

LN4342T1G

N-Channel 30-V (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.

2. APPLICATION

- Power Routing
- DC/DC Conversion
- Motor Drives

3. ORDERING INFORMATION

Device	Marking	Shipping
LN4342T1G	LN4342	4000/Tape&Reel

4. MAXIMUM RATINGS(Ta = 25°C unless otherwise stated)

Parameter		Symbol	Limits	Unit
Drain-to-Source Voltage		VDSS	30	V
Gate-to-Source Voltage		VGS	±20	V
Continuous Drain Current	TA =25°C	ID	16	A
	TA =100°C		10	
	TC =25°C		71	
	TC =100°C		45	
Pulsed Drain Current (Note 2)		IDM	64	
Continuous Source Current (Diode Conduction)(Note 3)		IS	40	A
Avalanche Current		IAS	36	A
Avalanche energy(L=0.1mH)		EAS	64.8	mJ
Power Dissipation	TA =25°C	PD	2	W
	TA =70°C		1.3	
Operating Junction Temperature		TJ	-55 ~+150	°C
Storage Temperature Range		Tstg	-55 ~+150	

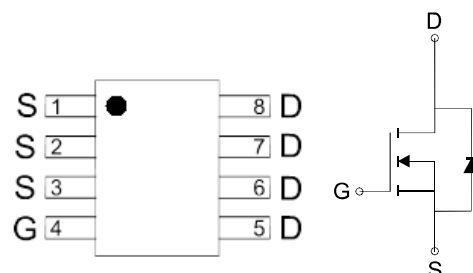
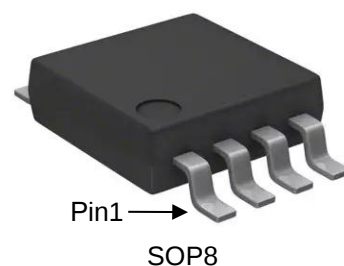
5. THERMAL CHARACTERISTICS

Parameter	Symbol	Limits	Unit
Maximum Junction-to-Ambient(Note 1)	RθJA	60	°C/W
Maximum Junction-to-Case	RθJC	3	

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

2.Pulse width limited by maximum junction temperature.

3.Package limited.

