

S-LPB8413DT0AG

P-Channel 40-V (D-S) MOSFET

1. FEATURES

- Low RDS(on) trench technology
- 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

- Load Switches
- DC/DC Conversion
- Motor Drives

3. DEVICE MARKING AND RESISTOR VALUES

Device	Marking	Shipping
S-LPB8413DT0AG	AP	2000/Tape&Reel

4. MAXIMUM RATINGS(Ta = 25°C unless otherwise stated)

Parameter	Symbol	Limits	Unit
Drain-to-Source Voltage	VDS	-40	V
Gate-to-Source Voltage	VGS	± 20	V
Continuous Drain Current(Note 1)	ID	TA =25°C	-14
		TA =70°C	-12
Pulsed Drain Current (Note 2)	IDM	-50	A
Power Dissipation(Note 1)	PD	TA =25°C	3.5
		TA =70°C	2
Operating Junction Temperature	TJ	-55 ~+150	°C
Storage Temperature Range	Tstg	-55 ~+150	

5. THERMAL CHARACTERISTICS

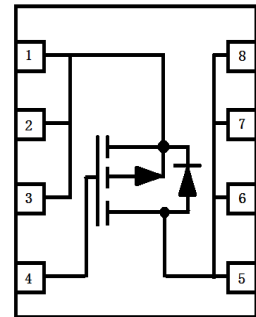
Parameter	Symbol	Limits	Unit
Maximum Junction-to-Ambient(Note 1)	RθJA	t ≤ 10s	35
		Steady State	81

