

Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
-20V	70mΩ@-4.5V	-2.3A
	100mΩ@-2.5V	

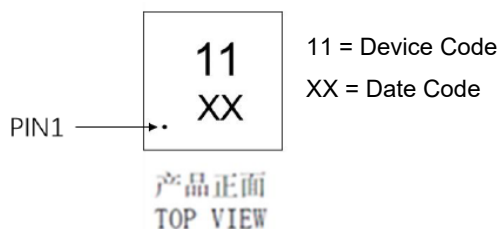
Feature

- TrenchFET Power MOSFET
- Excellent $R_{DS(on)}$ and Low Gate Charge

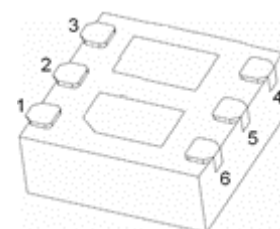
Application

- Optimized for Battery and Load Management Applications in Portable Equipment
- Li-Ion Battery Charging and Protection Circuits
- High Power Management in Portable , Battery Powered Products
- High Side Load Switch

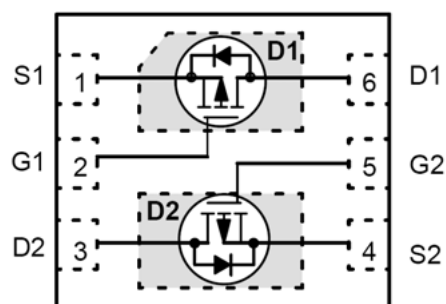
MARKING:



DFN2X2-6L



Schematic diagram



ABSOLUTE MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	-20	V
Gate-Source Voltage	V_{GS}	± 10	V
Continuous Drain Current	I_D	-2.3	A
Pulsed Drain Current	I_{DM}	-10	A
Power Dissipation	P_D	0.7	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	178	$^{\circ}\text{C/W}$
Junction Temperature	T_J	150	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-55~ +150	$^{\circ}\text{C}$

MOSFET ELECTRICAL CHARACTERISTICS($T_A=25^{\circ}\text{C}$ unless otherwise noted)

