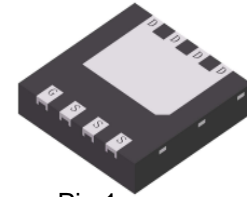


# LPB8500DT0AG

## 100V P-Channel Power MOSFET

### 1. FEATURES

- Low thermal impedance.
- Fast switching.
- We declare that the material of product compliance with RoHS requirements and Halogen Free.



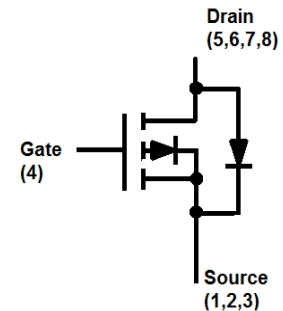
Pin 1  
DFN3333-8A

### 2. APPLICATIONS

- Power Tools
- DC/DC conversion
- Motor Control

### 3. DEVICE MARKING AND RESISTOR VALUES

Device	Marking	Shipping
LPB8500DT0AG	P85	2000/Tape&Reel



### 4. MAXIMUM RATINGS(Ta = 25°C)

Parameter		Symbol	Limits	Unit
Drain-to-Source Voltage		VDS	-100	V
Gate-to-Source Voltage		VGS	±20	V
Continuous Drain Current(Note 1)	TA=25°C	ID	-5	A
	TA=75°C		-4.5	
	TC=25°C		-14	
	TC=75°C		-12	
Pulsed Drain Current (Note 2)		IDM	-20	A
Avalanche Current		IAS	10	A
Avalanche Energy(L=0.1mH)		EAS	5	mJ
Power Dissipation(Note 1)	TA=25°C	PD	2.5	W
	TC=25°C		20	
Operating Junction and Storage Temperature Range		Tj/Tstg	-55~+150	°C

### 5. THERMAL CHARACTERISTICS

Parameter	Symbol	Max	Unit
Thermal Resistance,Junction-to-Ambient(Note 1)	RθJA	50	°C/W
Thermal Resistance,Junction-to-Ambient(Note 3)	RθJA	173	
Thermal Resistance,Junction-to-Case	RθJC	6	