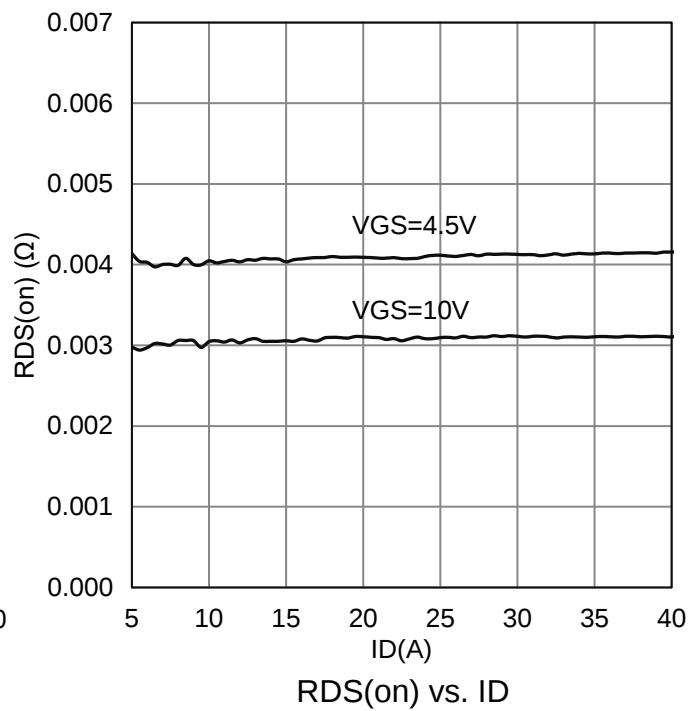
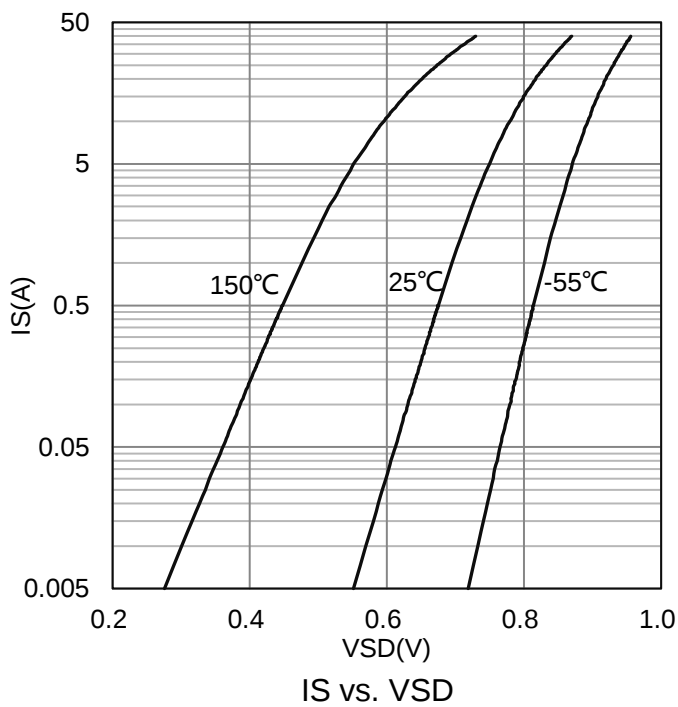
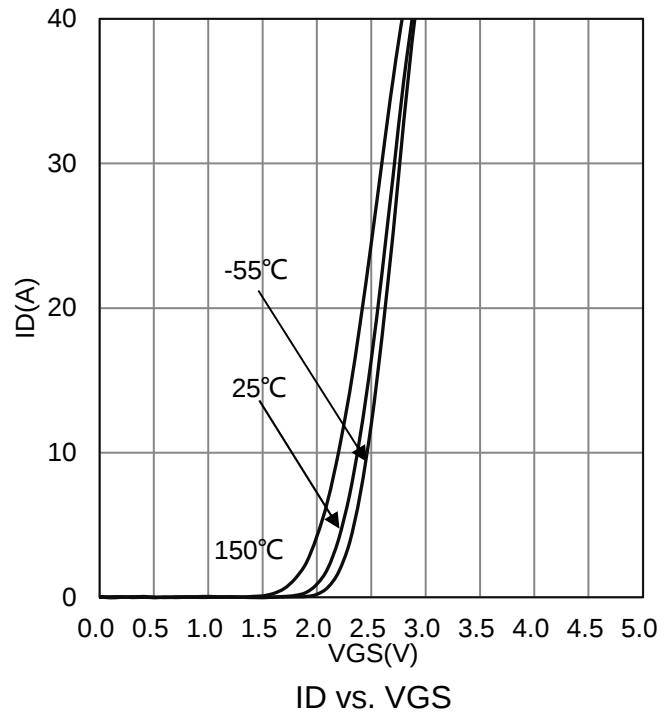
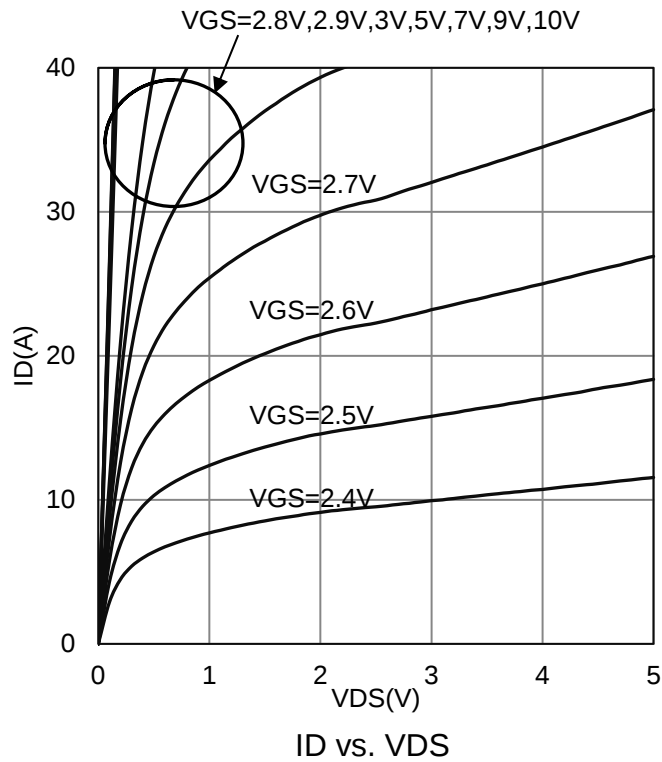


