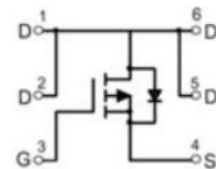
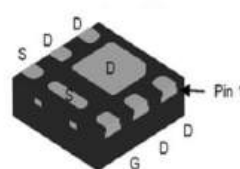


-20V/-12A P-Channel MOSFET

BVDSS	-20.0	V
ID	-12.0	A
RDSON@VGS=-4.5V	17.0	mΩ
RDSON@VGS=-2.5V	22.0	mΩ

DFN2x2-6L

Features

- Super Low Gate Charge
- Green Device Available
- Excellent CdV/dt effect decline
- Advanced high cell density Trench technology

Applications

- Load Switch
- Switching circuits
- High-speed line driver
- Power Management Functions

Order Information

Product	Package	Marking	Packing
M02P12P	DFN2X2-6L	2012	3000PCS/Reel

Absolute Maximum Ratings(Ta=25°C)

Symbol	Parameter	Max.	Units
V _{DS}	Drain-Source Voltage	-20	V
V _{GS}	Gate-Source Voltage	±12	V
I _D @T _C =25°C	Continuous Drain Current, V _{GS} @ -4.5V	-12	A
I _D @T _C =70°C	Continuous Drain Current, V _{GS} @ -4.5V	-8	A
I _{DM}	Pulsed Drain Current	-46	A
P _D @T _C =25°C	Total Power Dissipation	18	W
P _D @T _C =70°C	Total Power Dissipation	12	W
T _{STG}	Storage Temperature Range	-55 to 150	°C
T _J	Operating Junction Temperature Range	-55 to 150	°C

-20V/-12A P-Channel MOSFET
Electrical Characteristics (Ta=25°C unless otherwise specified)

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
BV_{DSS}	Drain-Source Breakdown Voltage	$V_{GS}=0V$, $I_D=-250\mu A$	-18	---	---	V
$\Delta BV_{DSS}/\Delta T_J$	BV_{DSS} Temperature Coefficient	Reference to 25°C, $I_D=-1mA$	---	-0.012	---	V/°C
$R_{DS(ON)}$	Static Drain-Source On-Resistance ²	$V_{GS}=-4.5V$, $I_D=-10A$	---	17	22	mΩ
		$V_{GS}=-2.5V$, $I_D=-5A$	---	22	30	
$V_{GS(th)}$	Gate Threshold Voltage	$V_{GS}=V_{DS}$, $I_D=-250\mu A$	-0.5	-0.75	-1.0	V
$\Delta V_{GS(th)}$	$V_{GS(th)}$ Temperature Coefficient		---	2.94	---	mV/°C
I_{DSS}	Drain-Source Leakage Current	$V_{DS}=-15V$, $V_{GS}=0V$, $T_J=25^\circ C$	---	---	1	μA
I_{GSS}	Gate-Source Leakage Current	$V_{GS}=\pm 12V$, $V_{DS}=0V$	---	---	±100	nA
gfs	Forward Transconductance	$V_{DS}=-5V$, $I_D=-10A$	---	43	---	S
Q_g	Total Gate Charge (-4.5V)	$V_{DS}=-10V$, $V_{GS}=-4.5V$, $I_D=-10A$	---	35	---	nC
Q_{gs}	Gate-Source Charge		---	5.0	---	
Q_{gd}	Gate-Drain Charge		---	10	---	
$T_{d(on)}$	Turn-On Delay Time	$V_{DD}=-10V$, $V_{GS}=-4.5V$, $R_G=3.3\Omega$, $I_D=-10A$	---	12.0	---	ns
T_r	Rise Time		---	40.0	---	
$T_{d(off)}$	Turn-Off Delay Time		---	30	---	
T_f	Fall Time		---	10	---	
C_{iss}	Input Capacitance	$V_{DS}=-15V$, $V_{GS}=0V$, $f=1MHz$	---	2800	---	pF
C_{oss}	Output Capacitance		---	690	---	
C_{rss}	Reverse Transfer Capacitance		---	590	---	

Note :

1. The data tested by surface mounted on a 1 inch² FR-4 board with 20Z copper.
2. The data tested by pulsed, pulse width $\leq 300\mu s$, duty cycle $\leq 2\%$
3. The power dissipation is limited by 150°C junction temperature
4. The data is theoretically the same as I_D and I_{DM} , in real applications, should be limited by total power dissipation.

