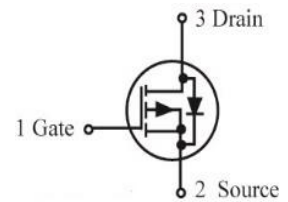
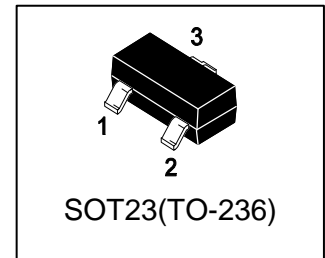


# S-LP3401LT1G

## 30V P-Channel Power MOSFET

### 1. FEATURES

- VDS = -30V
- RDS(ON) ≤ 75mΩ (VGS = -10V)
- RDS(ON) ≤ 85mΩ (VGS = -4.5V)
- RDS(ON) ≤ 130mΩ (VGS = -2.5V)
- 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

- Power Routing
- DC/DC Conversion
- Motor Drives

### 3. DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
S-LP3401LT1G	A1	3000/Tape&Reel

### 4. MAXIMUM RATINGS(Ta = 25°C)

Parameter	Symbol	Limits	Unit
Drain-Source Voltage	VDSS	-30	V
Gate-to-Source Voltage – Continuous	VGS	±12	V
Drain Current			
– Continuous TA = 25°C(Note 1)	ID	-3.5	A
– Pulsed (Note 2)	IDM	-14	

### 5. THERMAL CHARACTERISTICS

Parameter	Symbol	Limits	Unit
Power Dissipation(Note 1)	PD	1	W
Thermal Resistance,			
Junction-to-Ambient(Note 1)	RθJA	125	°C/W
Junction-to-Ambient(Note 3)	RθJA	226	
Junction-to-Case	RθJC	100	
Junction and Storage temperature	TJ,Tstg	-55~+150	°C

