

LSI1012X6T3BG

S-LSI1012X6T3BG

20 V, Dual N-channel Trench MOSFET

1. FEATURES

- 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.
- Trench MOSFET technology

2. APPLICATION

- Relay driver
- High-speed line driver
- Low-side load switch
- Switching circuits

3. DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
LSI1012X6T3BG	A1	5000/Tape&Reel

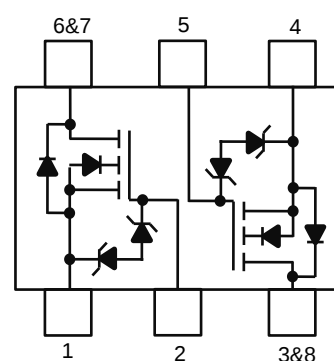
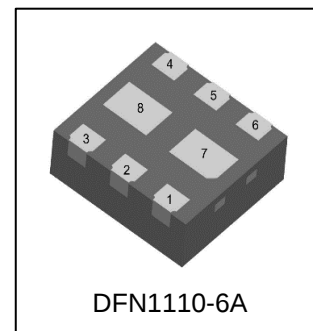
4. MAXIMUM RATINGS(Ta = 25°C)

Parameter	Symbol	Limits	Unit
Drain-Source Voltage	VDSS	20	V
Gate-Source Voltage	VGSS	±8	V
Drain Current (TA = 25 °C, VGS = 4.5 V) (TA = 100 °C, VGS = 4.5 V)	ID	0.6 0.4	A
Pulsed Drain Current (TA = 25 °C, single pulse, tp ≤ 10 μs)	IDM	2.5	A
Storage Temperature	Tstg	-55~+150	°C
Junction Temperature	TJ	150	°C

5. THERMAL CHARACTERISTICS

Parameter	Symbol	Limits	Unit
Maximum Power Dissipation	PD	250	mW
Thermal Resistance, Junction-to-Ambient(Note 1)	RθJA	500	°C /W
Junction-to-Case	RθJC	300	

