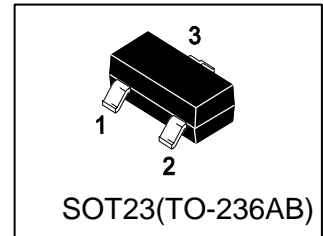


S-LP2301QLT1G

20V P-Channel Power MOSFET

1. FEATURES

- VDS = -20V.
- 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.

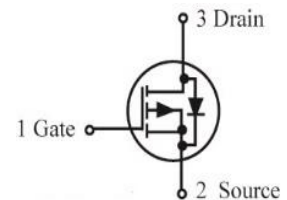


2. APPLICATIONS

- Load switch

3. DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
S-LP2301QLT1G	01Q	3000/Tape&Reel



4. MAXIMUM RATINGS(Ta = 25°C)

Parameter	Symbol	Limits	Unit
Drain-Source Voltage	VDS	-20	V
Gate-to-Source Voltage – Continuous	VGS	±12	V
Drain Current			
– Continuous TA = 25°C	ID	-3	A
– Pulsed(Note 1)	IDM	-12	

5. THERMAL CHARACTERISTICS

Parameter	Symbol	Limits	Unit
Maximum Power Dissipation	PD	1.1	W
Thermal Resistance, Junction-to-Ambient(Note 2)	RθJA	110	°C/W
Junction and Storage temperature	TJ,Tstg	-55~+150	°C