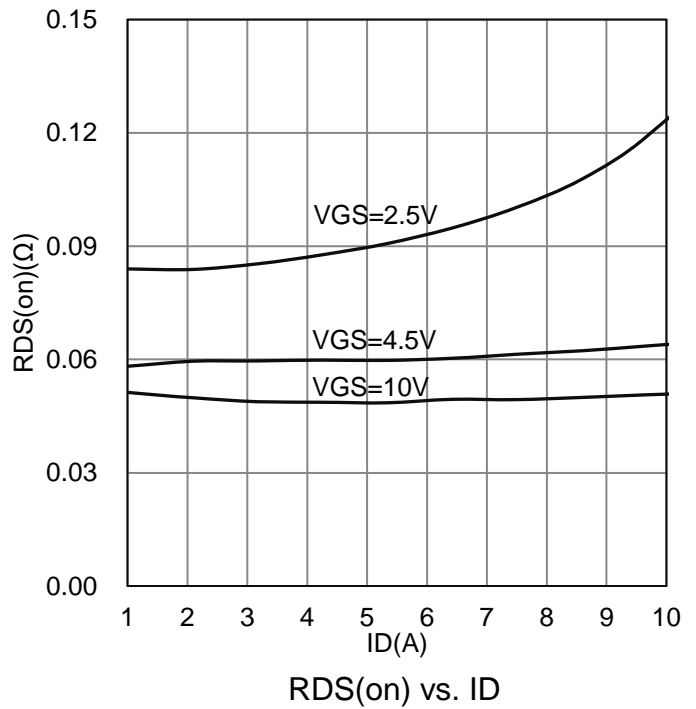
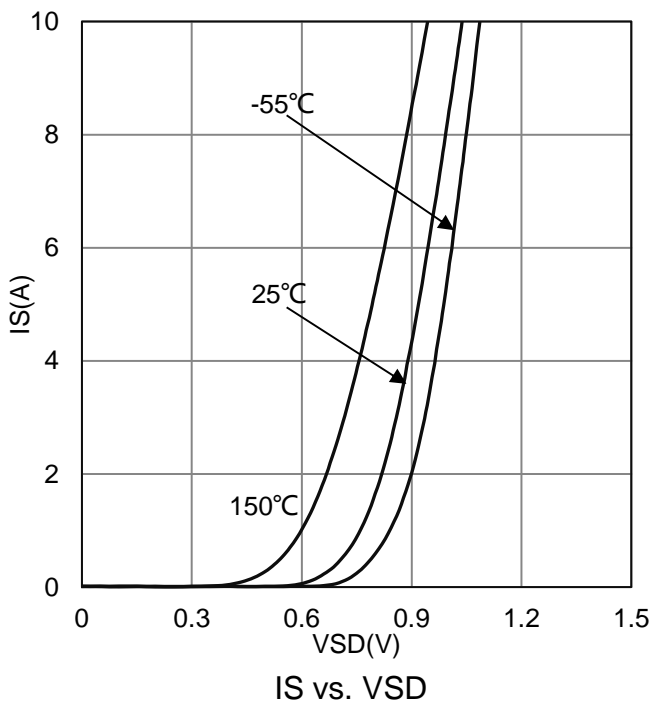
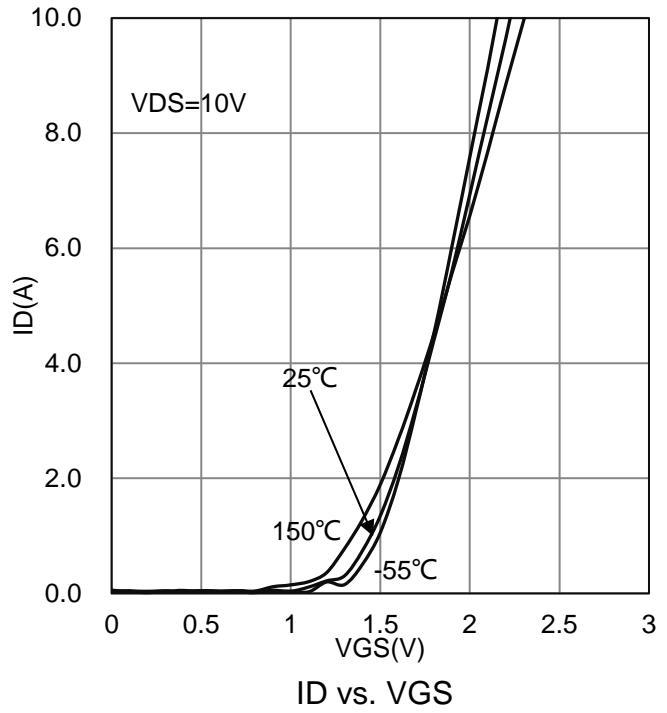
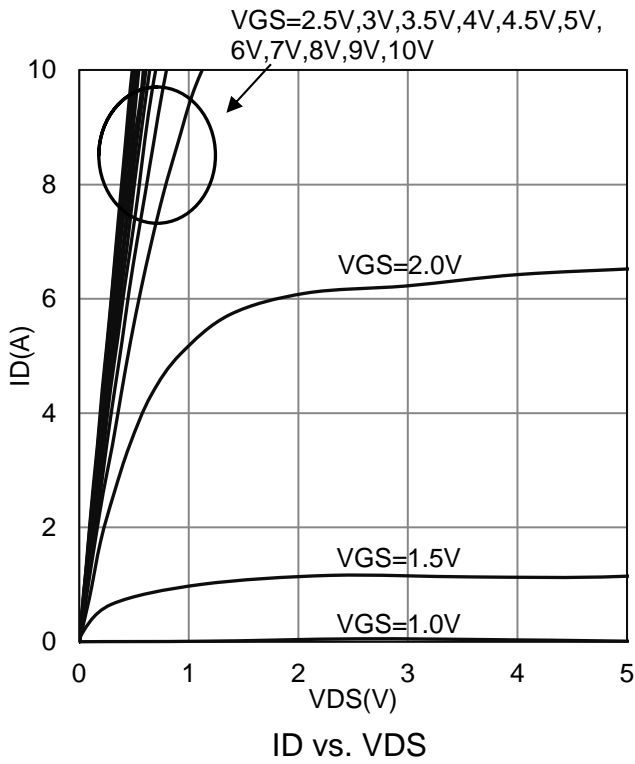
- 1.Surface mounted on "1.5 x 1.5" FR4 board using 1 sq in pad, 2 oz Cu.
- 2.Pulse width limited by maximum junction temperature.
- 3.Surface mounted on FR4 board using the minimum recommended pad size.