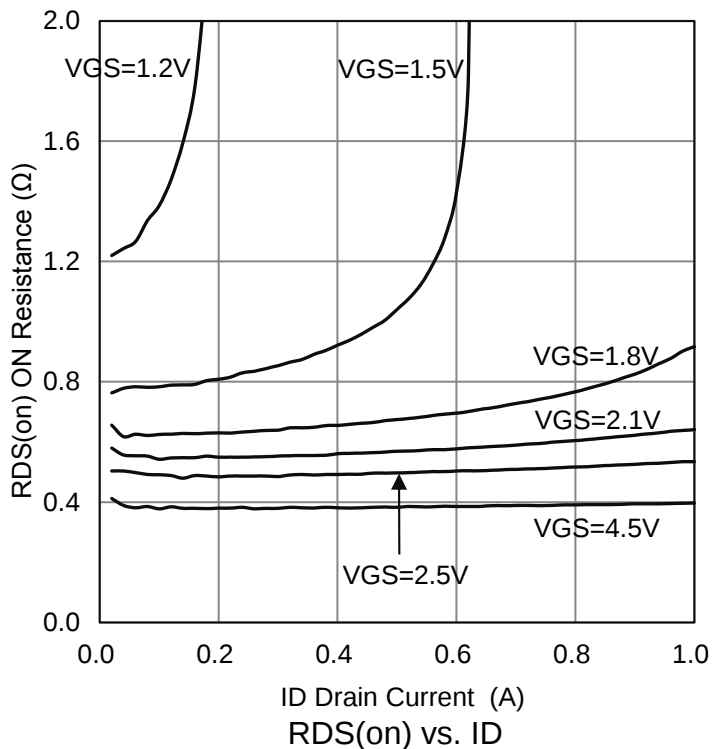
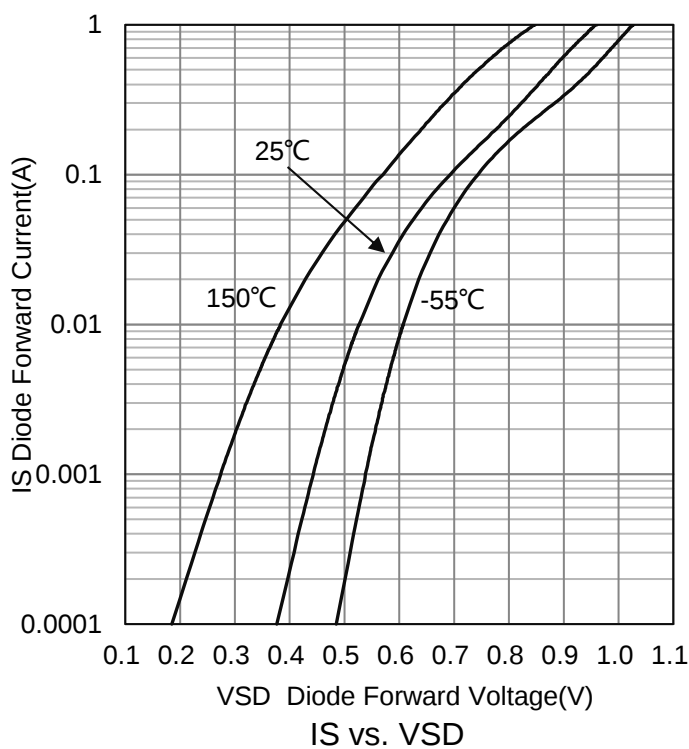
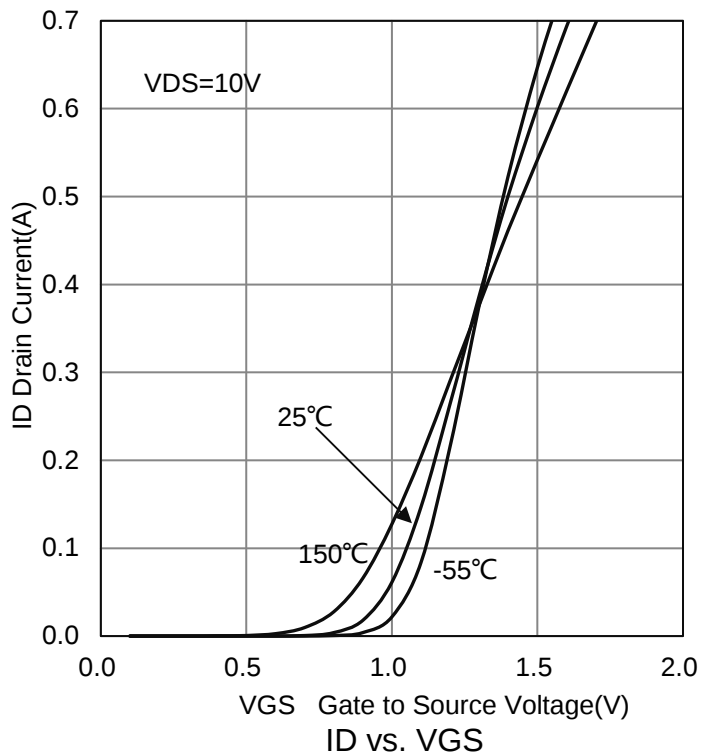
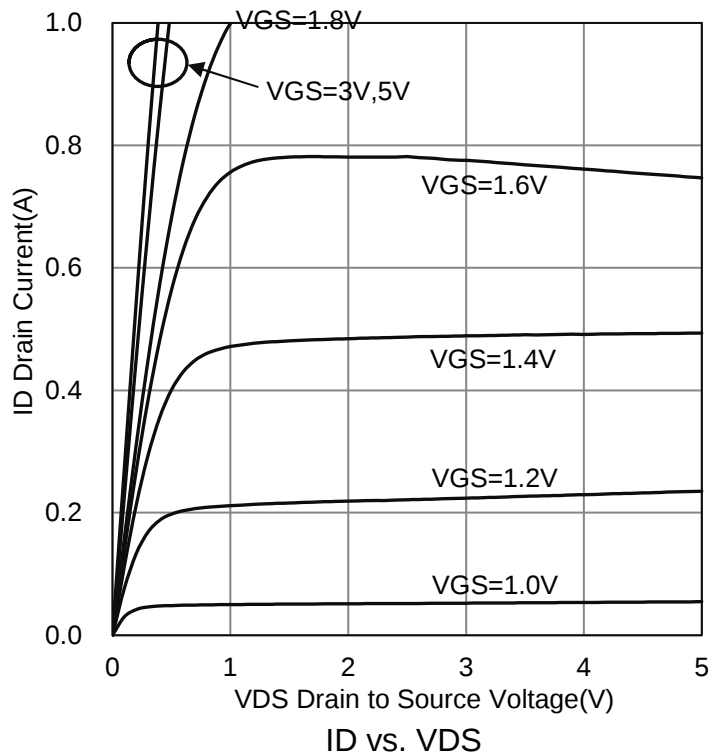
1. 30.0mm×25.0mm×1.6mm(FR4).

