

Feature

- Super high density cell design for extremely low RDS (ON)
- DFN2X2-6L package design

Application

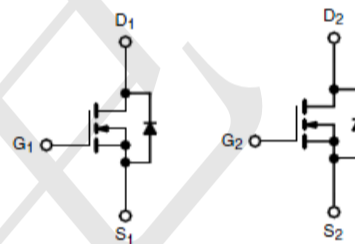
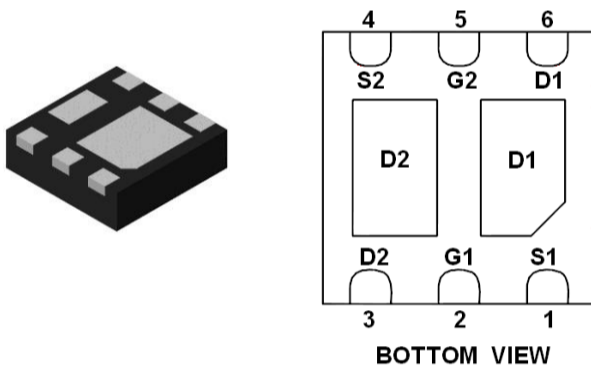
- Power Management in Note book
- LED Display
- DC-DC System
- LCD Panel

Ordering Information

- Shipping qty: 3000 / 7inch Tape Reel

Package and Pin Configuration

DFN2X2-6

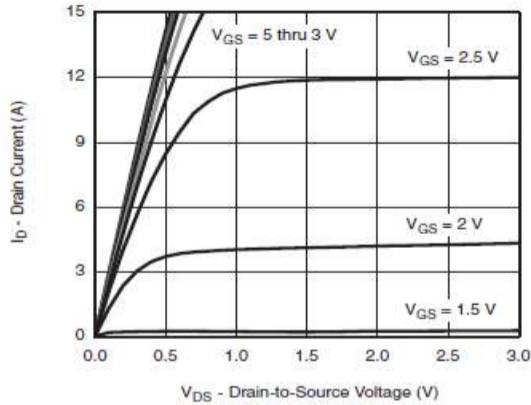


Absolute Maximum Ratings (TA=25°C unless otherwise noted)

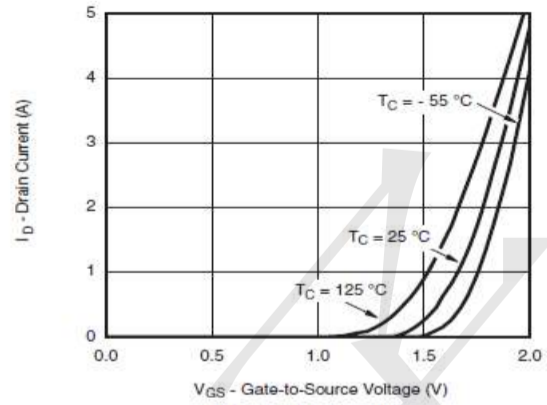
Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	20	V
Gate -Source Voltage	V_{GS}	± 12	V
Continuous Drain Current ($T_J = 150^\circ\text{C}$)	I_D	4.5	A
		2.4	
Pulsed Drain Current	I_{DM}	20	A
Continuous Source Current (Diode Conduction)	I_S	1.7	A
Power Dissipation	P_D	1.9	W
		1.2	
Operating Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55/150	$^\circ\text{C}$
Thermal Resistance-Junction to Ambient	$R_{\theta JA}$	120	$^\circ\text{C/W}$

Electrical Characteristics (TA=25°C unless otherwise noted)

