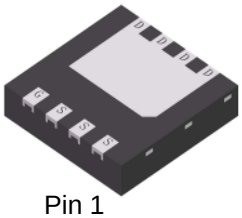
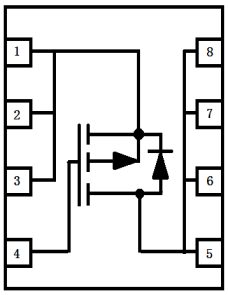
LPB83085DT0AG

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



Pin 1

DFN3333-8A



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.

2. APPLICATIONS

- Load Switches
- DC/DC Conversion
- Motor Drives

3. DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
LPB83085DT0AG	PB5	2000/Tape&Reel

4. MAXIMUM RATINGS(Ta = 25ºC)

Parameter		Symbol	Limits	Unit
Drain-Source Voltage		VDS	-30	V
Gate-Source Voltage		VGS	±25	
Continuous Drain Current (Note1)	TA = 25℃	ID	-17	A
	TA = 100℃		-13	
	TC = 25℃		-40	
	TC = 100℃		-25	
Pulsed Drain Current (Note 2)		IDM	-68	
Continuous Source Current (Diode Conduction) (Note1)		IS	-40	
Avalanche Current(L=0.1mH)		IAS	32	A
Avalanche energy(L=0.1mH)		EAS	51.2	mJ
Power Dissipation (Note1)	TA = 25℃	PD	2.5	W
	TA = 100℃		1.6	
	TC = 25℃		20	
	TC = 100℃		12	
Operating Junction and Storage Temperature Range		TJ,Tstg	-55~+150	℃

5. THERMAL CHARACTERISTICS

Parameter	Symbol	Limits	Unit
Maximum Junction-to-Ambient(Note 1)	RθJA	50	℃/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.

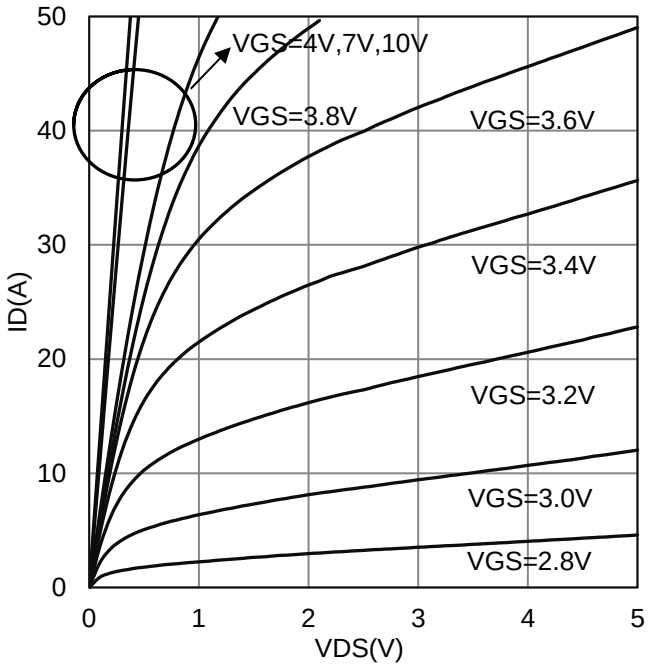
2.Pulse width limited by maximum junction temperature.

