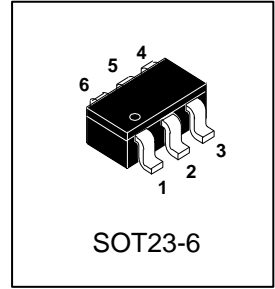


# S-LN2610ST1G

## 60V N-Channel (D-S) MOSFET

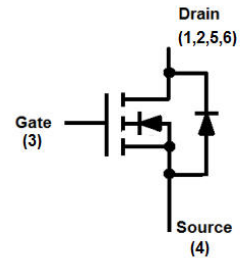


### 1. FEATURES

- Low RDS(on) trench technology.
- Low thermal impedance.
- Fast switching speed.
- We declare that the material of product are Halogen Free and compliance with RoHS requirements.
- S- prefix for automotive and other applications requiring unique site and control change requirements; AEC-Q101 qualified and PPAP capable.

### 2. APPLICATION

- Power Routing
- DC/DC Conversion
- Motor Drives



### 3. ORDERING INFORMATION

Device	Marking	Shipping
S-LN2610ST1G	NS1	3000/Tape&Reel

### 4. MAXIMUM RATINGS

Parameter	Symbol	Limits	Unit
Drain-to-Source Voltage	VDSS	60	V
Gate-to-Source Voltage	VGS	±20	V
Continuous Drain Current(Note 2)	ID	TA =25°C	4.4
		TA =70°C	3.8
Pulsed Drain Current (Note 1)	IDM	17	A
Continuous Drain Current(Note 3)	ID	2.6	A
Pulsed Drain Current (Note 3)	IDM	10.4	A
Avalanche Current	IAS	8	A
Avalanche Energy(L=0.1mH)	EAS	3.2	mJ
Power Dissipation(Note 2)	PD	1.2	W
Power Dissipation(Note 3)	PD	0.78	W
Operating Junction and Storage Temperature Range	TJ , TSTG	-55 ~+150	°C

### 5. THERMAL CHARACTERISTICS

Parameter	Symbol	Limits	Unit
Thermal Resistance,Junction-to-Ambient (Note 2)	RθJA	105	°C/W
Thermal Resistance,Junction-to-Ambient (Note 3)	RθJA	160	°C/W
Thermal Resistance,Junction-to-Case	RθJC	30	°C/W

