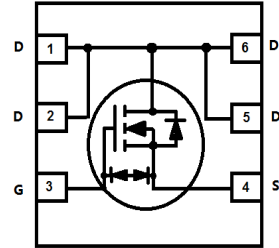
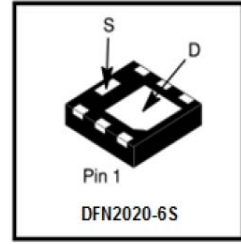


N3410D

N-Channel 30V (D-S) MOSFET



1. FEATURES

- Low RDS(on) trench technology
- Fast Switching Speed
- Low thermal impedance
- We declare that the material of product are Halogen Free and compliance with RoHS requirements.

2. APPLICATIONS

- White LED boost converters
- Automotive Systems
- DC-DC Converters

3. DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
N3410D	N7E	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	±8	V	
Continuous Drain Current(Note 1)	ID	TA =25°C	14	A
		TA =70°C	10	A
Pulsed Drain Current (Note 2)	IDM	56	A	
Avalanche Current	IAS	20	A	
Avalanche energy L=0.1mH	EAS	20	mJ	
Maximum Power Dissipation(Note 1)	PD	TA =25°C	3	W
		TA =70°C	1.8	
Operating Junction and Storage Temperature Range	TJ/Tstg	-55 ~+150	°C	

1. Surface Mounted on 1" x 1" FR4 Board.
2. Pulse width limited by maximum junction temperature.

5. THERMAL CHARACTERISTICS

Parameter	Symbol	Limits	Unit	
Maximum Junction-to-Ambient(Note 1)	RθJA	t ≤10s	40	°C/W
		Steady State	90	

