

Product Summary

V _{(BR)DSS}	R _{DS(on)} TYP	I _D
20V	7.6mΩ@4.5V	10A
	7.8mΩ@4.0V	
	7.9mΩ@3.8V	
	8.2mΩ@3.1V	
	8.8mΩ@2.5V	

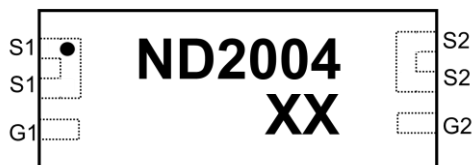
Feature

- Trench Technology Power MOSFET
- Low R_{DS(ON)}
- Low Gate Charge
- ESD Protected

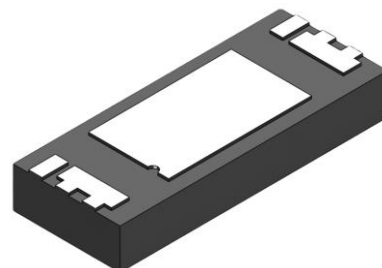
Application

- Battery Protection Switch
- Mobile Device Battery Charging and Discharging

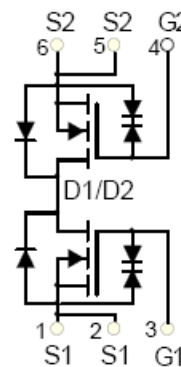
MARKING:



DFN2×5-6L



Schematic diagram



ABSOLUTE MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain - Source Voltage	V _{DS}	20	V
Gate - Source Voltage	V _{GS}	±12	V
Continuous Drain Current ¹	I _D	10	A
Pulsed Drain Current ²	I _{DM}	40	A
Power Dissipation ⁴	P _D	1.26	W
Thermal Resistance from Junction to Ambient ⁵	R _{θJA}	99	°C/W
Junction Temperature	T _J	150	°C
Storage Temperature	T _{STG}	-55~ +150	°C

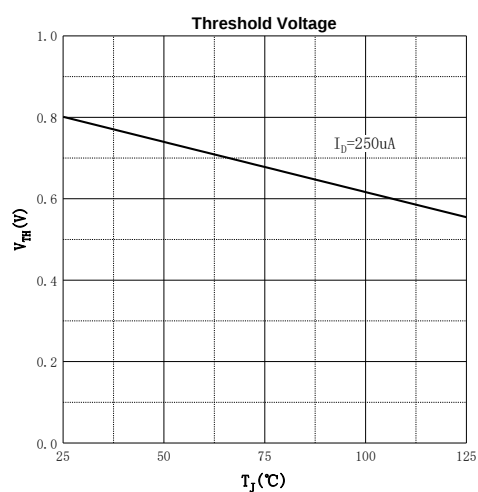
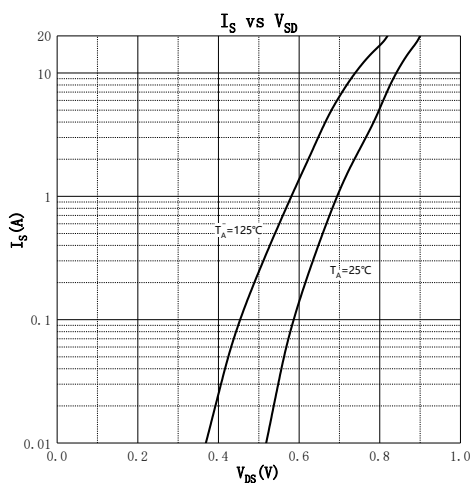
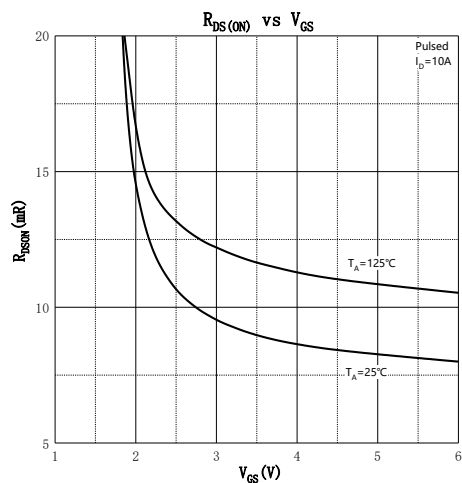
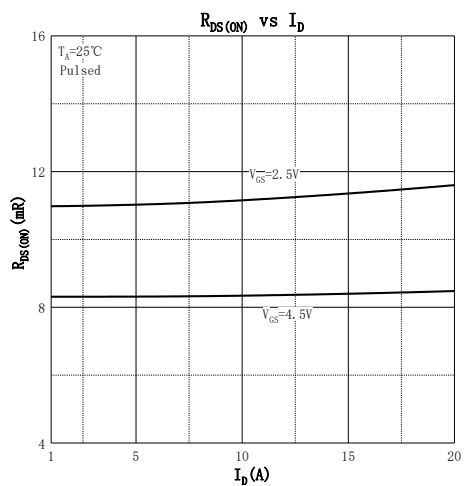
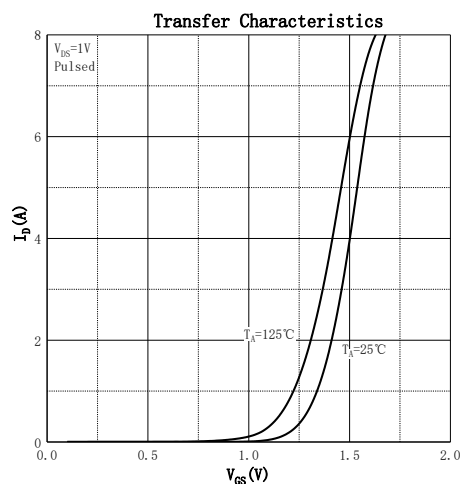
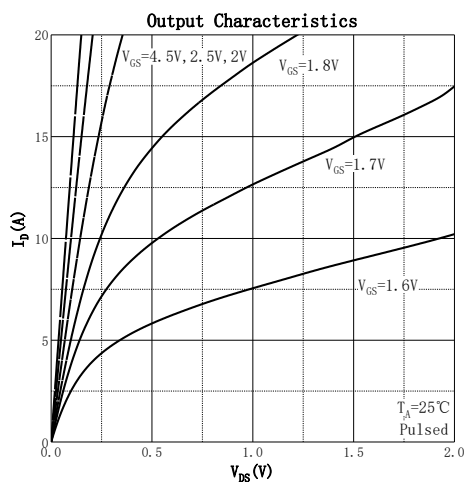
MOSFET ELECTRICAL CHARACTERISTICS (T_J = 25°C unless otherwise noted)