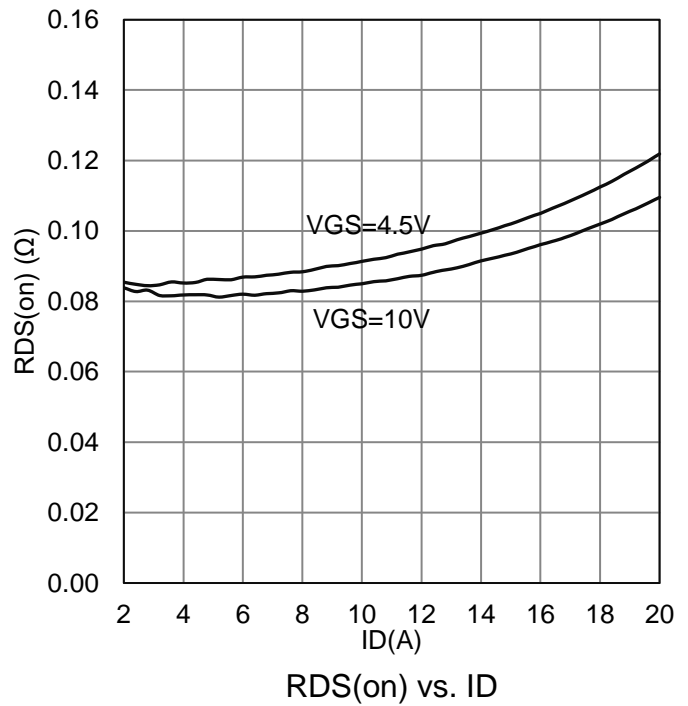
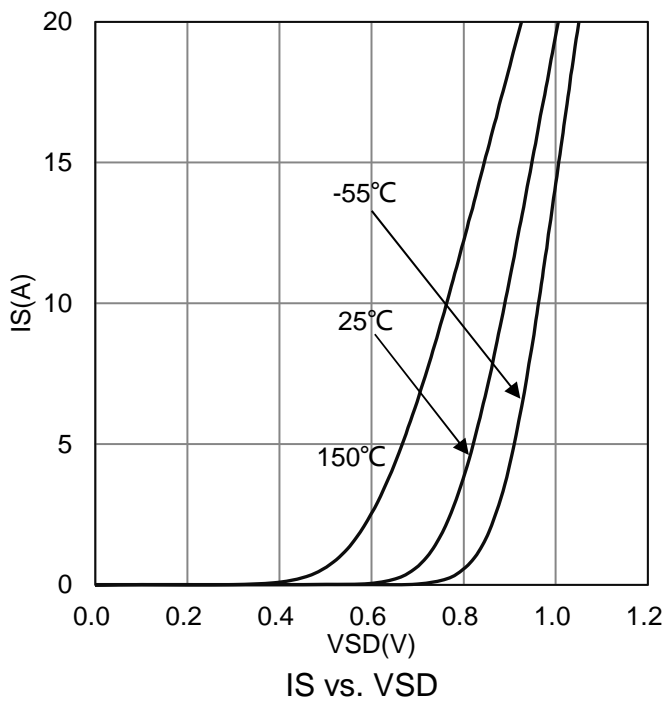
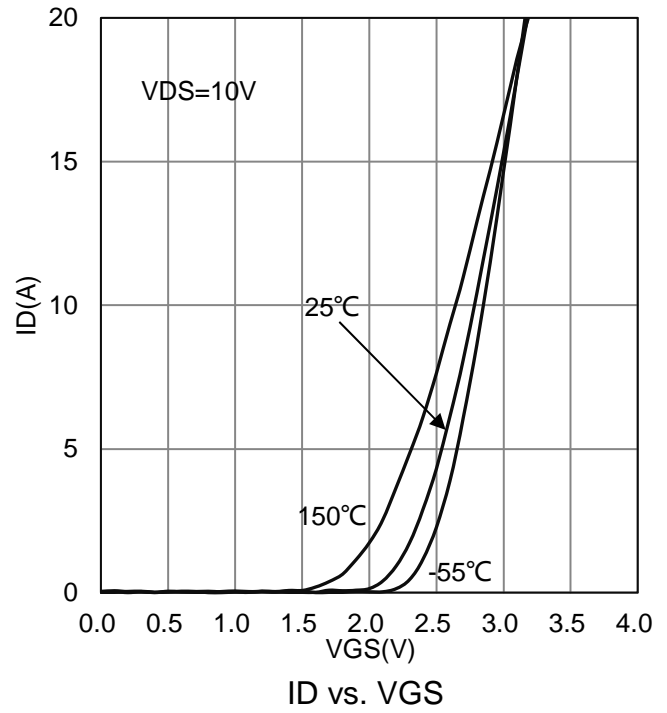
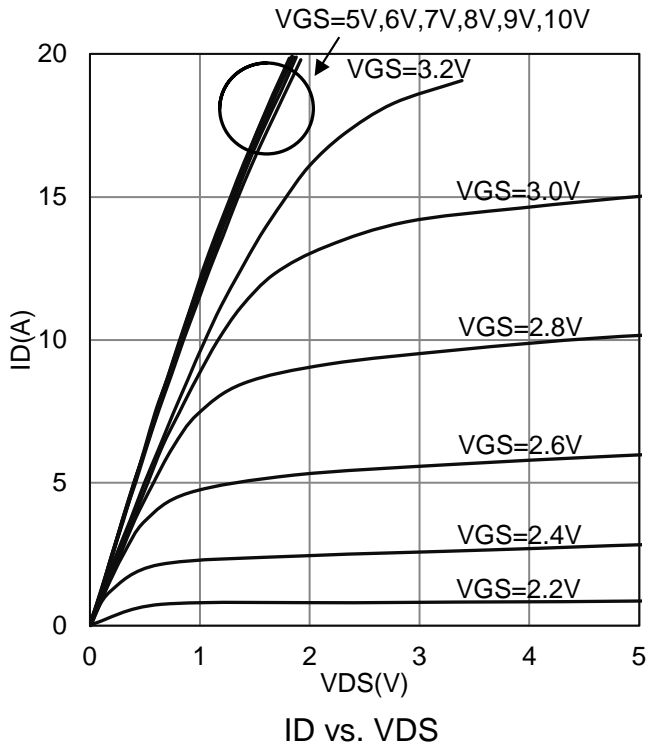
- 1.Surface mounted on 1.5 x 1.5 FR4 board using 1 sq in pad, 2 oz Cu.
- 2.Pulse width limited by maximum junction temperature
- 3.Surface mounted on FR4 board using the minimum recommended pad size.