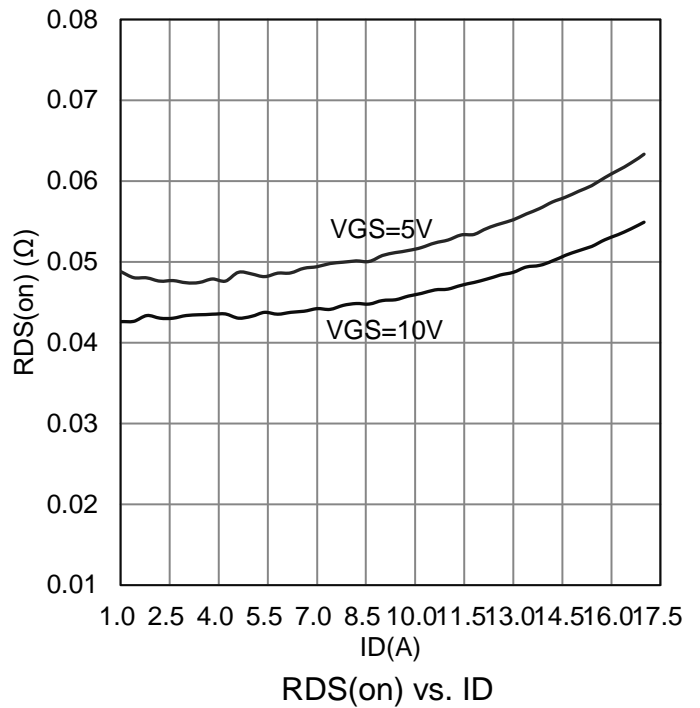
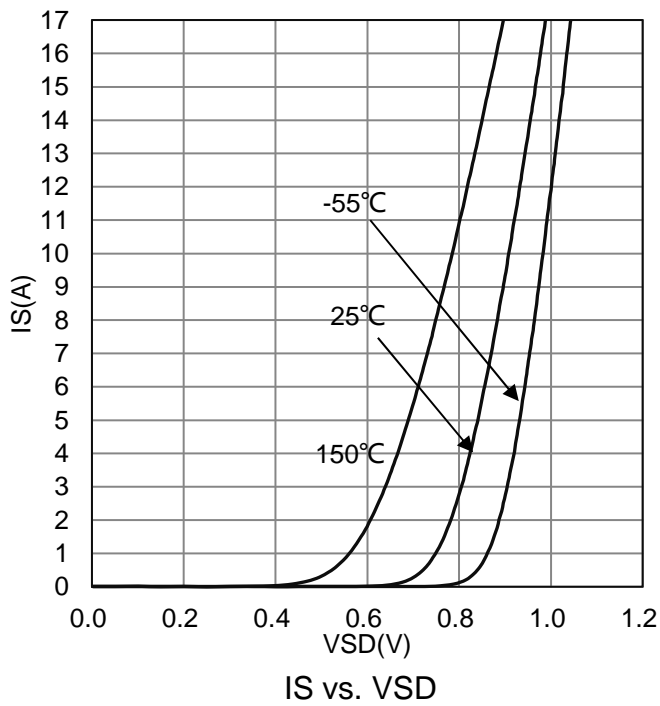
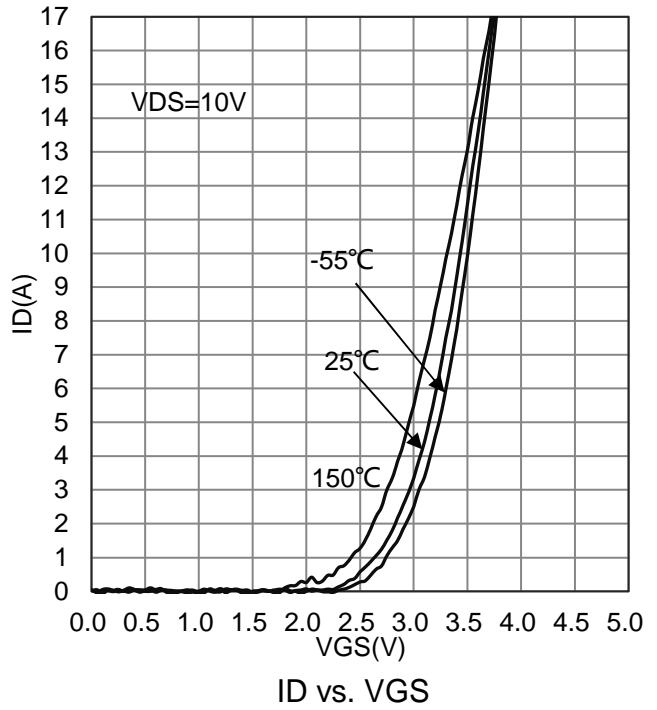
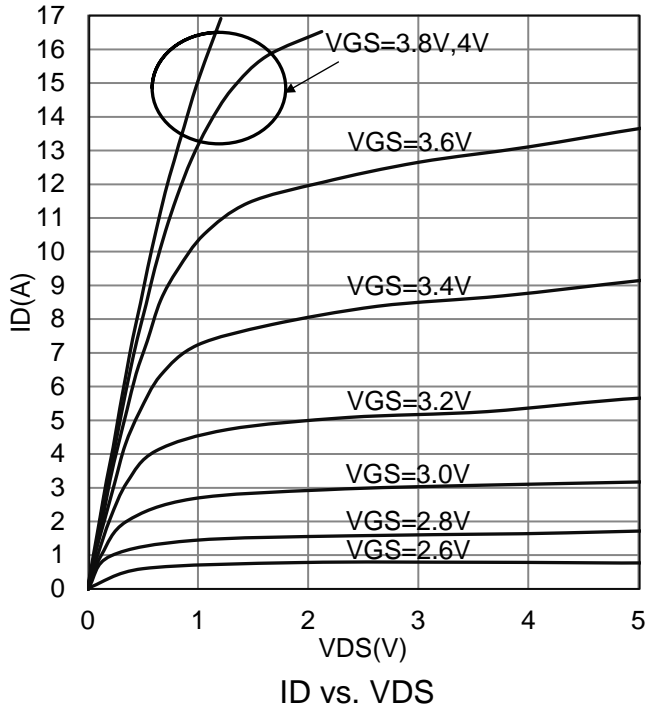
- 1.Pulse width limited by maximum junction temperature.
- 2.Surface mounted on "1.5 x 1.5" FR4 board using 1 sq in pad, 2 oz Cu.
- 3.Surface mounted on FR4 board using the minimum recommended pad size.

