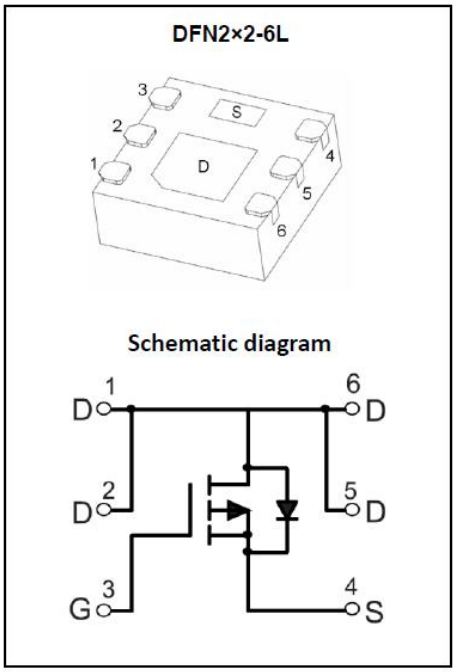
CHONGQING CLOUDCHILD TECHNOLOGY CO., LTD

DFN2×2-6L Plastic-Encapsulate MOSFET

CCMP1216 P-Channel Power MOSFET

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
-12V	12mΩ@-4.5V	-16A
	14mΩ@-2.5V	



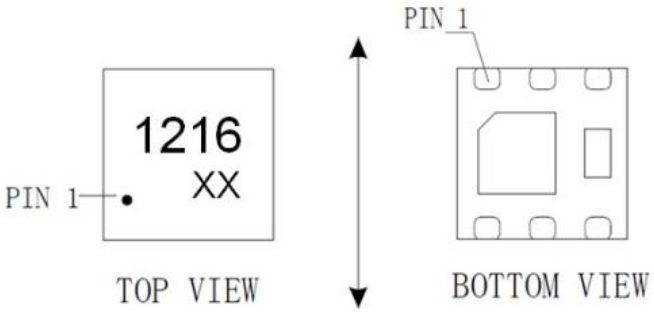
Feature

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

Application

- DC/DC Converter
- Load Switch for Portable Devices
- Battery Switch

MARKING



ABSOLUTE MAXIMUM RATINGS (T_A = 25℃ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	-12	V
Gate-Source Voltage	V_{GS}	±10	V
Continuous Drain Current	I_D	-16	A
Pulsed Drain Current(1)	I_{DM}	-65	A
Power Dissipation(2) (T_a=25℃)	P_D	2.5	W
Maximum Power Dissipation(3)(T_c=25℃)		18	W
Thermal Resistance from Junction to Ambient(4)	$R_{\theta JA}$	50	℃/W
Thermal Resistance from Junction to Case(4)	$R_{\theta JC}$	6.9	℃/W
Junction Temperature	T_J	150	℃
Storage Temperature	T_{STG}	-55~ +150	℃

MOSFET ELECTRICAL CHARACTERISTICS (T_J = 25℃ unless otherwise noted)

