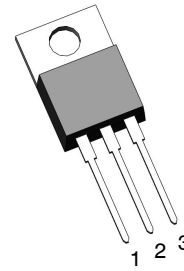


LP15N06AC

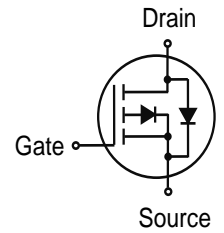
60V P-Channel Power MOSFET

1. FEATURES

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



TO220



2. APPLICATIONS

- Power Routing
- DC/DC Conversion
- Motor Drives

3. DEVICE MARKING AND RESISTOR VALUES

Device	Marking	MOQ	Form
LP15N06AC	15N06AC	1000	Tube

4. MAXIMUM RATINGS(Ta = 25°C)

Parameter	Symbol	Limits	Unit
Drain-to-Source Voltage	VDS	-60	V
Gate-to-Source Voltage	VGS	±20	V
Continuous Drain Current TC = 25 °C TC = 100 °C	ID	-15 -9	A
Pulsed Drain Current(Note 2)	IDM	-60	A
Avalanche Current	IAS	13	A
Avalanche Energy, Single Pulse(L=0.1mH,TA=25° C)	EAS	8.45	mJ
Power Dissipation(TC = 25 °C)	PD	31	W
Power Dissipation(TC = 100 °C)		12.5	
Operating 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-Case	RθJC	4	