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



DFN3333-8A



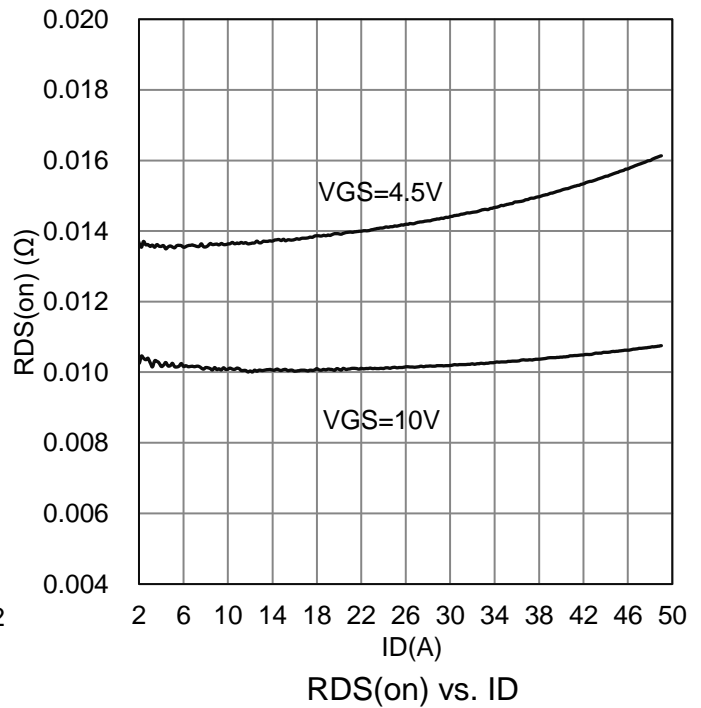
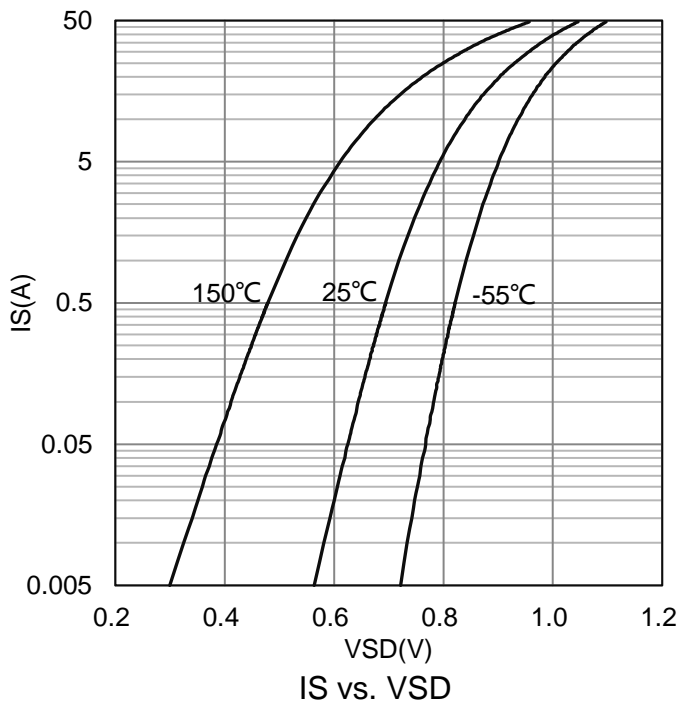
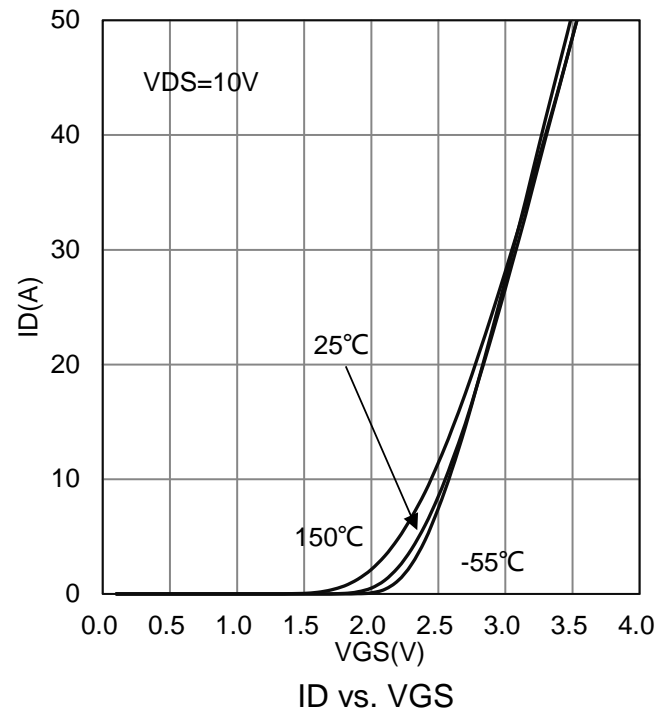
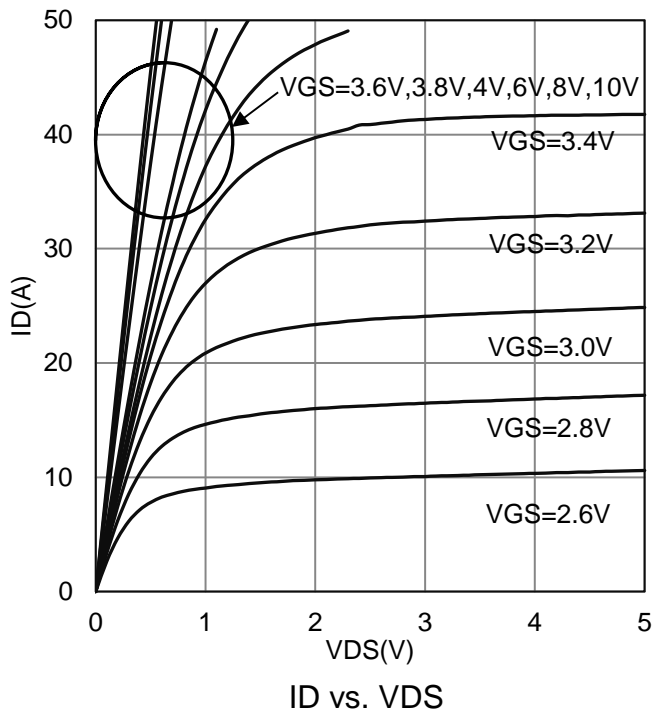
6. ELECTRICAL CHARACTERISTICS (Ta= 25°C)