1. Repetitive Rating: Pulse width limited by the Maximum junction temperature.

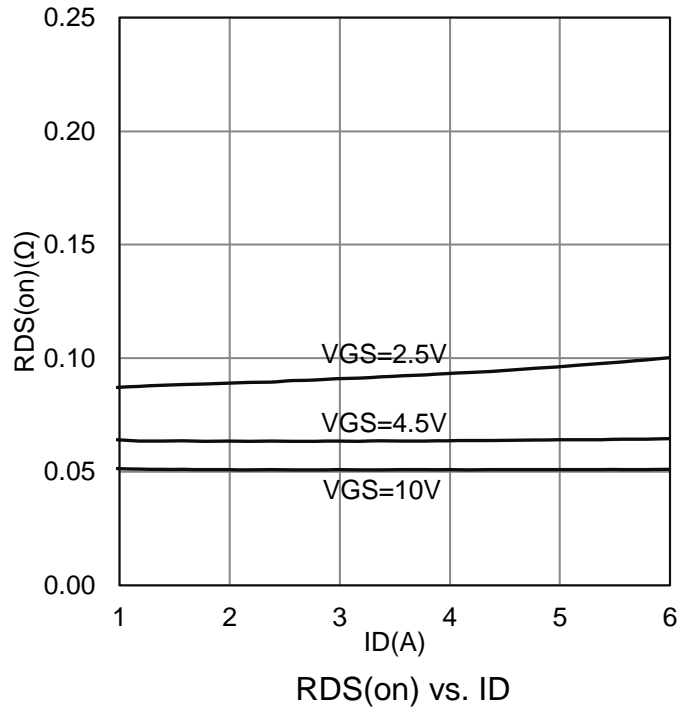
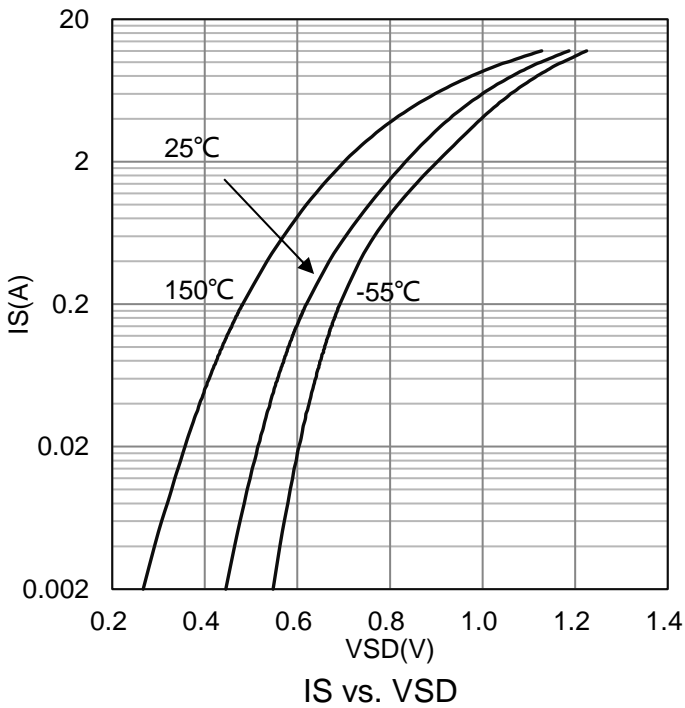
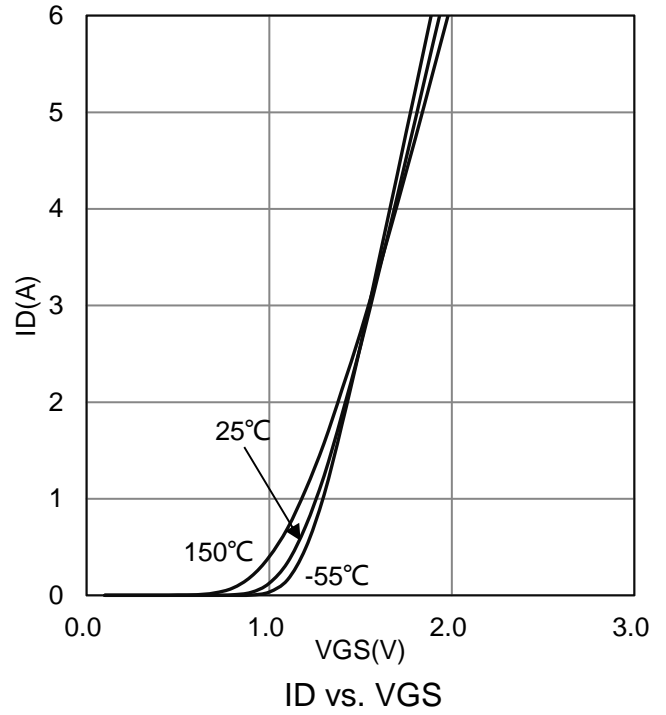
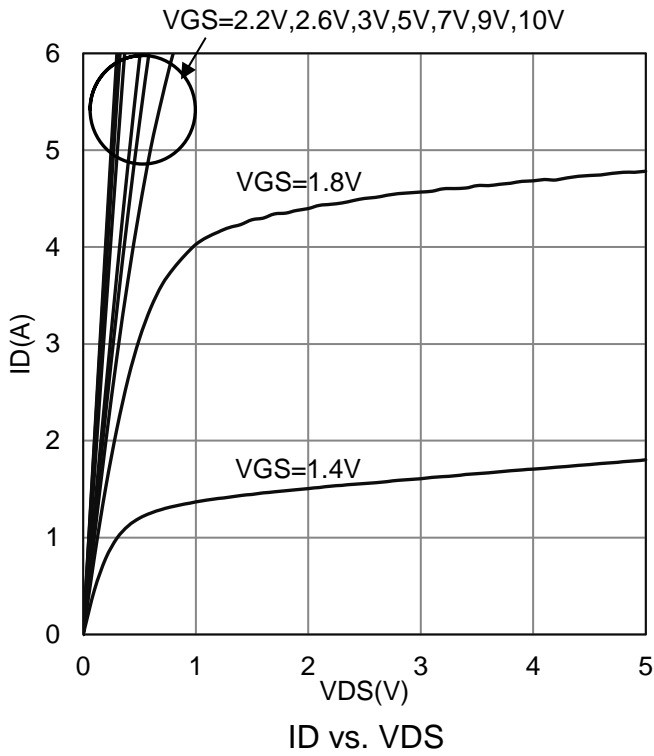
2. 1-in² 2oz Cu PCB board.

