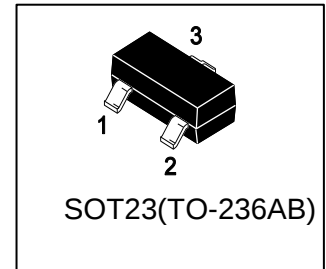


LP2327LT1G

20V P-Channel Enhancement-Mode MOSFET

1. FEATURES

- $V_{DS} = -20\text{ V}$.
- Low thermal impedance.
- Fast switching speed.
- We declare that the material of product compliance with RoHS requirements and Halogen Free.

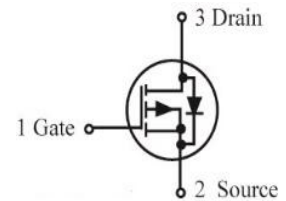


2. APPLICATION

- Power Routing
- Load Switch
- Motor Drives

3. DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
LP2327LT1G	P27	3000/Tape&Reel



4. MAXIMUM RATINGS($T_a = 25^\circ\text{C}$)

Parameter		Symbol	Limits	Unit
Drain-to-Source Voltage		V_{DS}	-20	V
Gate-to-Source Voltage		V_{GS}	± 12	V
Continuous Drain Current	$T_A = 25^\circ\text{C}$	I_D	-5	A
	$T_A = 70^\circ\text{C}$		-4	
Pulsed Drain Current (Note 1)		I_{DM}	-20	A
Avalanche Current($L=0.1\text{mH}$)		I_{AS}	12	A
Avalanche Energy($L=0.1\text{mH}$)		E_{AS}	7.2	mJ

5. THERMAL CHARACTERISTICS

Parameter	Symbol	Limits	Unit
Maximum Power Dissipation	PD	1.3	W
Thermal Resistance, Junction-to-Ambient(Note 2)	$R_{\theta JA}$	95	$^\circ\text{C/W}$
Junction and Storage temperature	T_J, T_{stg}	$-55 \sim +150$	$^\circ\text{C}$

1.Pulse width limited by the maximum junction temperature.

