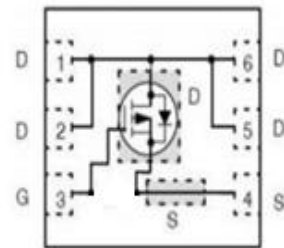
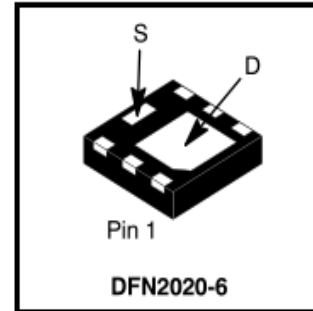


1. FEATURES

- $V_{DS} = -30V$
 $R_{DS(ON)} \leq 24m\Omega, V_{GS}@-10V, I_{DS}@-7.3A$
 $R_{DS(ON)} \leq 37m\Omega, V_{GS}@-4.5V, I_{DS}@-5.9A$
- Low $R_{DS(ON)}$ trench technology.
- Low thermal impedance.
- Fast switching speed.
- 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.



2. APPLICATIONS

- Load Switches
- DC/DC Conversion
- Motor Drives

3. DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
LM4318P	3B1	4000/Tape&Reel

4. MAXIMUM RATINGS($T_a = 25^\circ C$)

Parameter	Symbol	Limits	Unit	
Drain-Source Voltage	V_{DS}	-30	V	
Gate-Source Voltage	V_{GS}	± 20		
Continuous Drain Current(Note 1)	I_D	-9.4	A	
Pulsed Drain Current(Note 2)	I_{DM}	-40		
Maximum Power Dissipation(Note 1)	PD	$T_A = 25^\circ C$	3.1	W
		$T_A = 70^\circ C$	2	
Operating Junction and Storage Temperature Range	T_J, T_{stg}	-50~+150	$^\circ C$	
Continuous Source Current (Diode Conduction)(Note 1)	I_S	3.8	A	

Note: 1. Surface Mounted on 1" x 1" FR4 Board.

2. Pulse width limited by maximum junction temperature.

5. THERMAL CHARACTERISTICS

Parameter	Symbol	Max	Unit	
Maximum Junction-to-Ambient (Note 1)	$R_{\theta JA}$	$t \leq 10S$	40	$^\circ C/W$
		Steady State	90	