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

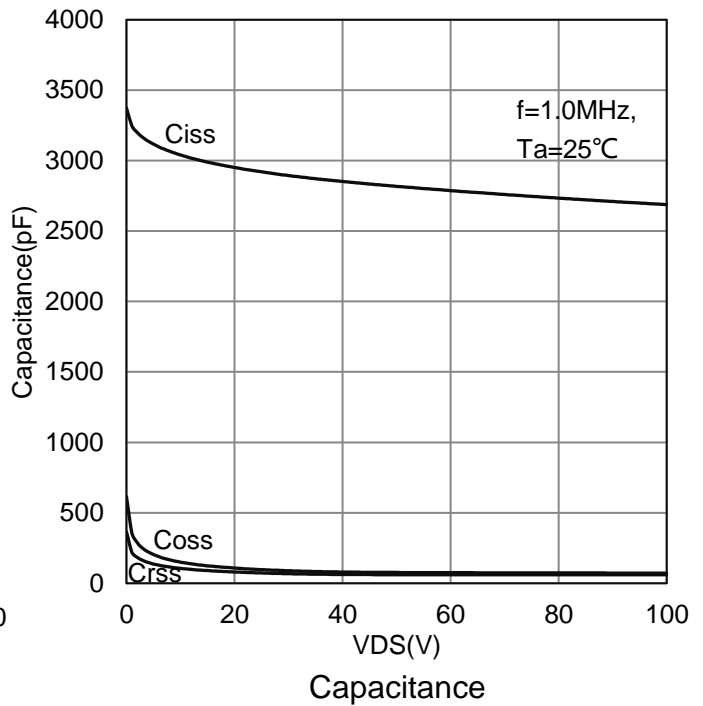
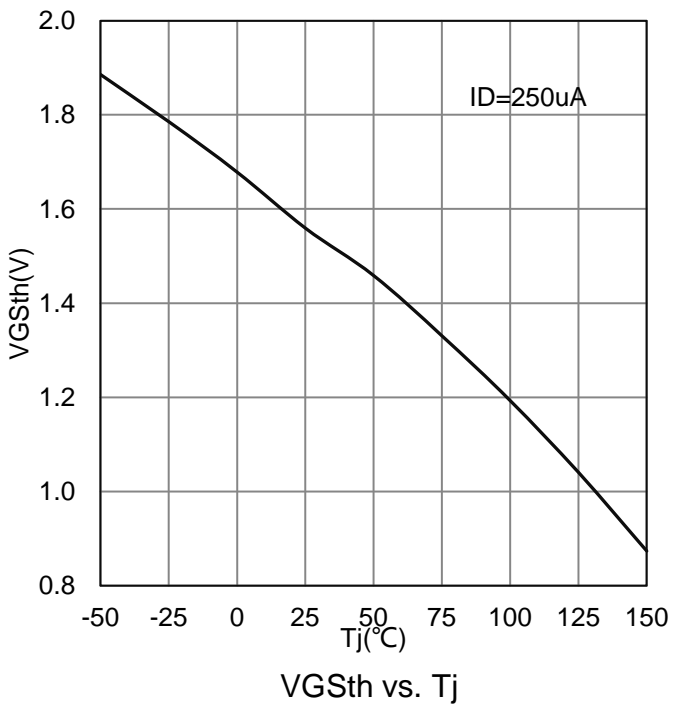
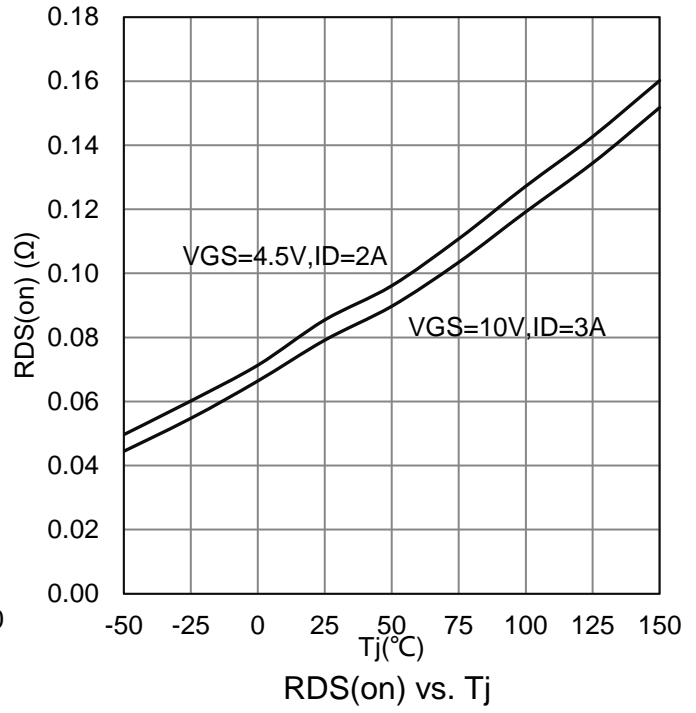
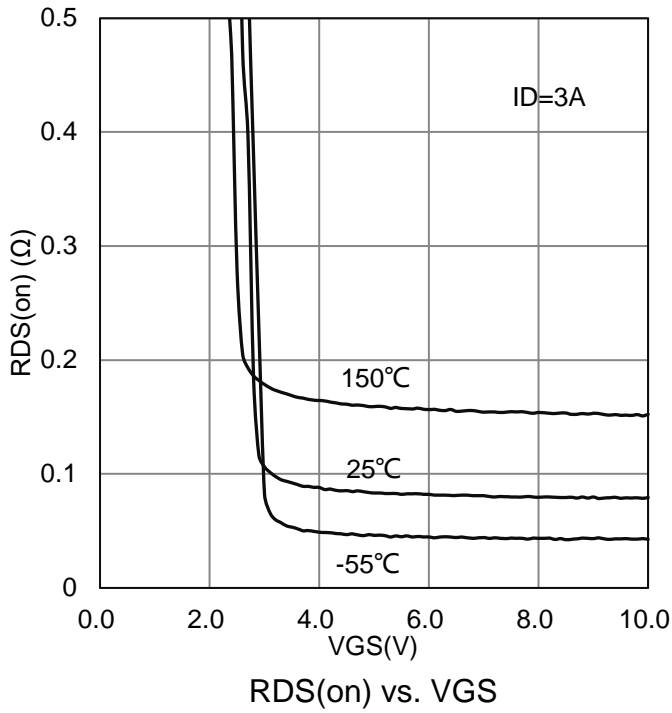
Characteristic	Symbol	Min.	Typ.	Max.	Unit
<b>STATIC</b>					
Drain–Source Breakdown Voltage (VGS = 0 V, ID = -250 μA)	VBRDSS	-100	-	-	V
Gate Threshold Voltage (VDS = VGS , ID = -250 μA)	VGS(th)	-1.2	-	-2.5	V
Gate-Body leakage current (VDS = 0 V, VGS = ±20 V)	IGSS	-	-	±100	nA
Zero Gate Voltage Drain Current (VDS = -80 V, VGS = 0 V)	IDSS	-	-	-1	μA
Drain-to-Source On-Resistance (Note 4) (VGS = -10 V, ID = -3 A) (VGS = -4.5 V, ID = -2 A)	RDS(on)	-	-	100 115	mΩ
Diode Forward Voltage (IS = -1 A, VGS = 0 V)	VSD	-	-	-1.2	V
<b>DYNAMIC</b>					
Input Capacitance	(VGS = 0V, VDS = -50V, f=1MHz)	Ciss	-	2817	pF
Output Capacitance		Coss	-	76	
Reverse Transfer Capacitance		Crss	-	60	
Total Gate Charge	(VDS = -50 V, VGS = -10 V, ID = -8 A)	Qg	-	43	nC
Gate Source Charge		Qgs	-	9	
Gate Drain Charge		Qgd	-	6	
Turn-On DelayTime	(VDD=-50 V, RL =12.5Ω, ID = -4 A, VGEN = -10 V)	td(on)	-	14	ns
Turn-On Rise Time		tr	-	11	
Turn-Off DelayTime		td(off)	-	100	
Turn-Off Fall Time		tf	-	53	