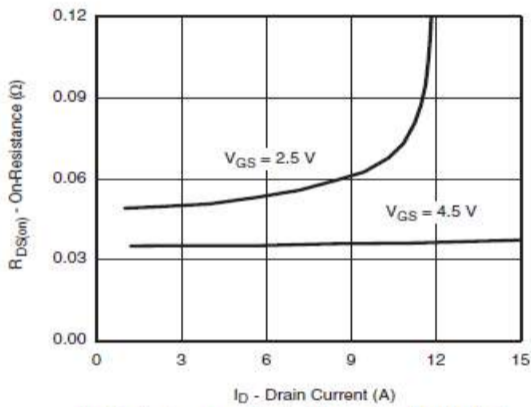
Parameter	Symbol	Conditions	Min.	Typ	Max.	Unit
Static						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=250\mu A$	20			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	0.3		0.8	
Gate Leakage Current	I_{GSS}	$V_{DS}=0V, V_{GS}=\pm 12V$			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=16V, V_{GS}=0V$			1	uA
		$V_{DS}=16V, V_{GS}=0V$ $T_J=85^\circ C$			10	
On-State Drain Current	$I_{D(on)}$	$V_{DS} \geq 5V, V_{GS}=4.5V$	6			A
		$V_{DS} \geq 5V, V_{GS}=2.5V$	4			
Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=4.5V, I_D=4.5A$		38	52	mΩ
		$V_{GS}=2.5V, I_D=3.6A$		52	72	
Forward Transconductance	g_{FS}	$V_{DS}=5V, I_D=3.6A$		10		S
Diode Forward Voltage	V_{SD}	$I_S=1.6A, V_{GS}=0V$		0.85	1.2	V
Dynamic						
Total Gate Charge	Q_g	$V_{DS}=10V, V_{GS}=4.5V$ $I_D=3.6A$		4.2	5.0	nC
Gate-Source Charge	Q_{gs}			0.6		
Gate-Drain Charge	Q_{gd}			0.4		
Input Capacitance	C_{iss}	$V_{DS}=10V, V_{GS}=0V$ $f=1MHz$		340		pF
Output Capacitance	C_{oss}			115		
Reverse Transfer Capacitance	C_{rss}			33		
Turn-On Time	$t_{d(on)}$	$V_{DD}=10V, R_L=2.8\Omega$ $I_D=3.6A, V_{GEN}=4.5V$ $R_G=1\Omega$		8	15	ns
	t_r			8	15	
Turn-Off Time	$t_{d(off)}$			25	40	
	t_f			8	15	



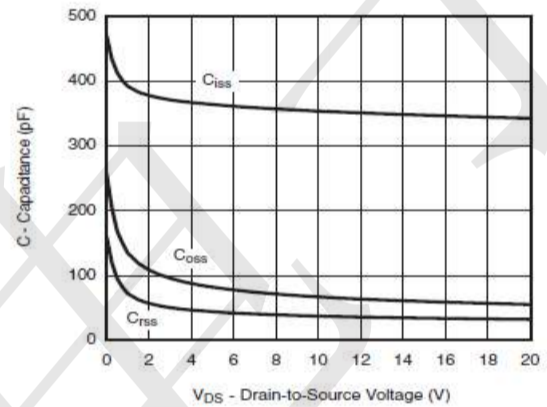
Output Characteristics



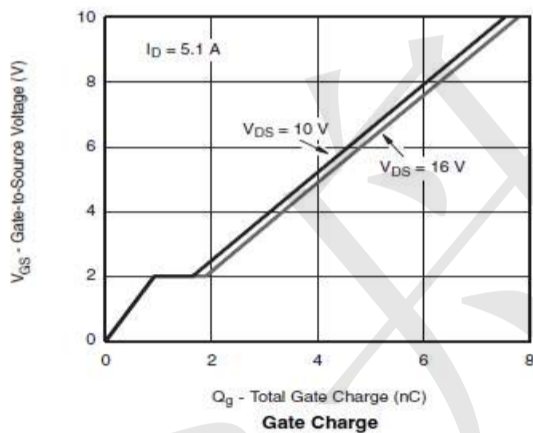
Transfer Characteristics



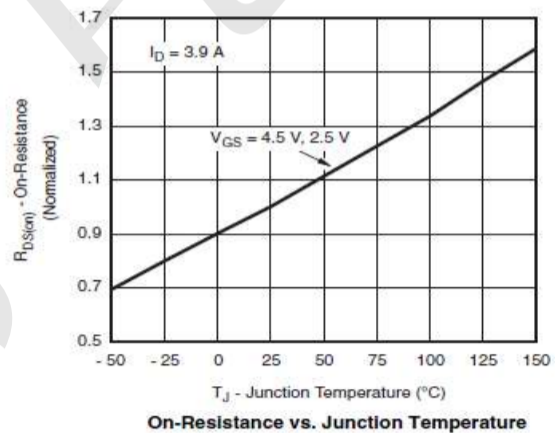
On-Resistance vs. Drain Current and Gate Voltage



