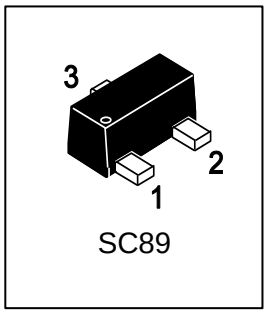
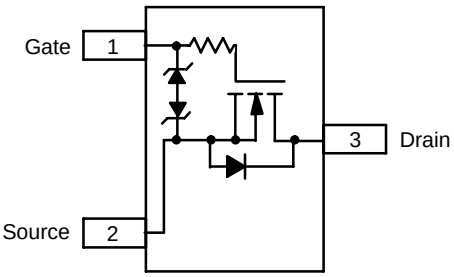
LSI1012XT1G
S-LSI1012XT1G

N-Channel 1.8-V (G-S) MOSFET



1. FEATURES

- Gate-Source ESD Protected
- High-Side Switching
- Low On-Resistance: 0.7Ω
- Low Threshold: 0.8 V (typ)
- Fast Switching Speed: 10 ns
- 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.

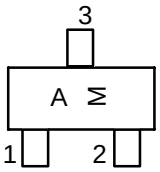


(Top View)

2. APPLICATION

- Drivers: Relays, Solenoids, Lamps, Hammers,Displays, Memories
- Battery Operated Systems
- Power Supply Converter Circuits
- Load/Power Switching Cell Phones, Pagers

MARKING DIAGRAM



A = Specific Device Code
M = Month Code

3. DEVICE MARKING AND RESISTOR VALUES

Device	Marking	Shipping
LSI1012XT1G	A	3000/Tape&Reel
LSI1012XT3G	A	10000/Tape&Reel

4. MAXIMUM RATINGS(Ta = 25ºC)

Parameter		Symbol	5 secs	Steady State	Unit
Drain-Source Voltage		VDS	20		V
Gate-Source Voltage		VGS	±6		V
Continuous Drain Current (TJ = 150℃) (Note 2)	TA = 25℃	ID	600	500	mA
	TA = 85℃		400	350	
Pulsed Drain Current(Note 1)		IDM	1000		
Continuous Source Current (diode conduction)(Note 2)		IS	275	250	
Maximum Power Dissipation(Note 2)	TA = 25℃	PD	275	250	mW
	TA = 85℃		160	140	
Operating Junction and Storage Temperature Range		TJ , Tstg	−55 ~+150		℃

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

2.Guaranteed by design, not subject to production testing.

