

## DFNWB2×2-6L-A Power Management MOSFETs-Schottky

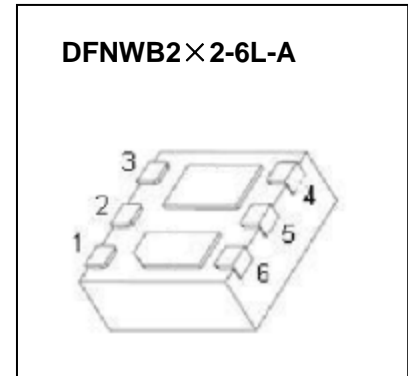
CJLJF3117P P-channel MOSFET and Schottky Barrier Diode

### FEATURES

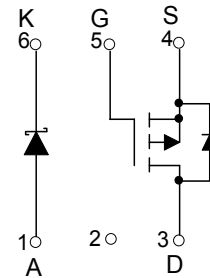
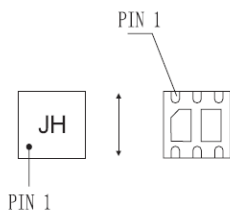
- Independent Pinout to Each Device to Ease Circuit Design
- High Current Schottky Diode
- Including a CJ2301 MOSFET and a RB551V-30 Schottky (independently) in a package

### APPLICATIONS

- Optimized for Portable Applications Like Cell Phones, Digital Cameras, Media Players, etc
- DC-DC Buck Circuits
- Li-ion Battery Applications
- Color Display and Camera Flash Regulators



### MARKING:



### MAXIMUM RATINGS (T<sub>a</sub>=25°C unless otherwise noted)

Symbol	Parameter	Value	Unit
<b>P-MOSFET</b>			
V <sub>DS</sub>	Drain-Source Voltage	-20	V
V <sub>GS</sub>	Gate-Source Voltage	±8	V
I <sub>D</sub>	Continuous Drain Current	-3.3	A
I <sub>DM</sub> *	Pulse Drain Current	-10	A
<b>Schottky Barrier Diode</b>			
V <sub>RRM</sub>	Peak Repetitive Reverse Voltage	30	V
V <sub>R</sub>	DC Blocking Voltage	30	V
I <sub>O</sub>	Average Rectified Forward Current	2	A
<b>Power Dissipation, Temperature and Thermal Resistance</b>			
P <sub>D</sub>	Power Dissipation	0.75	W
R <sub>θJA</sub>	Thermal Resistance from Junction to Ambient	83.3	°C/W
T <sub>j</sub>	Junction Temperature	150	°C
T <sub>stg</sub>	Storage Temperature	-55~+150	°C
T <sub>L</sub>	Lead Temperature for Soldering Purposes(1/8" from case for 10 s)	260	°C

\*Repetitive rating: Pluse width limited by junction temperature.