6. ELECTRICAL CHARACTERISTICS (Ta= 25°C)

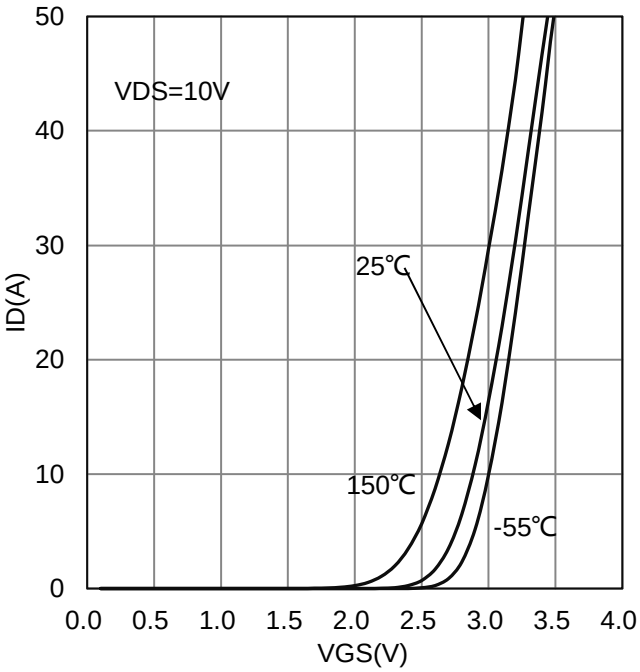
Characteristic		Symbol	Min.	Typ.	Max.	Unit
Static						
Drain-Source Breakdown Voltage (VDS =0V , ID =-250μA)		VBRDSS	-30	-	-	V
Gate Threshold Voltage (VDS =VGS , ID =-250μA)		VGS(th)	-1.2	-1.7	-2.5	V
Gate Leakage Current (VDS =0V, VGS =± 25V)		IGSS	-	-	±100	nA
Zero Gate Voltage Drain Current (VDS = -30 V, VGS = 0 V)		IDSS	-	-	-1	μA
Drain-Source On-Resistance(Note 3) (VGS = -10 V, ID = -20A) (VGS = -4.5 V, ID = -16 A)		RDS(ON)	- -	6.3 9.8	8 12.5	mΩ
Diode Forward Voltage (Note 3) (IS = -1 A, VGS = 0 V)		VSD	-	-0.7	-1	V
Dynamic						
Total Gate Charge	(VDS = -15 V, VGS = -10 V,ID = -20 A)	Qg(10V)	-	54	-	nC
Total Gate Charge		Qg(4.5V)	-	27	-	
Gate-Source Charge		Qgs	-	9	-	
Gate-Drain Charge		Qgd	-	13	-	
Input Capacitance	(VDS = -15 V, VGS = 0 V, f = 1 MHz)	Ciss	-	2723	-	pF
Output Capacitance		Coss	-	448	-	
Reverse Transfer Capacitance		Crss	-	395	-	
Turn-On Delay Time	(VGS=-10V,VDS =-15V, RL=0.75 Ω ,RGEN=3Ω)	td(on)	-	12.5	-	ns
Rise Time		tr	-	18	-	
Turn-Off Delay Time		td(off)	-	125	-	
Fall Time		tf	-	66	-	

3.Pulse test: PW≤300us,duty cycle≤2%.

