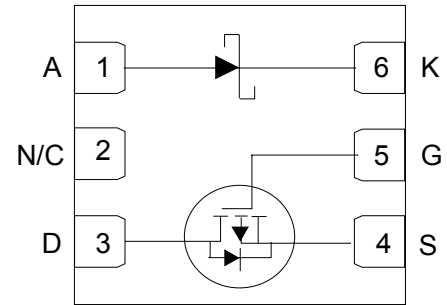


Description

MOSFET Product Summary		
$V_{DS}(V)$	$R_{DS(on)}(\Omega)$	$I_D(A)$
-20	0.110 @ $V_{GS}=-4.5V$	-2.8
	0.160 @ $V_{GS}=-2.5V$	-2.0
	0.240 @ $V_{GS}=-1.8V$	-1.8

Schottky Product Summary		
$V_{KA}(V)$	$V_F(V)$	$I_F(A)$
20	0.48V @ 0.5A	1.0


Electrical characteristics per line@25°C (unless otherwise specified)

Parameter		Symbol	Value	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 ($T_J=150^\circ C$) (MOSFET)	$T_A=25^\circ C$	I_D	-2.8	A
	$T_A=85^\circ C$		-1.9	
Pulsed Drain Current (MOSFET)		I_{DM}	-10	
Continuous Source Current (MOSFET Diode Conduction)		I_S	-0.9	
Average Forward Current (Schottky)		I_F	1.0	
Pulsed Forward Current (Schottky)		I_{FM}	7	
Maximum Power Dissipation (MOSFET)	$T_A=25^\circ C$	P_D	1.1	
	$T_A=85^\circ C$		0.6	
Maximum Power Dissipation (Schottky)	$T_A=25^\circ C$		0.96	
	$T_A=85^\circ C$		0.59	
Operating Junction and Storage Temperature Range		T_J, T_{stg}	-55 ~ 150	$^\circ C$
Soldering Recommendation (Peak Temperature)		T_{PS}	260	$^\circ C$

Absolute maximum ratings @25°C

Parameter	Condition	Symbol	Typical	Maximum	Unit	
Thermal Resistance (Junction to Ambient)	MOSFET	$t \leq 5\text{sec}$	R_{thJA}	50	60	°C/W
	Schottky			77	95	
	MOSFET	Steady State	R_{thJA}	90	110	
	Schottky			110	130	
Thermal Resistance (Junction to Pin)	MOSFET	Steady State	R_{thJP}	30	40	
	Schottky			33	40	

MOSFET Specifications ($T_J=25^\circ\text{C}$ Unless Otherwise Noted)

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Static						
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=-250\mu\text{A}$	-0.45			V
Gate-Body Leakage Current	I_{GSS}	$V_{DS}=0\text{V}, V_{GS}=\pm 8\text{V}$			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-16\text{V}, V_{GS}=0\text{V}$			-1	μA
		$V_{DS}=-16\text{V}, V_{GS}=0\text{V}, T_J=85^\circ\text{C}$			-5	
On-State Drain Current	$I_D(on)$	$V_{DS}\leq -5\text{V}, V_{GS}=-4.5\text{V}$	-2			A
Drain-Source On-State Resistance	$R_{DS(on)}$	$V_{GS}=-4.5\text{V}, I_D=-2.8\text{A}$		0.095	0.110	Ω
		$V_{GS}=-2.5\text{V}, I_D=-2.0\text{A}$		0.140	0.160	
		$V_{GS}=-1.8\text{V}, I_D=-1.8\text{A}$		0.200	0.240	
Forward Tran Conductance	g_{fs}	$V_{DS}=-10\text{V}, I_D=-2.8\text{A}$		7		S
Diode Forward Voltage	V_{SD}	$I_S=-0.9\text{A}, V_{GS}=0\text{V}$		-0.8	-1.2	V
Dynamic						
Total Gate Charge	Q_g	$V_{DS}=-10\text{V}$ $V_{GS}=-4.5\text{V}$ $I_D=-2.8\text{A}$		4.2	6.0	nC
Gate-Source Charge	Q_{gs}			1.3		
Gate-Drain Charge	Q_{gd}			0.60		
Turn-On Delay Time	$t_{d(on)}$	$V_{DD}=-10\text{V}, R_L=10\Omega$ $I_D=-1\text{A}$ $V_{GEN}=-4.5\text{V}, R_G=6\Omega$		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}	$I_F=-0.9\text{A}, di/dt=100\text{A}/\mu\text{s}$		20	40	

Schottky Specifications ($T_J=25^\circ\text{C}$ Unless Otherwise Noted)

