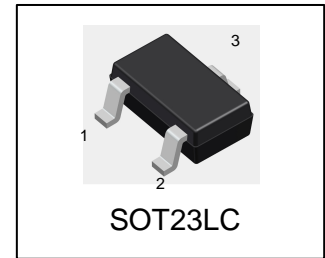


LPB2309LT1G

P-Channel 60-V (D-S) MOSFET

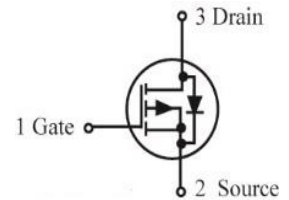
1. FEATURES

- 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.



2. APPLICATIONS

- Load Switches
- DC/DC Conversion
- Motor Drives



3. DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
LPB2309LT1G	AP6	3000/Tape&Reel

4. MAXIMUM RATINGS(Ta = 25°C)

Parameter	Symbol	Limits	Unit
Drain-Source Voltage	VDSS	-60	V
Gate-to-Source Voltage	VGS	±20	V
Continuous Drain Current(Note 1)	ID	TA = 25°C	-5
		TA = 70°C	-3
Pulsed Drain Current(Note 2)	IDM	-20	A
Operating and Storage Temperature Range	TJ,Tstg	-55~+150	°C

5. THERMAL CHARACTERISTICS

Parameter	Symbol	Limits	Unit
Power Dissipation	PD	1.4	W
Thermal Resistance, Junction-to-Ambient(Note 1)	RθJA	140	°C/W
Junction and Storage temperature	TJ,Tstg	-55~+150	°C