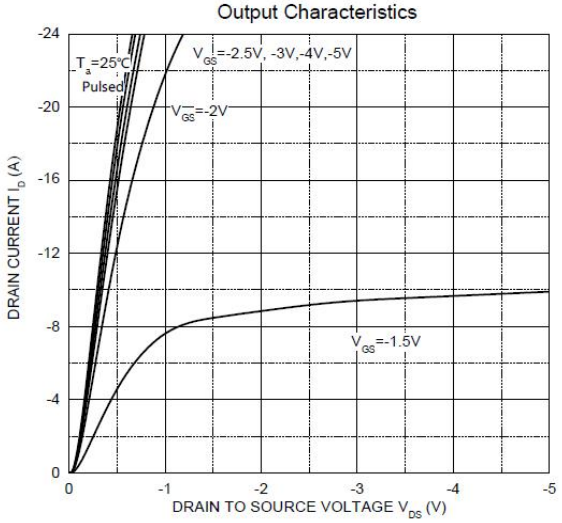
Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Static Characteristics						
Drain-source breakdown voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D =-250μA	-12			V
Zero gate voltage drain current	I_{DSS}	V_{DS} =-12V,V_{GS} = 0V			-1	μA
Gate-body leakage current	I_{GSS}	V_{GS} =±10V, V_{DS} = 0V			±100	nA
Gate threshold voltage(5)	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =-250μA	-0.4	-0.7	-1	V
Drain-source on-resistance(5)	$R_{DS(on)}$	V_{GS} =-4.5V, I_D =-6.7A		12	18	mΩ
		V_{GS} =-2.5V, I_D =-4.2A		14	27	
Forward tranconductance(5)	g_{FS}	V_{DS} =-10V, I_D =-6.7A		40		S
Dynamic characteristics(6)						
Input Capacitance	C_{iss}	V_{DS} =-6V,V_{GS} =0V,f =1MHz		1658		pF
Output Capacitance	C_{oss}			354		
Reverse Transfer Capacitance	C_{rss}			341		
Gate resistance	R_g	f =1MHz		45		Ω
Total Gate Charge	Q_g	V_{DS} =-6V,V_{GS} =-4.5V,I_D=-5A		18	23	nC
Gate-Source Charge	Q_{gs}			3		
Gate-Drain Charge	Q_{gd}			4.7		
Turn-on delay time	$t_{d(on)}$	V_{DD}=-6V,V_{GEN}=-4.5V,I_D=-4A R_L=6Ω,R_{GEN}=1Ω		33	40	ns
Turn-on rise time	t_r			31	40	
Turn-off delay time	$t_{d(off)}$			58	75	
Turn-off fall time	t_f			26	35	
Source-Drain Diode characteristics						
Diode forward current	I_S	T_C=25℃			-16	A
Diode pulsed forward current(1)	I_{SM}				-48	A
Diode Forward voltage(4)	V_{DS}	V_{GS} =0V, I_S=-2A		-0.82	-1.2	V

Notes :

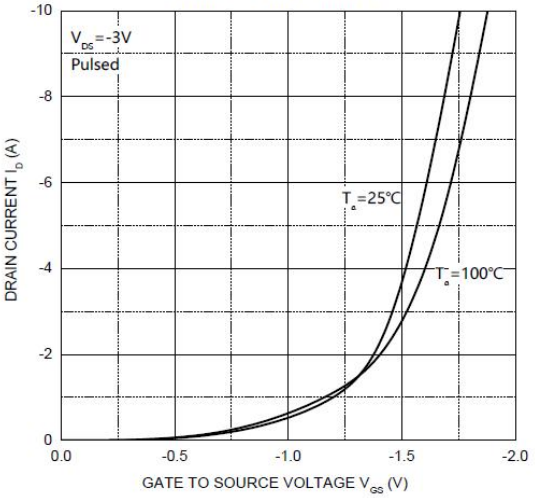
1. Repetitive Rating: Pulse width limited by maximum junction temperature.
2. This test is performed with no heat sink at T_a=25℃.
3. This test is performed with infinite heat sink at T_c=25℃.
4. Surface mounted on FR4 board, t≤10S.
5. Pulse Test: Pulse With ≤300μs,Duty Cycle≤2%.
6. Guaranteed by design, not subject to production testing.