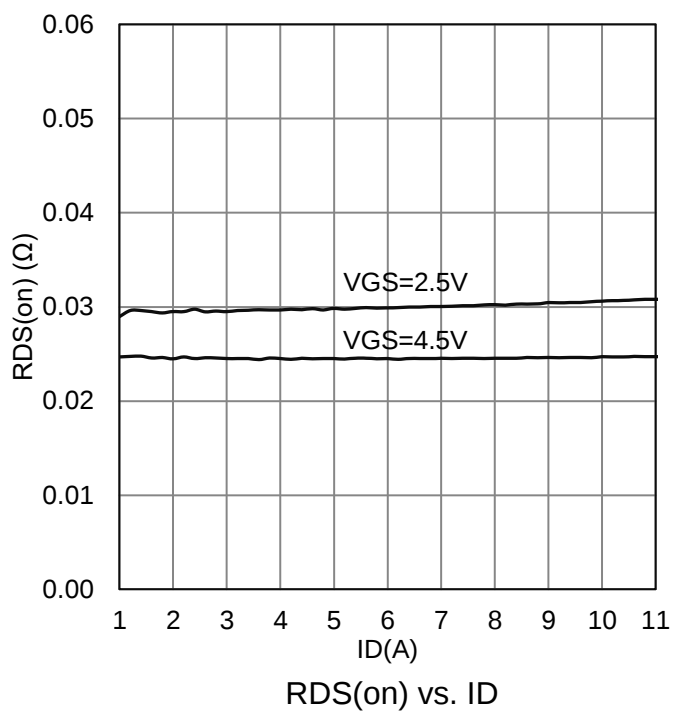
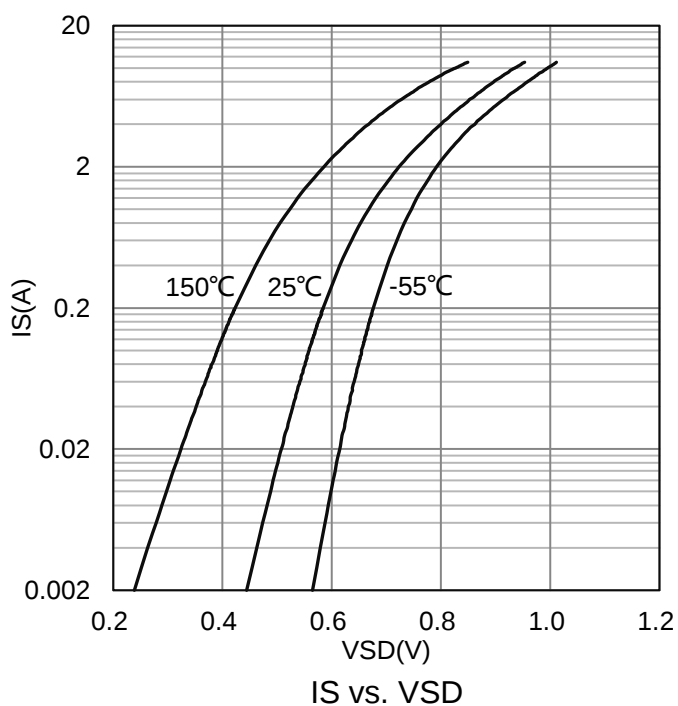
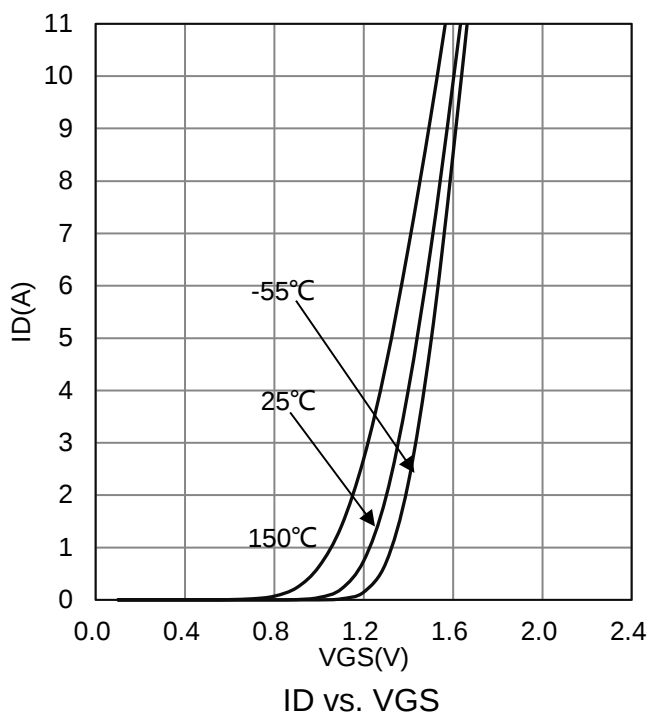
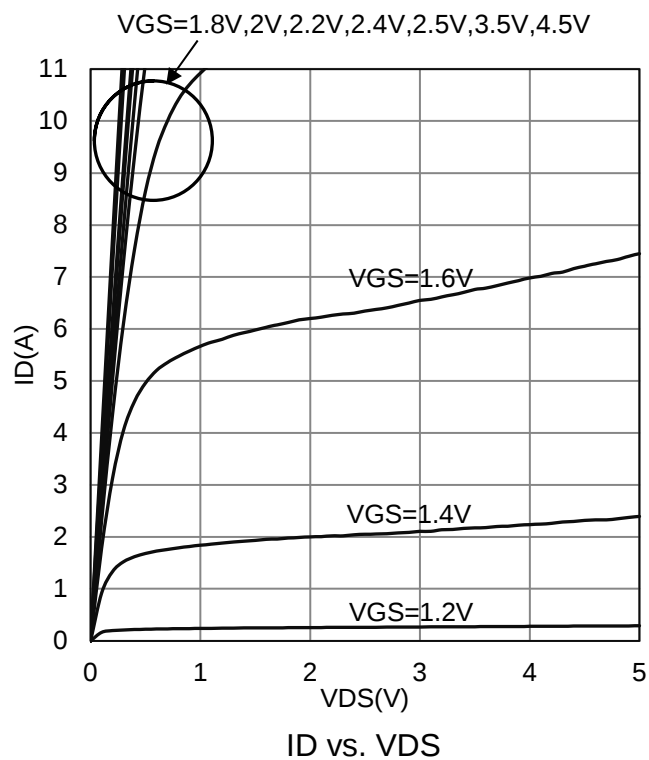
2.Surface mounted on "1.5 x 1.5" FR4 board using 1 sq in pad, 2 oz Cu.