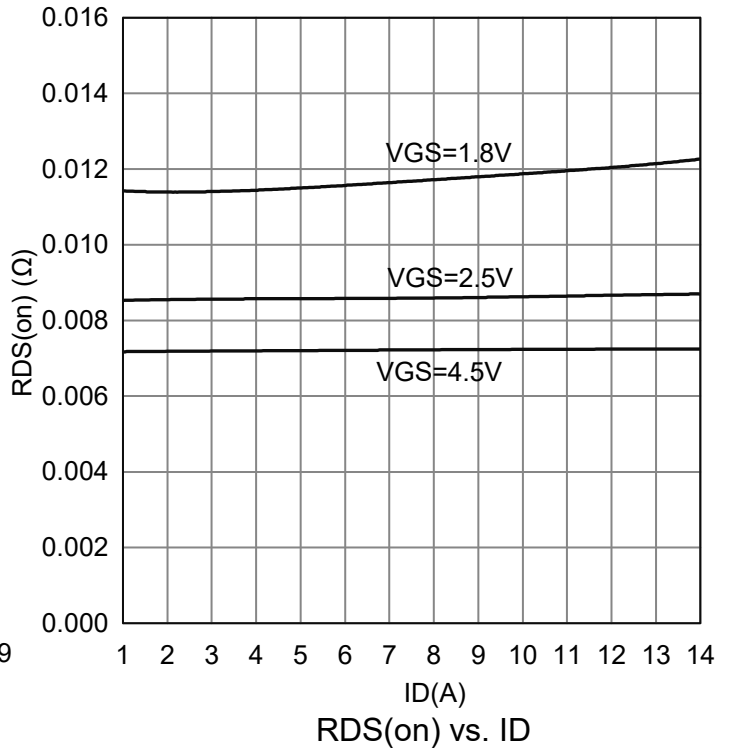
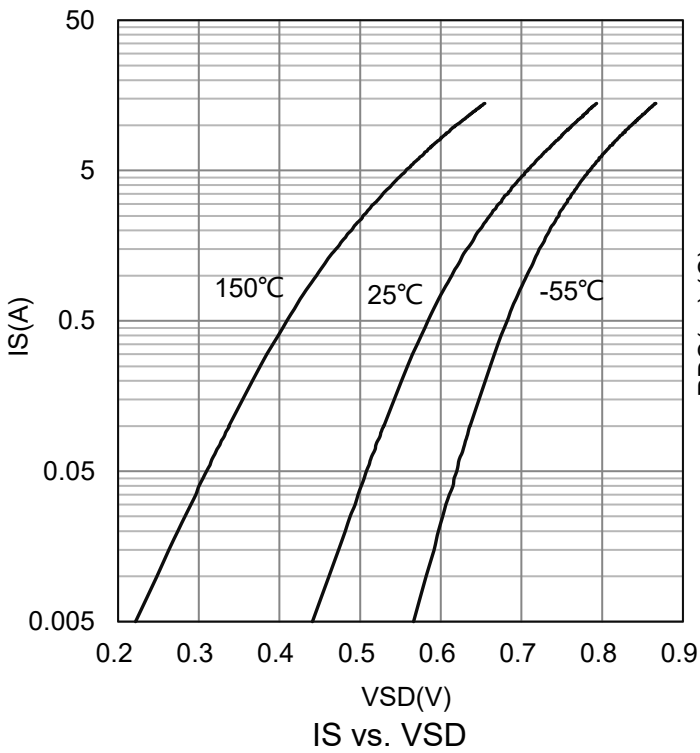
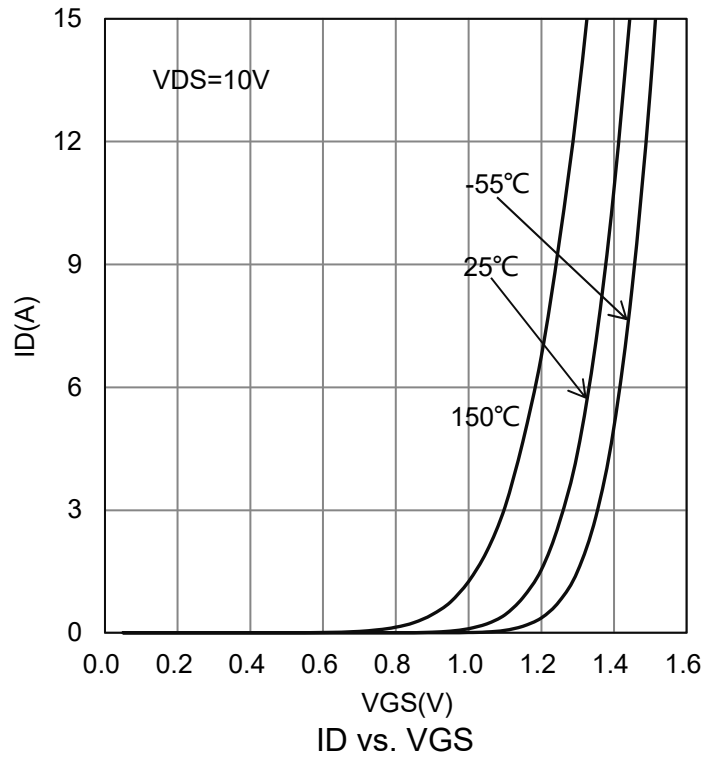
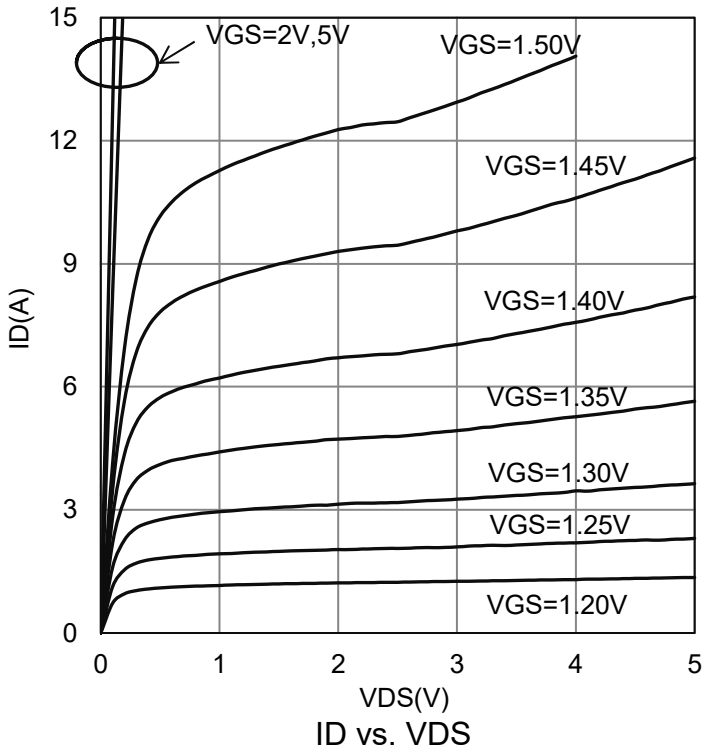