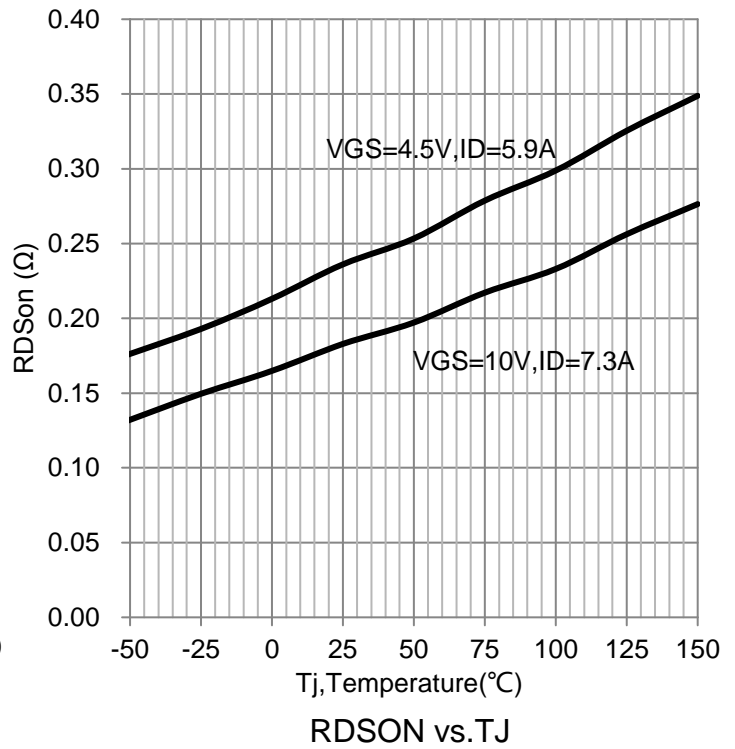
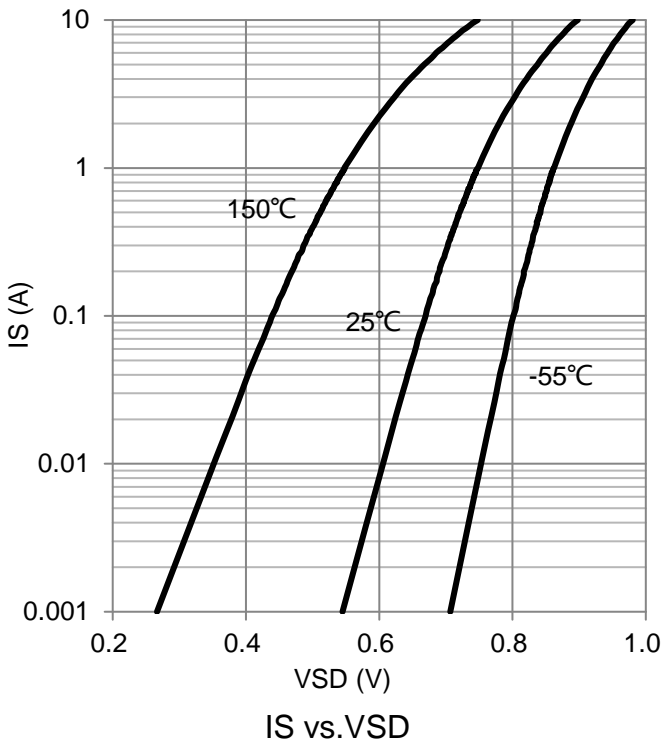
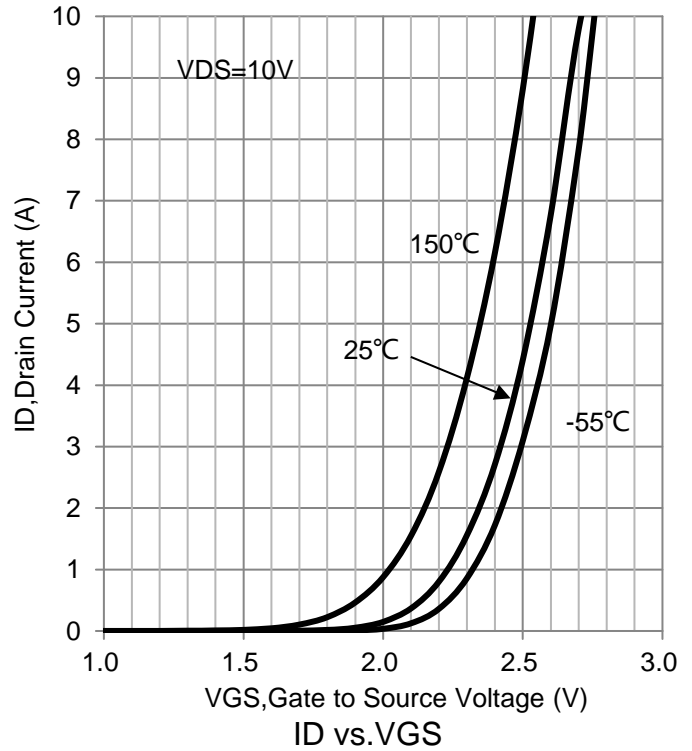
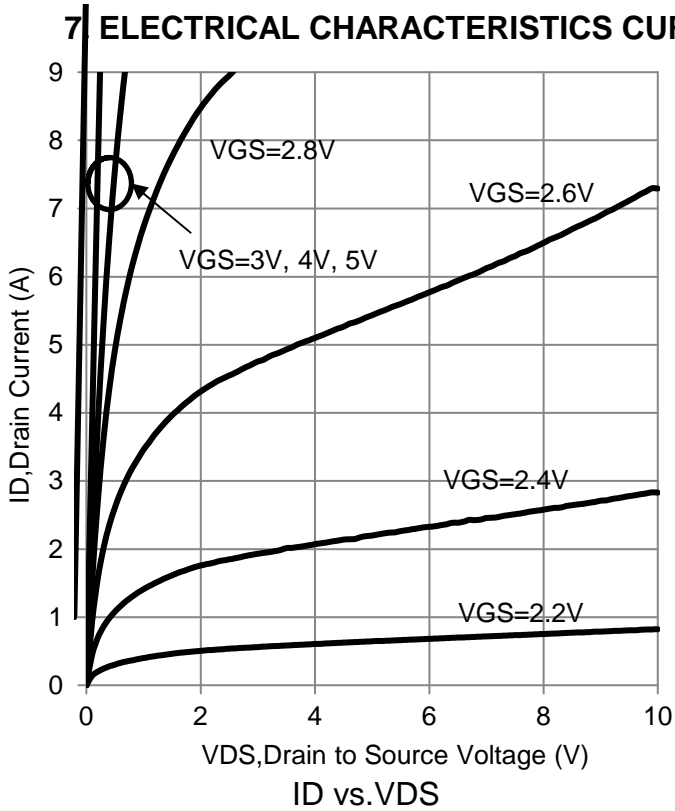
6. ELECTRICAL CHARACTERISTICS (Ta= 25°C)