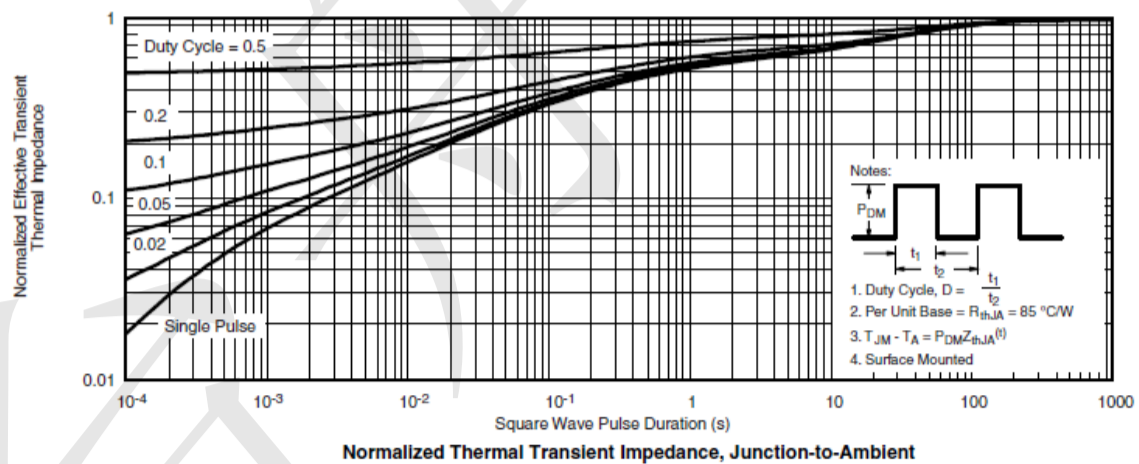
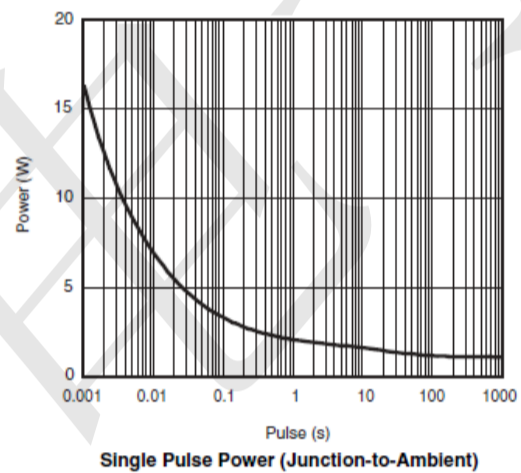
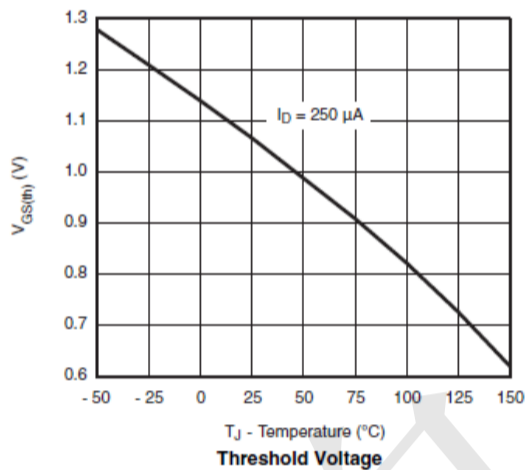
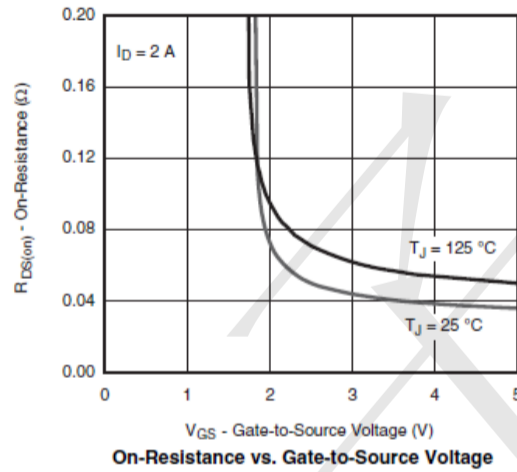
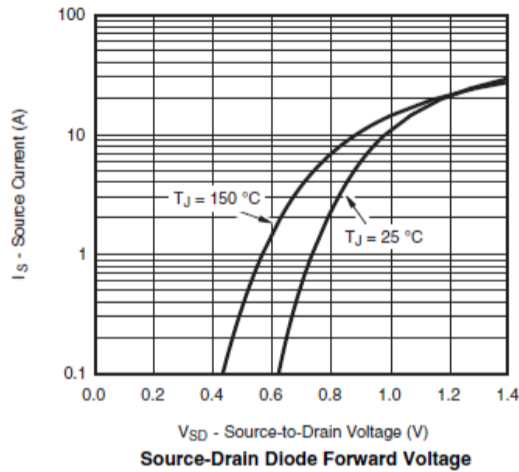
Capacitance