6. ELECTRICAL CHARACTERISTICS

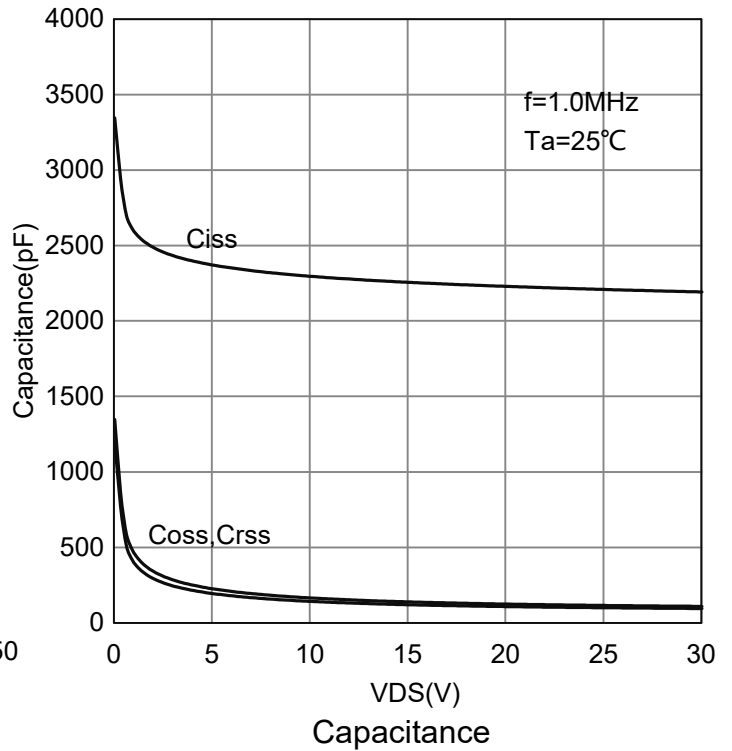
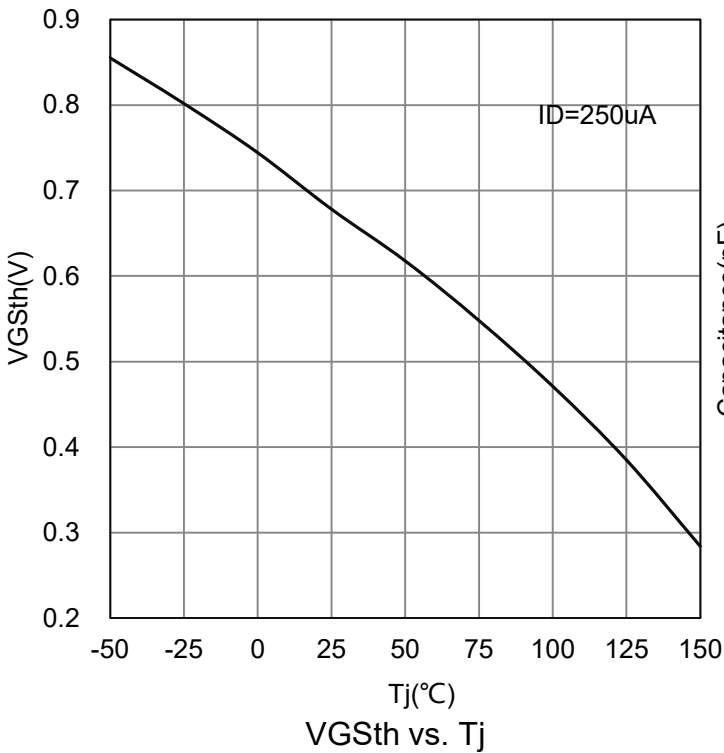
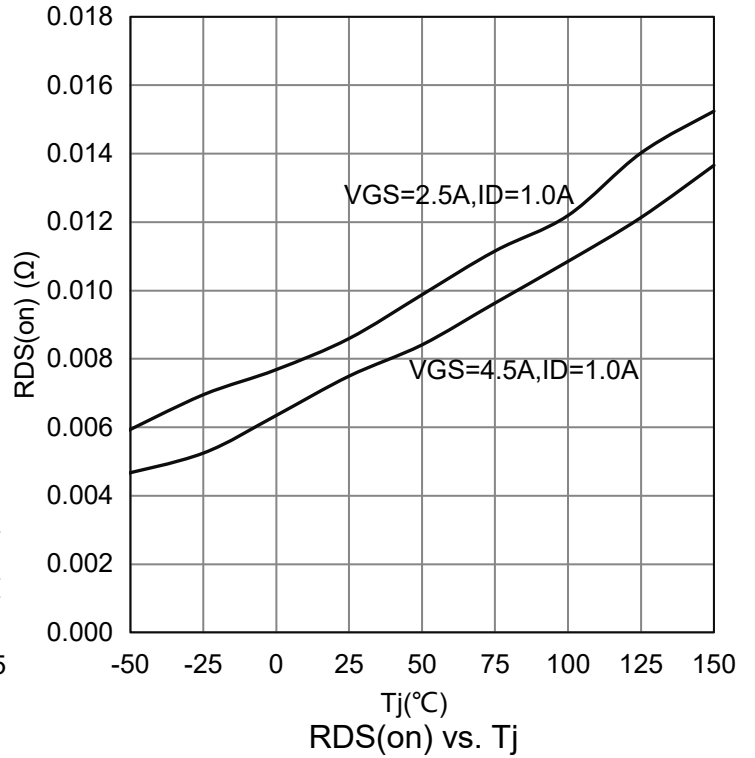
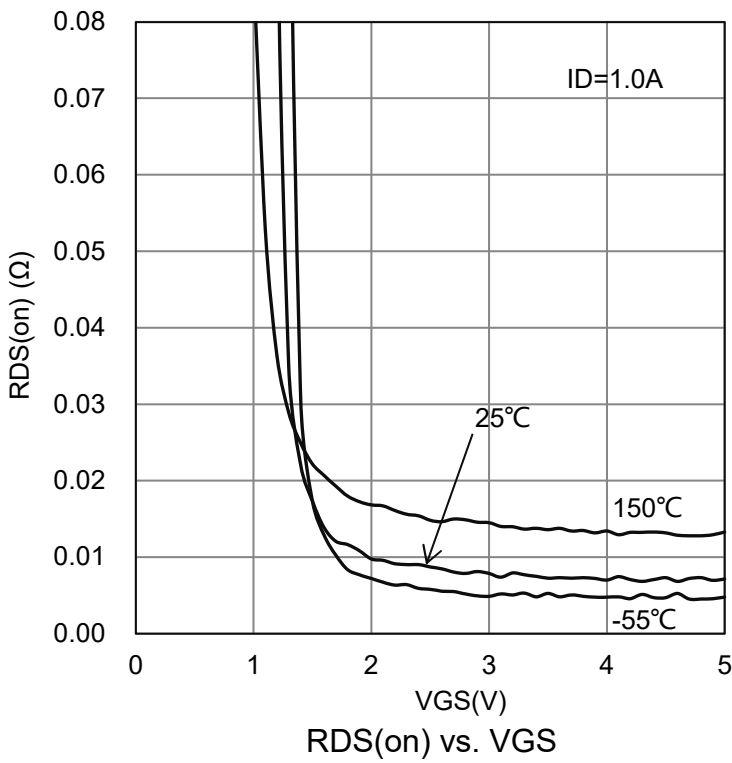
Characteristic	Symbol	Min.	Typ.	Max.	Unit	
Static						
Drain-Source Breakdown Voltage (VGS =0V, ID =250μA)	V(BR)DSS	30	-	-	V	
Gate-Source Threshold Voltage (VDS =VGS , ID =250μA)	VGS(th)	0.42	0.64	0.85	V	
Gate Leakage Current (VDS =0V, VGS =±8V)	IGSS	-	-	±10	uA	
Zero Gate Voltage Drain Current (VDS =30V, VGS = 0V)	IDSS	-	-	1	μA	
Drain-Source On-Resistance (VGS =4.5V, ID = 8A) (VGS =2.5V, ID = 8A) (VGS =1.8V, ID = 8A)	RDS(ON)	- - -	11 12.5 16	15 18 27	mΩ	
Diode Forward Voltage (IS = 1.7 A, VGS = 0 V)	VSD	-	0.68	1.5	V	
Dynamic						
Total Gate Charge	(VDS =15V, VGS =4.5V, ID =1A)	Qg	-	24	-	nC
Gate-Source Charge		Qgs	-	2.2	-	
Gate-Drain Charge		Qgd	-	5.5	-	
Turn-On Delay Time	(VDS =15V, RL = 15Ω, ID=1A, VGEN =4.5V, RGEN =6 Ω)	td(on)	-	19	-	ns
Turn-On Rise Time		tr	-	25	-	
Turn-Off Delay Time		td(off)	-	105	-	
Turn-Off Fall Time		tf	-	33	-	
Input Capacitance	(VDS =15V, VGS =0V, f=1MHz)	Ciss	-	2256	-	pF
Output Capacitance		Coss	-	140	-	
Reverse Transfer Capacitance		Crss	-	121	-	
Gate-Resistance (VGS = 0V, VDS=0V, f=1MHz)	Rg	-	0.8	-	Ω	