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

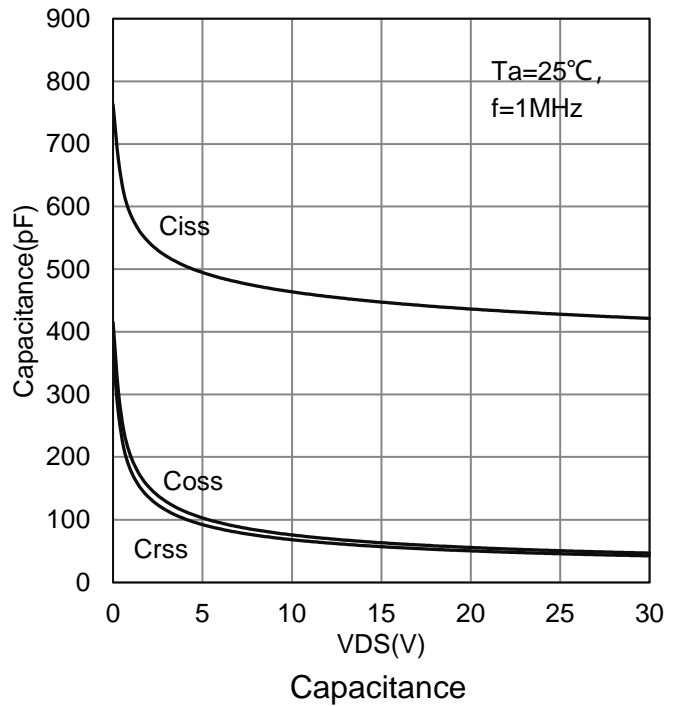
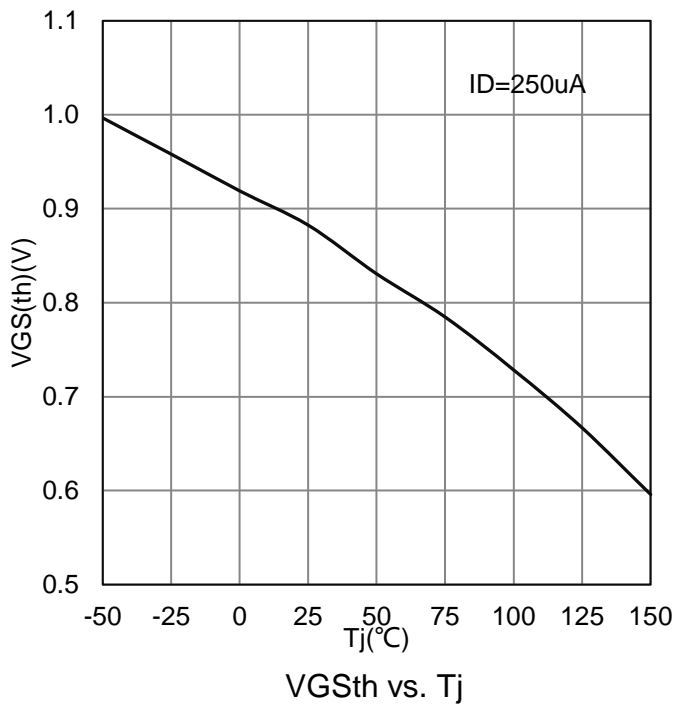
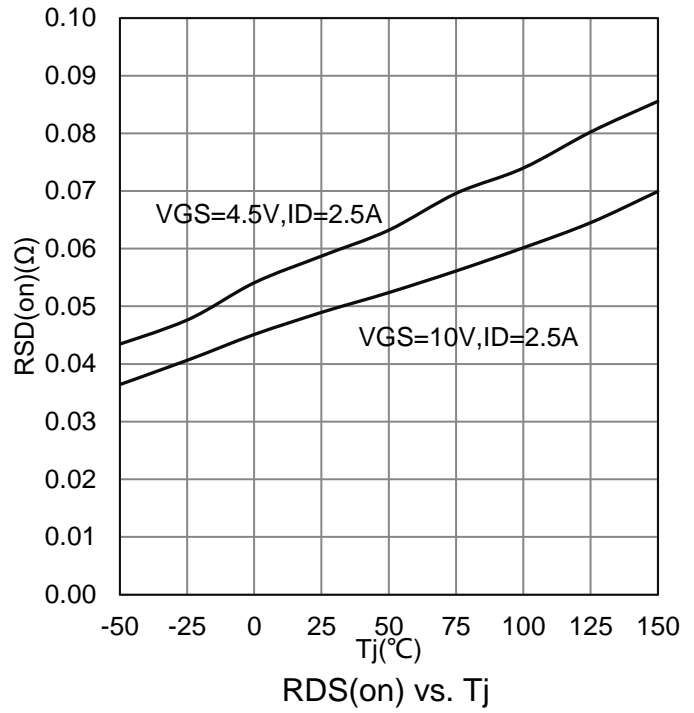
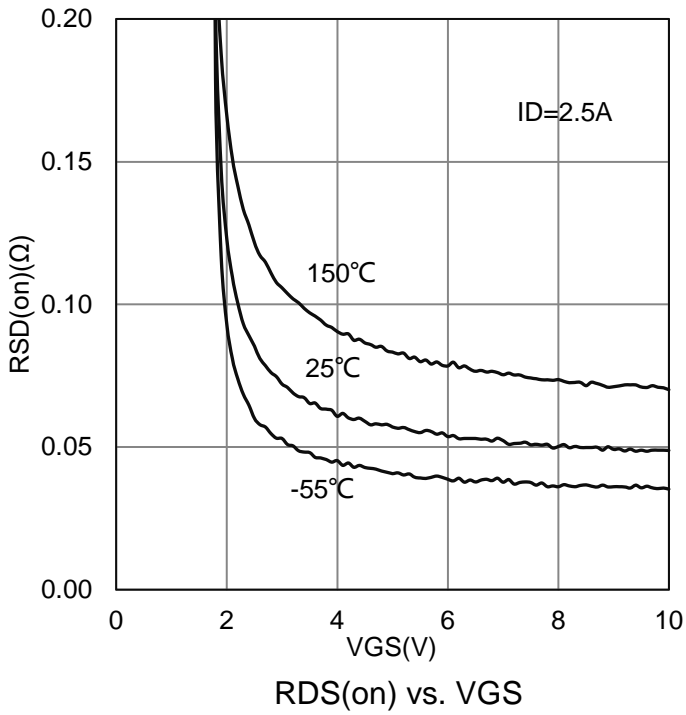
Characteristic	Symbol	Min.	Typ.	Max.	Unit
<b>STATIC</b>					
Drain–Source Breakdown Voltage (VGS = 0V, ID = -250μA)	VBRDSS	-30	-	-	V
Gate-Source Threshold Voltage (VDS =VGS , ID = -250μA)	VGS(th)	-0.5	-	-1.3	V
Gate-Body Leakage Current (VDS =0V, VGS =± 12V)	IGSS	-	-	± 100	nA
Zero Gate Voltage Drain Current (VDS = -24 V, VGS = 0 V)	IDSS	-	-	-1	μA
Drain-Source On-Resistance(Note 4) (VGS = -10 V, ID = -2.5 A) (VGS = -4.5 V, ID = -2.5 A) (VGS = -2.5 V, ID = -1 A)	RDS(ON)	-	-	75 85 130	mΩ
Diode Forward Voltage(Note 3) (IS = -1 A, VGS = 0 V)	VSD	-	-	-1.2	V
<b>DYNAMIC</b>					
Total Gate Charge	(VDS = -15 V, VGS = -4.5 V, ID = -2.5 A)	Qg	-	5.8	nC
Gate-Source Charge		Qgs	-	0.9	
Gate-Drain Charge		Qgd	-	2	
Turn-On Delay Time	(VDS = -15 V, RL = 3 Ω, VGS= -10 V, RG = 6 Ω)	td(on)	-	3	ns
Rise Time		tr	-	3.4	
Turn-Off Delay Time		td(off)	-	53	
Fall Time		tf	-	25	
Input Capacitance	(VDS = -15 V, VGS = 0 V, f = 1 MHz)	Ciss	-	447	pF
Output Capacitance		Coss	-	63	
Reverse Transfer Capacitance		Crss	-	57	