5. ELECTRICAL CHARACTERISTICS (Ta= 25°C)

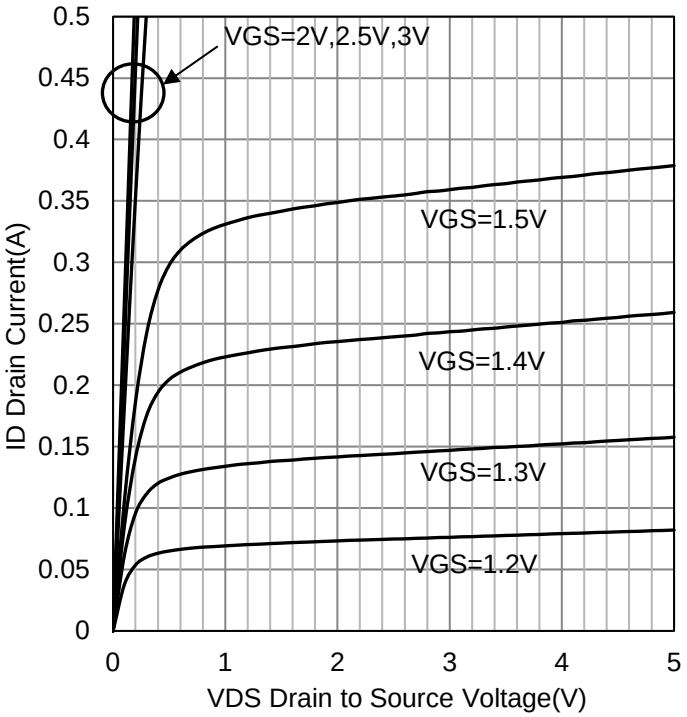
Static

Characteristic	Symbol	Min.	Typ.	Max.	Unit
Gate Threshold Voltage (VDS = VGS , ID = 250μA)	VGS(th)	0.45	-	0.9	V
Gate-Body Leakage (VDS = 0 V, VGS = ±4.5 V)	IGSS	-	±0.5	±1	μA
Zero Gate Voltage Drain Current (VDS = 20 V, VGS = 0 V) (VDS = 20 V, VGS = 0 V, TJ = 85℃)	IDSS	- -	0.3 -	100 5	nA μA
Drain-Source On-State Resistance(Note 1) (VGS = 4.5 V, ID = 600 mA) (VGS = 2.5 V, ID = 500 mA) (VGS = 1.8 V, ID = 350 mA)	RDS(on)	- - -	0.41 0.53 0.7	0.7 0.85 1.25	Ω
Diode Forward Voltage(Note 1) (IS = 150 mA, VGS = 0 V)	VSD	-	0.8	1.2	V

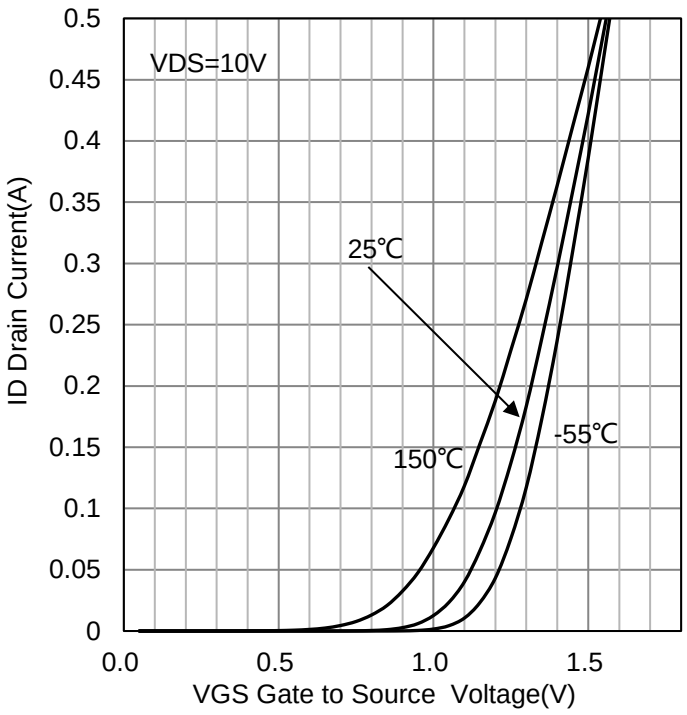
Dynamic(Note 2)

Total Gate Charge	(VDS = 10 V, VGS = 4.5 V, ID = 250 mA)	Qg	-	750	-	pC
Gate-Source Charge		Qgs	-	75	-	
Gate-Drain Charge		Qgd	-	225	-	
Turn-On Delay Time	(VDD = 10 V, RL = 47Ω,ID=200 mA, VGEN = 4.5 V, RG = 10Ω)	td(on)	-	5	-	ns
Rise Time		tr	-	5	-	
Turn-Off Delay Time		td(off)	-	25	-	
Fall Time		tf	-	11	-	