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

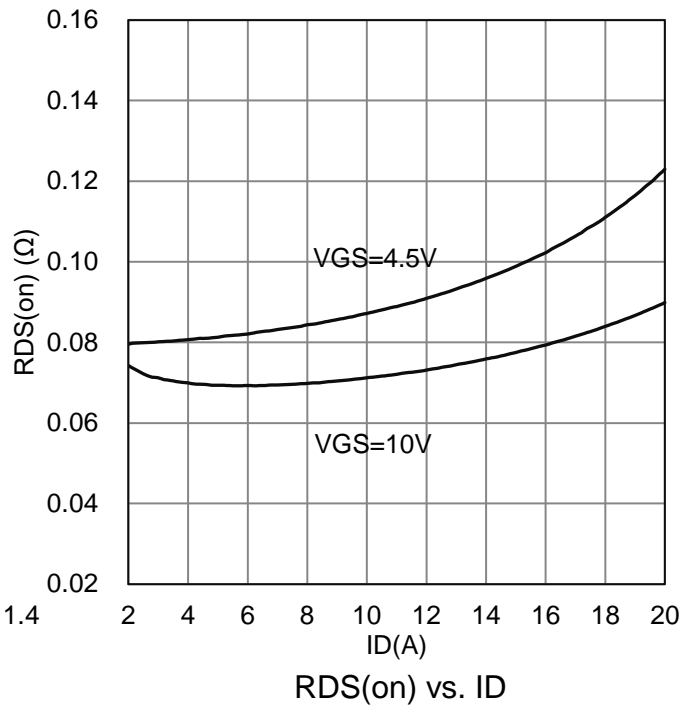
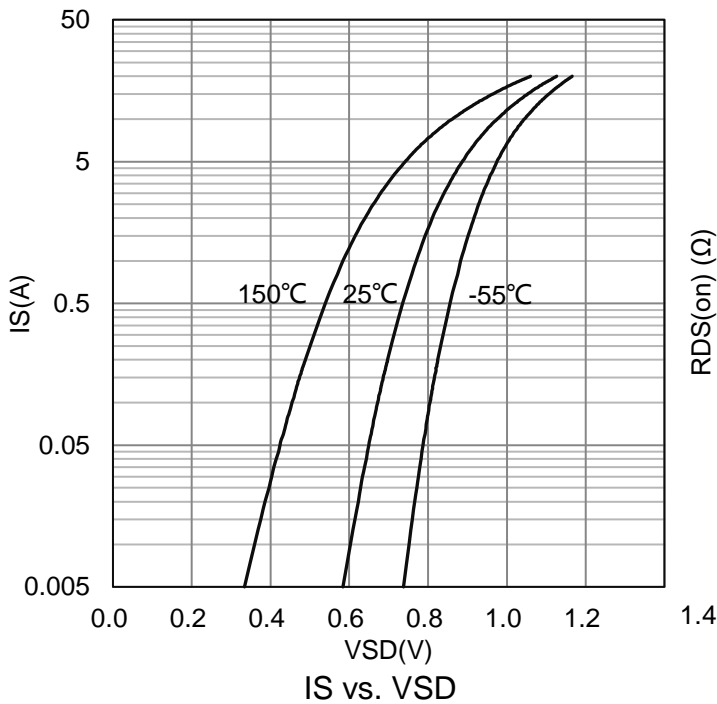
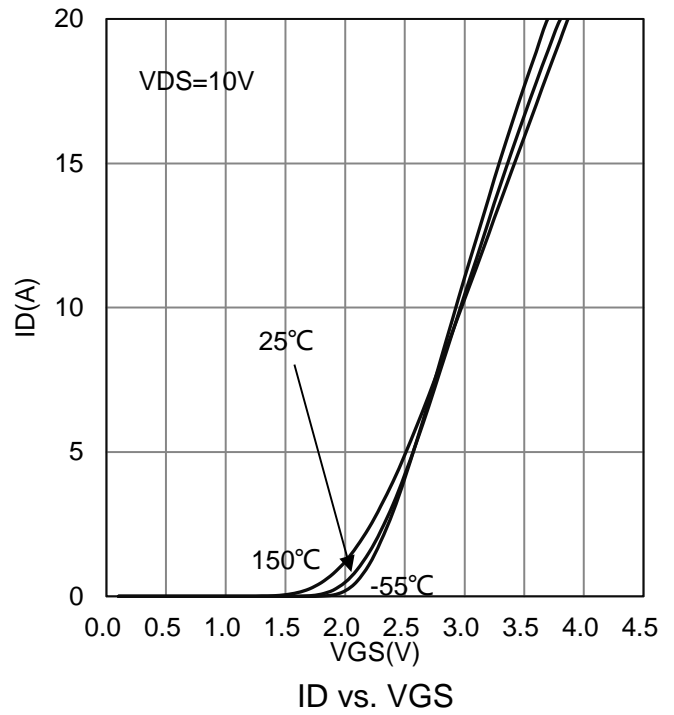
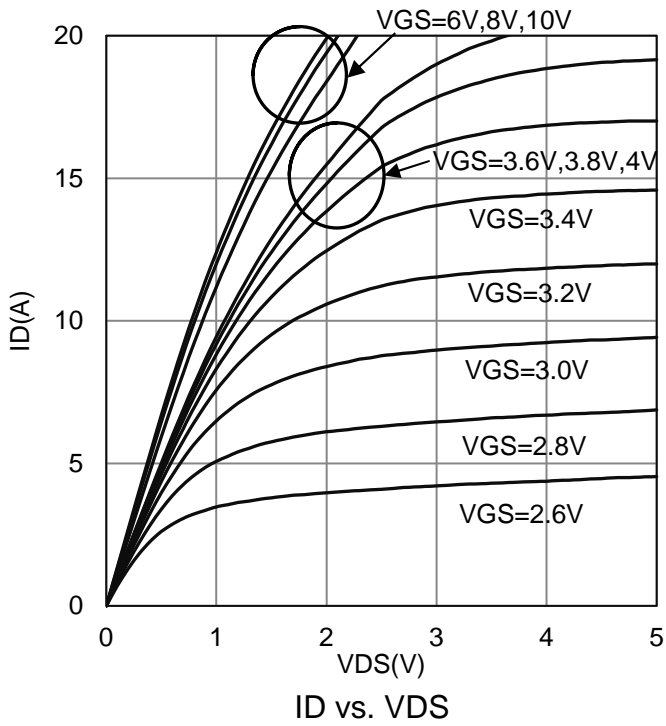
2.Pulse width limited by maximum junction temperature.