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

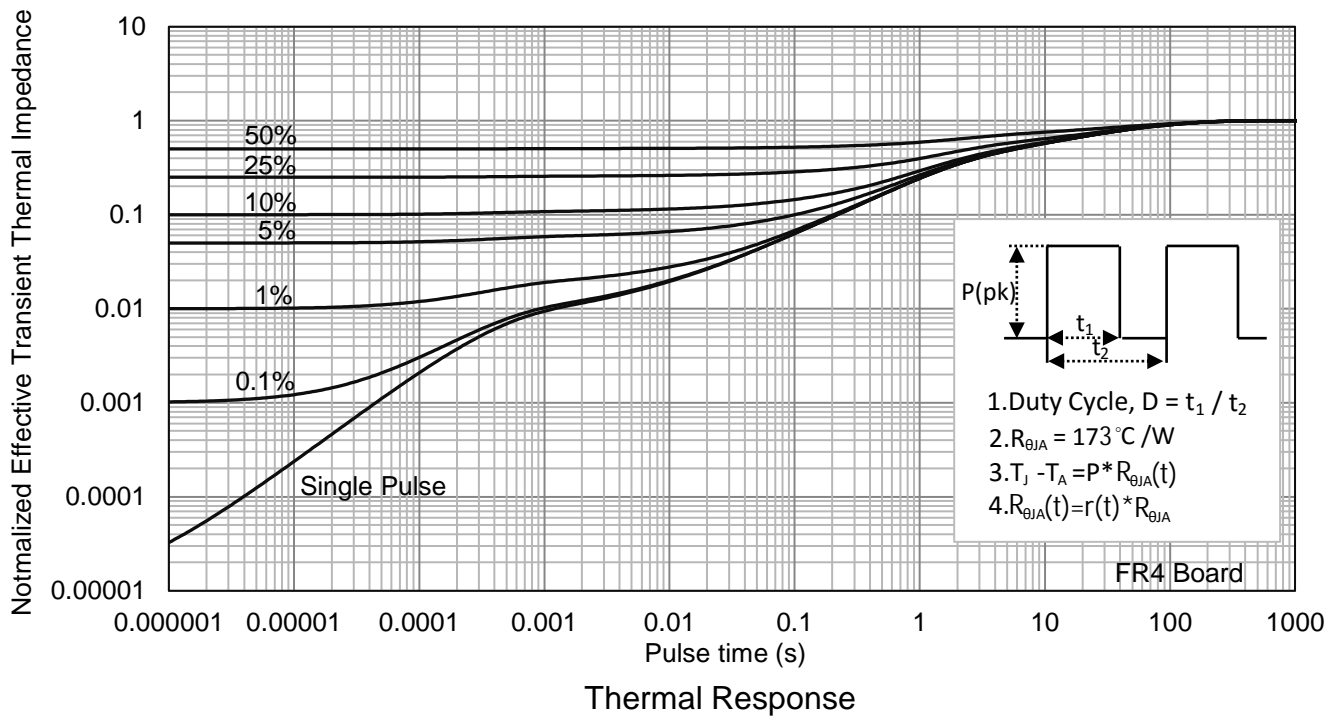
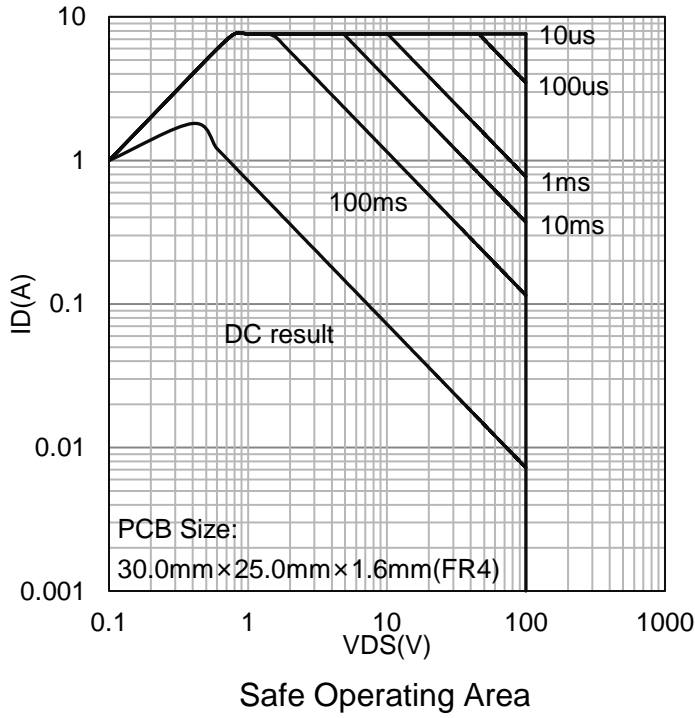
### 7. ELECTRICAL CHARACTERISTICS CURVES