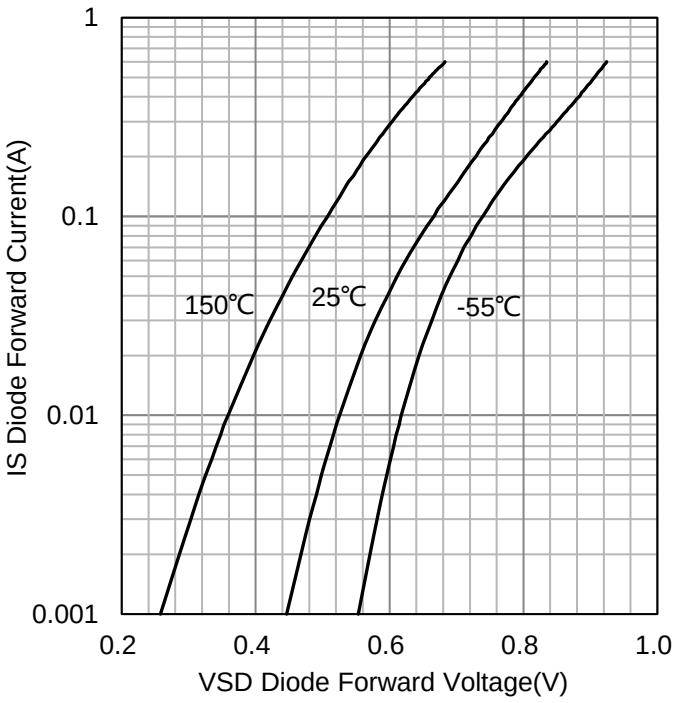
6.ELECTRICAL CHARACTERISTICS CURVES



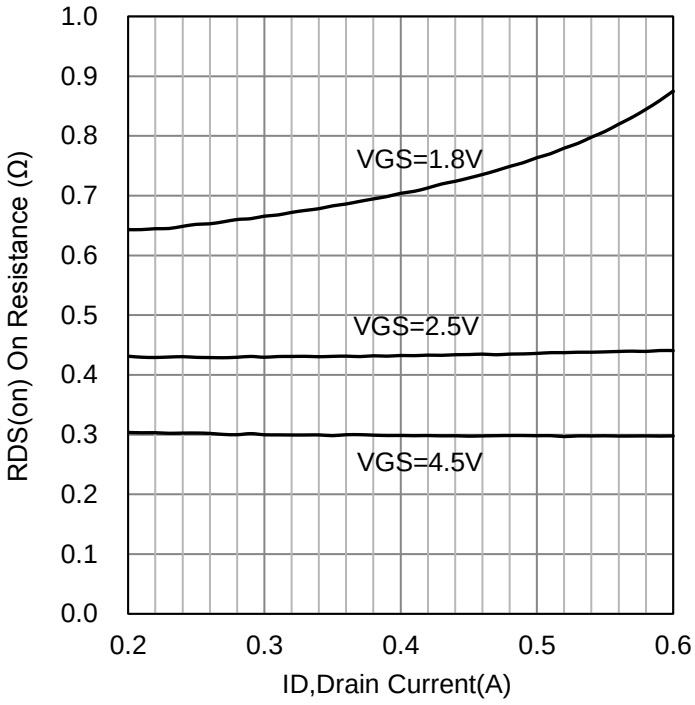
ID vs. VDS



ID vs. VGS

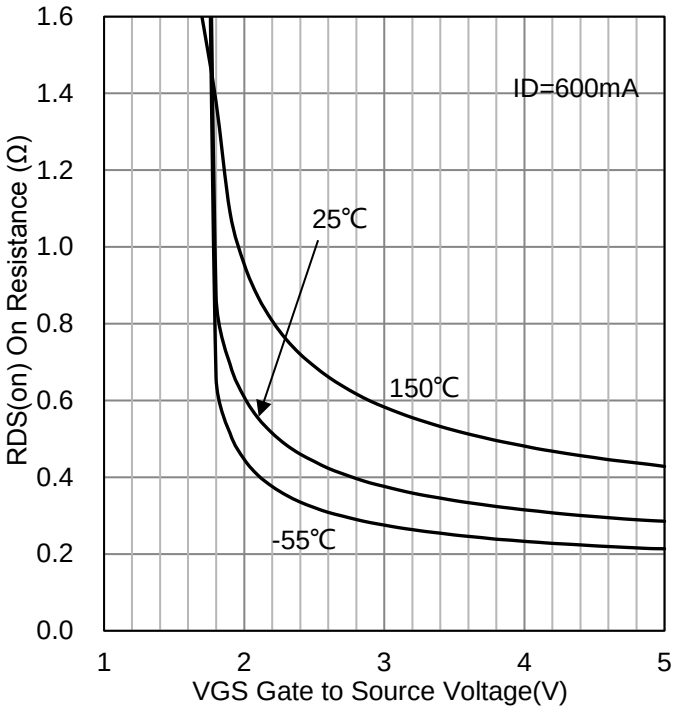