Characteristic	Symbol	Min.	Typ.	Max.	Unit	
Static						
Drain-Source Breakdown Voltage (VGS = 0, ID = - 250μA)	VBRDSS	-40	-	-	V	
Gate-Source Threshold Voltage (VDS = VGS , ID = -250 uA)	VGS(TH)	-1	-	-	V	
Gate-Body leakage current (VDS =0V, VGS = ± 20V)	IGSS	-	-	±100	nA	
Zero Gate Voltage Drain Current (VDS = -32 V, VGS = 0 V) (VDS = -32 V, VGS = 0 V, TJ = 55°C)	IDSS	-	-	-1 -25	μA	
Drain-to-Source On-Resistance(Note 3) (VGS = -10 V, ID = -1 A) (VGS = -4.5 V, ID = -1 A)	RDS(ON)	-	-	12 18	mΩ	
Diode Forward Voltage(Note 3) (IS = -1 A, VGS = 0 V)	VSD	-	-0.8	-	V	
Dynamic(Note 4)						
Total Gate Charge	(VDS = -15 V, VGS = -5V ,ID = -1 A)	Qg	-	50	-	nC
Gate to Source Charge		Qgs	-	10	-	
Gate to Drain Charge		Qgd	-	10	-	
Turn-on Delay Time	(VDD=-15 V,RL=6Ω,ID=- 1A,VGEN=-10V)	td(ON)	-	9	-	nS
Rise Time		tr	-	10	-	
Turn-Off Delay Time		td(OFF)	-	100	-	
Fall Time		tf	-	40	-	
Input Capacitance	(VDS = -20 V, VGS = 0 V, f = 1 MHz)	Ciss	-	3974	-	pF
Output Capacitance		Coss	-	292	-	
Reverse Transfer Capacitance		Crss	-	244	-	

