

S-LP2408LT1G

40V P-Channel Power MOSFET

1. FEATURES

- Extremely low threshold voltage.
- 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

- Portable appliances
- High speed switch
- Battery management

3. DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
S-LP2408LT1G	P24	3000/Tape&Reel
S-LP2408LT3G	P24	10000/Tape&Reel

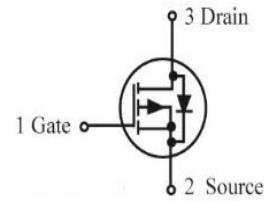
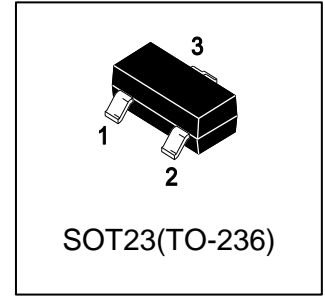
4. MAXIMUM RATINGS(Ta = 25°C)

Parameter	Symbol	Limits	Unit
Drain–Source Voltage	VDSS	-40	V
Gate–to–Source Voltage – Continuous	VGS	±20	V
Continuous Drain Current	ID	TA = 25°C	-3
		TA = 70°C	-2.3
Pulsed Drain Current	IDM	-12	A

5. THERMAL CHARACTERISTICS

Parameter	Symbol	Limits	Unit
Maximum Power Dissipation	PD	1.3	W
Thermal Resistance, Junction–to–Ambient(Note 1)	RθJA	95	°C/W
Junction and Storage temperature	TJ,Tstg	-55~+150	°C

1. 1-in² 2oz Cu PCB board.