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

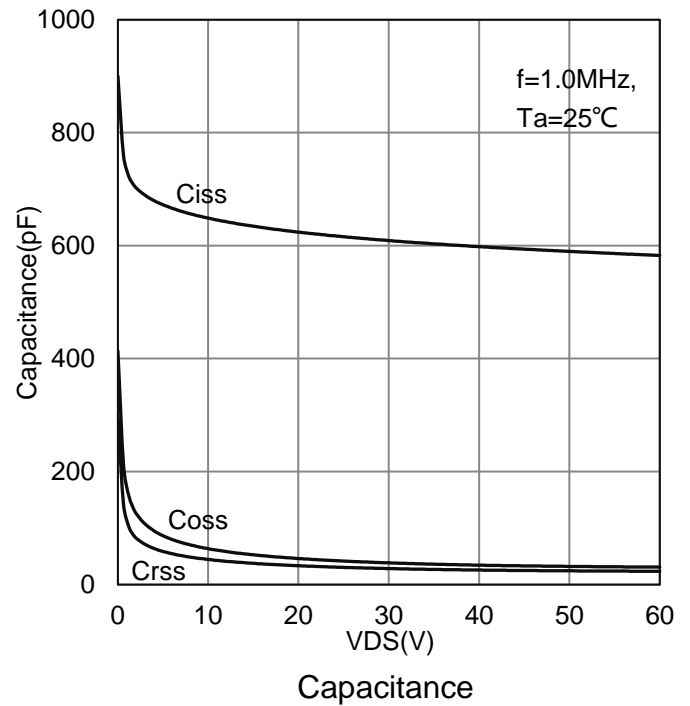
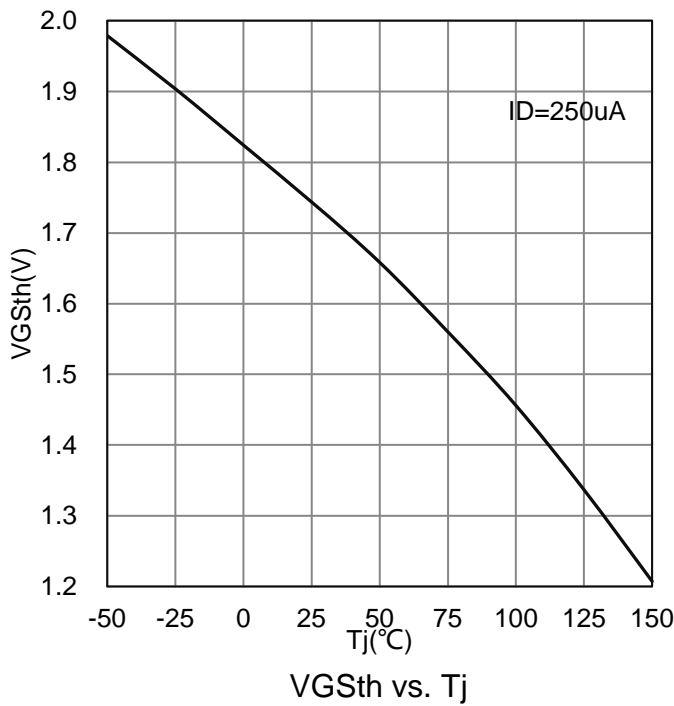
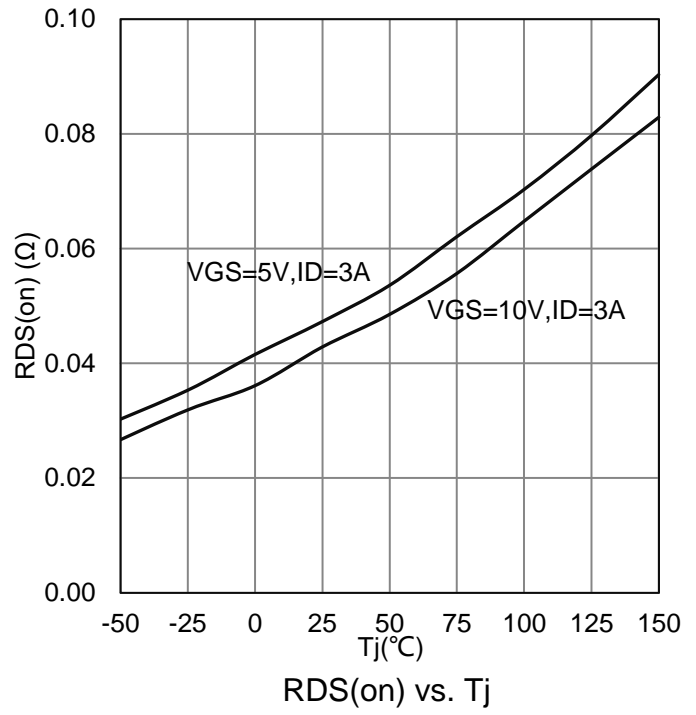
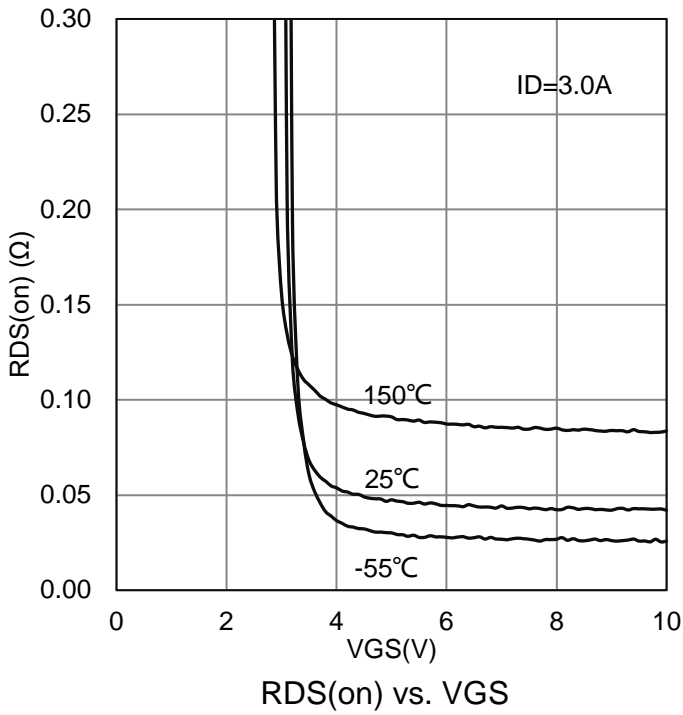
Characteristic	Symbol	Min.	Typ.	Max.	Unit	
<b>Static</b>						
Drain to Source Breakdown Voltage (VGS = 0V, ID = 250μA)	V(BR)DSS	60	-	-	V	
Gate-Source Threshold Voltage (VDS = VGS, ID = 250 uA)	VGS(th)	1.3	2	2.5	V	
Gate-Body Leakage (VDS = 0 V, VGS = ±20 V)	IGSS	-	-	±100	nA	
Zero Gate Voltage Drain Current (VDS = 60 V, VGS = 0 V)	IDSS	-	-	1	μA	
Drain-Source On-Resistance(Note 3) (VGS = 10 V, ID = 3 A) (VGS = 5 V, ID = 3 A)	RDS(on)	- -	- -	60 75	mΩ	
Diode Forward Voltage(Note 3) (VGS=0V, IS=1A)	VSD	-	-	1.2	V	
<b>Dynamic</b>						
Total Gate Charge	(VDS = 30 V, VGS = 10 V, ID = 3A)	Qg	-	12	-	nC
Gate-Source Charge		Qgs	-	1.6	-	
Gate-Drain Charge		Qgd	-	3	-	
Turn-On Delay Time	(VDS = 30V, ID=1A, VGS = 10V RG = 6 Ω)	td(on)	-	10	-	ns
Rise Time		tr	-	12	-	
Turn-Off Delay Time		td(off)	-	20	-	
Fall Time		tf	-	15	-	
Input Capacitance	(VDS = 30 V, VGS = 0 V, f = 1 MHz)	Ciss	-	609	-	pF
Output Capacitance		Coss	-	38	-	
Reverse Transfer Capacitance		Crss	-	28	-	