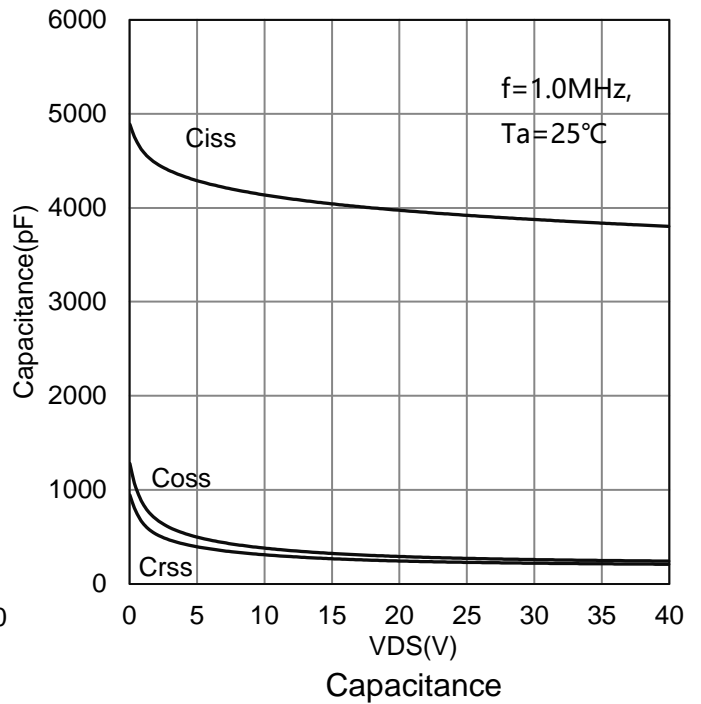
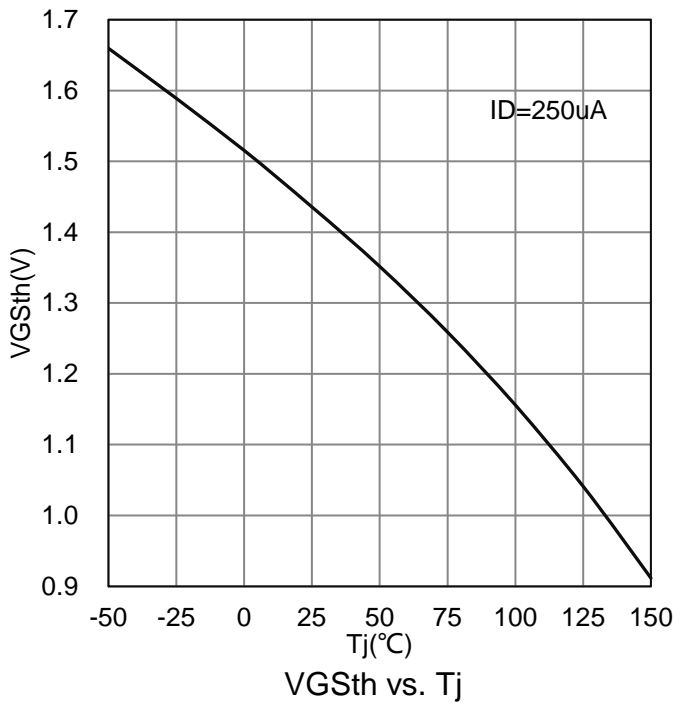
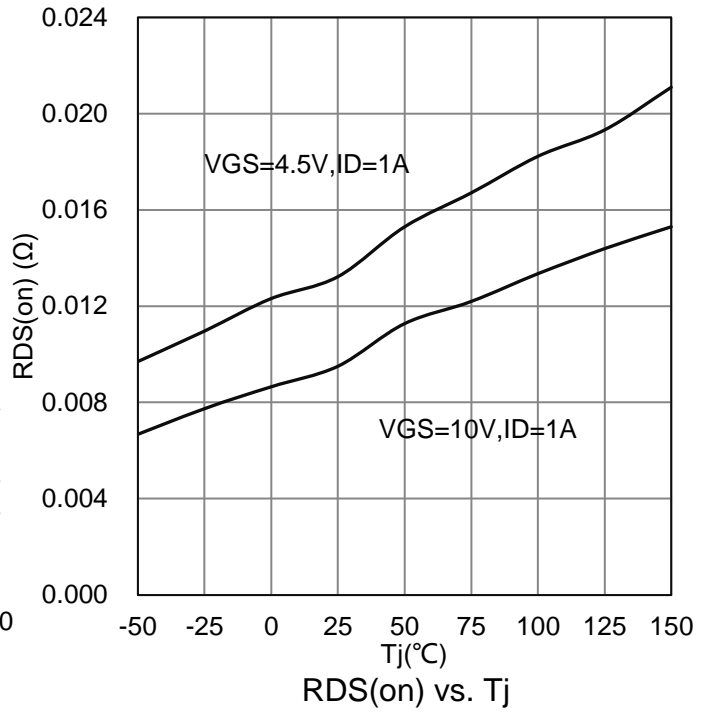
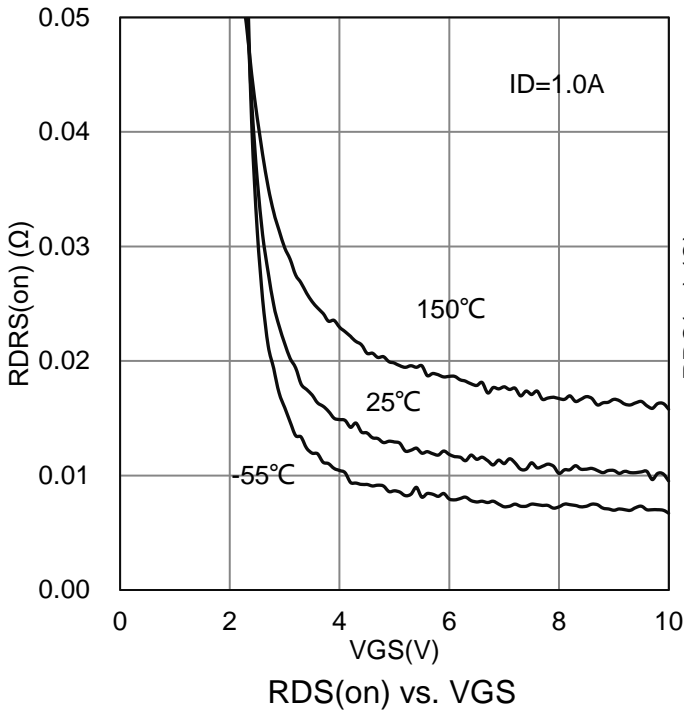
3.Pulse test: PW ≤ 300us duty cycle ≤ 2%.