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

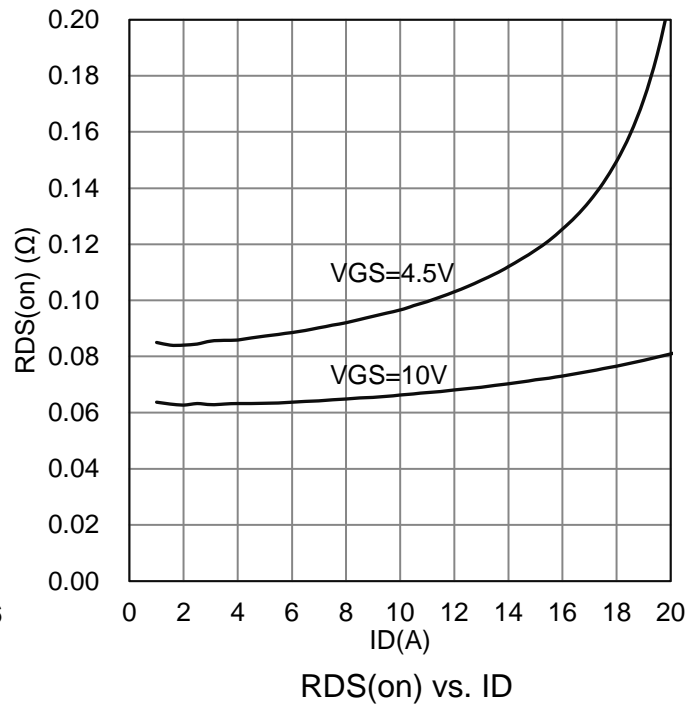
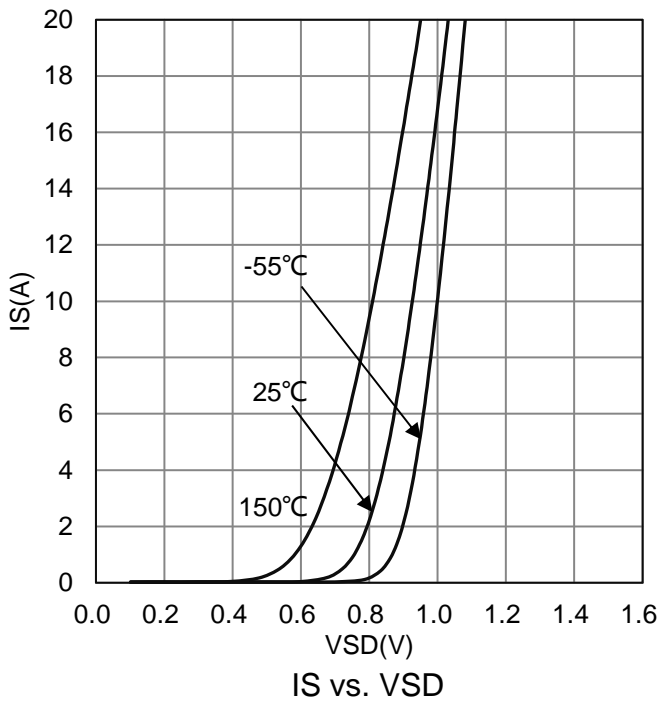
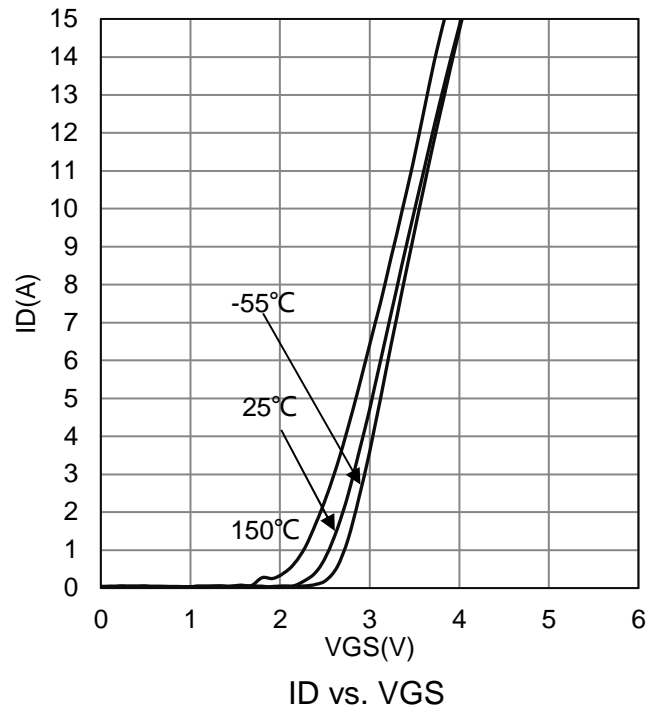
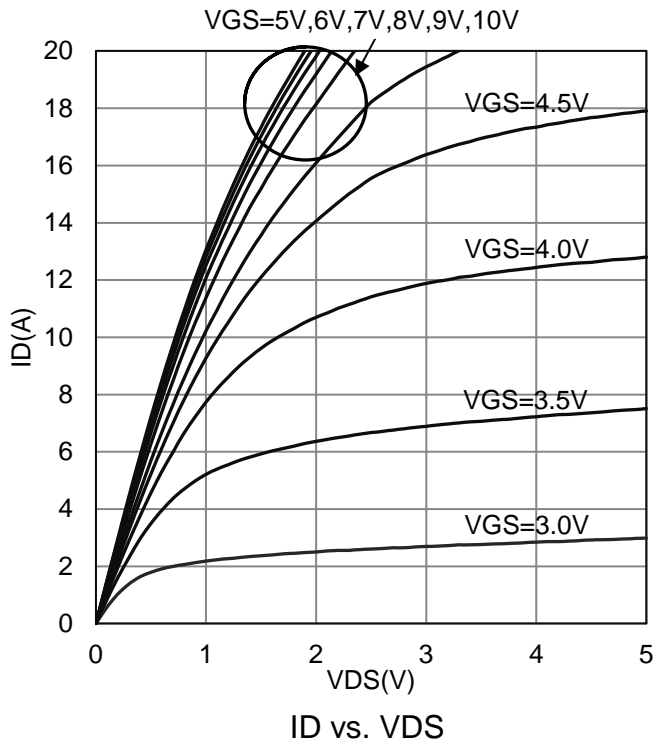
2.Pulse width limited by maximum junction temperature