3. Pulse test: PW ≤ 300us duty cycle ≤ 2%.

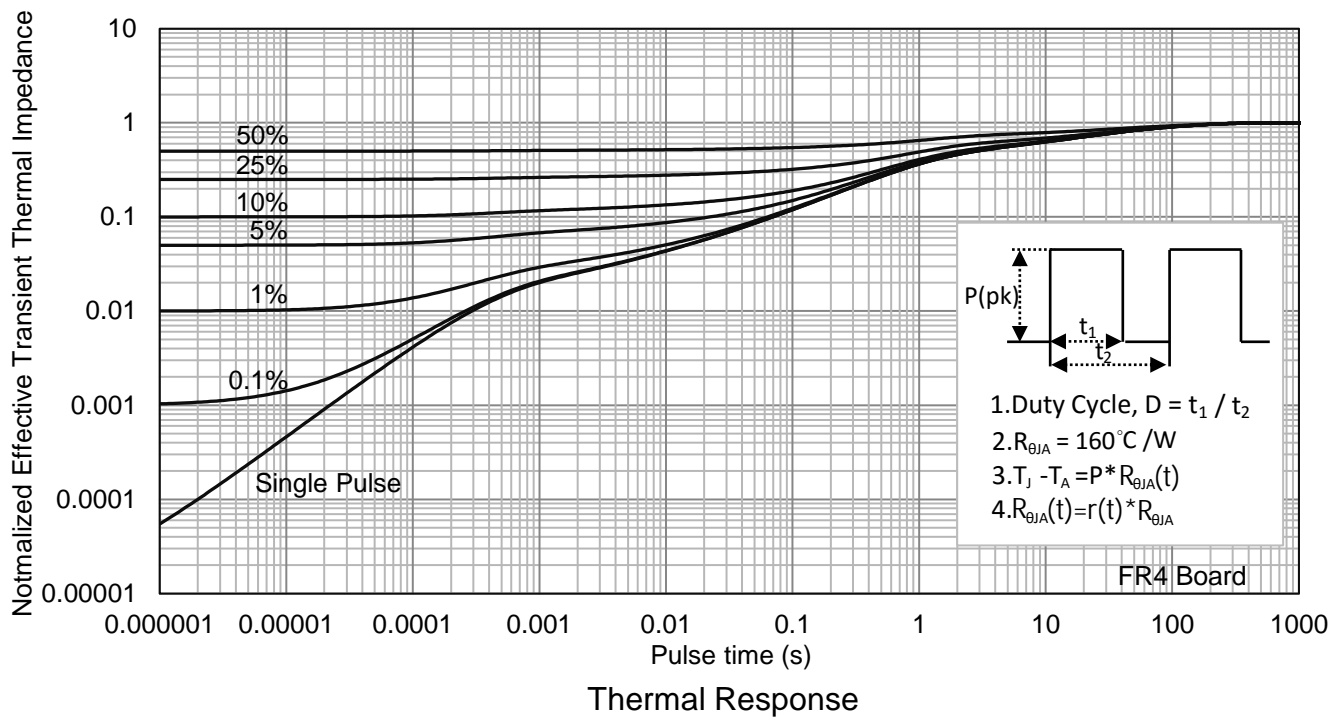
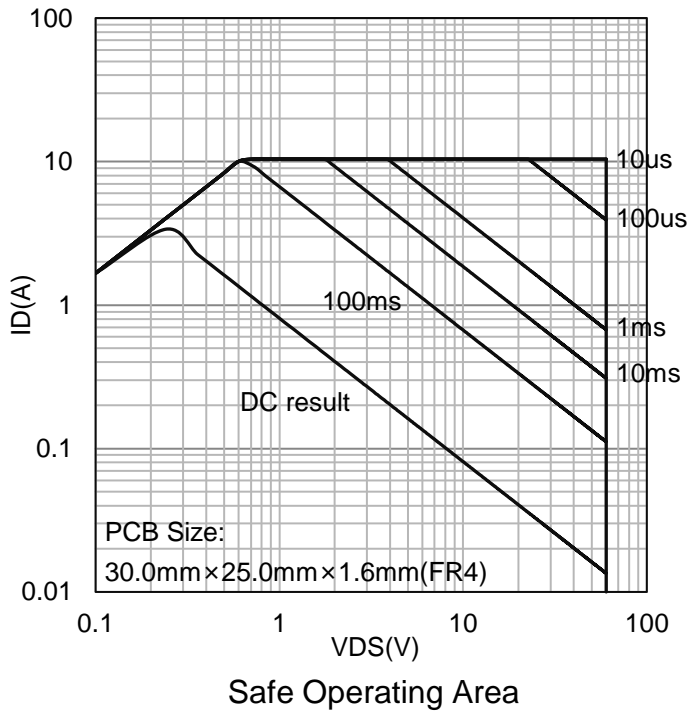
**7. ELECTRICAL CHARACTERISTICS CURVES**