6. ELECTRICAL CHARACTERISTICS (Ta= 25°C)

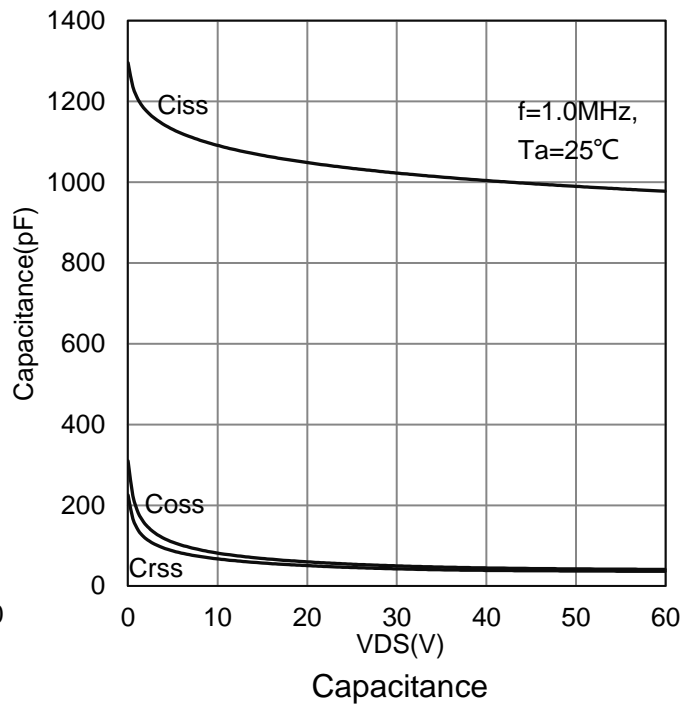
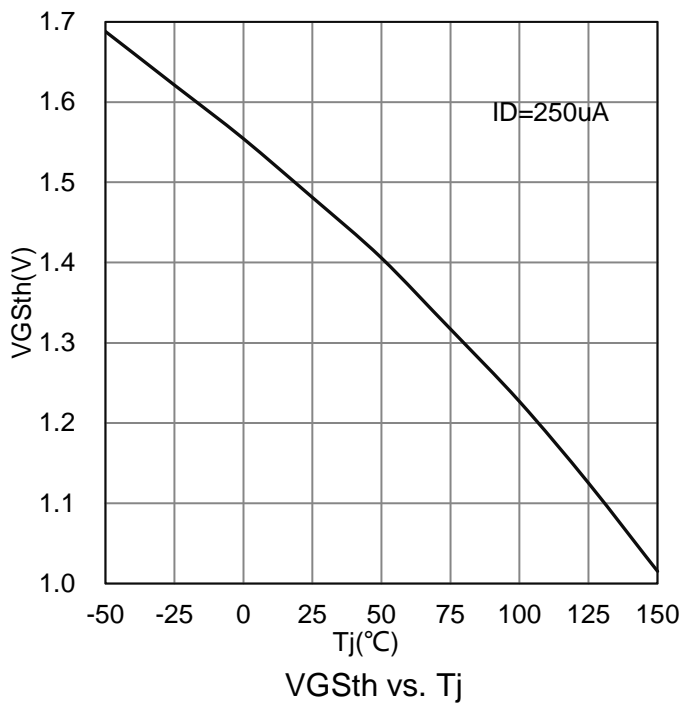
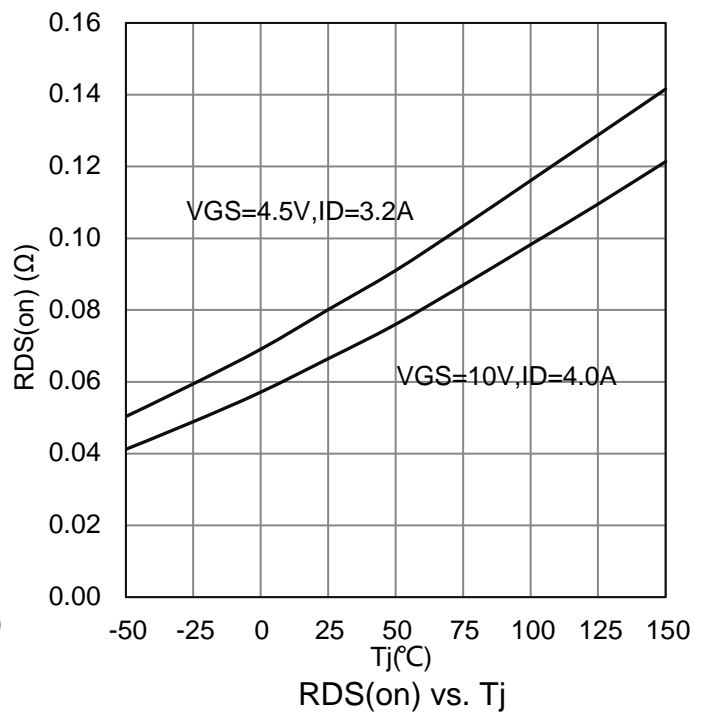
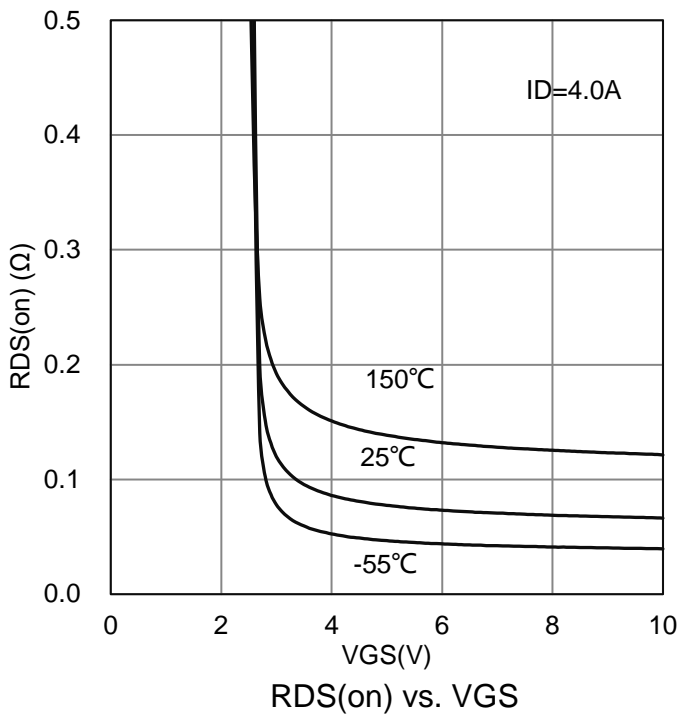
Characteristic	Symbol	Min.	Typ.	Max.	Unit	
STATIC						
Drain–Source Breakdown Voltage (VGS = 0, ID = -250μA)	VBRDSS	-60	-	-	V	
Gate-Source Threshold Voltage (VGS = VDS , ID = -250μA)	VGS(th)	-1	-	-	V	
Gate-to–Source Leakage Current (VDS = 0 V, VGS = ±20 V)	IGSS	-	-	±10	μA	
Zero Gate Voltage Drain Current (VDS = -48 V, VGS = 0 V) (VDS = -48 V, VGS = 0 V, TJ = 55°C)	IDSS	-	-	-1 -25	μA	
Static Drain–Source On–State Resistance(Note 3) (VGS = -10 V, ID = -4 A) (VGS = -4.5 V, ID = -3.2 A)	RDS(on)	-	-	98 120	mΩ	
Forward Diode Voltage(Note 3) (IS = -2.1 A, VGS = 0 V)	VSD	-	-0.83	-	V	
DYNAMIC						
Total Gate Charge	(VDS = -30 V, VGS = -4.5 V, ID = -4 A)	Qg	-	8.8	-	nC
Gate-to–Source Charge		Qgs	-	2.3	-	
Gate-to–Drain Charge		Qgd	-	3.4	-	
Turn–On Delay Time	(VDS=-30 V, RL=7.5 Ω, ID=-4 A, VGEN =-10 V, RGEN= 6 Ω)	td(on)	-	8.7	-	ns
Turn–On Rise Time		tr	-	9.2	-	
Turn–Off Delay Time		td(off)	-	45.2	-	
Turn–Off Fall Time		tf	-	18.2	-	
Input Capacitance	(VDS = -15 V, VGS = 0 V, f = 1 MHz)	Ciss	-	1086	-	pF
Output Capacitance		Coss	-	68	-	
Reverse Transfer Capacitance		Crss	-	66	-	