6. ELECTRICAL CHARACTERISTICS

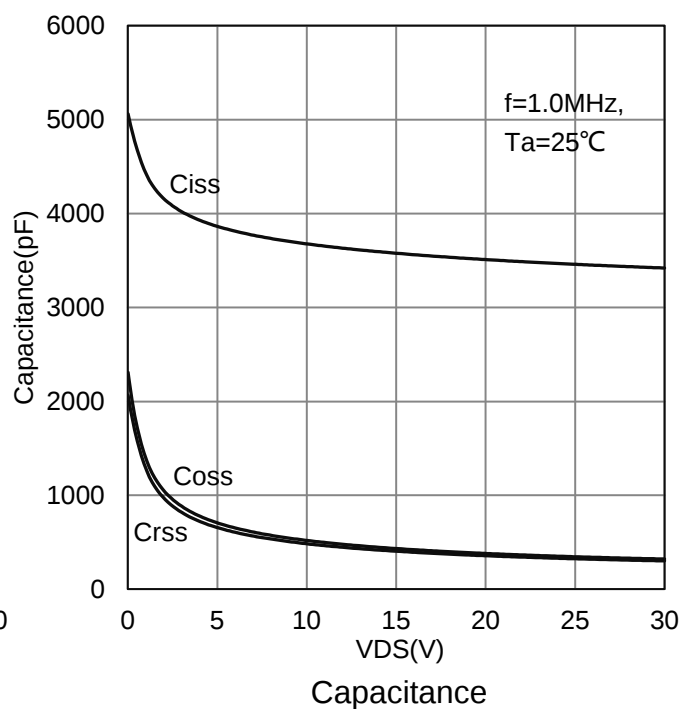
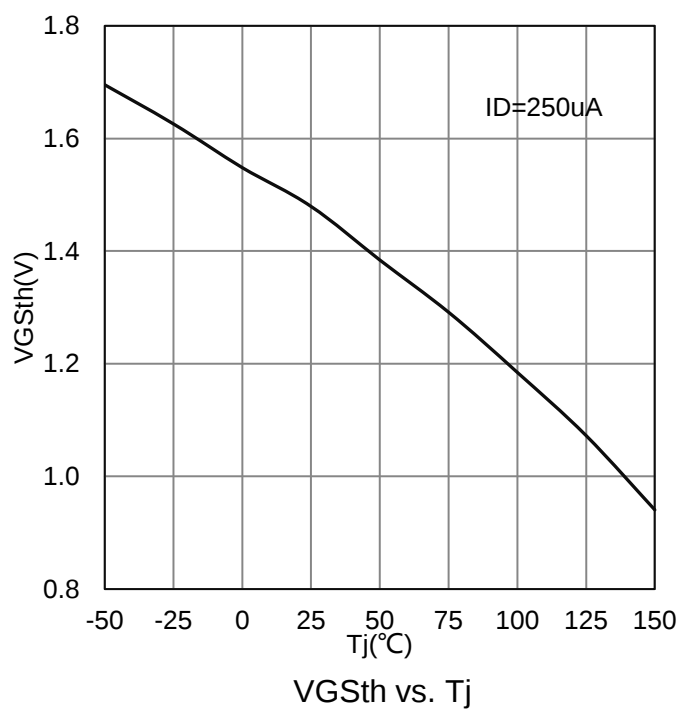
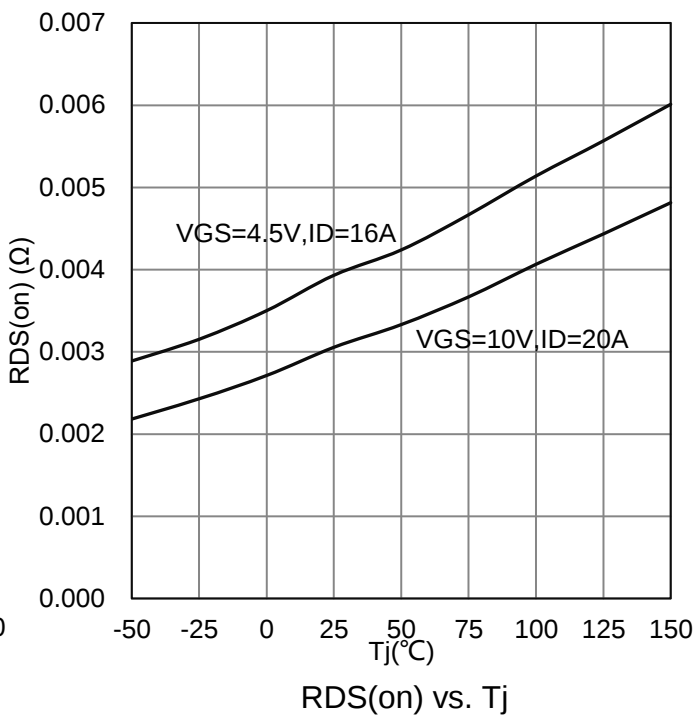
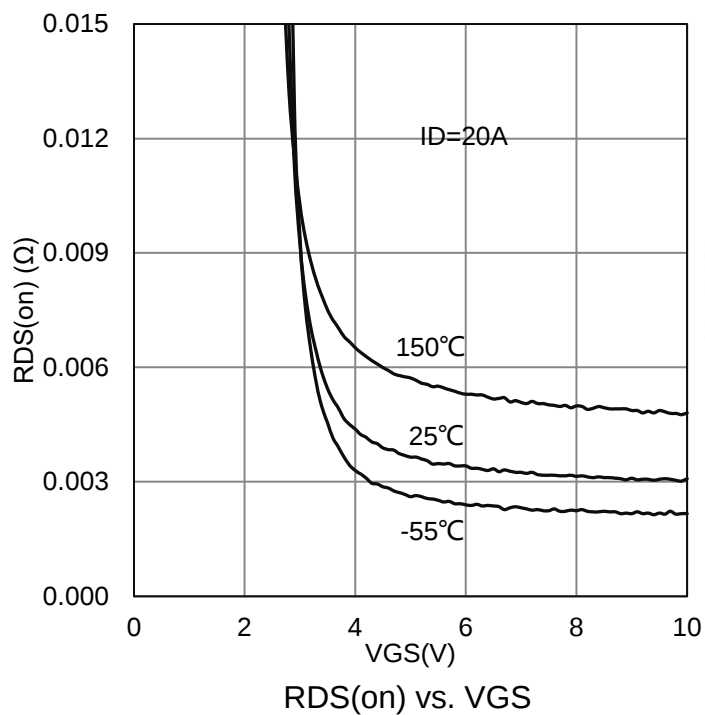
Characteristic	Symbol	Min.	Typ.	Max.	Unit
Static					
Drain-Source Breakdown Voltage (VGS = 0V, ID = 250μA)	V(BR)DSS	30	-	-	V
Gate-Source Threshold Voltage (VDS = VGS, ID = 250 μA)	VGS(th)	1	-	3	V
Gate-Body Leakage (VDS = 0 V, VGS = ±20 V)	IGSS	-	-	±10	μA
Zero Gate Voltage Drain Current (VDS = 24 V, VGS = 0 V) (VDS = 24 V, VGS = 0 V, TJ = 55°C)	IDSS	- -	- -	1 5	μA
On-State Drain Current(Note 4) (VDS = 5 V, VGS = 10 V)	ID(on)	30	-	-	A
Drain-Source On-Resistance(Note 4) (VGS = 10 V, ID = 20 A) (VGS = 4.5 V, ID = 16 A)	RDS(on)	- -	- -	4.8 6.8	mΩ
Forward Transconductance(Note 4) (VDS = 15 V, ID = 20 A)	gfs	-	25	-	S
Diode Forward Voltage(Note 4) (IS = 2.5 A, VGS = 0 V)	VSD	-	-	1.1	V
Dynamic					
Total Gate Charge	(VDS = 15 V, VGS = 4.5 V, ID = 20A)	Qg	-	32	nC
Gate-Source Charge		Qgs	-	13	
Gate-Drain Charge		Qgd	-	13	
Input Capacitance	(VDS = 15 V, VGS = 0 V, f = 1MHz)	Ciss	-	5022	pF
Output Capacitance		Coss	-	424	
Reverse Transfer Capacitance		Crss	-	358	
Turn-On Delay Time	(VDS=15 V, RL=0.8 Ω, ID=20 A, VGEN=10 V, RGEN=6 Ω)	td(on)	-	13	ns
Rise Time		tr	-	15	
Turn-Off Delay Time		td(off)	-	75	
Fall Time		tf	-	25	