6. ELECTRICAL CHARACTERISTICS (Ta= 25°C)

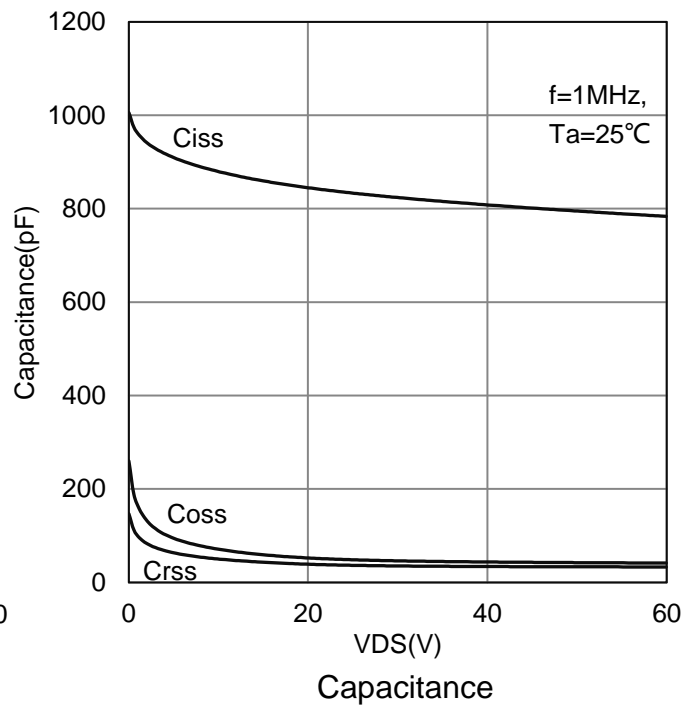
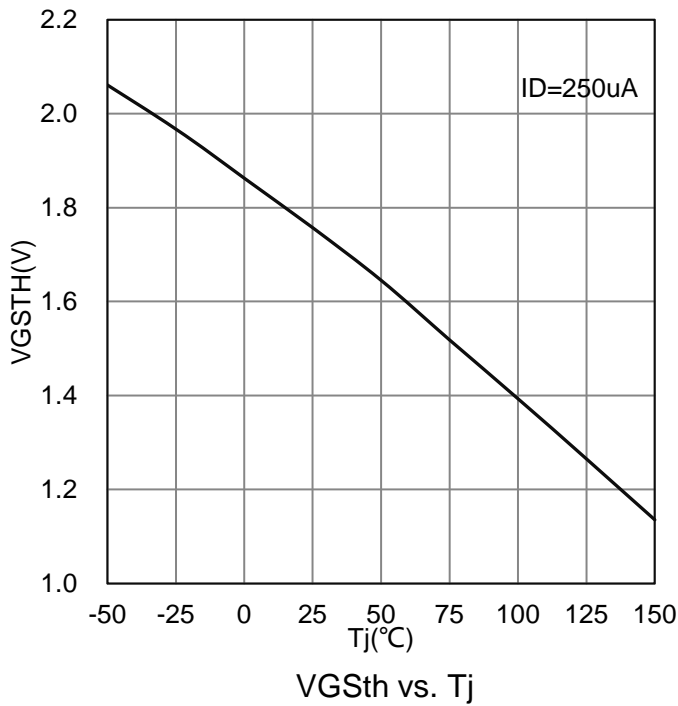
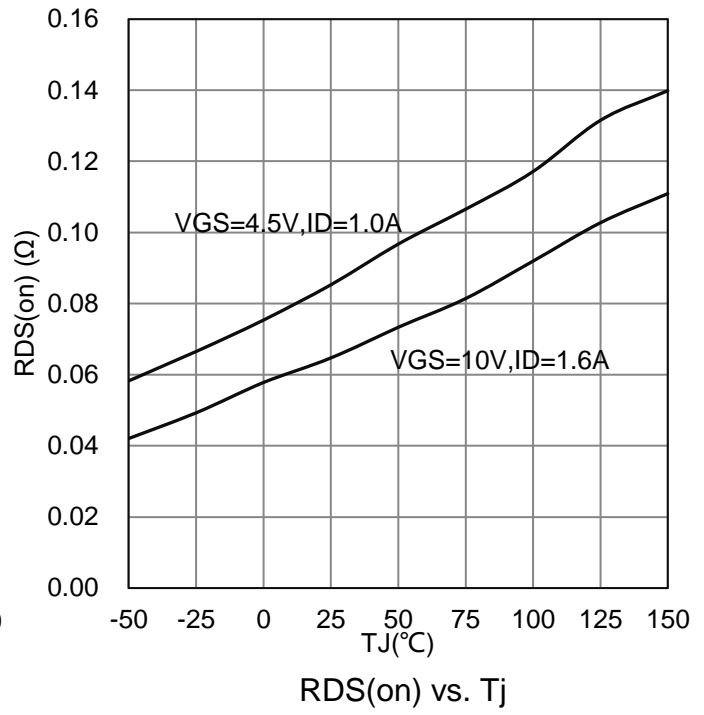
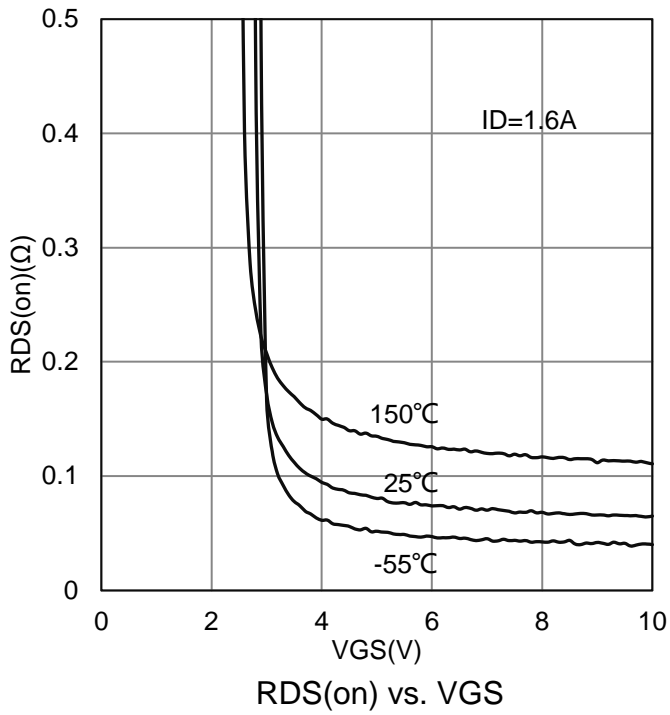
Characteristic	Symbol	Min.	Typ.	Max.	Unit
Static					
Drain–Source Breakdown Voltage (VGS = 0 V, ID = -250 μA)	VBRDSS	-60	-	-	V
Gate Threshold Voltage (VDS = VGS , ID = -250 uA)	VGS(th)	-1	-	-2.5	V
Gate-Body leakage current (VDS = 0 V, VGS = ± 20 V)	IGSS	-	-	±100	nA
Zero Gate Voltage Drain Current (VDS = -48 V, VGS = 0 V)	IDSS	-	-	-1	μA
Drain-to-Source On-Resistance (Note 3) (VGS = -10 V, ID = -1.6 A) (VGS = -4.5 V, ID = -1 A)	RDS(ON)	-	-	85 115	mΩ
Diode Forward Voltage (IS = -1 A, VGS = 0 V)	VSD	-	-	-1.2	V
Dynamic					
Total Gate Charge	(VDS = -30 V, VGS = -10 V, ID = -1.6 A)	Qg	-	15	nC
Gate to Source Charge		Qgs	-	2	
Gate to Drain Charge		Qgd	-	3.2	
Turn-on Delay Time	(VDS = -30 V, ID = -4 A, VGS = -10 V, RG = 6 Ω)	td(on)	-	5.6	nS
Rise Time		tr	-	7.5	
Turn-Off Delay Time		td(off)	-	50	
Fall Time		tf	-	2.5	
Input Capacitance	(VDS = -30 V, VGS = 0 V, f = 1 MHz)	Ciss	-	863	pF
Output Capacitance		Coss	-	48	
Reverse Transfer Capacitance		Crss	-	39	
Gate Resistance (VDS = 0 V, VGS = 0 V, f = 1.0MHz)	Rg	-	20	-	Ω