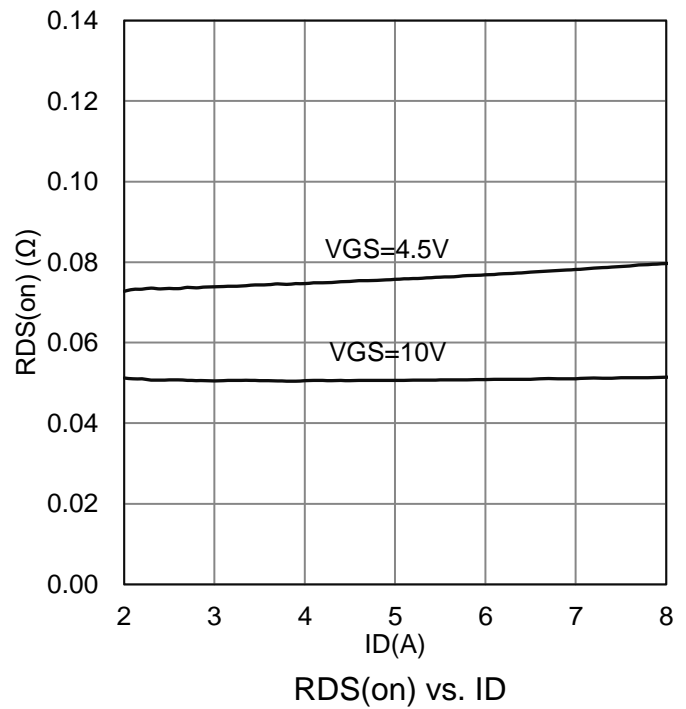
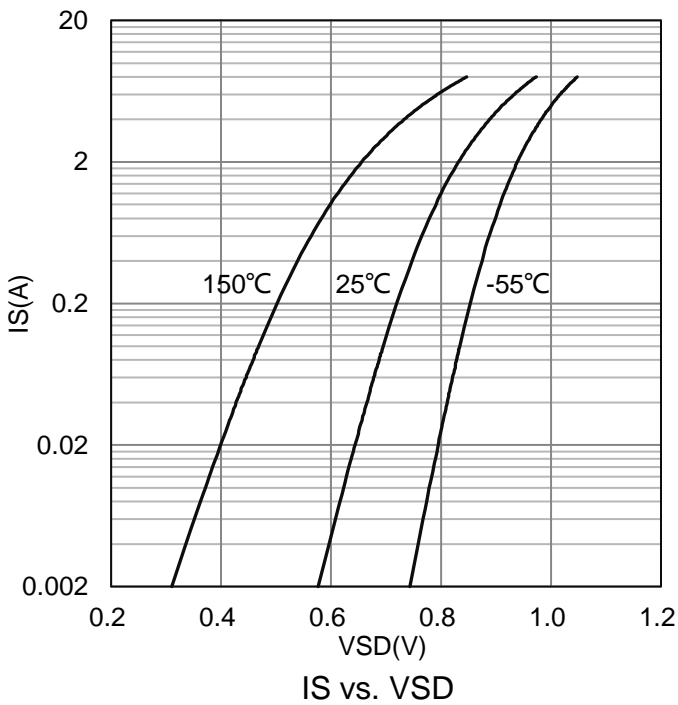
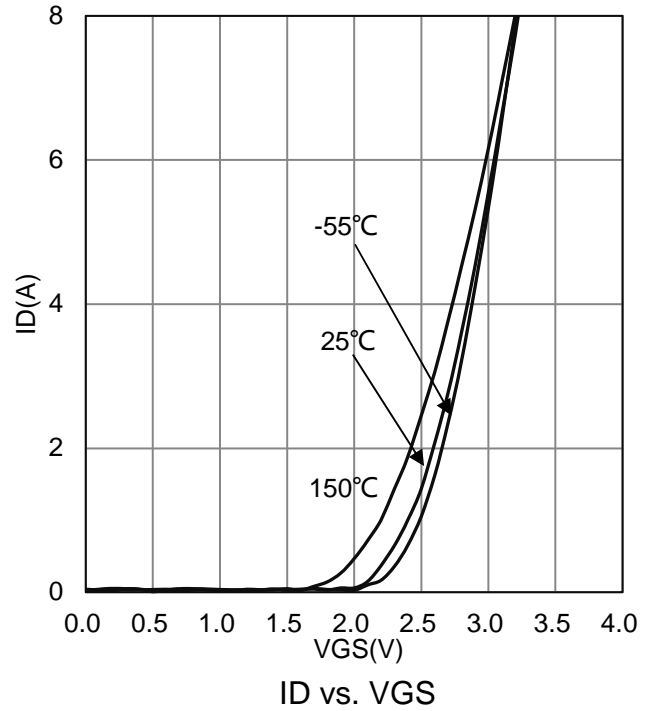
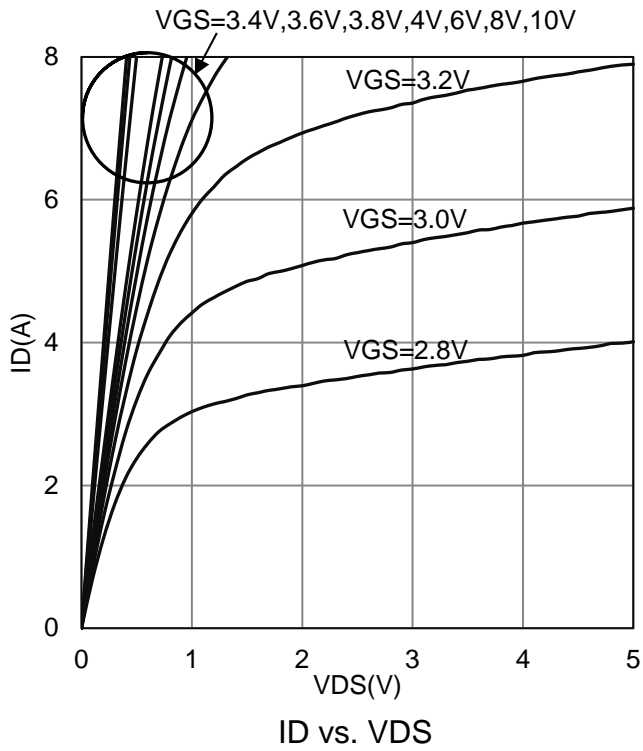