6. ELECTRICAL CHARACTERISTICS (Ta= 25°C)

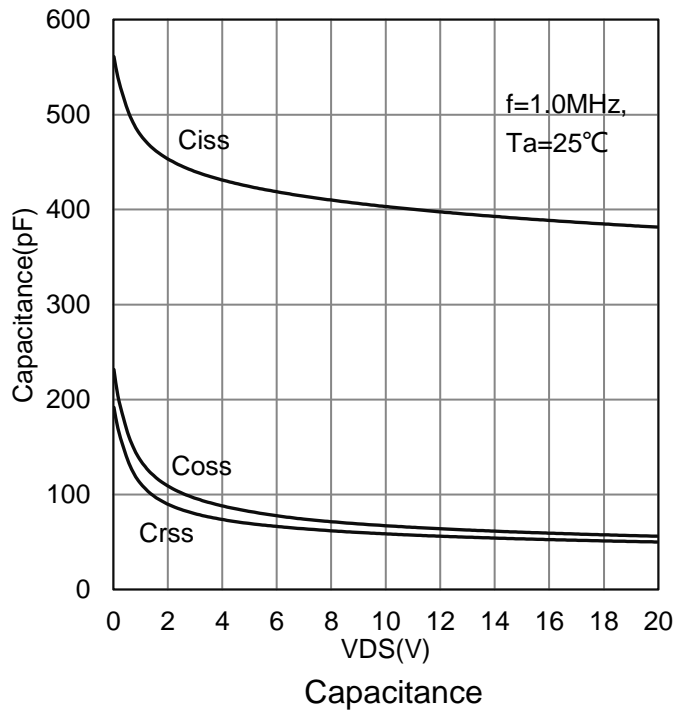
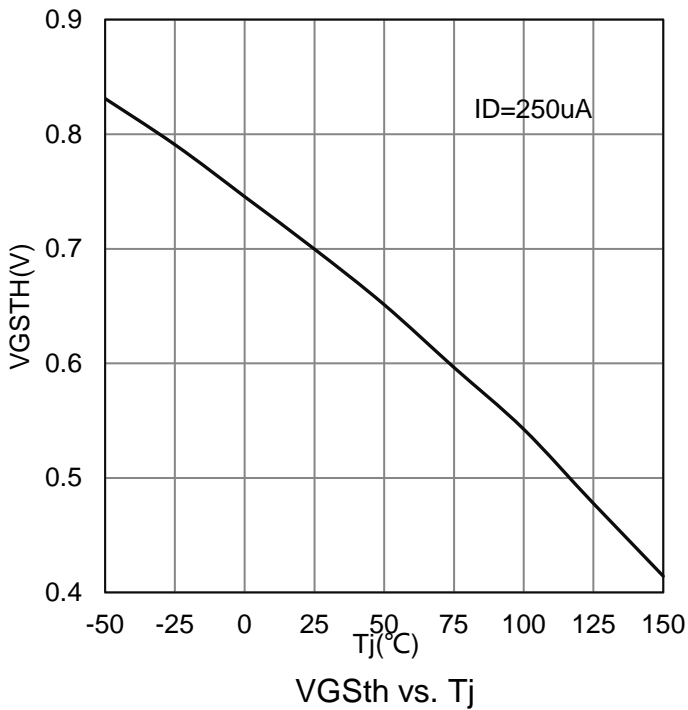
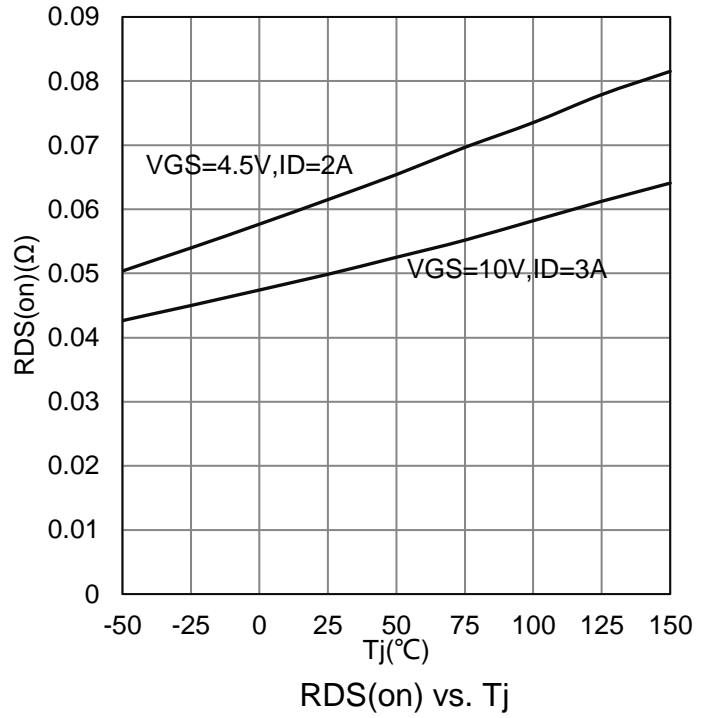
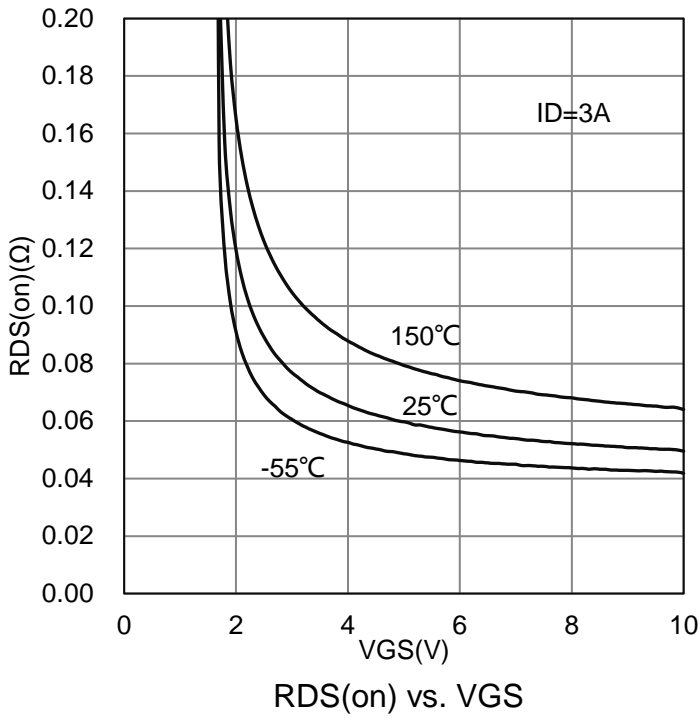
Characteristic	Symbol	Min.	Typ.	Max.	Unit	
Static						
Drain-Source Breakdown Voltage (VGS = 0 V, ID = -250 μA)	VBRDSS	-20	-	-	V	
Gate-Source Threshold Voltage (VDS = VGS, ID = -250 μA)	VGS(th)	-0.3	-0.6	-0.9	V	
Gate-Body Leakage Current (VDS = 0 V, VGS = ± 12 V)	IGSS	-	-	± 100	nA	
Zero Gate Voltage Drain Current (VDS = -16 V, VGS = 0 V)	IDSS	-	-	-1	μA	
Drain-Source On-Resistance(Note 3) (VGS = -10 V, ID = -3 A) (VGS = -4.5 V, ID = -2 A) (VGS = -2.5 V, ID = -1 A)	RDS(ON)	-	-	65 85 115	mΩ	
Diode Forward Voltage (IS = -1 A, VGS = 0 V)	VSD	-	-	-1.2	V	
Dynamic						
Total Gate Charge	(VDS = -10 V, VGS = -4.5 V, ID = -3 A)	Qg	-	4.9	-	nC
Gate-Source Charge		Qgs	-	1.1	-	
Gate-Drain Charge		Qgd	-	2	-	
Turn-On Delay Time	(VDS = -10 V, VGS = -10 V, RG = 3 Ω, RL = 3 Ω)	td(on)	-	3.2	-	ns
Rise Time		tr	-	2	-	
Turn-Off Delay Time		td(off)	-	22.6	-	
Fall Time		tf	-	3.4	-	
Input Capacitance	(VDS = -10 V, VGS = 0 V, f = 1 MHz)	Ciss	-	360	-	pF
Output Capacitance		Coss	-	67	-	
Reverse Transfer Capacitance		Crss	-	51	-	