6. ELECTRICAL CHARACTERISTICS (Ta= 25°C)

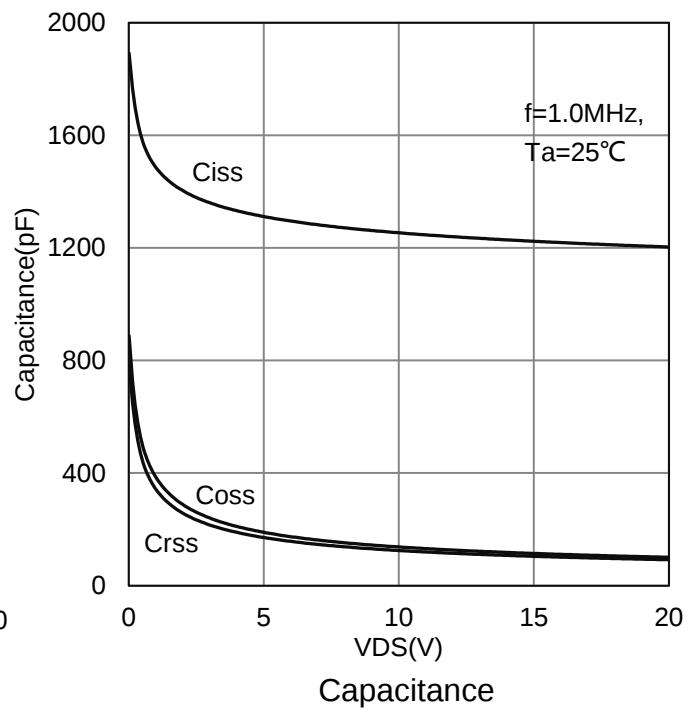
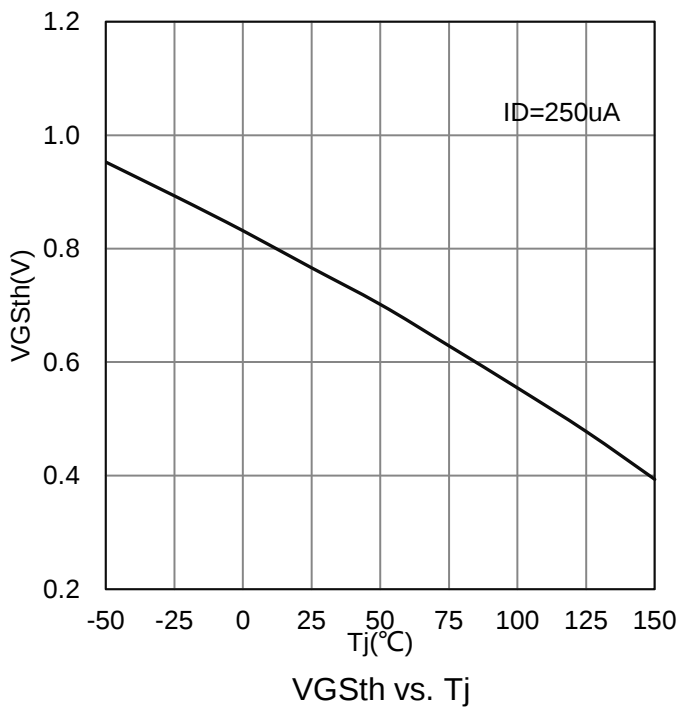
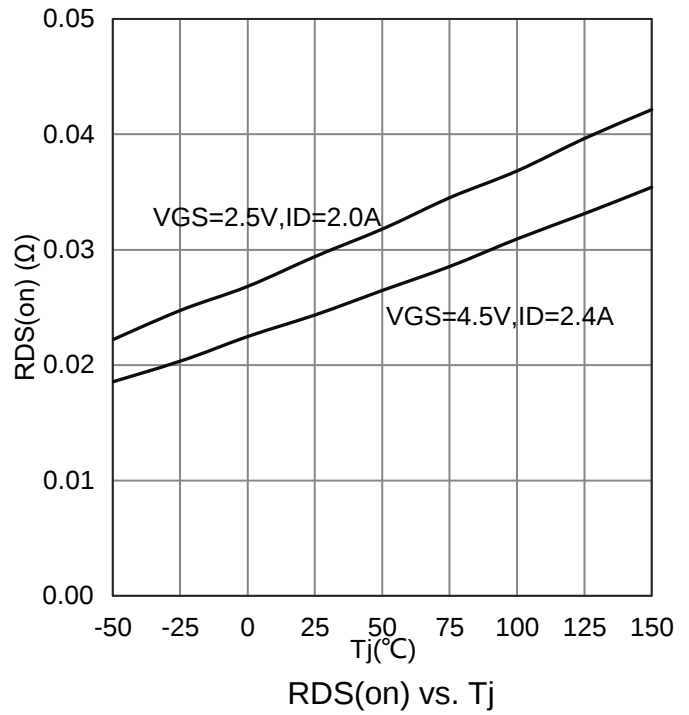
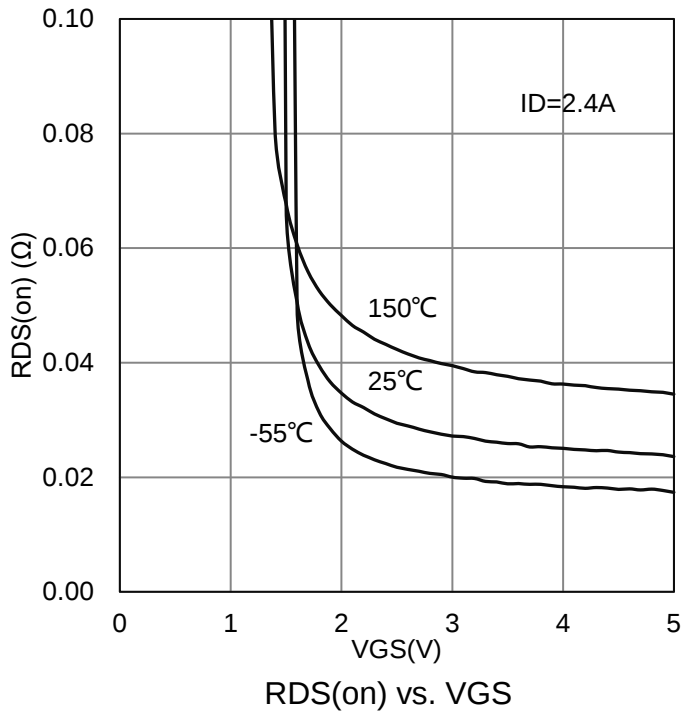
Characteristic		Symbol	Min.	Typ.	Max.	Unit
STATIC						
Drain–Source Breakdown Voltage (VGS = 0 V, ID = -250 μA)		V(BR)DSS	-20	-	-	V
Gate-Source Threshold Voltage (VDS = VGS , ID = -250 μA)		VGS(th)	-0.45	-0.65	-0.9	V
Gate-Body Leakage (VDS = 0 V, VGS = ± 12 V)		IGSS	-	-	±100	nA
Zero Gate Voltage Drain Current (VDS = -20 V, VGS = 0 V)		IDSS	-	-	-1	μA
Drain-Source On-Resistance(Note 3) (VGS = -4.5 V, ID = -2.4 A) (VGS = -2.5 V, ID = -2 A)		RDS(on)	- -	19 24	35 46	mΩ
Diode Forward Voltage (VGS = 0 V, IS = -2 A)		VSD	-	-	-1.2	V
DYNAMIC						
Total Gate Charge	(VDS = -10 V, VGS = -4.5 V, ID = -2.4 A)	Qg	-	14	-	nC
Gate-Source Charge		Qgs	-	1.6	-	
Gate-Drain Charge		Qgd	-	4	-	
Turn-On Delay Time	(VDS = -10 V,RL = 4Ω, RG = 6 Ω, VGEN = -4.5 V, ID = -1A)	td(on)	-	8.5	-	ns
Rise Time		tr	-	13	-	
Turn-Off Delay Time		td(off)	-	105	-	
Fall Time		tf	-	46	-	
Input Capacitance	(VDS = -10 V, VGS = 0V, f = 1 MHz)	Ciss	-	1280	-	pF
Output Capacitance		Coss	-	138	-	
Reverse Transfer Capacitance		Crss	-	126	-	