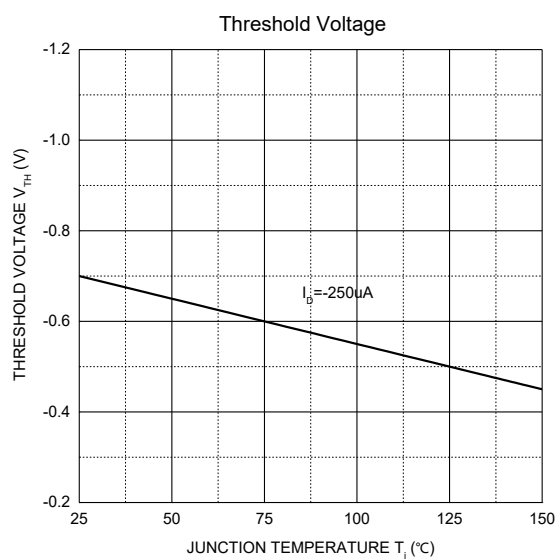
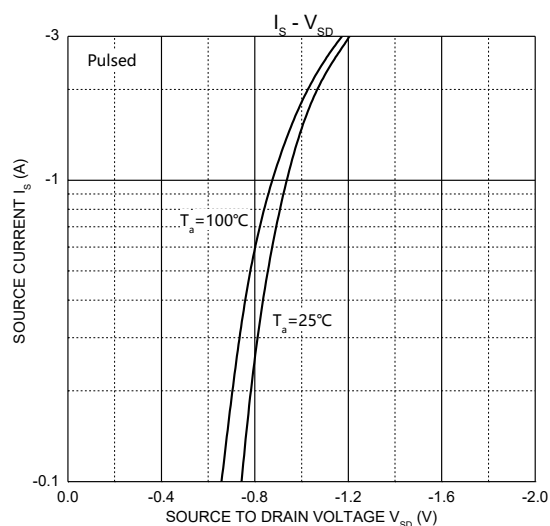
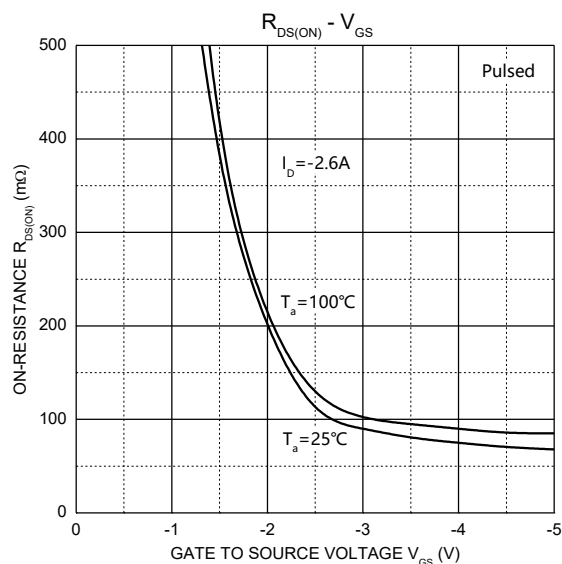
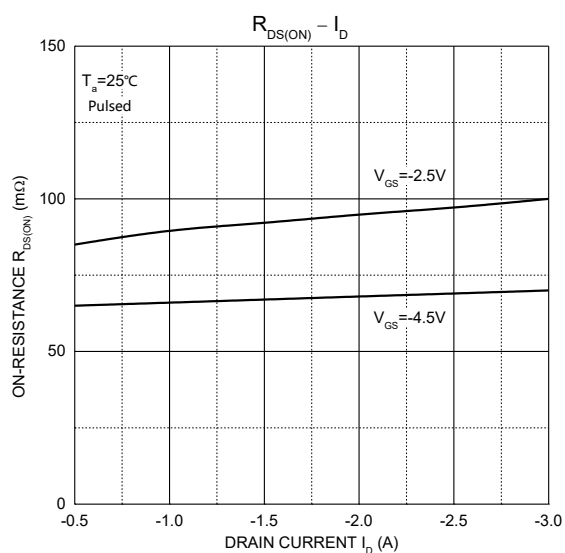
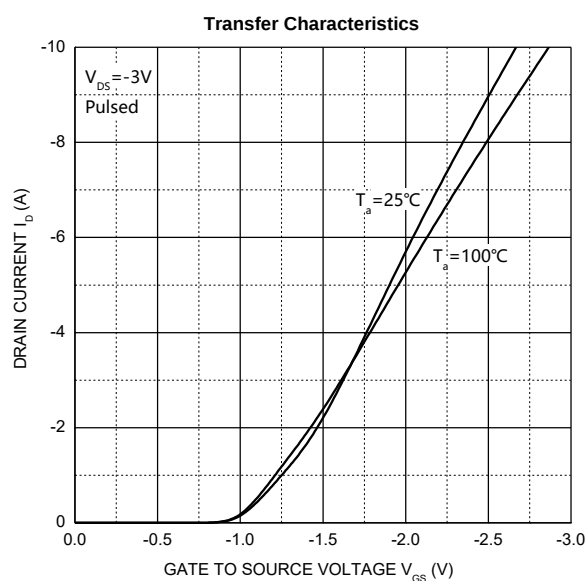
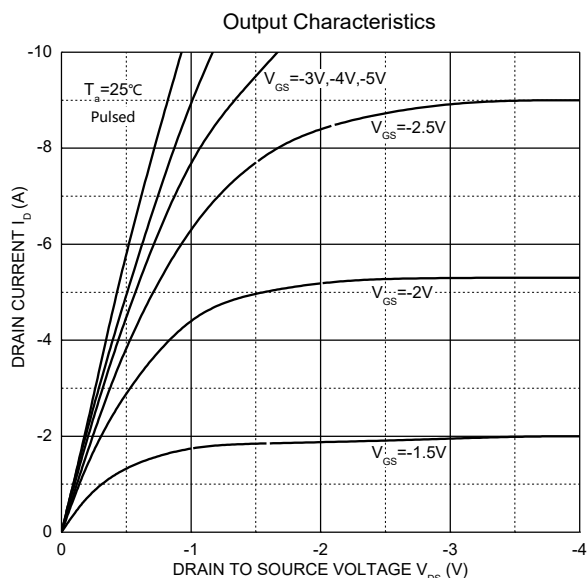
Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D =-250μA	-20			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =-18V, V _{GS} = 0V			-1	μA
Gate-Body Leakage Current	I _{GSS}	V _{GS} =±10V, V _{DS} = 0V			±100	nA
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =-250μA	-0.4	-0.7	-1	V
Drain-Source On-Resistance ^a	R _{DS(on)}	V _{GS} =-4.5V, I _D =-2.8A		70	110	mΩ
		V _{GS} =-2.5V, I _D =-2A		100	140	
Dynamic characteristics ^b						
Input Capacitance	C _{iss}	V _{DS} =-10V, V _{GS} =0V, f =1MHz		363		pF
Output Capacitance	C _{oss}			70		
Reverse Transfer Capacitance	C _{rss}			60		
Gate Resistance	R _g	f =1MHz		50		Ω
Total Gate Charge	Q _g	V _{DS} =-10V, V _{GS} =-2.5V, I _D =-3A		3.2		nC
Gate-Source Charge	Q _{gs}			0.6		
Gate-Drain Charge	Q _{gd}			1.2		
Turn-On Delay Time	t _{d(on)}	V _{DD} =-10V, V _{GEN} =-4.5V, I _D =-1A R _L =10Ω, R _{GEN} =1Ω		9		ns
Turn-On Rise Time	t _r			33		
Turn-Off Delay Time	t _{d(off)}			29		
Turn-Off Fall Time	t _f			9		
Source-Drain Diode characteristics						
Diode Forward Current	I _S	T _C =25°C			-2.3	A
Diode Pulsed Forward Current ^a	I _{SM}				-10	A
Diode Forward Voltage	V _{DS}	V _{GS} =0V, I _S =-1.3A			-1.2	V