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

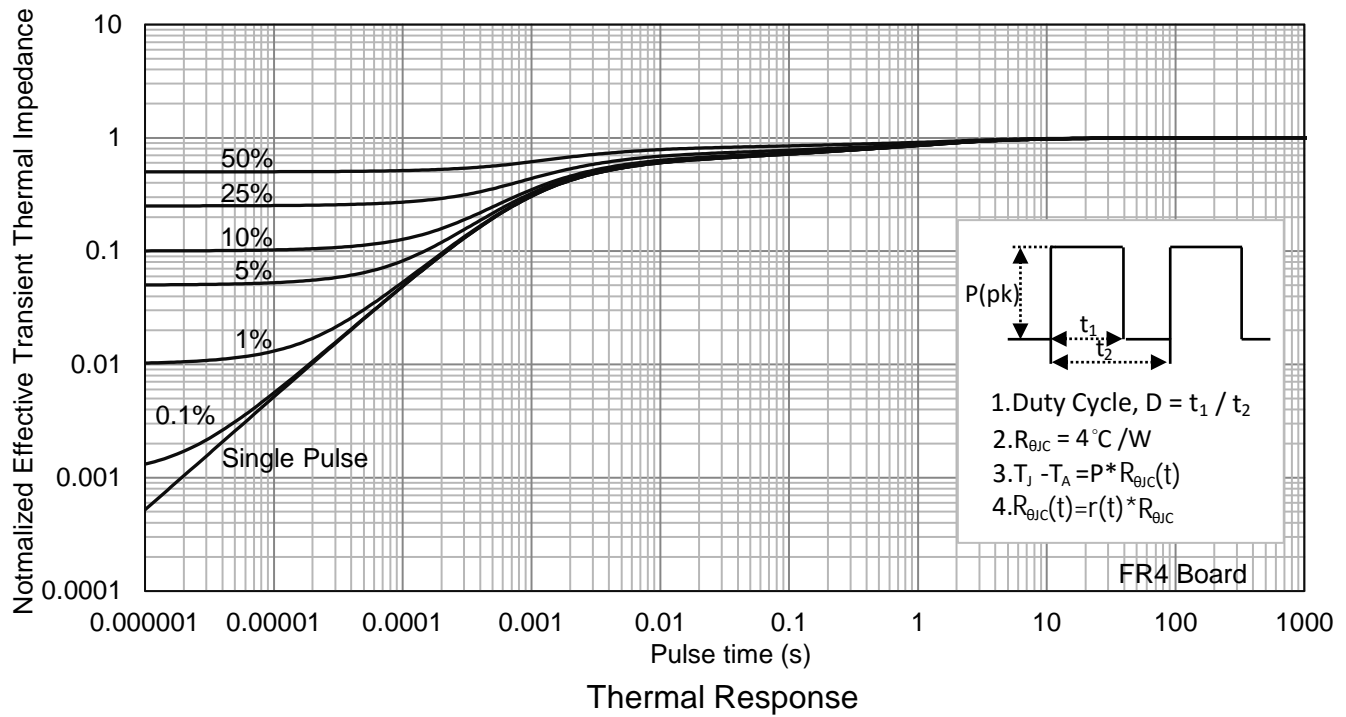
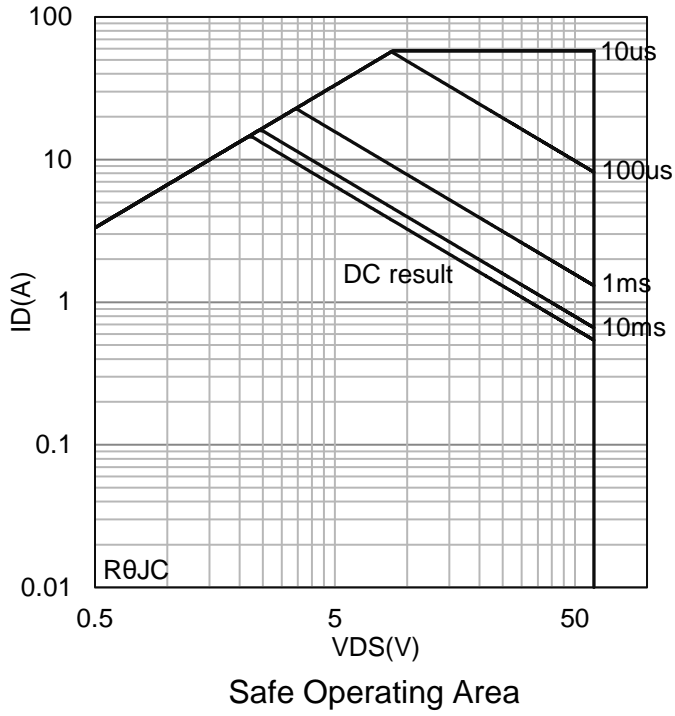
7. ELECTRICAL CHARACTERISTICS CURVES