4. Pulse test: $PW \leq 300\mu s$ duty cycle $\leq 2\%$.

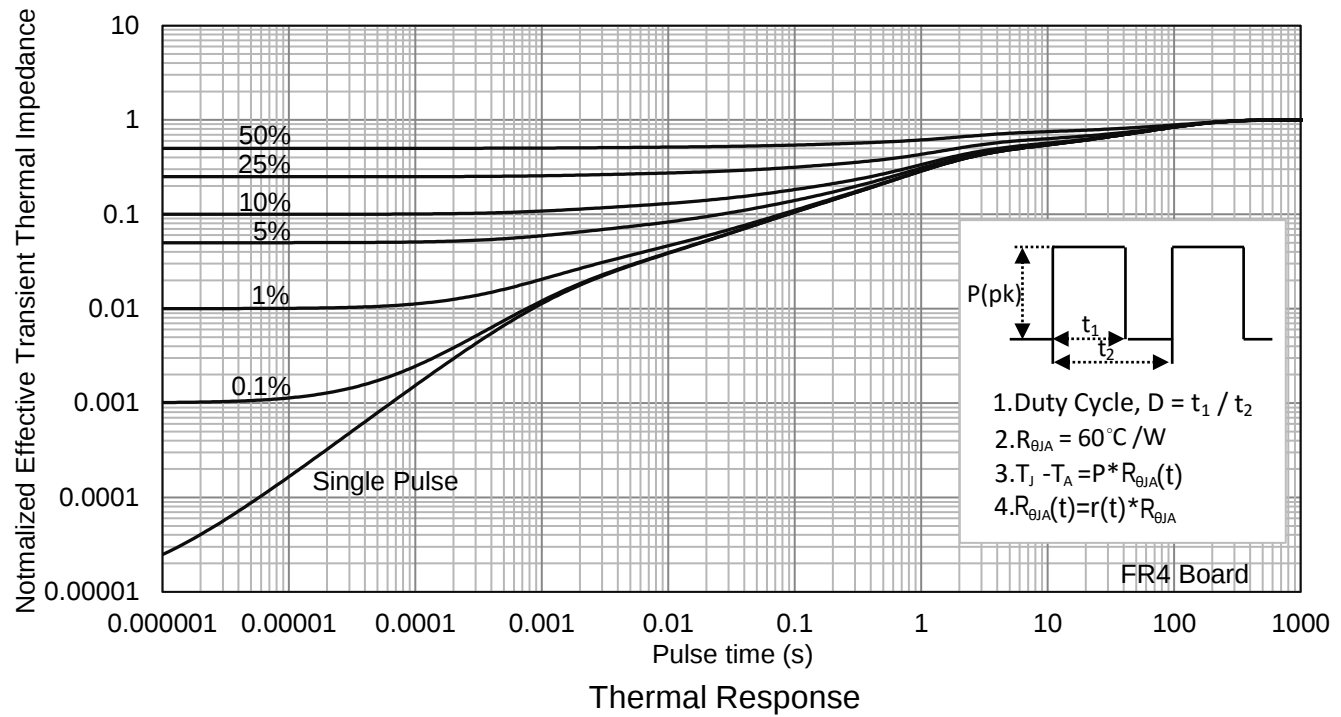
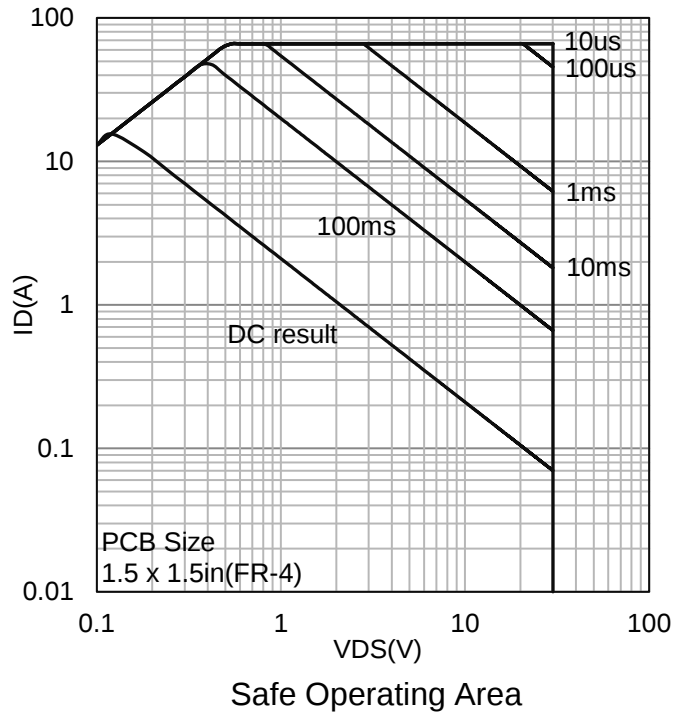
7. ELECTRICAL CHARACTERISTICS CURVES