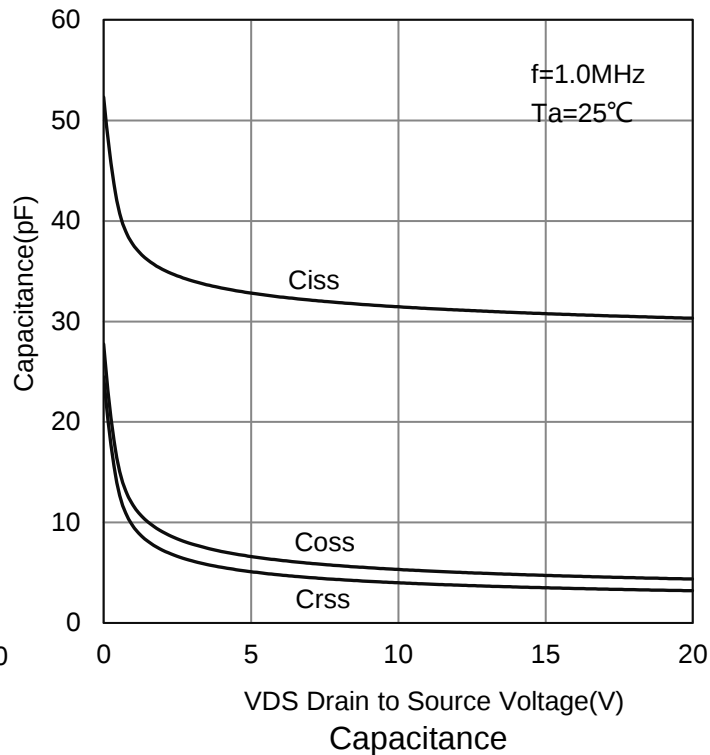
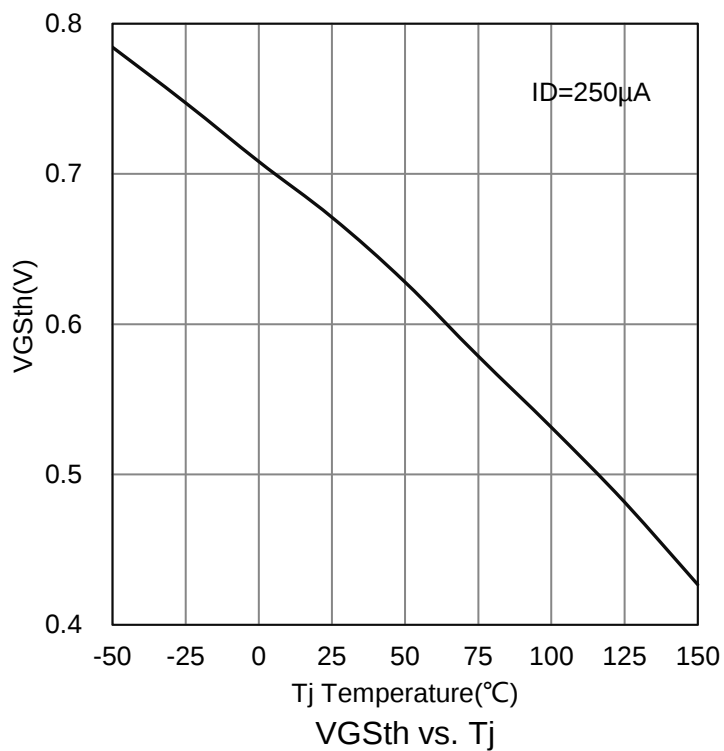