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

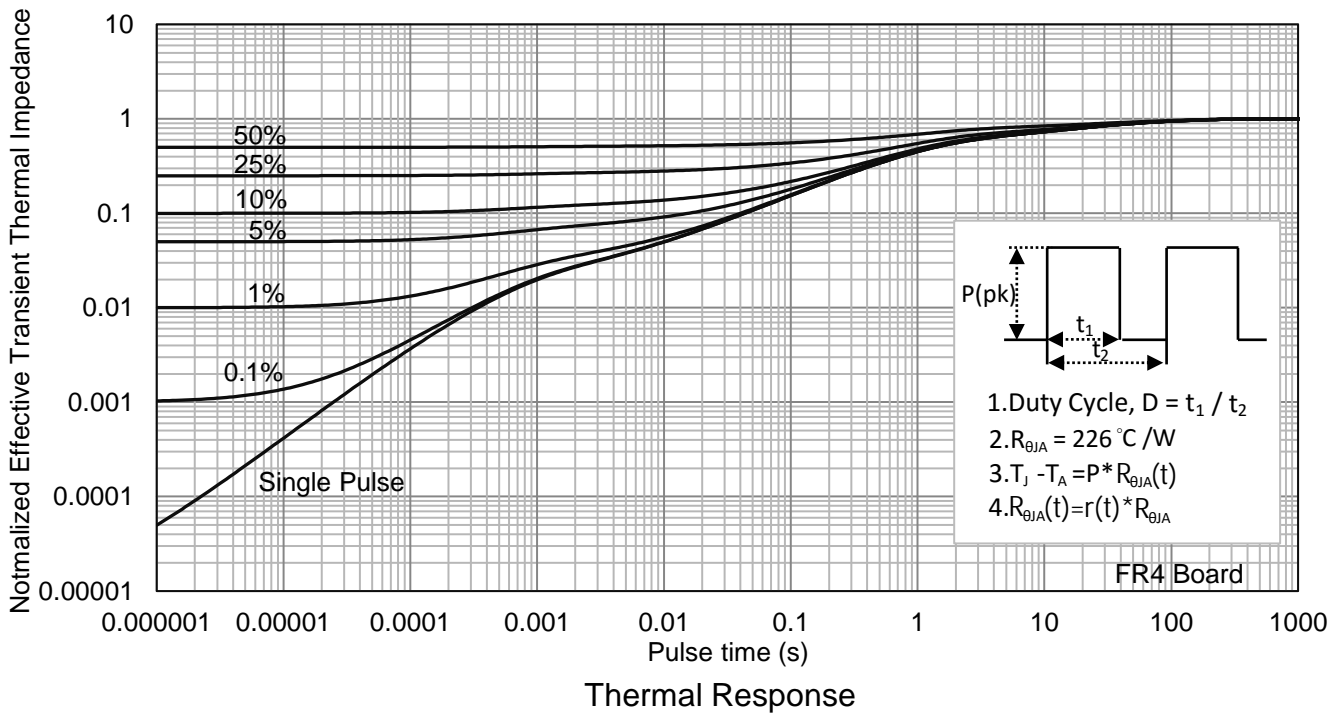
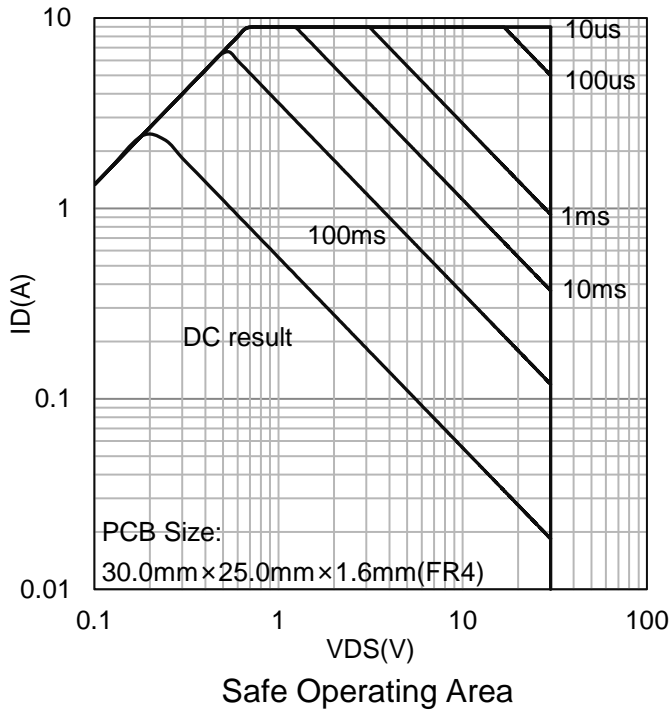
### 7. ELECTRICAL CHARACTERISTICS CURVES



