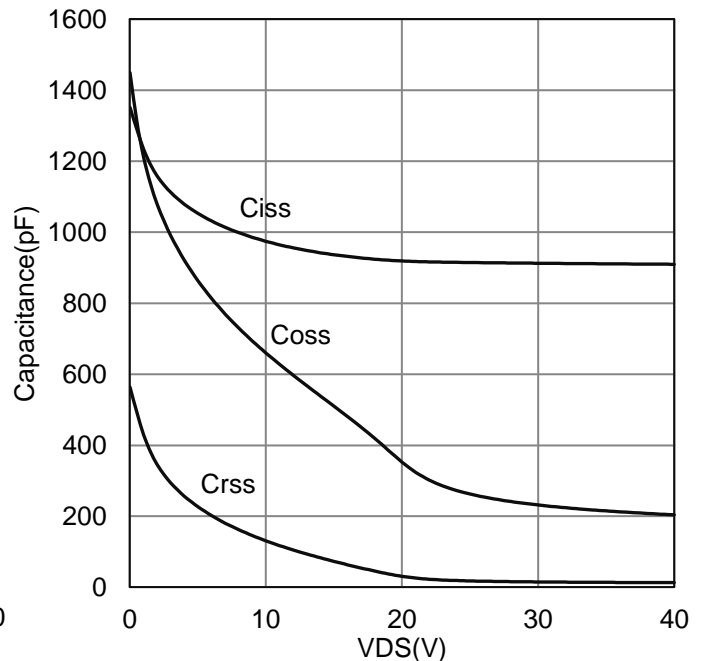
RDS(on) vs. VGS



RDS(on) vs. Tj

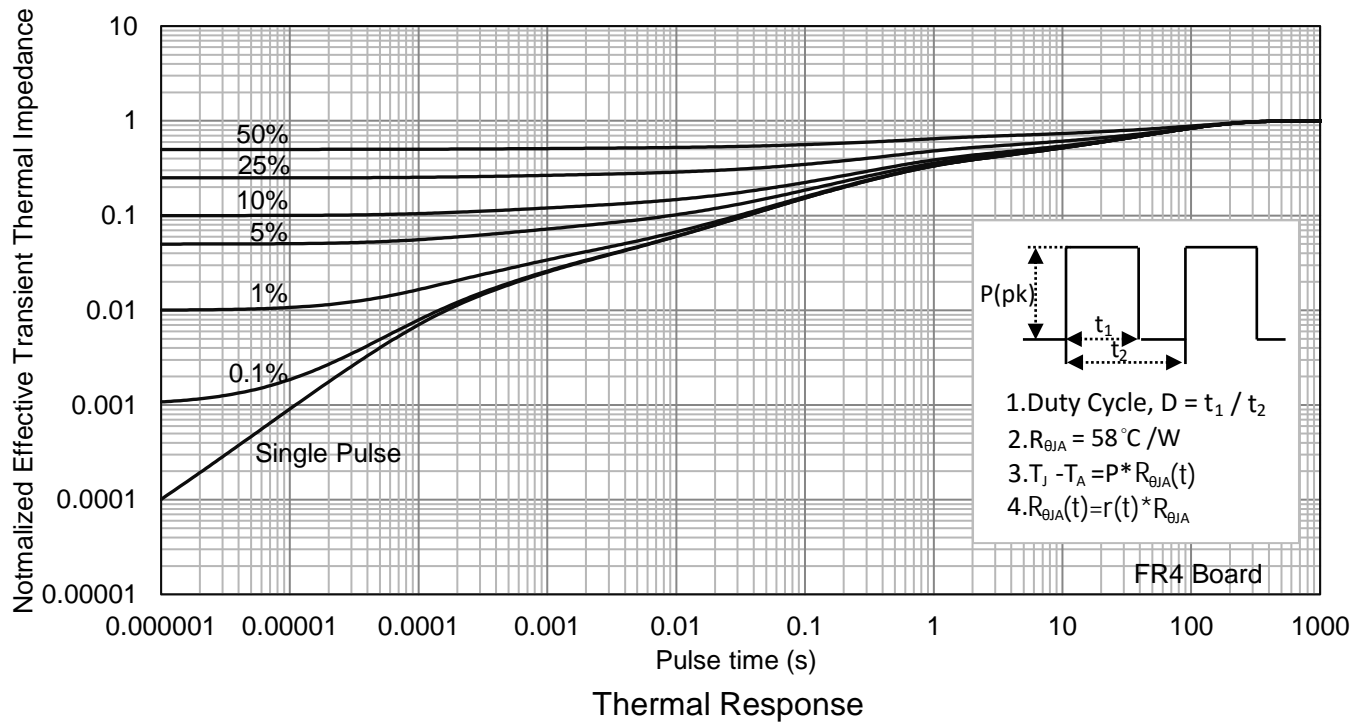
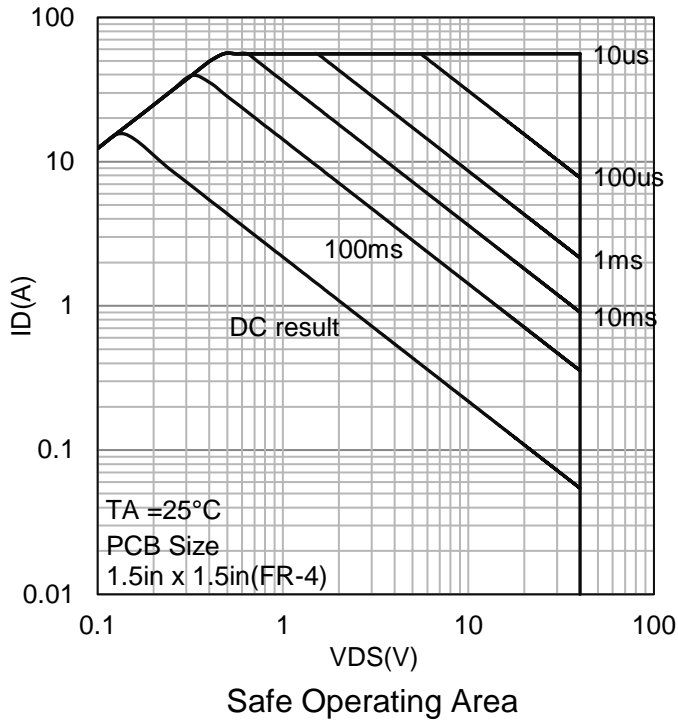