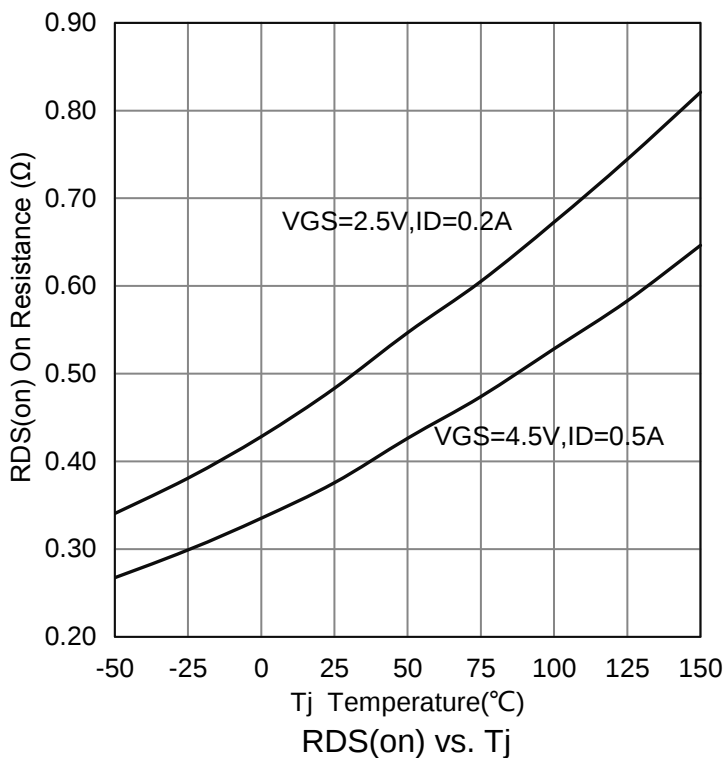
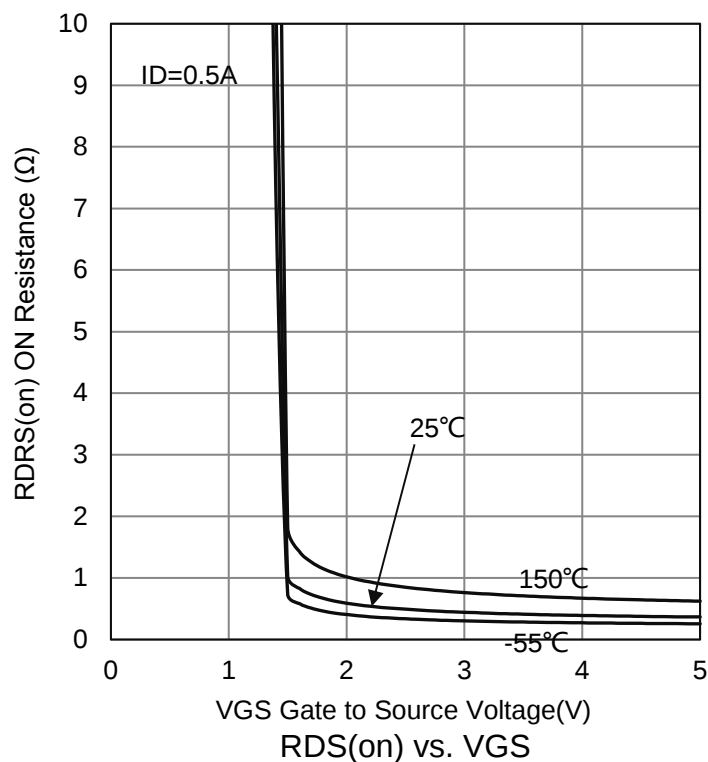