6. ELECTRICAL CHARACTERISTICS (Ta= 25°C)

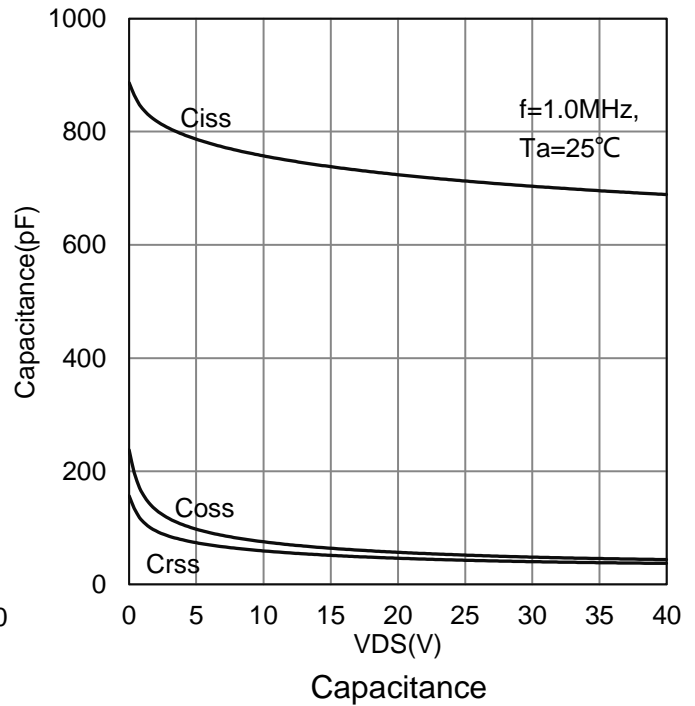
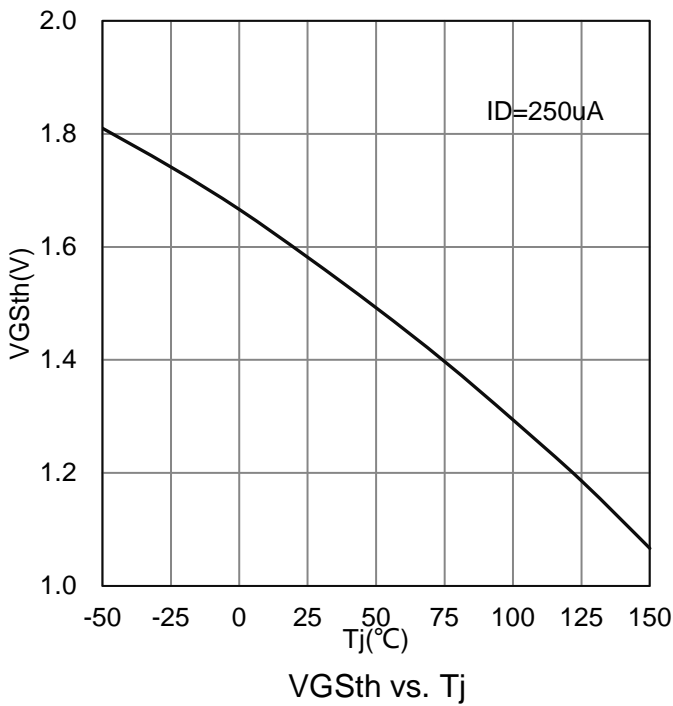
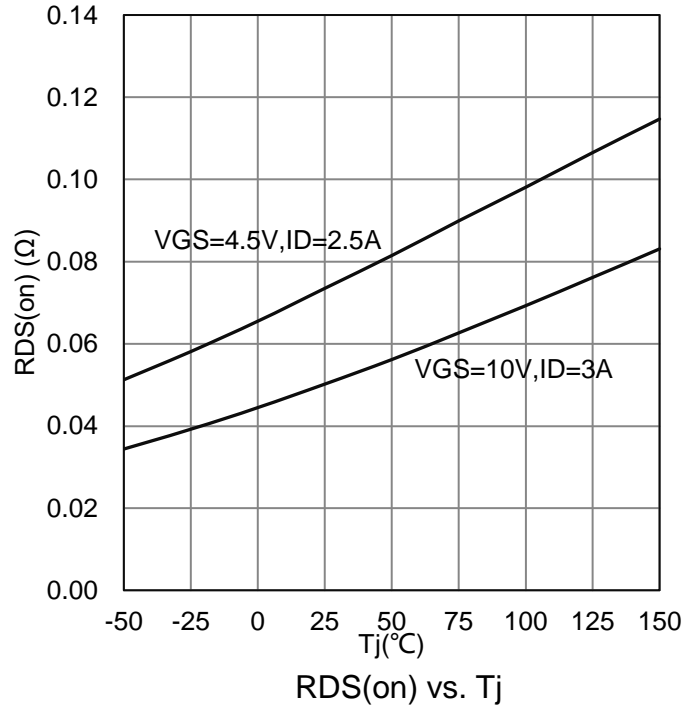
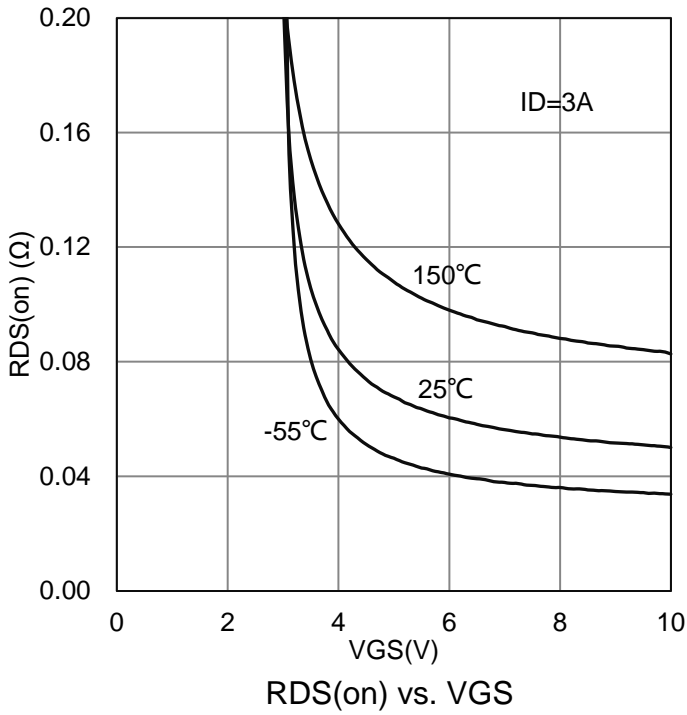
Characteristic	Symbol	Min.	Typ.	Max.	Unit	
Static						
Drain–Source Breakdown Voltage (VGS = 0 V, ID = -250 μA)	VBRDSS	-40	-	-	V	
Gate Threshold Voltage (VDS = VGS, ID = -250 μA)	VGS(th)	-1	-	-2.2	V	
Drain–Source Leakage Current (VDS = -32 V, VGS = 0V)	IDSS	-	-	-1	μA	
Gate–Body Leakage Current (VGS = ±20 V, VDS = 0 V)	IGSS	-	-	±10	μA	
Static Drain–Source On–State Resistance(Note 2) (VGS = -10 V, ID = -3 A) (VGS = -4.5 V, ID = -2.5 A)	RDS(on)	-	-	60 90	mΩ	
Forward Voltage (IS= -1 A, VGS= 0 V)	VSD	-	-	-1.3	V	
Dynamic						
Input Capacitance (VGS = 0 V, f = 1.0MHz, VDS= -20 V)	Ciss	-	724	-	pF	
Output Capacitance (VGS = 0 V, f = 1.0MHz, VDS= -20 V)	Coss	-	58	-		
Reverse Transfer Capacitance (VGS = 0 V, f = 1.0MHz, VDS= -20 V)	Crss	-	48	-		
Total Gate Charge(10V)	(VDS = -20 V, ID = -3 A)	Qg	-	12	-	nC
Total Gate Charge(4.5V)		Qg	-	6.5	-	
Gate–Source Charge		Qgs	-	1.5	-	
Gate–Drain Charge		Qgd	-	3	-	
Turn-On Delay Time	(VDD = -20 V, RL = 20 Ω, ID = -1 A, RG = 1 Ω, VGEN= -10 V)	td(on)	-	3.5	-	ns
Rise Time		tr	-	2.5	-	
Turn-Off Delay Time		td(off)	-	97	-	
Fall Time		tf	-	43	-	