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

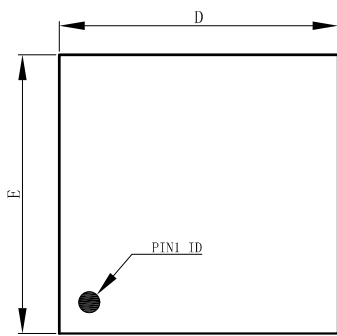


### 7. ELECTRICAL CHARACTERISTICS CURVES(Con.)

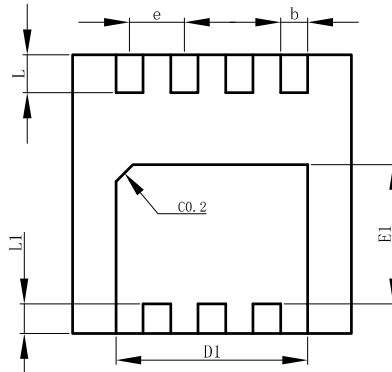


### 8. OUTLINE AND DIMENSIONS

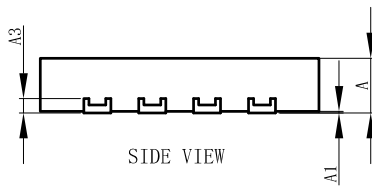
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TOP VIEW



BOTTOM VIEW

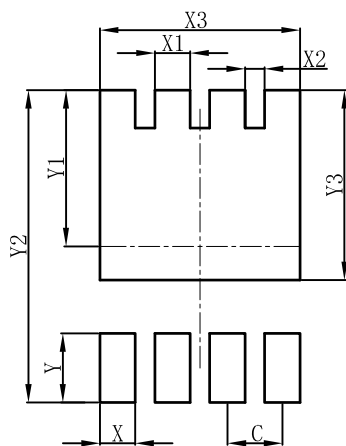


SIDE VIEW

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

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