Description

MOSFET Product Summary		
$V_{DS}(V)$	$R_{DS(on)}(\Omega)$	$I_D(A)$
-20	0.110 @ V_{GS}=-4.5V	-3.0
	0.160 @ V_{GS}=-2.5V	-2.2
	0.240 @ V_{GS}=-1.8V	-2.0
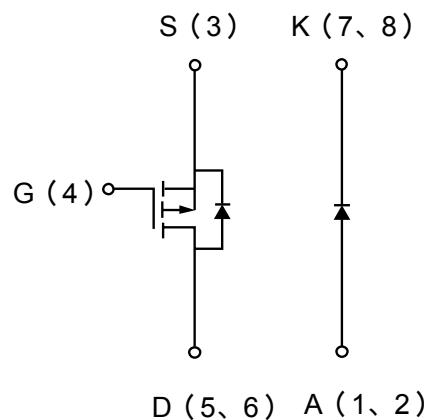
Schottky Product Summary		
$V_{KA}(V)$	$V_F(V)$	$I_F(A)$
20	0.48V @ 0.5A	1.0

S（3） K（7、8）

G（4）

D（5、6） A（1、2）

Electrical characteristics per line@25℃(unless otherwise specified)

Parameter		Symbol	Steady State	Units
Drain-Source Voltage (MOSFET and Schottky)		V_{DS}	-20	V
Reverse Voltage (Schottky)		V_{KA}	20	
Gate-Source Voltage (MOSFET)		V_{GS}	± 10	
Continuous Drain Current (TJ=150°C) (MOSFET)	T_A=25°C	I_D	-3.0	A
	T_A=85°C		-2.0	
Pulsed Drain Current (MOSFET)		I_{DM}	-10	
Continuous Source Current (MOSFET Diode Conduction)[a]		I_S	-0.9	
Average Forward Current (Schottky)		I_F	1.0	
Pulsed Forward Current (Schottky)		I_{FM}	7	
Maximum Power Dissipation (MOSFET)	T_A=25°C	P_D	1.1	W
	T_A=85°C		0.6	
Maximum Power Dissipation (Schottky)	T_A=25°C		0.96	
	T_A=85°C		0.59	
Operating Junction and Storage Temperature Range		T_J,T_{stg}	-55 ~ 150	°C
Soldering Recommendation (Peak Temperature)			260	

Absolute maximum rating@25℃

| Parameter		Device	Symbol	Typical	Maximum	Unit
Junction to Ambient	t ≤ 5sec	MOSFET	R_{thJA}	50	60	°C/W
		Schottky		77	95	
	Steady State	MOSFET		90	110	
		Schottky		110	130	
Junction to Foot	Steady Stage	MOSFET	R_{thJF}	30	40	
		Schottky		33	40	

MOSFET Specifications (TJ=25℃ Unless Otherwise Noted)

Parameter	Symbol	Device	Min	Typ	Max	Unit
Static						
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$, I_D=-250µA	-0.45			V
Gate-Body Leakage	I_{GSS}	V_{DS}=0V, V_{GS}=±8V			±100	nA
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=-16V, V_{GS}=0V			-1	µA
		V_{DS}=-16V, V_{GS}=0V, T_J=85°C			-5	
On-State Drain Current	I_D(on)	V_{DS}≤-5V, V_{GS}=-4.5V	-2			A
Drain-Source On-State Resistance	$r_{DS(on)}$	V_{GS}=-4.5V, I_D=-3.0A		0.094	0.110	Ω
		V_{GS}=-2.5V, I_D=-2.2A		0.138	0.160	
		V_{GS}=-1.8V, I_D=-2.0A		0.200	0.240	
Forward Tran conductance	gfs	V_{DS}=-10V, I_D=-2.8A		7		S
Diode Forward Voltage	V_{SD}	I_S=-0.9A, V_{GS}=0V		-0.8	-1.2	V
Dynamic						
Total Gate Charge	Q_g	V_{DS}=-10V		4.2	6.0	nC
Gate-Source Charge	Q_{gs}	V_{GS}=-4.5V		1.3		
Gate-Drain Charge	Q_{gd}	I_D=-2.8A		0.60		
Turn-On Delay Time	$t_{d(on)}$	V_{DD}=-10V, R_L=10Ω I_D=-1A V_{GEN}=-4.5V, RG=6Ω		15	23	ns
Rise Time	t_r			28	42	
Turn-Off Delay Time	$t_{d(off)}$			28	42	
Fall Time	t_f			25	38	
Source-Drain Reverse Recovery Time	t_{rr}	I_F=-0.9Am,di/dt=100A/µs		20	40	