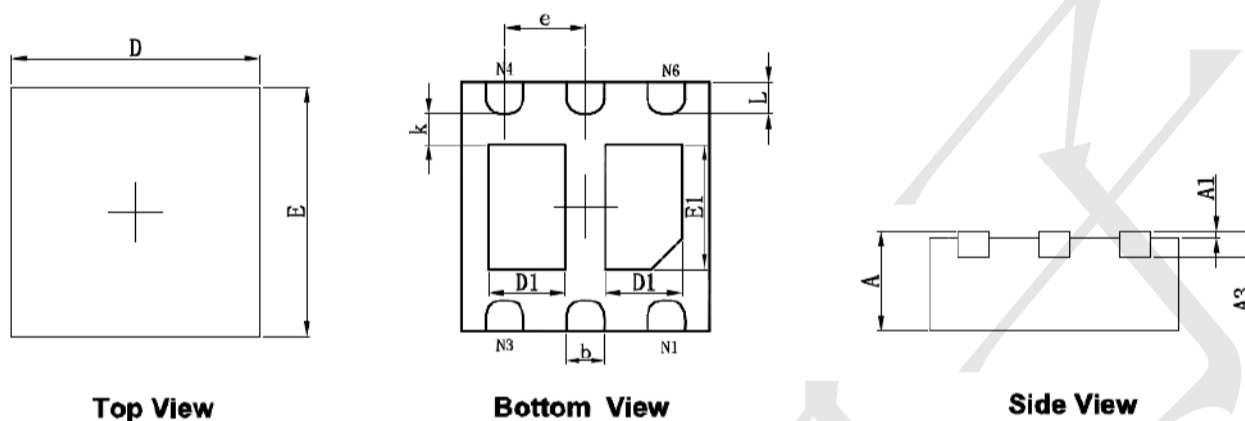
Gate Charge



On-Resistance vs. Junction Temperature



Package Information (DFN2X2-6L)



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.700/0.800	0.800/0.900	0.028/0.031	0.031/0.035
A1	0.000	0.050	0.000	0.002
A3	0.203REF.		0.008REF.	
D	1.924	2.076	0.076	0.082
E	1.924	2.076	0.076	0.082
D1	0.520	0.720	0.020	0.028
E1	0.900	1.100	0.035	0.043
k	0.200MIN.		0.008MIN.	
b	0.250	0.350	0.010	0.014
e	0.650TYP.		0.026TYP.	
L	0.174	0.326	0.007	0.013