VGStH vs. Tj



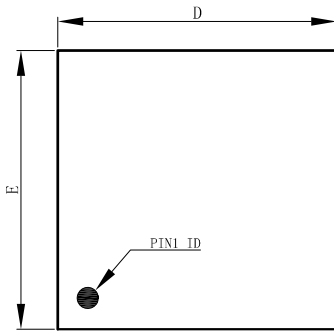
Capacitance

7. ELECTRICAL CHARACTERISTICS CURVES(Con.)

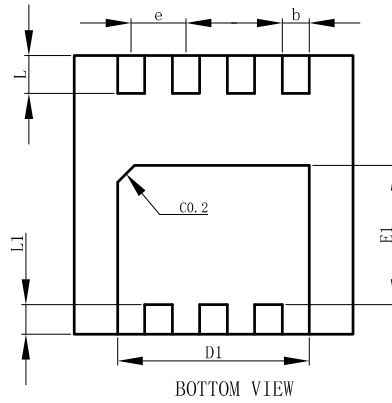


8. OUTLINE AND DIMENSIONS

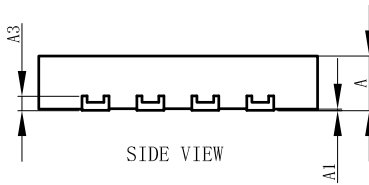
DFN3333-8A



TOP VIEW



BOTTOM VIEW

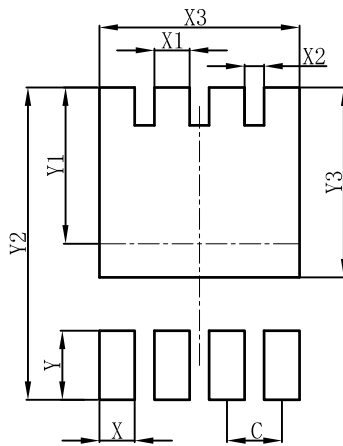


SIDE VIEW

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



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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