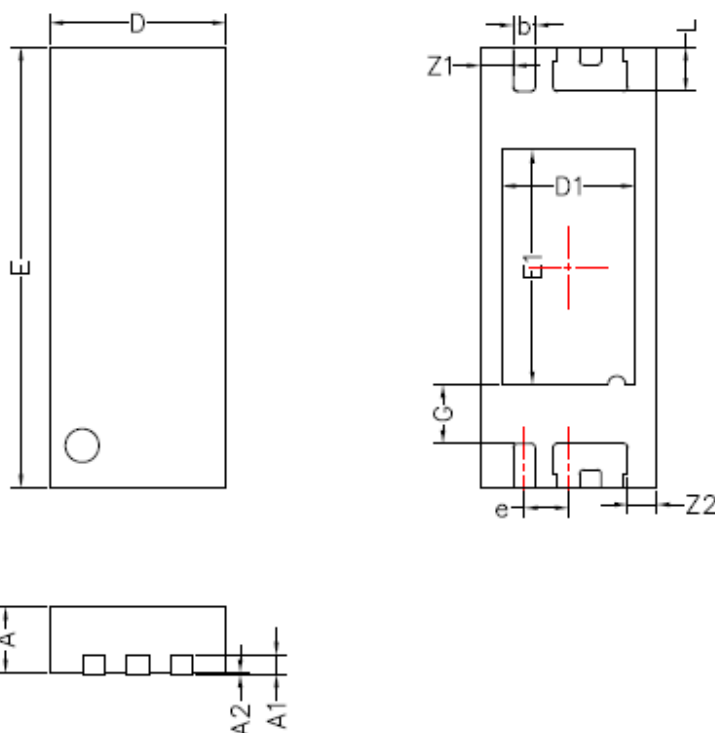
Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Off Characteristics						
Drain - Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D = 250μA	20			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = 16V, V _{GS} = 0V			1	μA
Gate - Body Leakage Current	I _{GSS}	V _{GS} = ±8V, V _{DS} = 0V			±3	μA
On Characteristics ³						
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250μA	0.4	0.7	1.0	V
Drain-source On-resistance	R _{DS(on)}	V _{GS} = 4.5V, I _D = 3A	5.6	7.6	10.5	mΩ
		V _{GS} = 4.0V, I _D = 3A	5.8	7.8	10.6	
		V _{GS} = 3.8V, I _D = 3A	6.0	7.9	10.7	
		V _{GS} = 3.1V, I _D = 3A	6.2	8.2	11.5	
		V _{GS} = 2.5V, I _D = 3A	7.0	8.8	14	
Dynamic Characteristics						
Input Capacitance	C _{iss}	V _{DS} = 10V, V _{GS} = 0V, f = 1MHz		1176		pF
Output Capacitance	C _{oss}			192		
Reverse Transfer Capacitance	C _{rss}			51		
Switching Characteristics						
Total Gate Charge	Q _g	V _{DS} = 10V, V _{GS} = 4.5V, I _D = 5A		20		nC
Gate-source Charge	Q _{gs}			4		
Gate-drain Charge	Q _{gd}			7		
Turn-on Delay Time	t _{d(on)}	V _{DD} = 10V, V _{GS} = 4.5V, R _L = 2Ω R _G = 3Ω		3		ns
Turn-on Rise Time	t _r			6.5		
Turn-off Delay Ttime	t _{d(off)}			50		
Turn-off Fall Time	t _f			95		
Source - Drain Diode Characteristics						
Diode Forward Voltage ³	V _{SD}	V _{GS} = 0V, I _S = 3A			1.2	V

Notes :

- 1.The maximum current rating is limited by package.
- 2.Pulse Test : Pulse Width ≤ 10μs, duty cycle ≤ 1%.
- 3.Pulse Test : Pulse Width ≤ 300μs, duty cycle ≤ 2%.
- 4.The power dissipation P_D is limited by T_{J(MAX)} = 150°C.
- 5.Device mounted on 1in² FR-4 board with 2oz. Copper, in a still air environment with T_A = 25°C.

Typical Characteristics



DFN2×5-6L Package Information


Unit: mm

Package Dimensions			
Symbols	Min	Nom	Max
D	1.95	2.00	2.05
E	4.95	5.00	5.05
D1	1.45	1.50	1.55
E1	2.60	2.67	2.75
L	0.40	0.50	0.60
b	0.20	0.25	0.30
Z1	0.325	0.375	0.425
Z2	0.275	0.325	0.375
G	0.615	0.665	0.715
e	0.50BSC		
A	0.70	0.75	0.80
A1	0.203REF		
A2	0.00	-	0.05