MOSFET Specifications (TJ=25℃ Unless Otherwise Noted)

Parameter	Symbol	Device	Min	Typ	Max	Unit
Forward Voltage Drop	V_F	I_F=0.5A		0.43	0.48	V
		I_F=0.5A, T_J=125°C		0.33	0.4	
Maximum Reverse Leakage Current	Irm	Vr=20V		0.002	0.100	mA
		Vr=20V, T_J=85°C		0.10	1	
		Vr=20V, T_J=125°C		1.5	10	
Junction Capacitance	C_T	Vr=10V		31		pF

Typical Characteristics
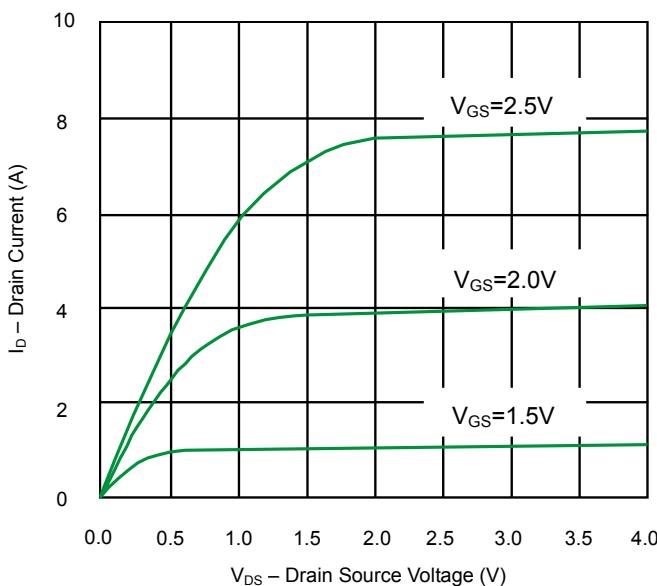
Fig 1. Output Characteristics
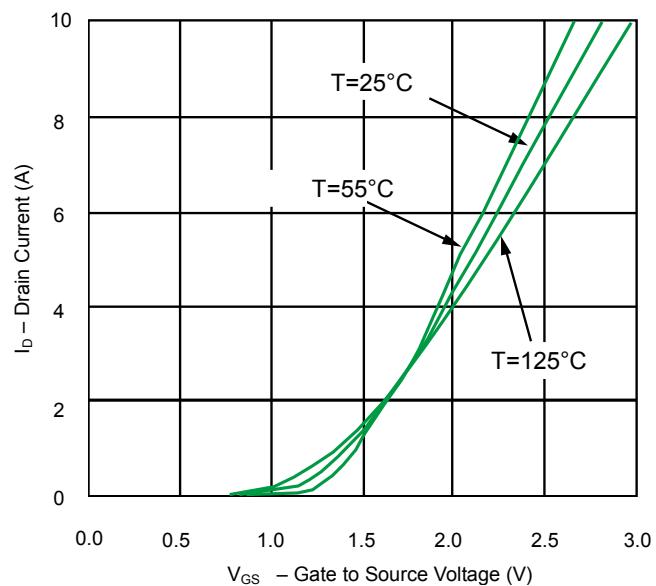
Fig 2. Transfer Characteristics
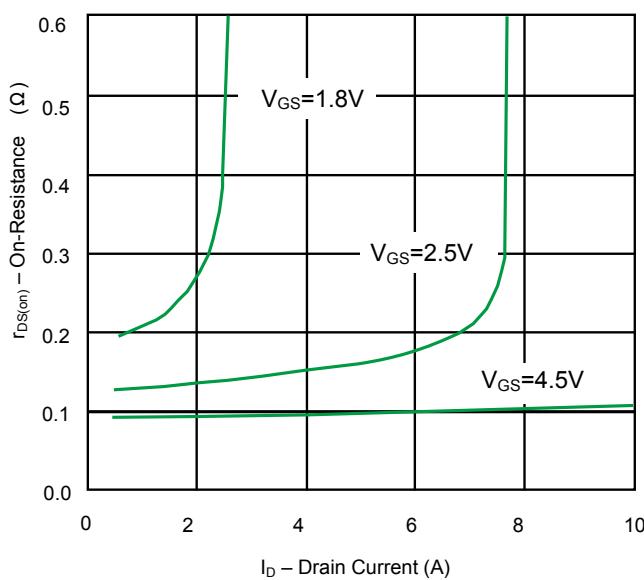
Fig 3. On-Resistance vs. Drain Current
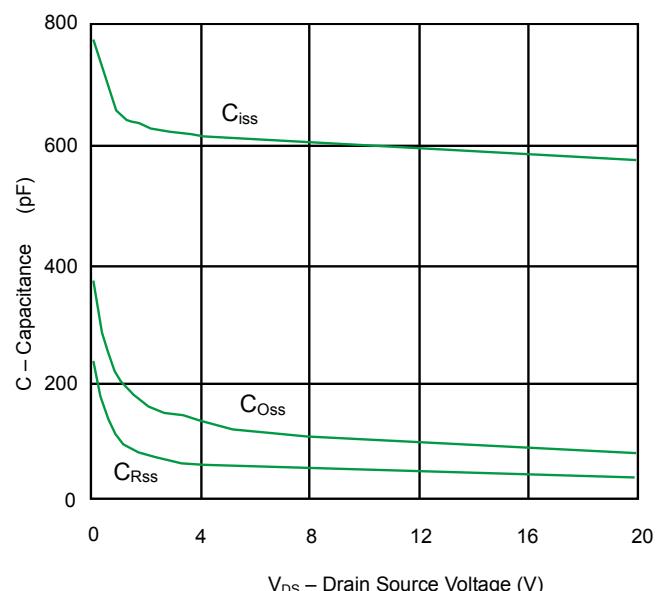
Fig 4. Capacitance