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

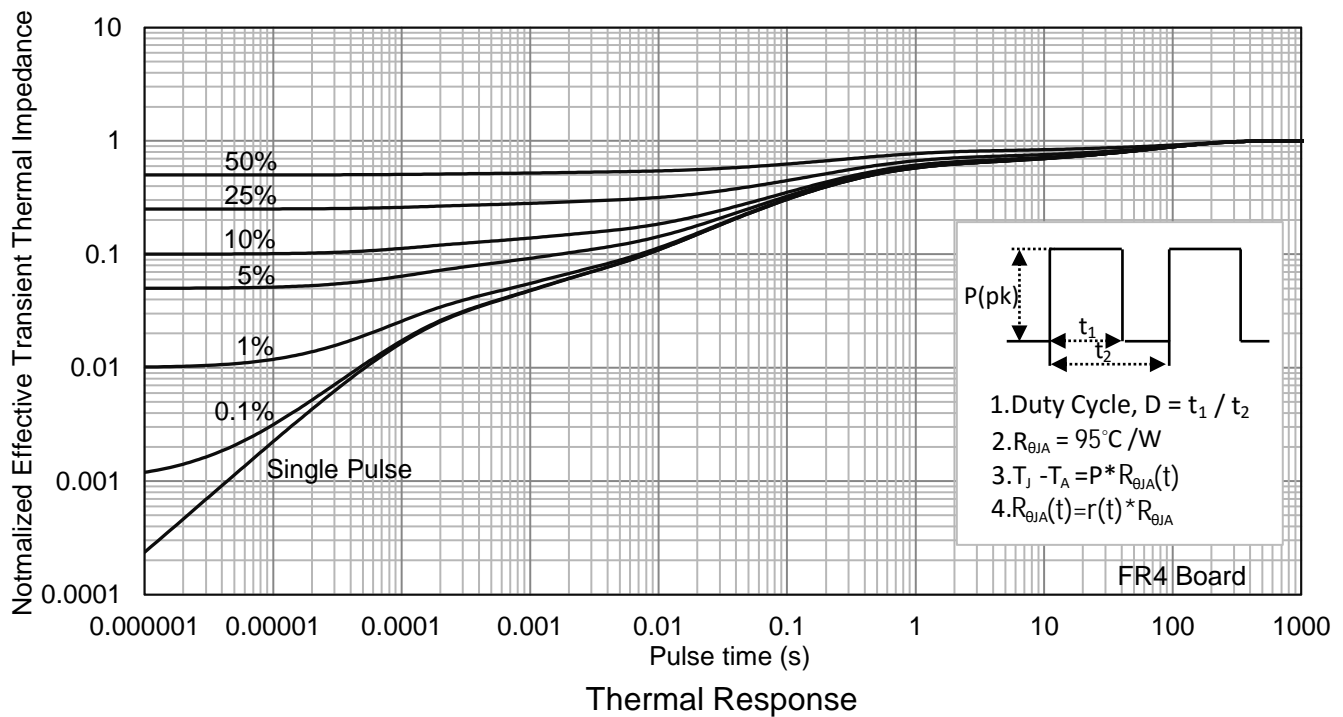
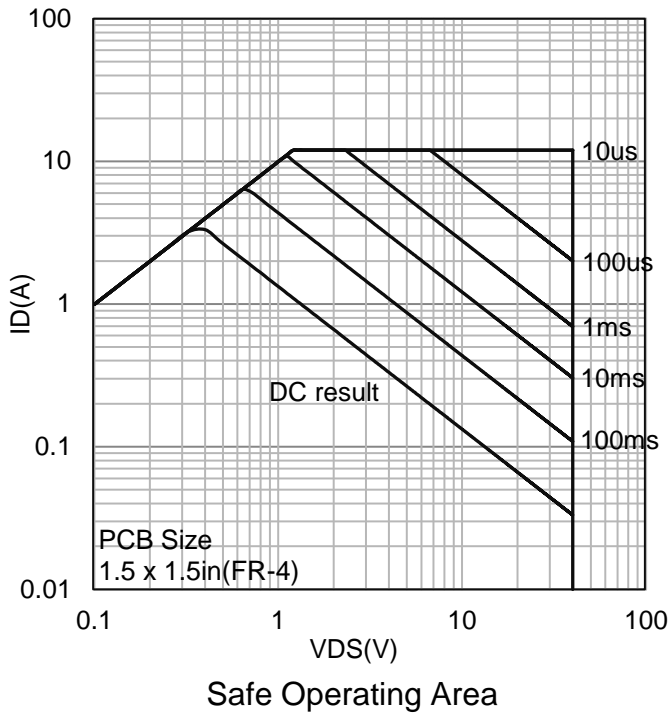
7. ELECTRICAL CHARACTERISTICS CURVES