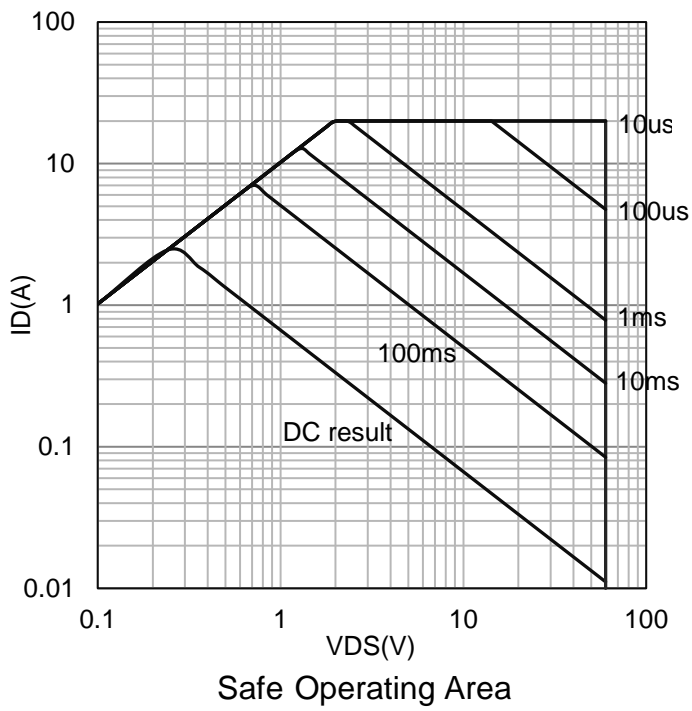
3.Pulse Test: Pulse Width ≤300 μs, Duty Cycle ≤2.0%.