6. ELECTRICAL CHARACTERISTICS (Ta= 25°C)

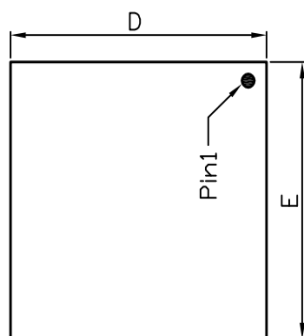
Characteristic	Symbol	Min.	Typ.	Max.	Unit
Static					
Drain-Source Breakdown Voltage (VGS = 0 V, IDS = 250 μ A)	BVDSS	20	-	-	V
Gate Threshold Voltage (VDS = VGS, IDS = 250 μ A)	VGS(th)	0.4	0.65	1	V
Drain Leakage Current (VDS = 16 V, VGS = 0V)	IDSS	-	-	1	μ A
Gate Leakage Current (VGS = $\pm$ 8 V, VDS = 0 V)	IGSS	-	-	$\pm$ 10	μ A
Drain-Source On-State Resistance (VGS = 4.5 V, IDS = 0.5 A) (VGS = 2.5 V, IDS = 0.2 A) (VGS = 1.8 V, IDS = 0.1 A) (VGS = 1.5 V, IDS = 0.05 A) (VGS = 1.2 V, IDS = 0.02 A)	RDS(ON)	- - - - -	0.45 0.55 0.75 1.2 2.5	0.6 0.8 1.2 - -	Ω
Diode Forward Voltage (IS = 0.5 A, VGS = 0 V)	VSD	-	0.8	1.3	V
Dynamic					
Input Capacitance	(VGS = 0 V, VDS = 10 V, f=1MHz)	Ciss	-	31	pF
Output Capacitance		Coss	-	5.36	
Reverse Transfer Capacitance		Crss	-	4	
Total Gate Charge	(VGS = 4.5 V, VDS = 10 V, ID = 0.6 A)	Qg	-	0.51	nC
Gate-Source Charge		Qgs	-	0.05	
Gate-Drain Charge		Qgd	-	0.20	
Gate Resistance (VDS=0V, VGS=0V, f=1.0MHz)	Rg	-	83	-	Ω

7. ELECTRICAL CHARACTERISTICS CURVES

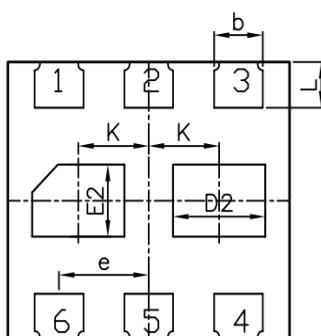


7.ELECTRICAL CHARACTERISTICS CURVES(Con.)


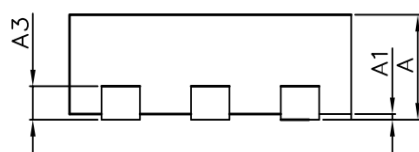
8.OUTLINE AND DIMENSIONS



TOP VIEW



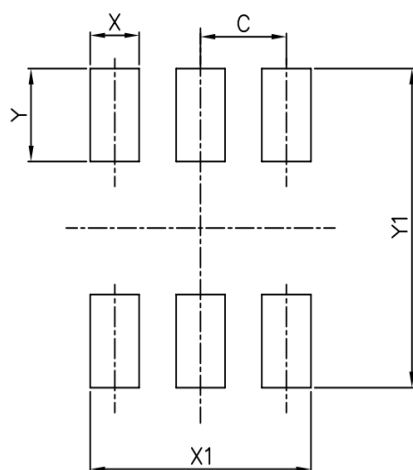
BOTTOM VIEW



SIDE VIEW

DFN1110-6A			
DIM	Min.	Typ.	Max.
A	0.34	0.37	0.40
A1	0.01	0.02	0.04
b	0.15	0.19	0.23
L	0.125	0.165	0.205
D	1.05	1.10	1.15
E	0.95	1.00	1.05
D2	0.32	0.36	0.40
E2	0.22	0.26	0.30
e	0.35		
A3	0.127 Ref.		
K	0.275		
All Dimensions in mm			

9.SOLDERING FOOTPRINT



DFN1110-6A	
Dim	(mm)
X	0.20
Y	0.35
C	0.35
X1	0.90
Y1	1.20

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