Characteristic	Symbol	Min.	Typ.	Max.	Unit
Static					
Drain-Source Breakdown Voltage (VGS =0V, ID =-250μA)	V(BR)DSS	-30	-	-	V
Gate Threshold Voltage (VDS =VGS , ID =-250μA)	VGS(th)	-1	-	-3	V
Gate Leakage Current (VDS =0V, VGS =±20V)	IGSS	-	-	±100	nA
Zero Gate Voltage Drain Current (VDS =-24V, VGS =0V)	IDSS	-	-	-1	μA
On-State Drain Current(Note 3) (VDS = -5 V, VGS = -10 V)	ID(on)	-14	-	-	A
Drain-Source On-Resistance (VGS =-10V, ID = -7.3A)	RDS(ON) (Note 3)	-	-	24	mΩ
Drain-Source On-Resistance (VGS =-4.5V, ID = -5.9A)		-	-	37	
Diode Forward Voltage(Note 3) (IS =-1A, VGS =0V)	VSD	-	-	-1.5	V
Forward Transconductance(Note 3) (VDS = -15 V, ID = -7.3 A)	gfs	-	8	-	S
DYNAMIC(Note 4)					
Total Gate Charge	(VDS = -15 V, VGS = -4.5 V, ID = -7.3 A)	Qg	-	19	nC
Gate-Source Charge		Qgs	-	4.7	
Gate-Drain Charge		Qgd	-	8.4	
Input Capacitance	(VDS = -15 V, VGS = 0 V, f = 1 MHz)	Ciss	-	1539	pF
Output Capacitance		Coss	-	163	
Reverse Transfer Capacitance		Crss	-	151	
Turn-On Delay Time	(VDS = -15 V, RL =2.1 Ω, ID = -7.3 A, VGEN = -10 V, RGEN = 6 Ω)	td(on)	-	6	ns
Turn-On Rise Time		tr	-	5	
Turn-Off Delay Time		td(off)	-	55	
Turn-Off Fall Time		tf	-	21	

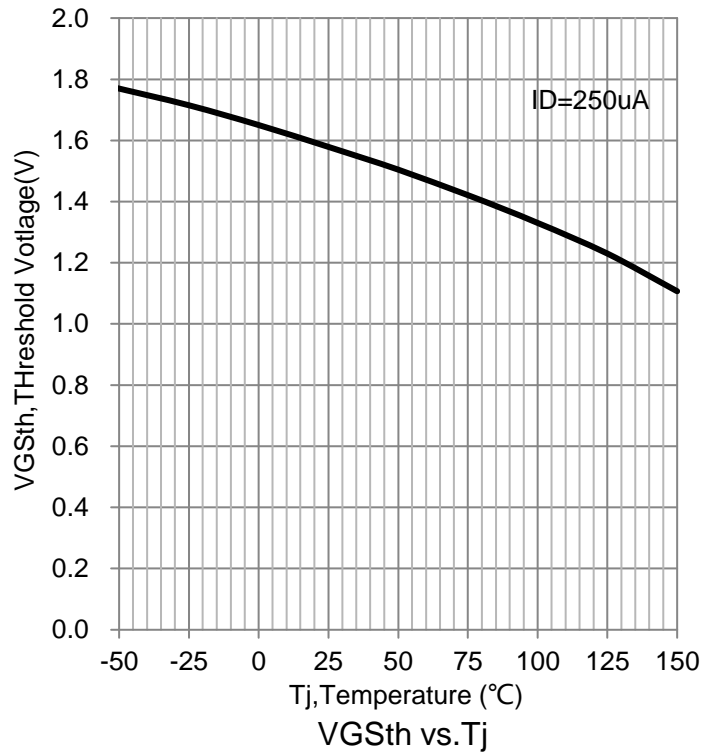
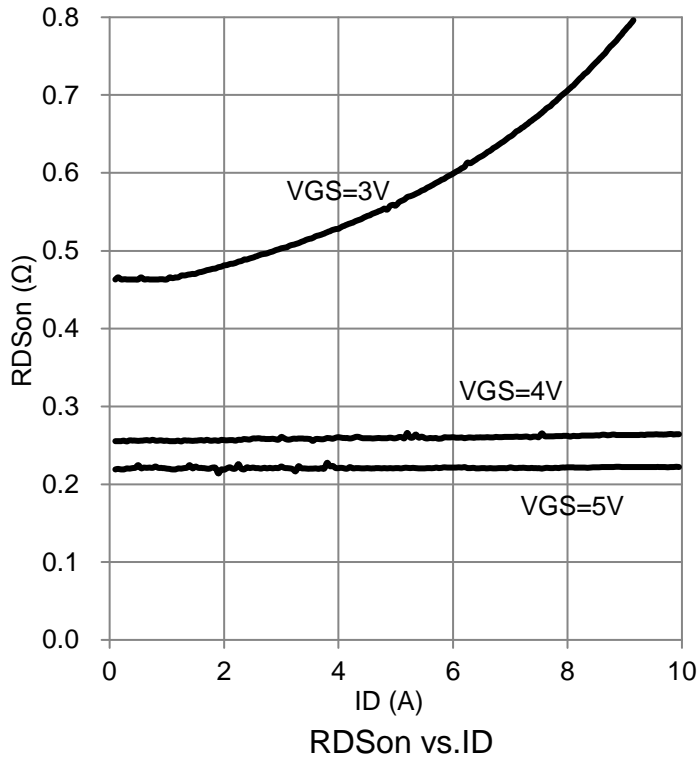
Note: 3. Pulse test; pulse width ≤ 300us, duty cycle ≤ 2%.