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

7. ELECTRICAL CHARACTERISTICS CURVES

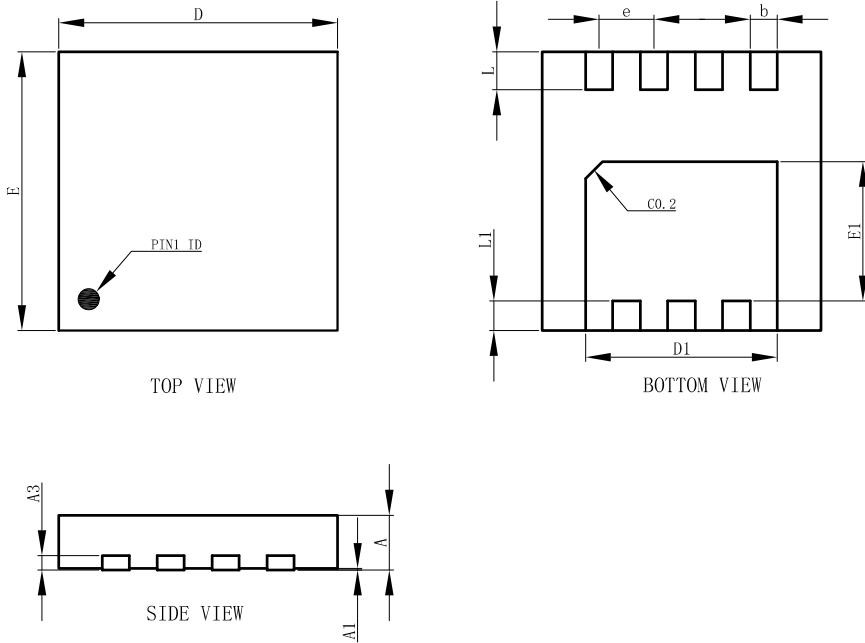


7. ELECTRICAL CHARACTERISTICS CURVES(Con.)



8. OUTLINE AND DIMENSIONS

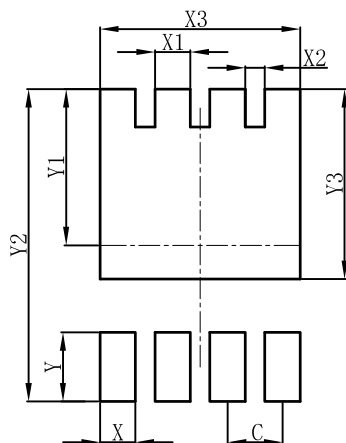
DFN3333-8A



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

- Before you use our Products, you are requested to carefully read this document and fully understand its contents. LRC shall not be in any way responsible or liable for failure, malfunction or accident arising from the use of any LRC's Products against warning, caution or note contained in this document.
- All information contained in this document is current as of the issuing date and subject to change without any prior notice. Before purchasing or using LRC's Products, please confirm the latest information with a LRC sales representative.