-20V/-12A P-Channel MOSFET

Typical Characteristics

Figure 1 Output Characteristics

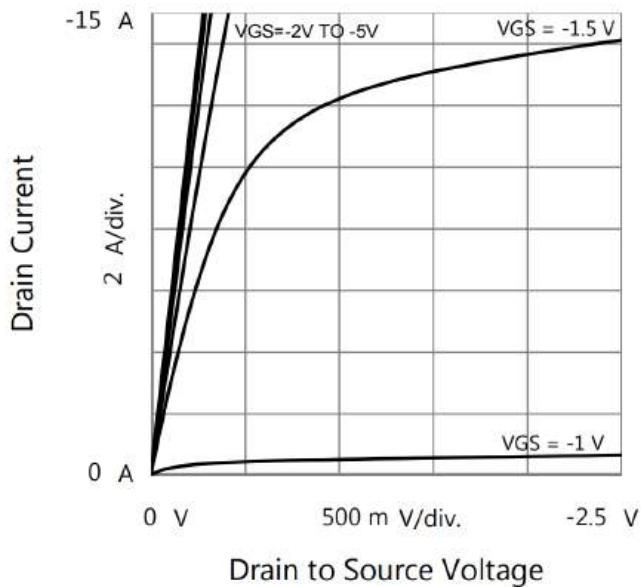


Figure 2 Transfer Characteristics

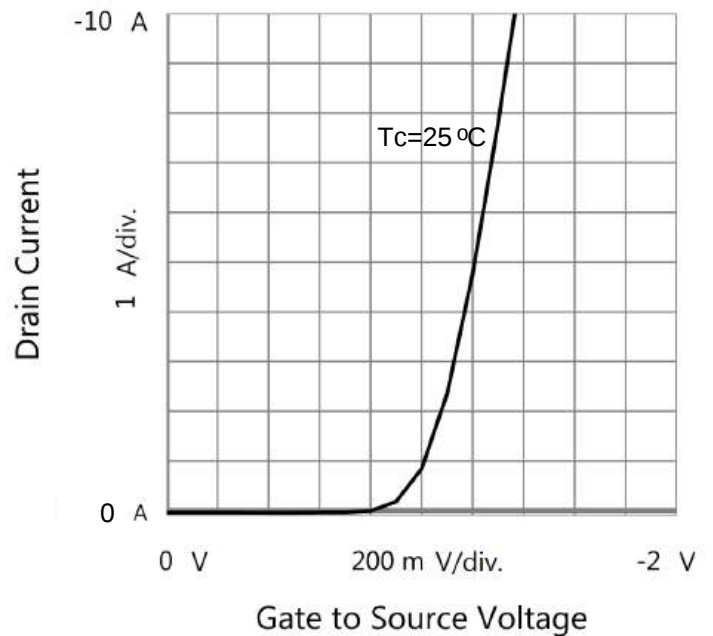


Figure 3 Drain to Source Voltage vs. Gate to Source Voltage

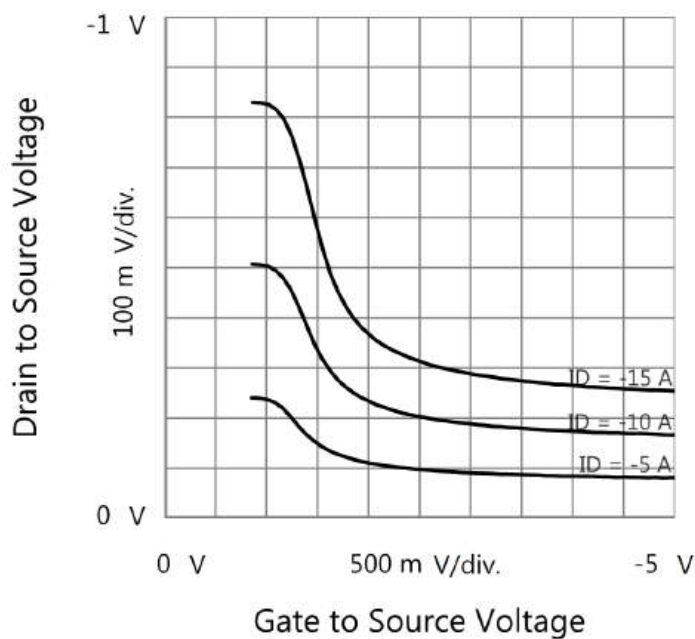
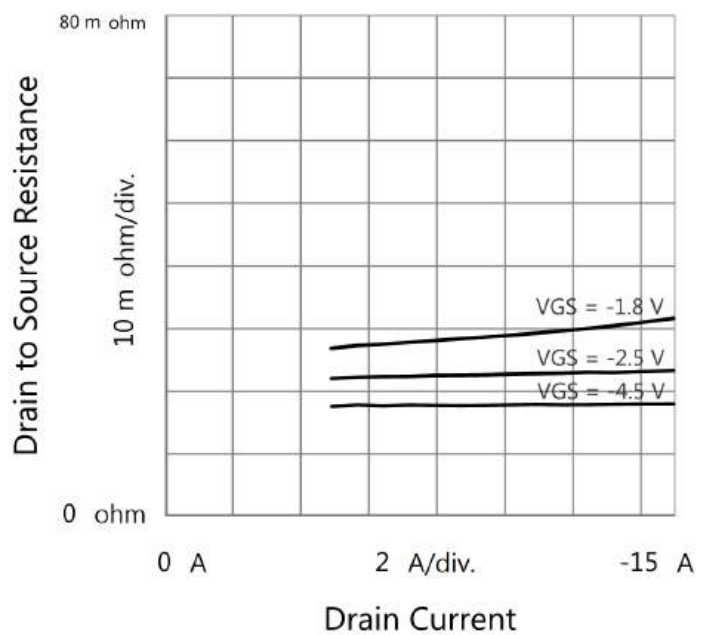
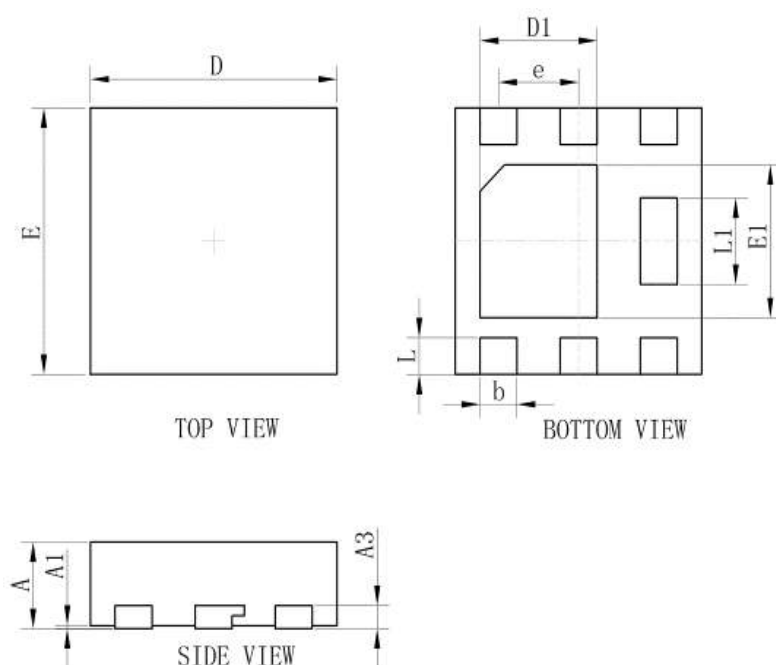


Figure 4 Drain to Source Resistance vs. Drain Current



-20V/-12A P-Channel MOSFET

DFN2X2-6L Mechanical Data



DFN2X2-6L			
DIM	MIN	NOR	MAX
A	0.50	0.55	0.60
A1	0.00	0.02	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	0.25	0.28	0.35
L1	0.46	0.56	0.66
D1	0.80	0.95	1.00
E1	0.80	0.90	1.00
A3	0.152REF		
All Dimensions in mm			

Recommended Mounting Pad Layout Unit:mm

