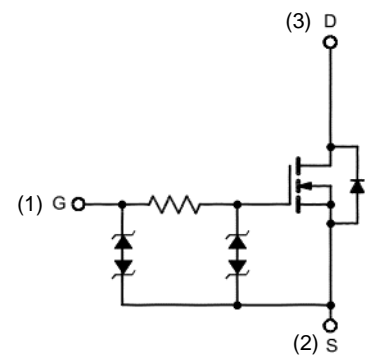
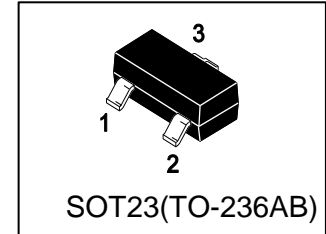


# S-LN2316ELT1G

N-Channel 20V (D-S) MOSFET , ESD Protection

## 1. FEATURES

- RDS(ON) < 25mΩ @VGS =4.5V
- RDS(ON) < 29 mΩ @VGS =2.5V
- RDS(ON) < 42 mΩ @VGS =1.8V
- We declare that the material of product compliance with RoHS requirements and Halogen Free.
- Exceptional on-resistance and maximum DC current capability.
- S-prefix for automotive and other applications requiring unique site and control change requirements; AEC-Q101 qualified and PPAP capable.



## 2. APPLICATIONS

- Power Management in Note book
- Portable Equipment
- Battery Powered System
- Load Switch

## 3. DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
S-LN2316ELT1G	N16	3000/Tape&Reel

## 4. MAXIMUM RATINGS(Ta = 25°C)

Parameter	Symbol	Limits	Unit	
Drain-Source Voltage	VDSS	20	V	
Gate-to-Source Voltage – Continuous	VGS	±8	V	
Continuous Drain Current	ID	TA =25°C	6.4	A
		TA =70°C	5.1	
Pulsed Drain Current	IDM	26	A	
Maximum Power Dissipation	PD	TA =25°C	1.1	W
		TA =70°C	0.7	
Operating Junction Temperature	TJ	-55~+150	°C	
Thermal Resistance-Junction to Ambient(Note 1)	RθJA	110	°C/W	
Thermal Resistance-Junction to Case	RθJC	80	°C/W	