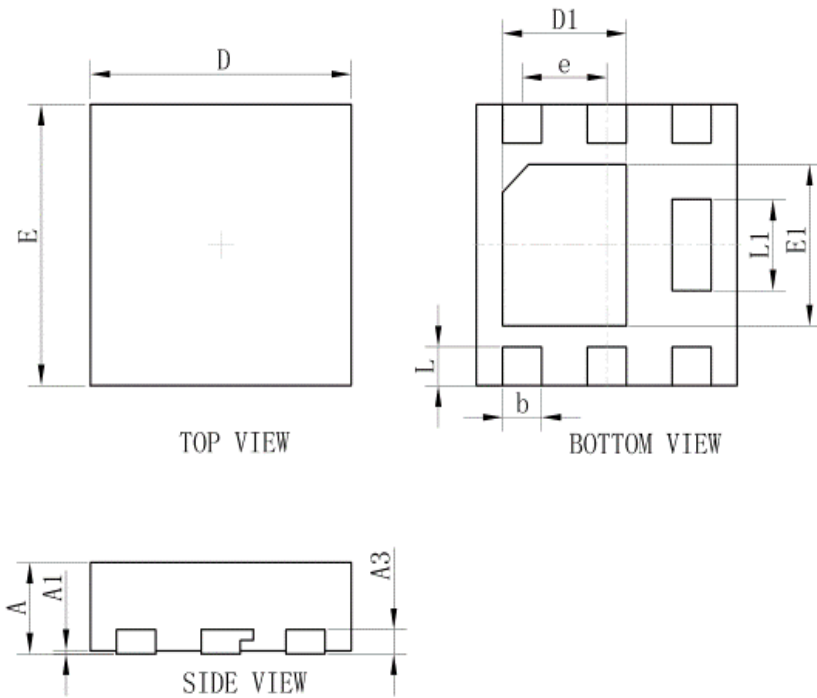


7.ELECTRICAL CHARACTERISTICS CURVES

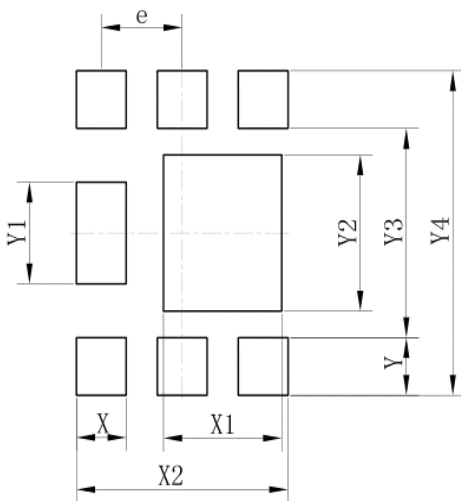


7.ELECTRICAL CHARACTERISTICS CURVES(Con.)



8. OUTLINE AND DIMENSIONS


DFN2020-6S			
DIM	MIN	NOR	MAX
A	0.60	0.65	0.70
A1	0.01	0.03	0.05
b	0.25	0.30	0.35
D	1.95	2.00	2.05
E	1.95	2.00	2.05
e	0.65TYP.		
L	0.23	0.28	0.33
L1	0.60	0.65	0.65
D1	0.90	0.95	1.00
E1	1.10	1.15	1.20
A3	0.152REF		
All Dimensions in mm			

9. SOLDERING FOOTPRINT


DFN2020-6S	
Dim	(mm)
X	0.40
X1	0.95
X2	1.70
e	0.65
Y	0.43
Y1	0.75
Y2	1.15
Y3	1.54
Y4	2.39