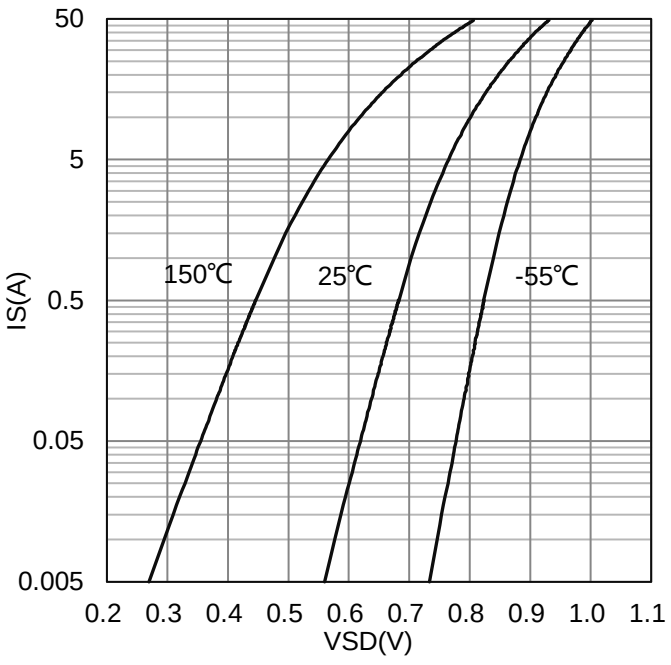
7.ELECTRICAL CHARACTERISTICS CURVES



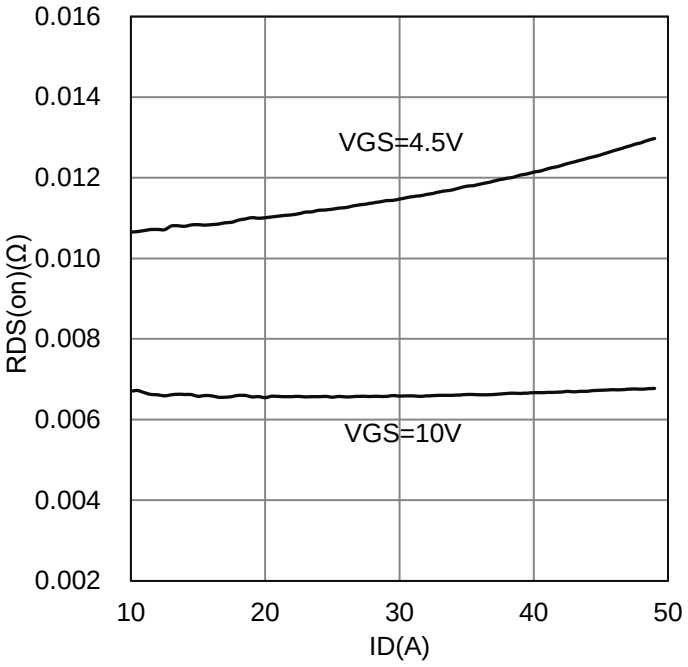
ID vs. VDS



ID vs. VGS

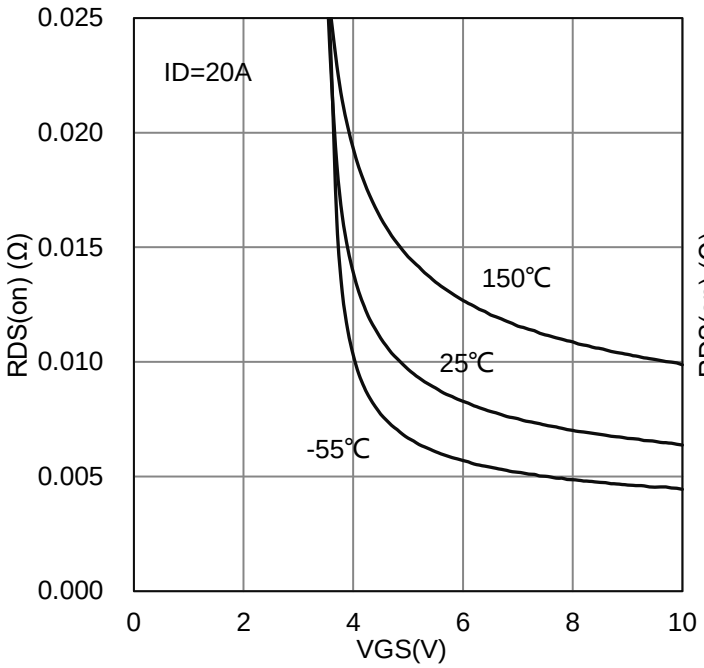