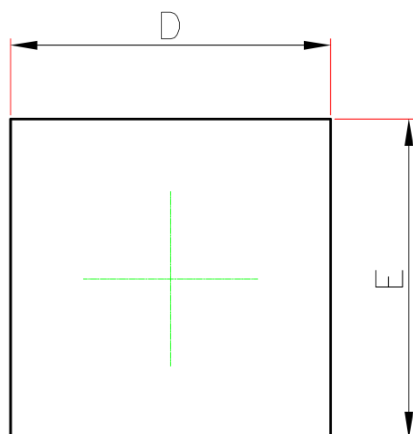
Notes :

a.Pulse Test : Pulse Width < 300 μs , Duty Cycle $\leq 2\%$.

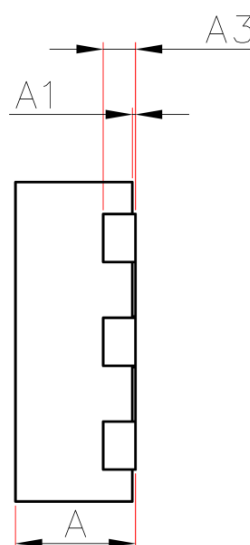
b.Guaranteed by design, not subject to production testing

Typical Electrical and Thermal Characteristics

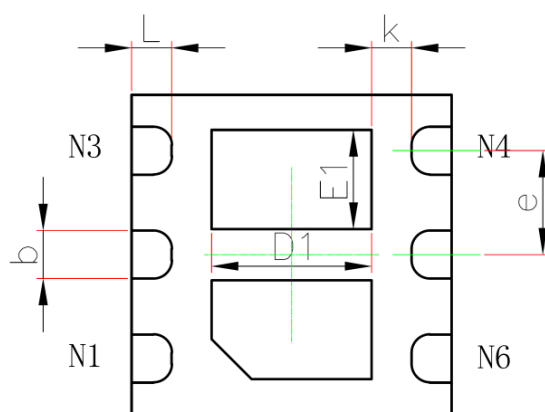


DFN2X2-6L Package Information


TOP VIEW



SIDE VIEW



BOTTOM VIEW

Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.700	0.800	0.028	0.031
A1	0	0.050	0	0.002
A3	0.203REF		0.008REF	
D	1.900	2.100	0.075	0.083
E	1.900	2.100	0.075	0.083
D1	0.700	1.100	0.028	0.043
E1	0.520	0.720	0.020	0.028
k	0.200MIN		0.008MIN	
b	0.250	0.350	0.010	0.014
e	0.65BSC		0.026TYP	
L	0.174	0.326	0.007	0.013

Attention:

- GreenPower Electronics reserves the right to improve product design function and reliability without notice.
- Any and all semiconductor products have certain probability to fail or malfunction, which may result in personal injury, death or property damage. Customer are solely responsible for providing adequate safe measures when design their systems.
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