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



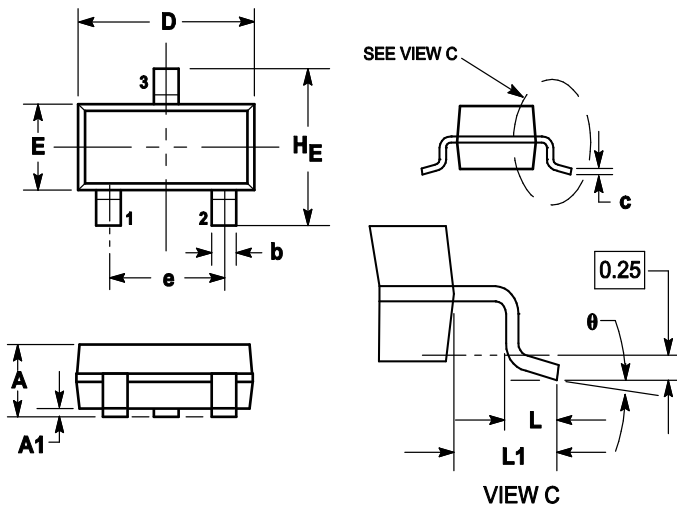
**7. ELECTRICAL CHARACTERISTICS CURVES(Con.)**



### 8. OUTLINE AND DIMENSIONS

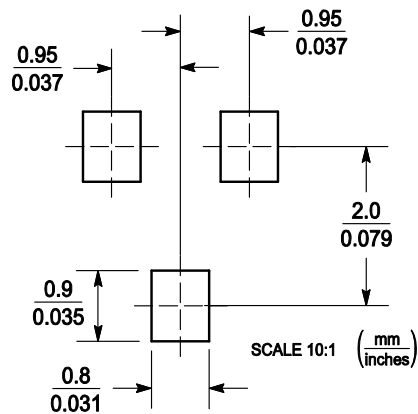
Notes:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.
4. DIMENSIONS D AND E DO NOT INCLUDE MOLD FLASH, PROTRUSIONS OR GATE BURRS.



DIM	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.89	1	1.11	0.035	0.04	0.044
A1	0.01	0.06	0.1	0.001	0.002	0.004
b	0.37	0.44	0.5	0.015	0.018	0.02
c	0.09	0.13	0.18	0.003	0.005	0.007
D	2.80	2.9	3.04	0.11	0.114	0.12
E	1.20	1.3	1.4	0.047	0.051	0.055
e	1.78	1.9	2.04	0.07	0.075	0.081
L	0.10	0.2	0.3	0.004	0.008	0.012
L1	0.35	0.54	0.69	0.014	0.021	0.029
HE	2.10	2.4	2.64	0.083	0.094	0.104
θ	0°	---	10°	0°	---	10°

### 9. SOLDERING FOOTPRINT



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