IS vs. VSD

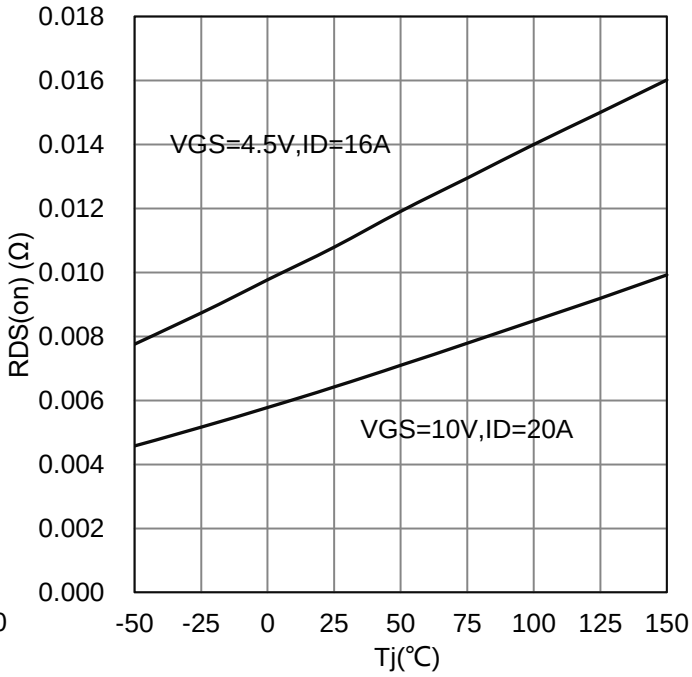


RDS(on) vs. ID

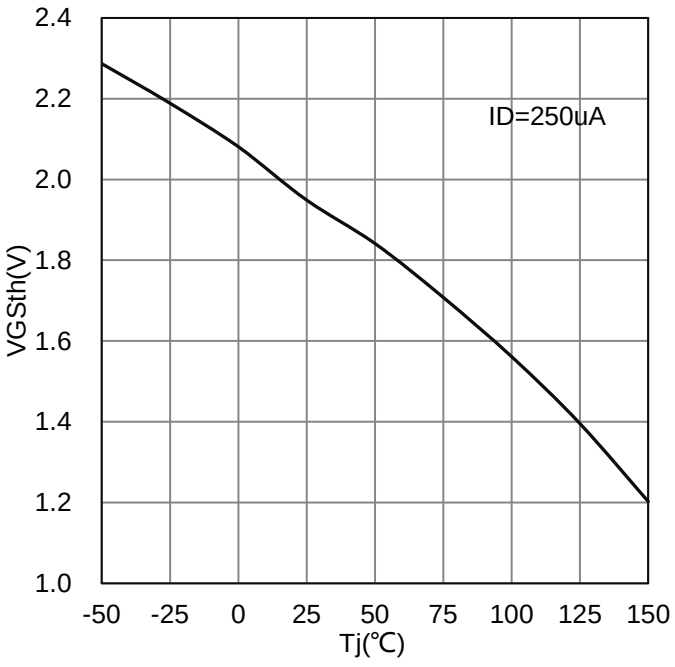
7.ELECTRICAL CHARACTERISTICS CURVES(Con.)