3.Pulse test: PW $\leq$ 300us duty cycle $\leq$ 2%.

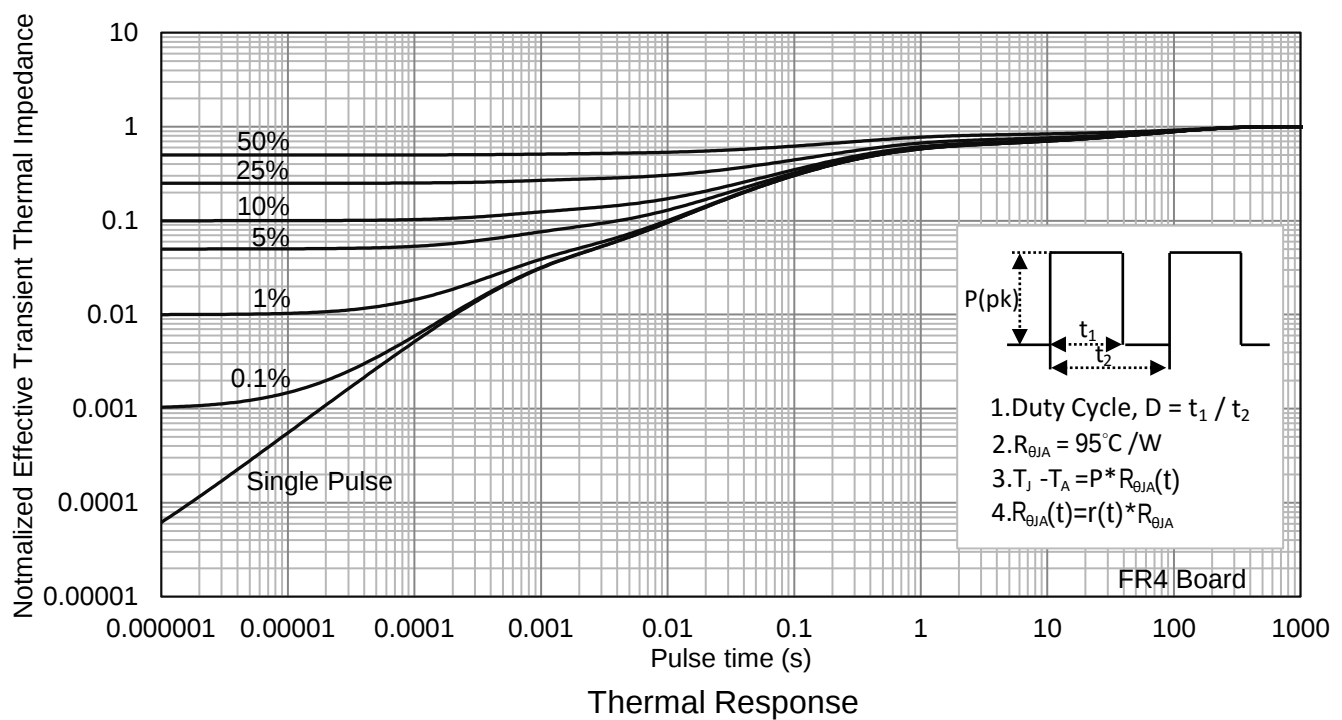
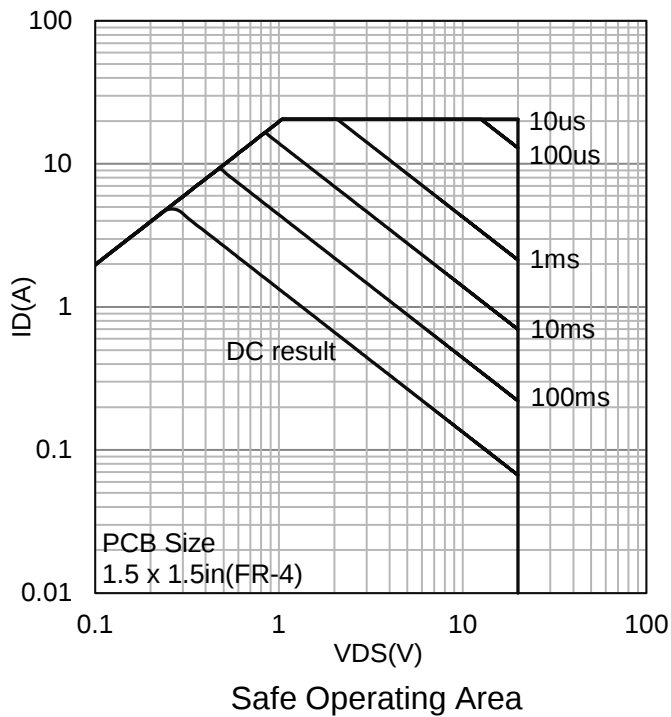
7. ELECTRICAL CHARACTERISTICS CURVES