3. Pulse test; pulse width ≤ 300 μs, duty cycle ≤ 2%

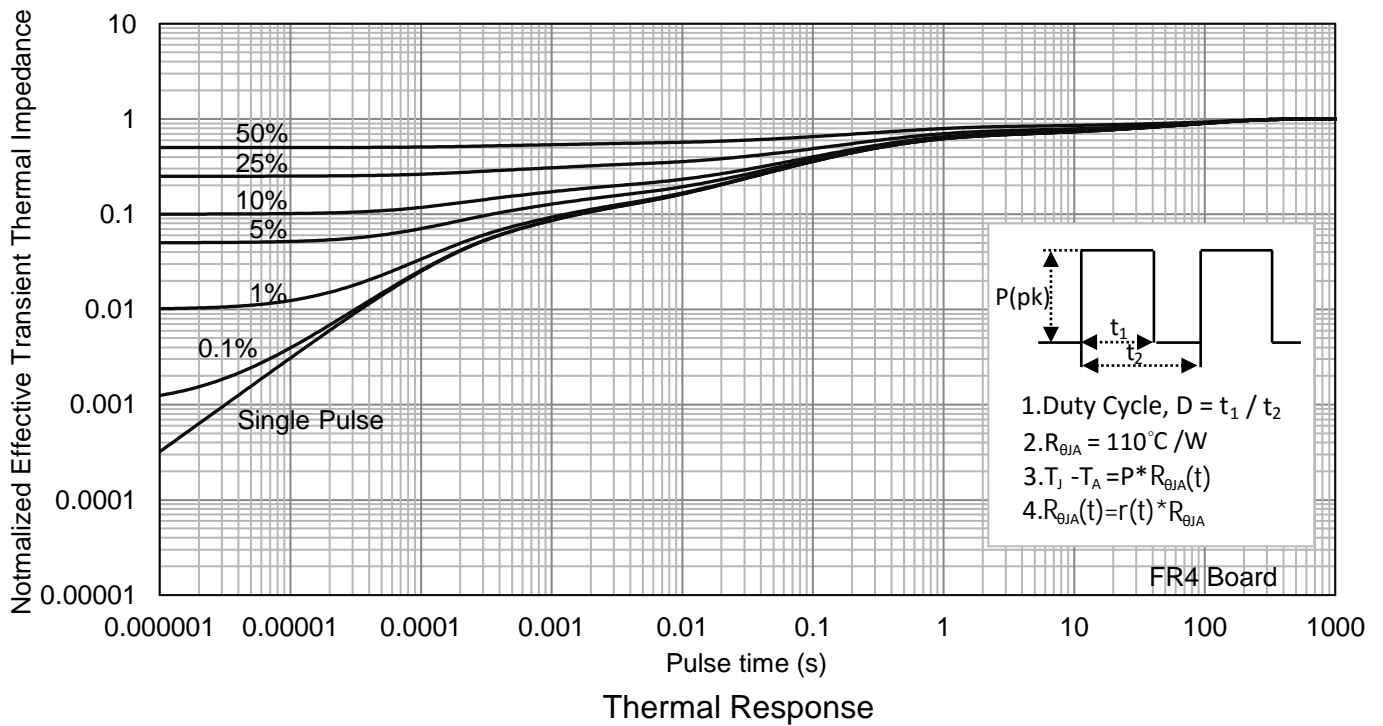
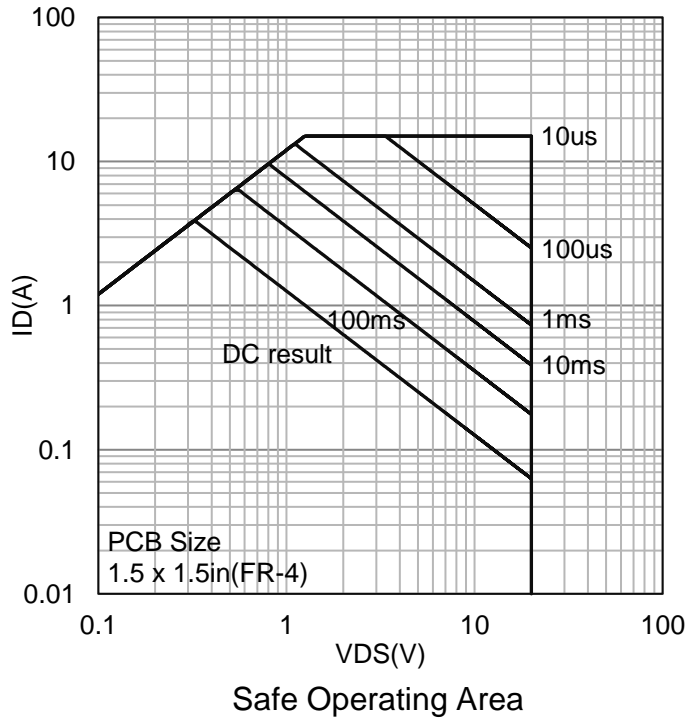
7. ELECTRICAL CHARACTERISTICS CURVES