7. ELECTRICAL CHARACTERISTICS CURVES(Con.)

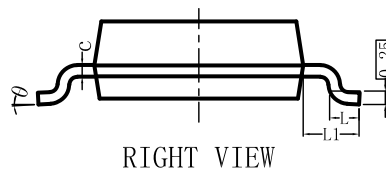
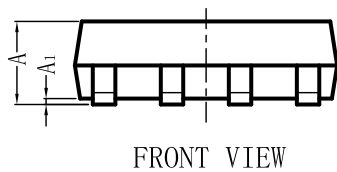
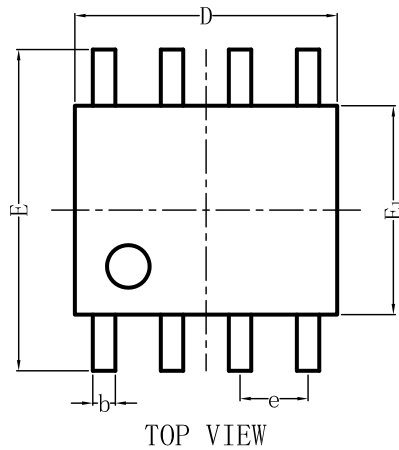


7. ELECTRICAL CHARACTERISTICS CURVES(Con.)



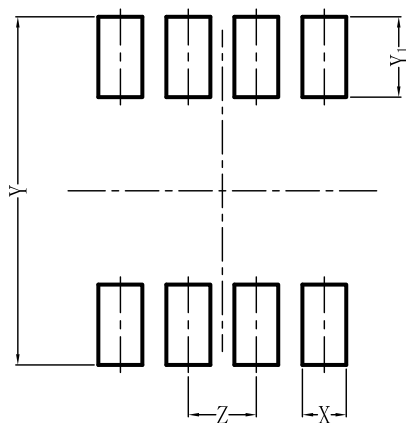
8.OUTLINE AND DIMENSIONS

SOP8



SOP8 (Unit:mm)			
Dim	Min	Typ	Max
A	1.35	1.55	1.75
A1	0.06	—	0.16
b	0.33	0.42	0.51
c	0.19	0.22	0.25
D	4.80	4.90	5.00
E	5.80	6.00	6.20
E1	3.80	3.90	4.00
e	1.27 BSC		
L	0.50	0.60	0.70
L1	1.05 REF		
θ	0°	—	8°

9.SOLDERING FOOTPRINT



Dimensions	(mm)
X	0.820
Y	6.500
Y1	1.500
Z	1.270

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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