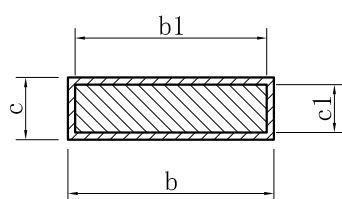
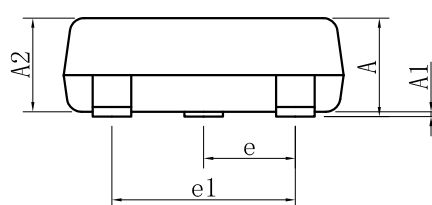
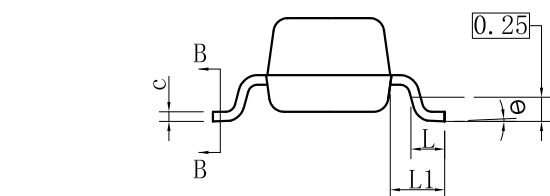
7. ELECTRICAL CHARACTERISTICS CURVES(Con.)



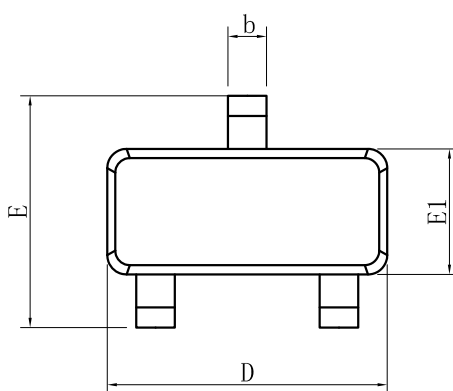
7. ELECTRICAL CHARACTERISTICS CURVES(Con.)



8.OUTLINE AND DIMENSIONS



SECTION B-B

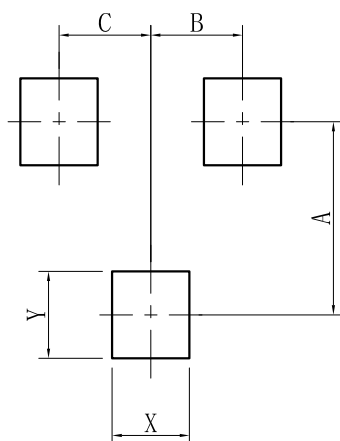


SOT23			
DIM	MIN	NOR	MAX
A	0.89	–	1.12
A1	0.01	–	0.10
A2	0.88	0.95	1.02
b	0.30	–	0.50
b1	0.30	0.40	0.45
c	0.08	–	0.20
c1	0.08	0.10	0.16
D	2.80	2.90	3.04
E	2.10	–	2.64
E1	1.20	1.30	1.40
e	0.95BSC		
e1	1.90BSC		
L	0.40	0.46	0.60
L1	0.54REF		
θ	0°	–	8°
All Dimensions in mm			

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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