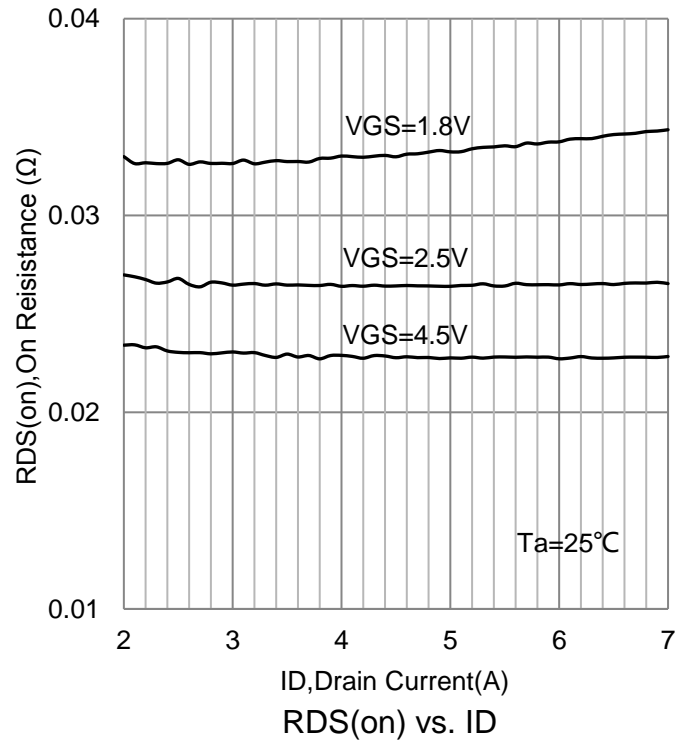
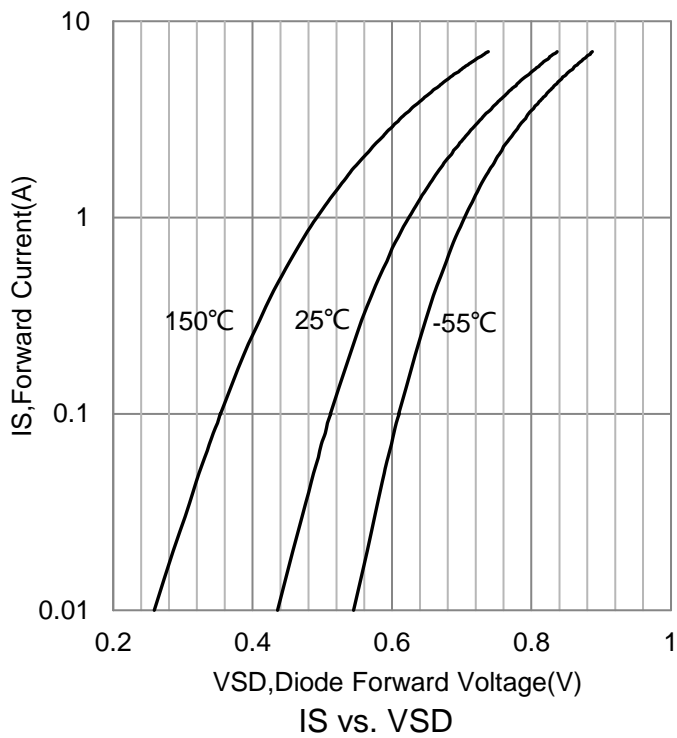
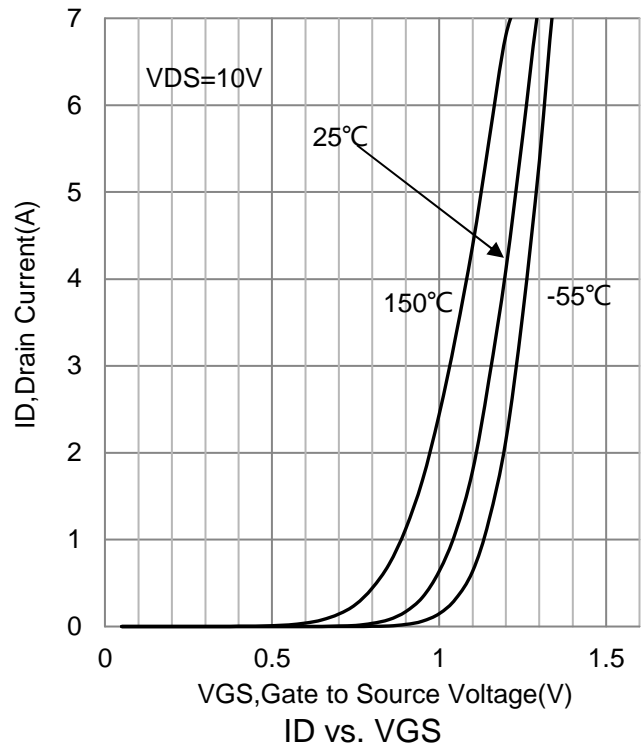
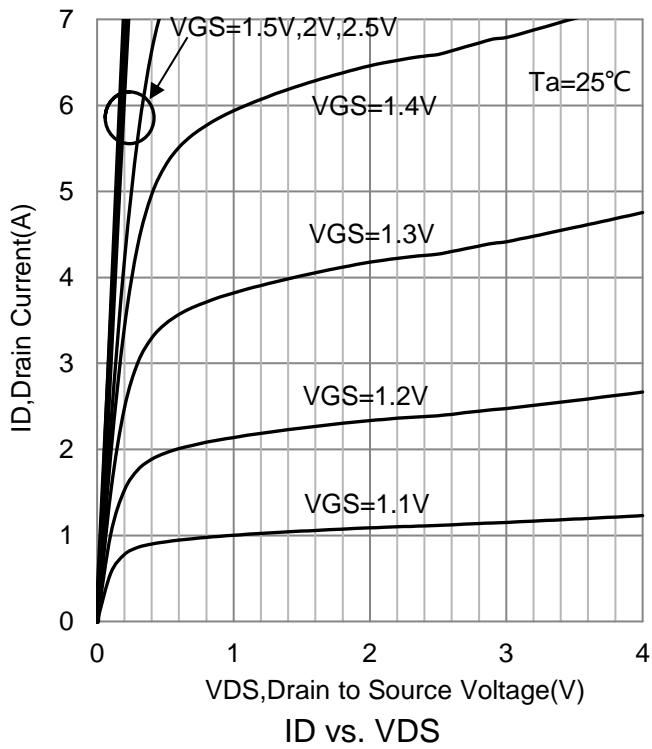
1. The device mounted on 1in<sup>2</sup> FR4 board with 2 oz copper