7. ELECTRICAL CHARACTERISTICS CURVES(Con.)



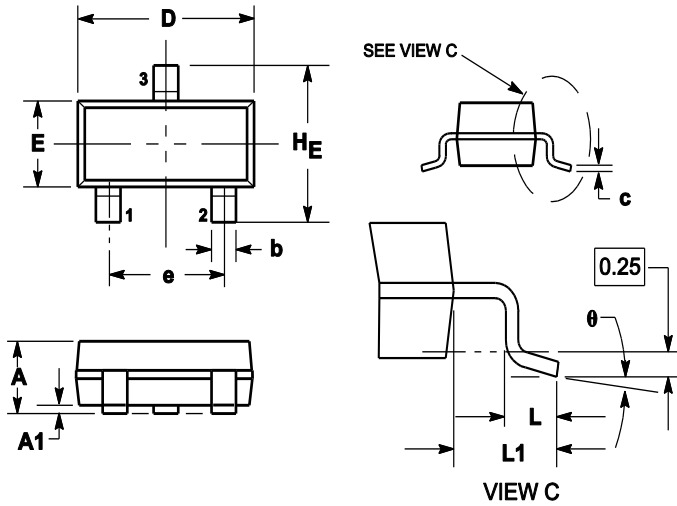
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8.OUTLINE AND DIMENSIONS

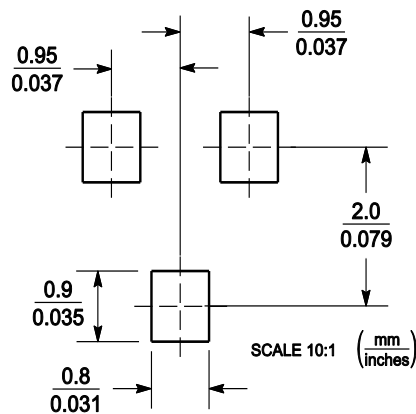
Notes:

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



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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