Typical Characteristics

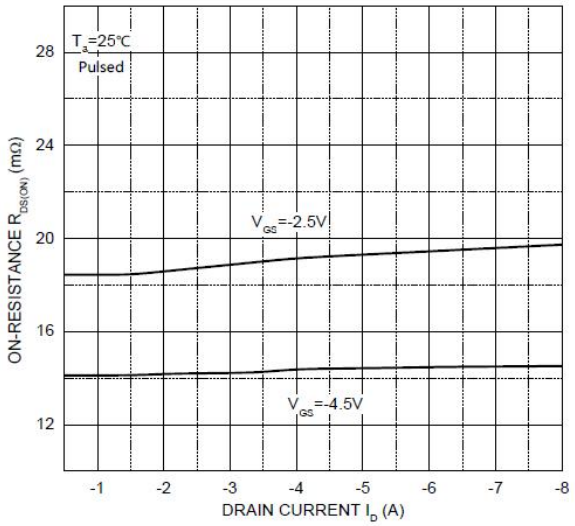
Output Characteristics



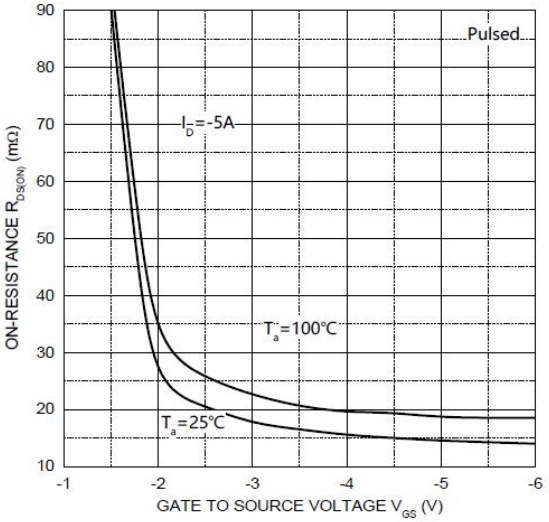
Transfer Characteristics



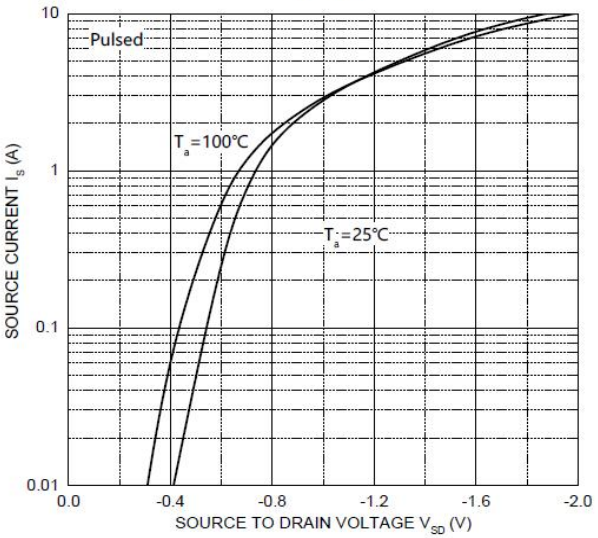
$R_{DS(ON)}$ – I_D



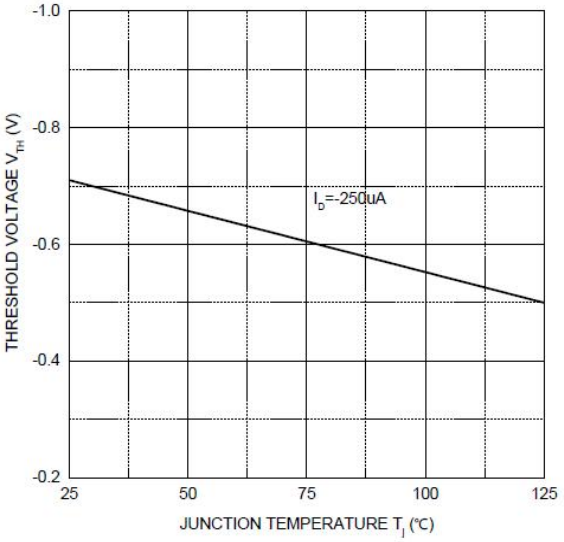
$R_{DS(ON)}$ - V_{GS}



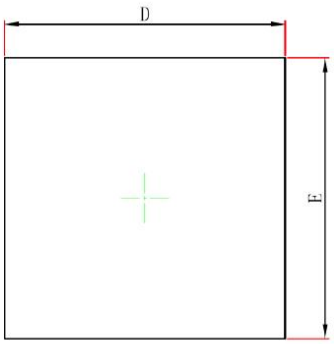
I_S - V_{SD}



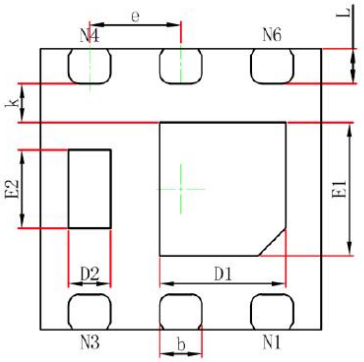
Threshold Voltage



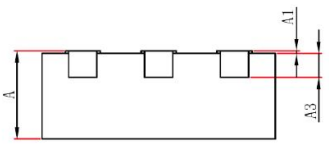
DFN2×2-6L Package Outline Dimensions



TOP VIEW



BOTTOM VIEW



SIDE 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	2.03REF		0.008REF	
D	1.900	2.100	0.075	0.083
E	1.900	2.100	0.075	0.083
D1	0.800	1.000	0.031	0.039
E1	0.850	1.050	0.033	0.041
D2	0.200	0.400	0.008	0.016
E2	0.460	0.660	0.018	0.026
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

Date of change	Rev #	revise content
2023/4/27	A/0	/