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

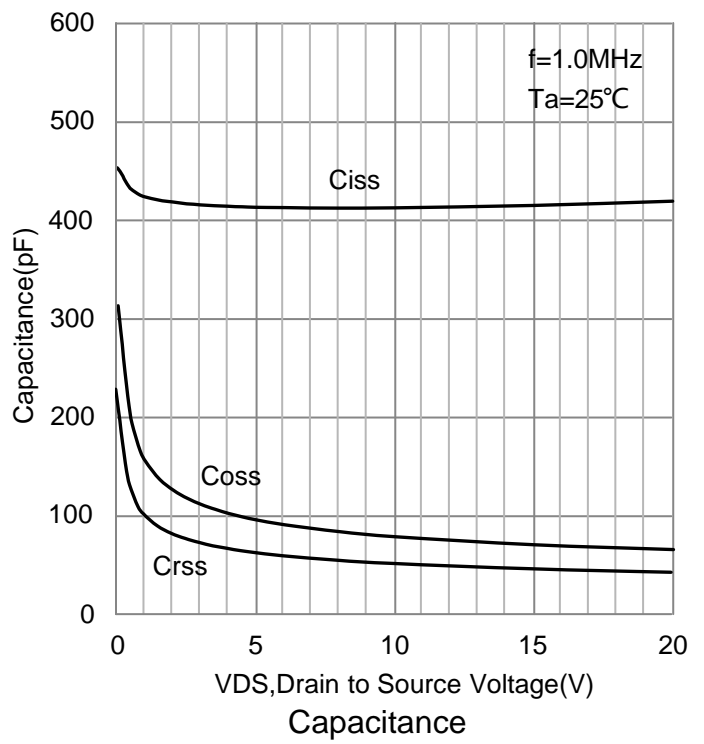
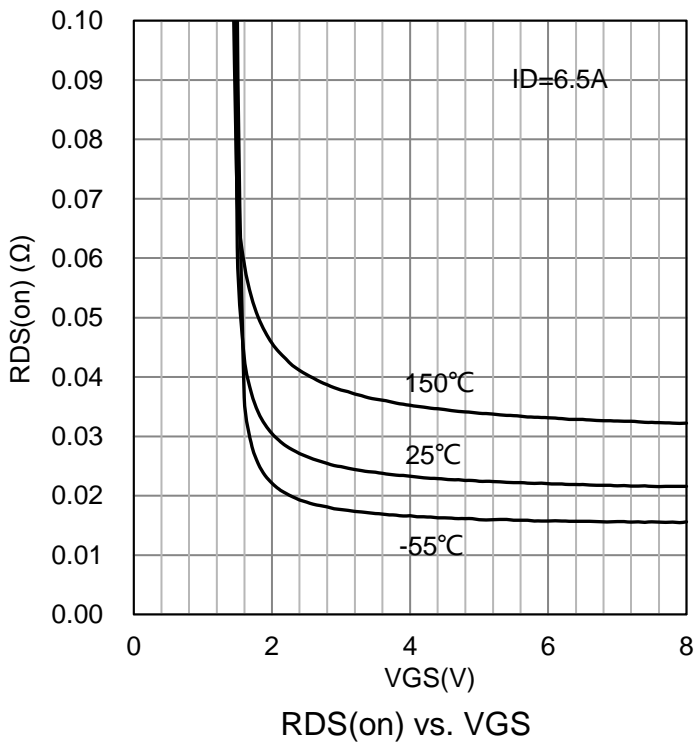
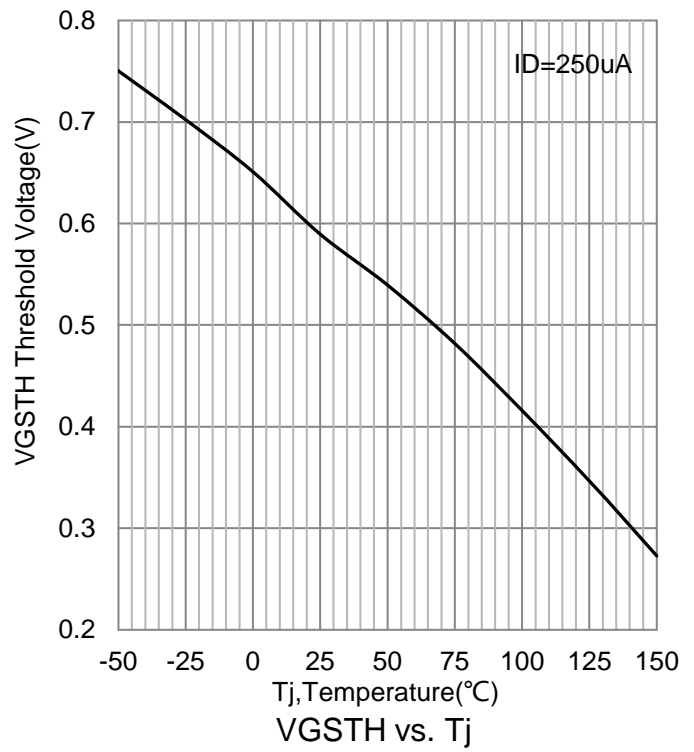
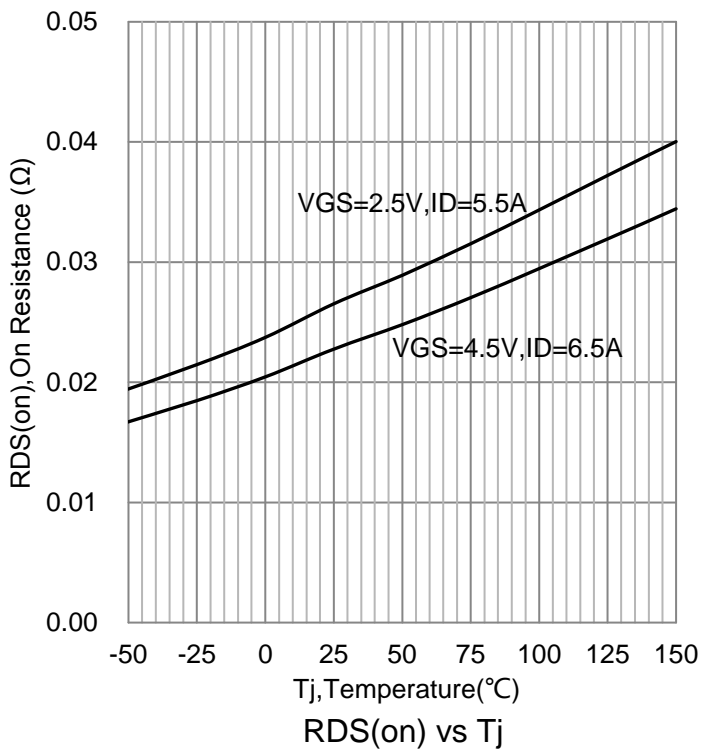
Characteristic	Symbol	Min.	Typ.	Max.	Unit
<b>STATIC</b>					
Drain-Source Breakdown Voltage (VGS = 0 V, ID = 250 μA)	V(BR)DSS	20	-	-	V
Gate Threshold Voltage (VDS = VGS , ID = 250 μA)	VGS(th)	0.4	-	1	
Gate Leakage Current (VDS = 0 V, VGS = ± 8 V)	IGSS	-	-	±10	μA
Zero Gate Voltage Drain Current (VDS = 20 V, VGS = 0 V)	IDSS	-	-	1	
Drain-Source On-Resistance(Note 2) (VGS = 4.5 V, ID = 6.5 A) (VGS = 2.5 V, ID = 5.5 A) (VGS = 1.8 V, ID = 5 A)	RDS(ON)	-	17	25	mΩ
		-	24	29	
		-	32	42	
Diode Forward Voltage (IS = 1 A, VGS = 0 V)	VSD	-	0.7	1	V
<b>DYNAMIC</b>					
Total Gate Charge	VDS = 10 V, VGS = 4.5 V, ID = 6.5 A	Qg	-	10	nC
Gate-Source Charge		Qgs	-	0.9	
Gate-Drain Charge		Qgd	-	3	
Input Capacitance	VDS = 10 V, VGS = 0 V, f= 1MHz	Ciss	-	150	pF
Output Capacitance		Coss	-	95	
Reverse Transfer Capacitance		Crss	-	25	
Turn-On Delay Time	VDS = 10 V, RL = 1.5 Ω, VGS = 5 V, RGEN = 3 Ω	td(on)	-	250	ns
Turn-On Rise Time		tr	-	420	
Turn-Off Delay Time		td(off)	-	3950	
Turn-Off Fall Time		tf	-	3700	