IS vs. VSD

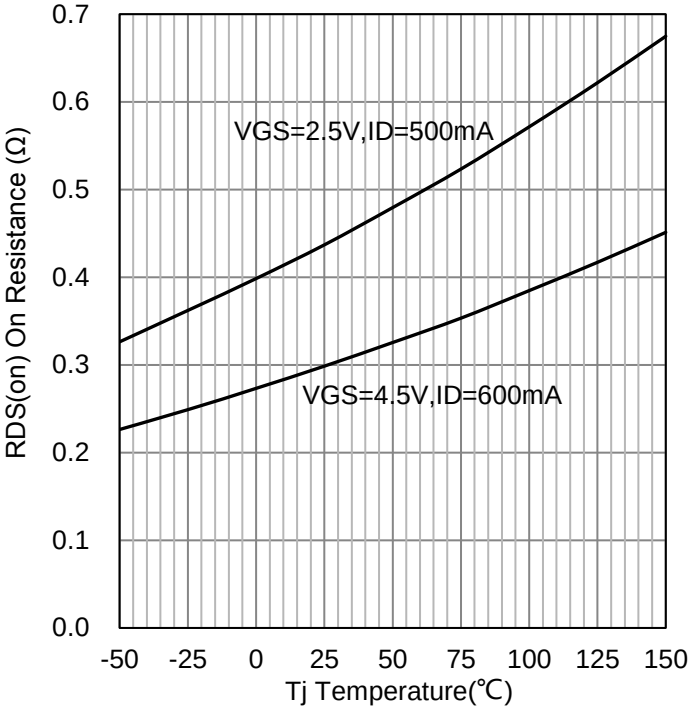


RDS(on) vs. ID

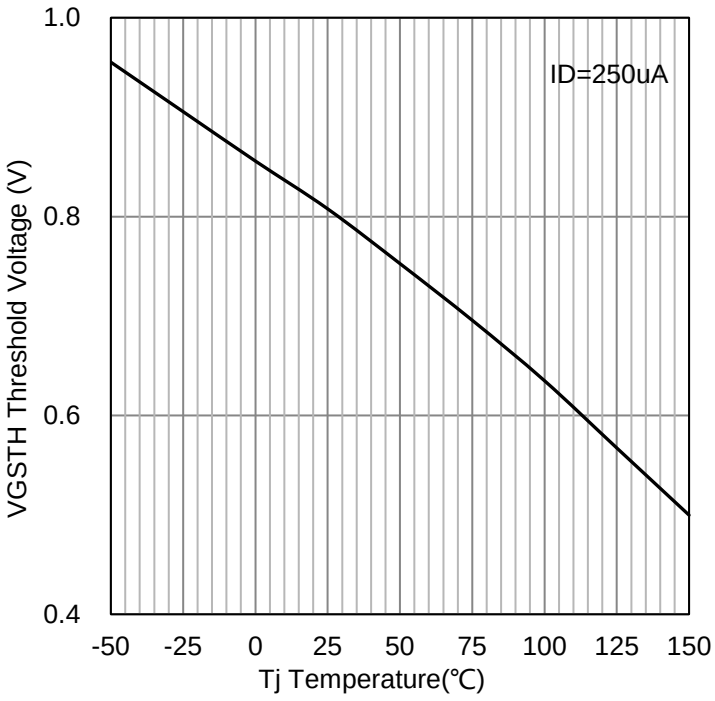
6.ELECTRICAL CHARACTERISTICS CURVES(Con.)