7. ELECTRICAL CHARACTERISTICS CURVES



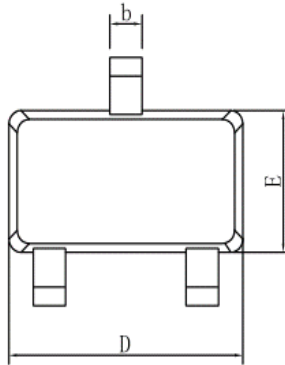
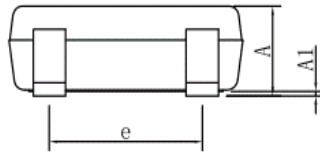
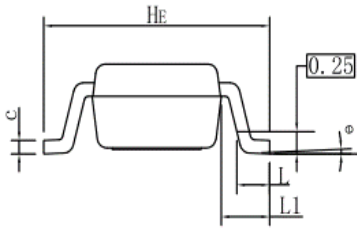
7. ELECTRICAL CHARACTERISTICS CURVES(Con.)



7. ELECTRICAL CHARACTERISTICS CURVES(Con.)

8. OUTLINE AND DIMENSIONS

SOT23LC

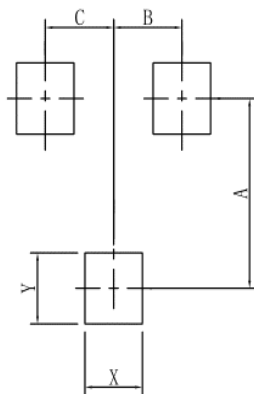


SOT23-LC			
DIM	MIN	NOR	MAX
A	0.90	1.00	1.10
A1	0.01	0.06	0.10
b	0.30	0.40	0.50
c	0.10	0.17	0.20
D	2.80	2.90	3.00
E	1.50	1.60	1.70
e	1.80	1.90	2.00
L	0.20	0.40	0.60
L1	0.60REF		
HE	2.60	2.80	3.00
θ	0°	-	10°
All Dimensions in mm			

GENERAL NOTES

1. Top package surface finish Ra0.4±0.2um
2. Bottom package surface finish Ra0.7±0.2um
3. Side package surface finish Ra0.4±0.2um

9. SOLDERING FOOTPRINT



SOT23-LC	
DIM	(mm)
X	0.80
Y	0.90
A	2.40
B	0.95
C	0.95

DISCLAIMER

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