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

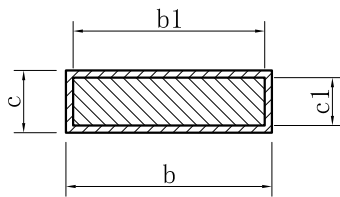
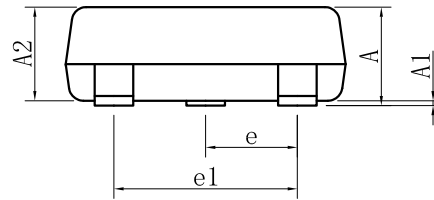
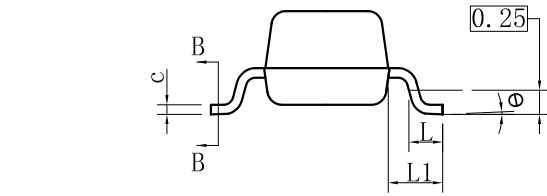
### 6. ELECTRICAL CHARACTERISTICS CURVES



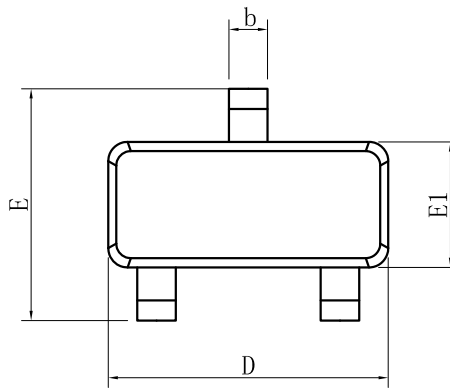
**6. ELECTRICAL CHARACTERISTICS CURVES(Con.)**



### 8.OUTLINE AND DIMENSIONS



SECTION B-B

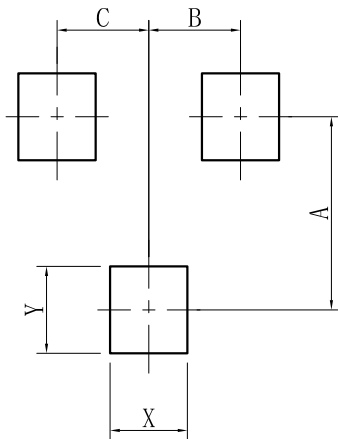


SOT23			
DIM	MIN	NOR	MAX
A	0.89	-	1.12
A1	0.01	-	0.10
A2	0.88	0.95	1.02
b	0.30	-	0.50
b1	0.30	0.40	0.45
c	0.08	-	0.20
c1	0.08	0.10	0.16
D	2.80	2.90	3.04
E	2.10	-	2.64
E1	1.20	1.30	1.40
e	0.95BSC		
e1	1.90BSC		
L	0.40	0.46	0.60
L1	0.54REF		
θ	0°	-	8°
All Dimensions in mm			

#### GENERAL NOTES

- 1.Top package surface finish Ra0.4±0.2um
- 2.Bottom package surface finish Ra0.7±0.2um
- 3.Side package surface finish Ra0.4±0.2um

### 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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