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

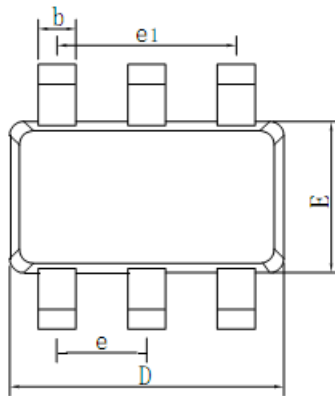
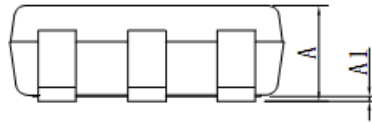
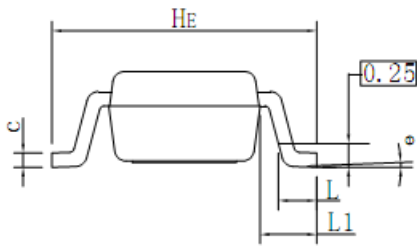


**7. ELECTRICAL CHARACTERISTICS CURVES(Con.)**



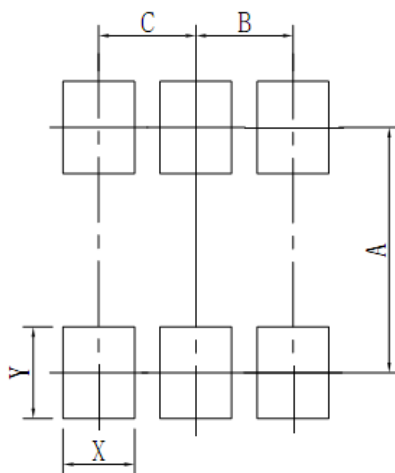
### 8. OUTLINE AND DIMENSIONS

SOT23-6



SOT23-6			
DIM	MIN	NOR	MAX
A	0.90	1.00	1.10
A1	0.01	0.06	0.10
b	0.25	0.40	0.50
c	0.10	0.17	0.26
D	2.80	2.90	3.10
E	1.30	1.60	1.70
e	0.85	0.95	1.05
e1	1.80	1.90	2.00
L	0.20	0.40	0.60
L1	0.60REF		
HE	2.50	2.80	3.00
θ	0°	-	10°

### 9. SOLDERING FOOTPRINT



SOT23-6	
DIM	(mm)
X	0.70
Y	0.90
A	2.40
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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