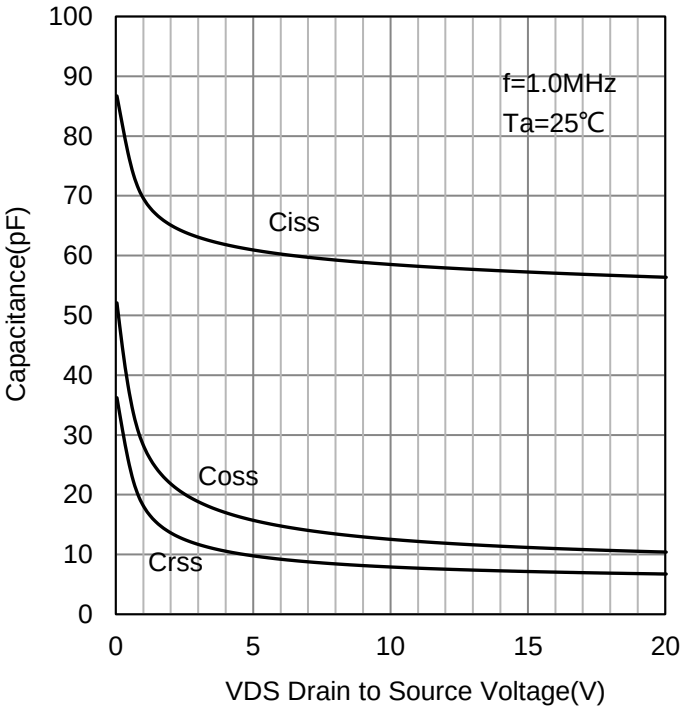
RDS(on) vs. VGS



RDS(on) vs. Tj

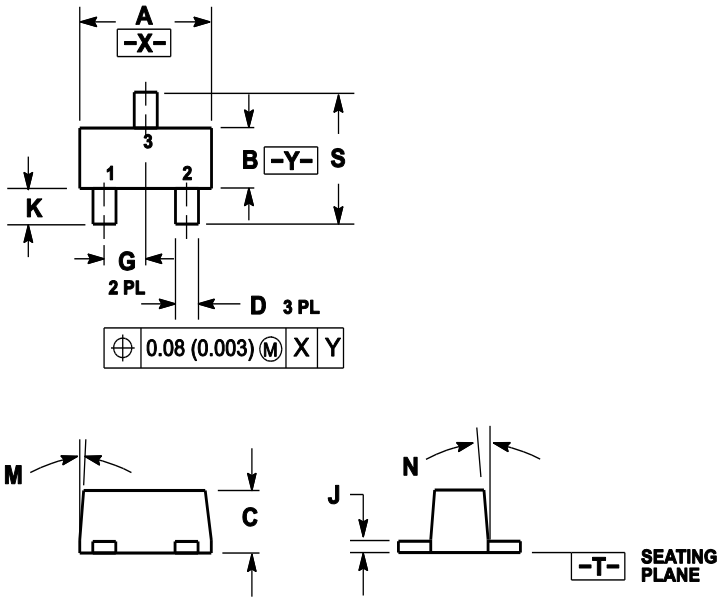


VGSTH vs. Tj



Capacitance

7.OUTLINE AND DIMENSIONS

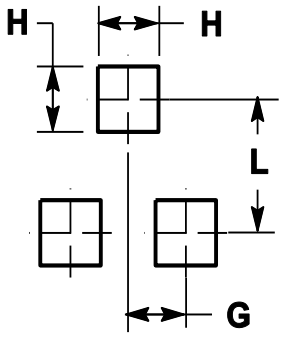


Notes:

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 A AND B DO NOT INCLUDE MOLD FLASH, PROTRUSIONS OR GATE BURRS.

	MILLIMETERS			INCHES		
DIM	MIN	NOM	MAX	MIN	NOM	MAX
A	1.50	1.60	1.70	0.059	0.063	0.067
B	0.75	0.85	0.95	0.030	0.034	0.040
C	0.60	0.70	0.80	0.024	0.028	0.031
D	0.23	0.28	0.33	0.009	0.011	0.013
G	0.50BSC			0.020BSC		
H	0.53REF			0.021REF		
J	0.10	0.15	0.20	0.004	0.006	0.008
K	0.30	0.40	0.50	0.012	0.016	0.02
L	1.10REF			0.043REF		
M	---	---	10°	---	---	10°
N	---	---	10°	---	---	10°
S	1.50	1.60	1.70	0.059	0.063	0.067

8.SOLDERING FOOTPRINT



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