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Forward Voltage	V_F	$I_F=0.5\text{A}$		0.43	0.48	V
		$I_F=0.5\text{A}, T_J=125^\circ\text{C}$		0.33	0.4	
Maximum Reverse Leakage Current	I_{rm}	$V_r=20\text{V}$		0.002	0.100	mA
		$V_r=20\text{V}, T_J=85^\circ\text{C}$		0.10	1	
		$V_r=20\text{V}, T_J=125^\circ\text{C}$		1.5	10	
Junction Capacitance	C_T	$V_r=10\text{V}$		31		pF

Typical Characteristics

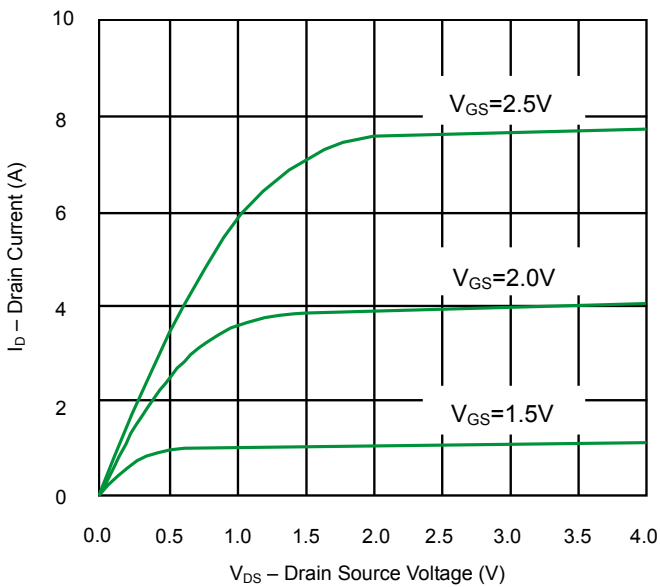


Fig 1. Output Characteristics

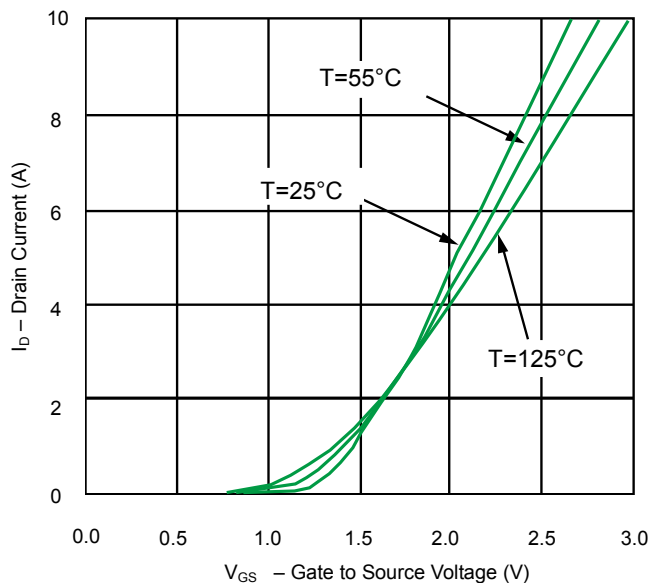


Fig 2. Transfer Characteristics

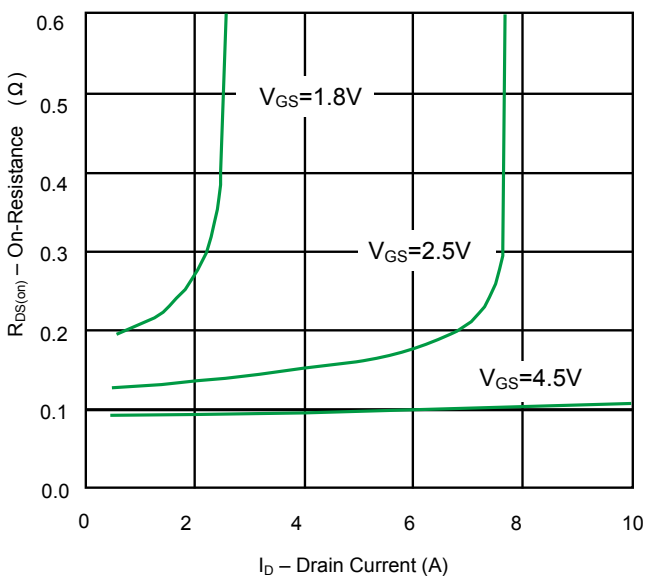


Fig 3. On-Resistance vs. Drain Current

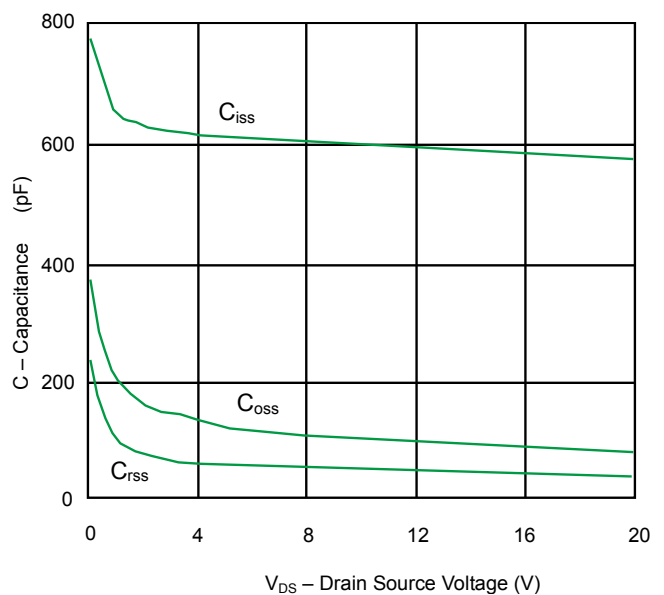
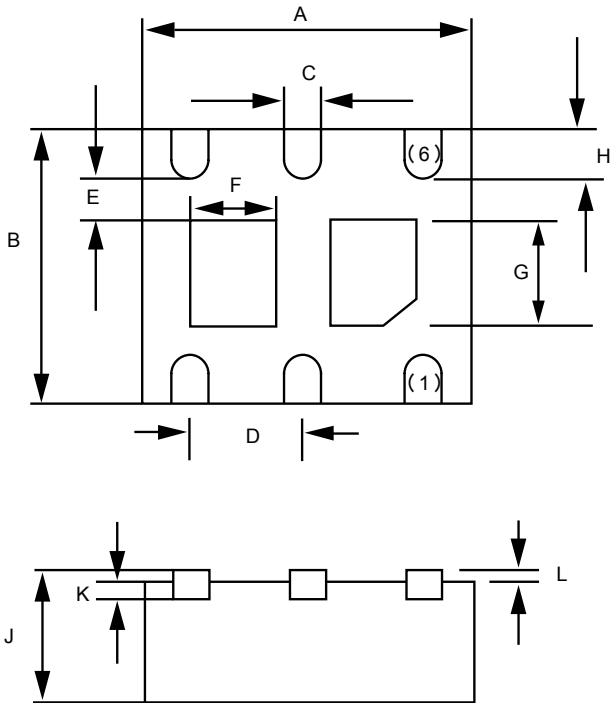
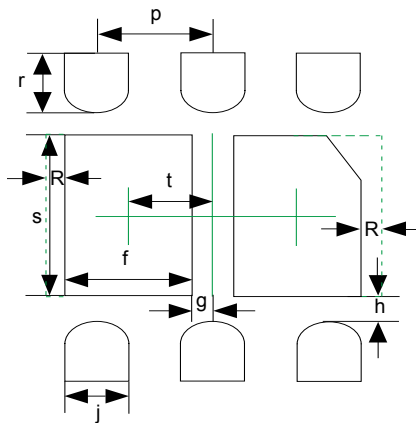


Fig 4. Capacitance

Product dimension DFN-6L(2*2)



Dim	Millimeters		Inches	
	MIN	MAX	MIN	MAX
A	1.924	2.076	0.076	0.082
B	1.924	2.076	0.076	0.082
C	0.250	0.350	0.010	0.014
D	0.650 (typ.)		0.026 (typ.)	
E	0.200 MIN.		0.008 MIN.	
F	0.520	0.720	0.020	0.028
G	0.900	1.100	0.035	0.043
H	0.174	0.326	0.007	0.013
J	0.550	0.650	0.021	0.027
K	0.206 REF		0.206 REF	
L	0.203 REF		0.203 REF	




If there is enough place in PCB. It can be mounted with copper along the dotted line in order to optimize thermal design.

Dim	Millimeters	
	MIN	MAX
p	0.60	0.70
r	0.40	0.50
s	1.05	1.15
t	0.42	0.52
f	0.67	0.77
g	0.06	0.16
h	0.1	0.2
j	0.35	0.45
R	0.1	0.2

Ordering information

Device	Package	Shipping
PPMS6N20V3	DFN-6L (2*2)	3000 / Tape & Reel


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