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

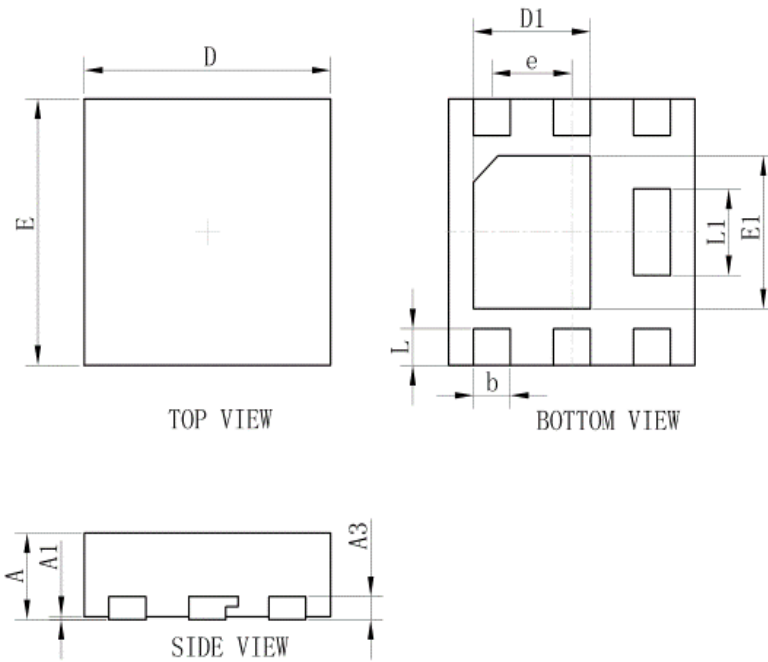
7 ELECTRICAL CHARACTERISTICS CURVES



7. ELECTRICAL CHARACTERISTICS CURVES(Con.)

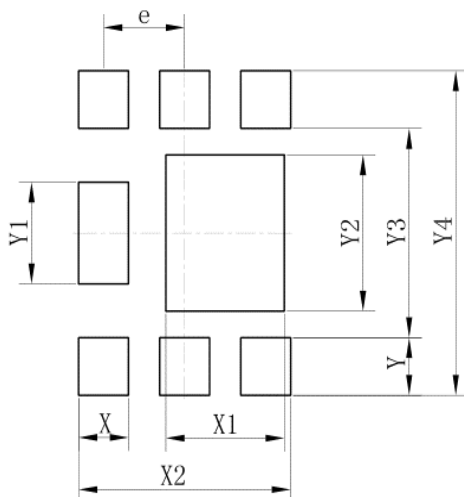


8. OUTLINE AND DIMENSIONS



DFN2020-6			
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



DFN2020-6	
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