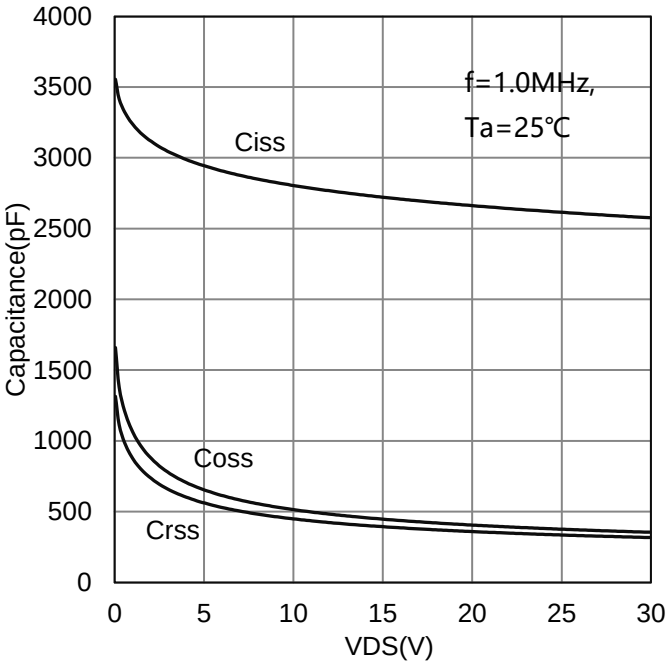
RDS(on) vs. VGS



RDS(on) vs. Tj

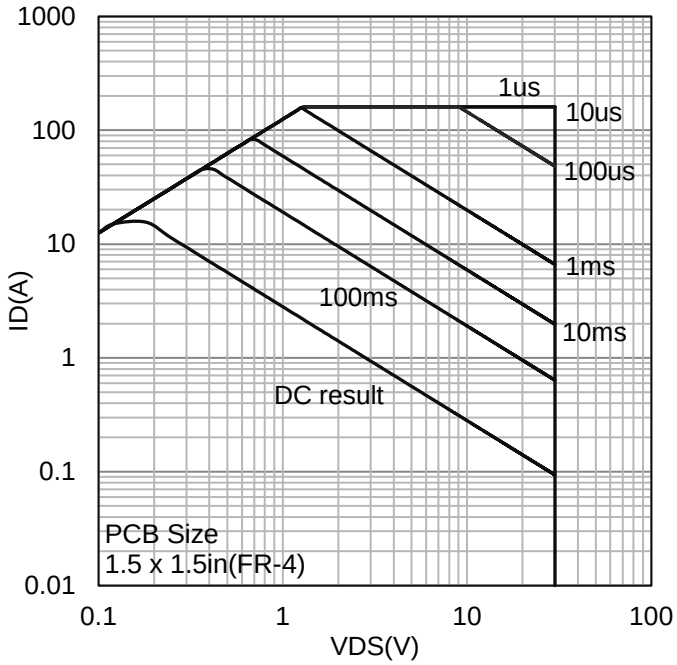


VGSth vs. Tj



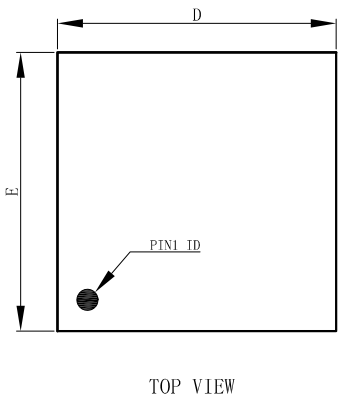
Capacitance

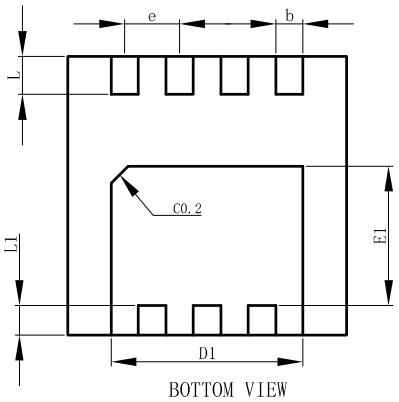
7.ELECTRICAL CHARACTERISTICS CURVES(Con.)

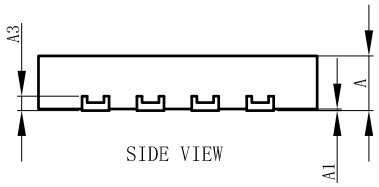


ID vs. VDS

8.OUTLINE AND DIMENSIONS

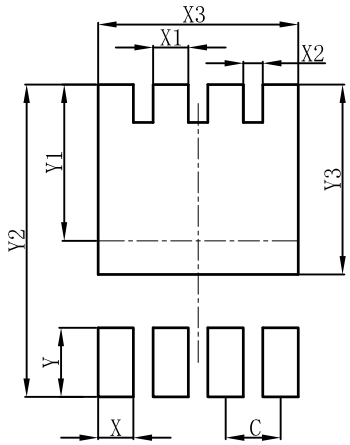






DFN3333-8A			
DIM	MIN	NOR	MAX
A	0.60	0.65	0.70
A1	0.00	0.03	0.05
b	0.27	0.32	0.37
D	3.25	3.30	3.35
E	3.25	3.30	3.35
D1	2.22	2.27	2.32
E1	1.60	1.65	1.70
e	0.65BSC		
L	0.40	0.45	0.50
L1	0.30	0.35	0.40
A3	0.152REF.		
All Dimensions in mm			

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

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