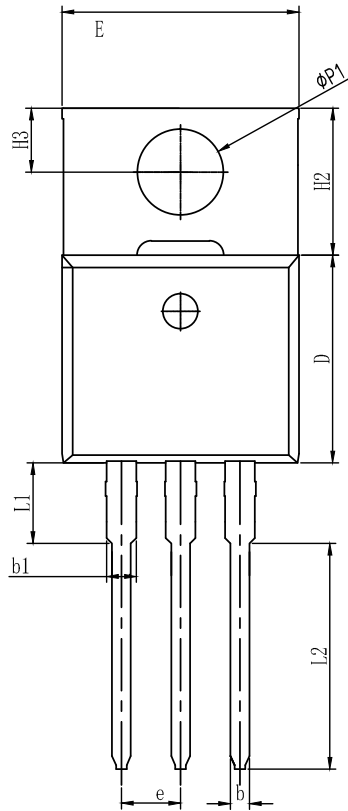
7. ELECTRICAL CHARACTERISTICS CURVES(Con.)



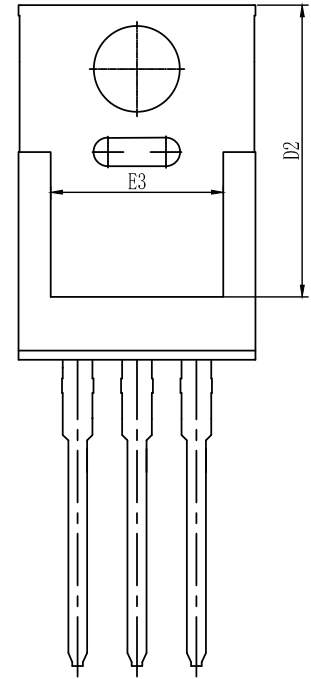
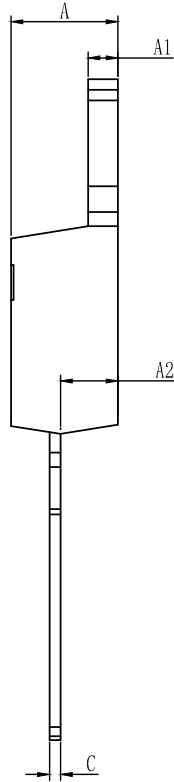
7. ELECTRICAL CHARACTERISTICS CURVES(Con.)



8.OUTLINE AND DIMENSIONS



TOP VIEW



BOTTOM VIEW

GENERAL NOTES

1. Top package surface finish Ra Max1.2±0.2um
2. Bottom package surface finish Ra Max0.2um
3. Protrusion or Gate Burrs shall not exceed 0.05mm per side.
4. Off center Max0.05mm; Mismatch Max 0.05mm.

DIM	MILLIMETERS		
	MIN	NOM	MAX
A	4.42	4.57	4.72
A1	1.20	1.30	1.40
A2	2.35	2.45	2.55
b	0.73	0.83	0.93
b1	1.20	1.30	1.40
c	0.41	0.48	0.58
D	8.70	8.90	9.10
D2	12.20	12.50	12.80
E	9.85	10.15	10.45
E3	7.10	7.40	7.70
e	2.54BSC		
H2	6.10	6.30	6.50
H3	2.54	2.74	2.94
L1	3.16	3.46	3.76
L2	9.36	9.66	9.96
ØP1	3.48	3.68	3.88

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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