Product dimension (DFN-8L)(3*2)

Bottom view
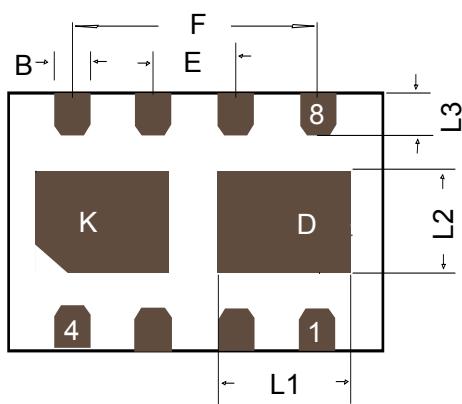
Side view
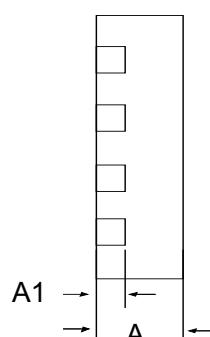
Top view
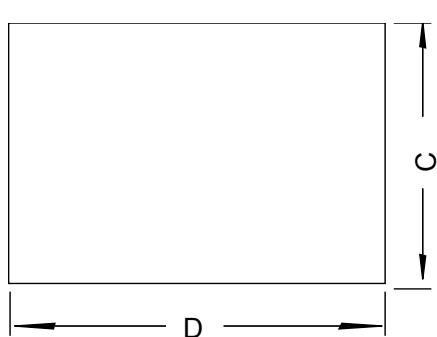
Recommended land pattern (Unit:mm)
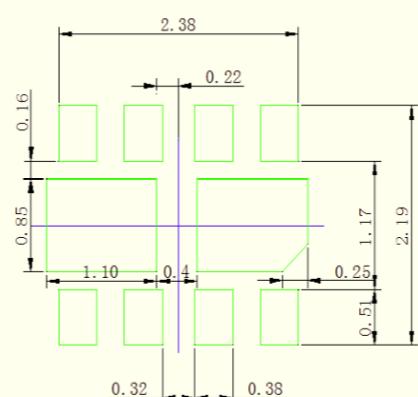
Dim	Millimeters	
	MIN	MAX
A	0.425	0.525
A1	0.108	0.154
B	0.23	0.33
C	1.95	2.05
D	2.95	3.05
E	0.60	0.70
F	1.90	2.00
L1	1.00	1.10
L2	0.75	0.85
L3	0.25	0.35

IMPORTANT NOTICE

Ⓟ and **Prisemi**® are registered trademarks of **Prisemi Electronics Co., Ltd (**Prisemi**)** ,Prisemi reserves the right to make changes without further notice to any products herein. Prisemi makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does Prisemi assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages. "Typical" parameters which may be provided in Prisemi data sheets and/or specifications can and do vary in different applications and actual performance may vary over time. All operating parameters, including "Typicals" must be validated for each customer application by customer's technical experts. Prisemi does not convey any license under its patent rights nor the rights of others. The products listed in this document are designed to be used with ordinary electronic equipment or devices, Should you intend to use these products with equipment or devices which require an extremely high level of reliability and the malfunction of with would directly endanger human life (such as medical instruments, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), please be sure to consult with our sales representative in advance.

Website: http://www.prisemi.com

For additional information, please contact your local Sales Representative.

©Copyright 2009, Prisemi Electronics

Ⓟ **Prisemi**® is a registered trademark of Prisemi Electronics.