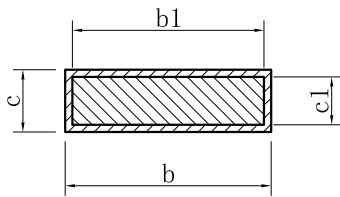
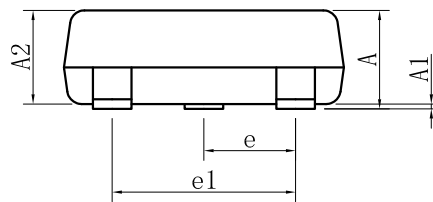
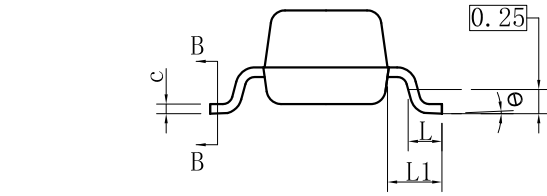
7. ELECTRICAL CHARACTERISTICS CURVES(Con.)



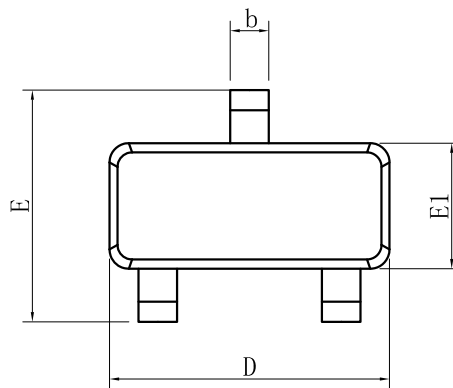
7. ELECTRICAL CHARACTERISTICS CURVES(Con.)



8. OUTLINE AND DIMENSIONS



SECTION B-B

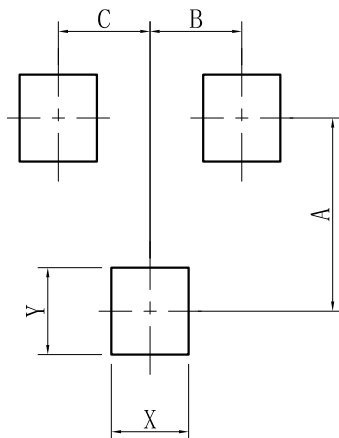


SOT23			
DIM	MIN	NOR	MAX
A	0.89	-	1.12
A1	0.01	-	0.10
A2	0.88	0.95	1.02
b	0.30	-	0.50
b1	0.30	0.40	0.45
c	0.08	-	0.20
c1	0.08	0.10	0.16
D	2.80	2.90	3.04
E	2.10	-	2.64
E1	1.20	1.30	1.40
e	0.95BSC		
e1	1.90BSC		
L	0.40	0.46	0.60
L1	0.54REF		
θ	0°	-	8°
All Dimensions in mm			

GENERAL NOTES

1. Top package surface finish $Ra0.4 \pm 0.2\mu m$
2. Bottom package surface finish $Ra0.7 \pm 0.2\mu m$
3. Side package surface finish $Ra0.4 \pm 0.2\mu m$

9. SOLDERING FOOTPRINT



SOT23	
DIM	(mm)
X	0.80
Y	0.90
A	2.00
B	0.95
C	0.95

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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