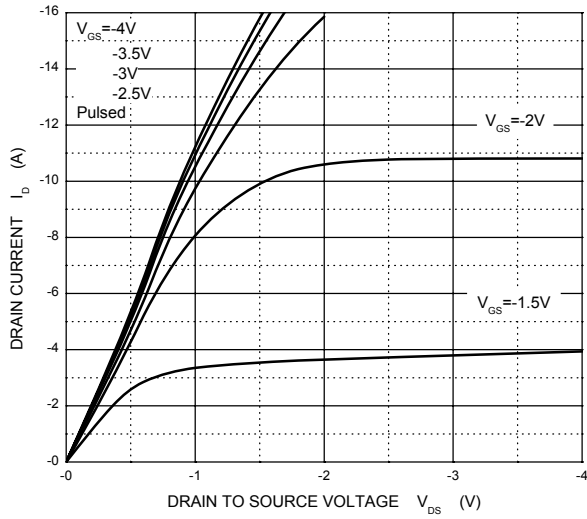
ELECTRICAL CHARACTERISTICS (T<sub>a</sub>=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
<b>P-MOSFET</b>						
<b>STATIC PARAMETERS</b>						
Drain-source breakdown voltage	V <sub>(BR)DSS</sub>	V <sub>GS</sub> = 0V, I <sub>D</sub> = -250μA	-20			V
Zero gate voltage drain current	I <sub>DSS</sub>	V <sub>DS</sub> = -16V, V <sub>GS</sub> = 0V			-1	μA
Gate-body leakage current	I <sub>GSS</sub>	V <sub>GS</sub> = ±8V, V <sub>DS</sub> = 0V			±100	nA
Gate threshold voltage	V <sub>GS(th)</sub>	V <sub>DS</sub> = V <sub>GS</sub> , I <sub>D</sub> = -250μA	-0.4		-1	V
Drain-source on-resistance(note1)	R <sub>DS(on)</sub>	V <sub>GS</sub> = -4.5V, I <sub>D</sub> = -2A			100	mΩ
		V <sub>GS</sub> = -2.5V, I <sub>D</sub> = -2A			135	mΩ
		V <sub>GS</sub> = -1.8V, I <sub>D</sub> = -1.6A			250	mΩ
Forward transconductance(note1)	g <sub>FS</sub>	V <sub>DS</sub> = -5V, I <sub>D</sub> = -2A	2.5			S
Diode forward voltage(note1)	V <sub>SD</sub>	I <sub>S</sub> = -1A, V <sub>GS</sub> = 0V			-1	V
<b>DYNAMIC PARAMETERS (note 2)</b>						
Input capacitance	C <sub>iss</sub>	V <sub>DS</sub> = -10V, V <sub>GS</sub> = 0V, f = 1MHz		531		pF
Output capacitance	C <sub>oss</sub>			91		pF
Reverse transfer capacitance	C <sub>rss</sub>			56		pF
<b>SWITCHING PARAMETERS (note 2)</b>						
Turn-on delay time	t <sub>d(on)</sub>	V <sub>GS</sub> = -4.5V, V <sub>DD</sub> = -5V, R <sub>G</sub> = 6Ω, I <sub>D</sub> = -1A		5.2		ns
Turn-on rise time	t <sub>r</sub>			13.2		ns
Turn-off delay time	t <sub>d(off)</sub>			13.7		ns
Turn-off fall time	t <sub>f</sub>			19.1		ns
Total Gate Charge	Q <sub>g</sub>	V <sub>DS</sub> = -10V, V <sub>GS</sub> = -4.5V, I <sub>D</sub> = -2A		5.5	6.2	nC
Gate-Source Charge	Q <sub>gs</sub>			1.0		nC
Gate-Drain Charge	Q <sub>gd</sub>			1.4		nC
Gate Resistance	R <sub>g</sub>			8.8		Ω
<b>SCHOTTKY BARRIER DIODE</b>						
Forward voltage	V <sub>F</sub>	I <sub>F</sub> = 0.1A			0.39	V
		I <sub>F</sub> = 1A			0.55	V
Reverse current	I <sub>R</sub>	V <sub>R</sub> = 30V			20	μA
		V <sub>R</sub> = 20V			8	μA
		V <sub>R</sub> = 10V			4.5	μA
Junction capacitance	C <sub>j</sub>	V <sub>R</sub> = 5V, f = 1MHz		30		pF

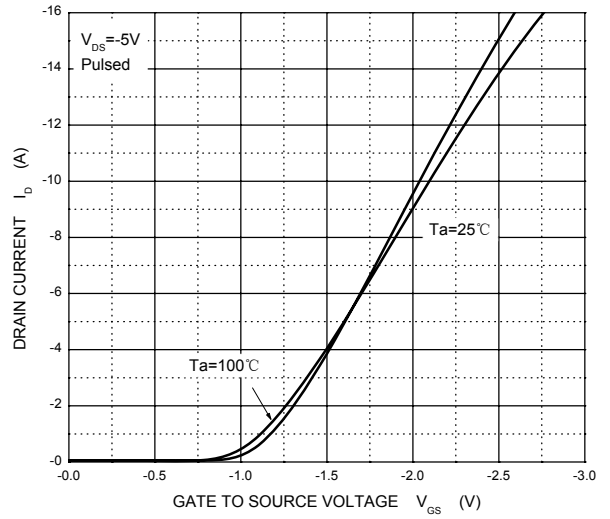
**Note:**

1. Pulse test: pulse width = 300μs, duty cycle ≤ 2%
2. These parameters have no way to verify.

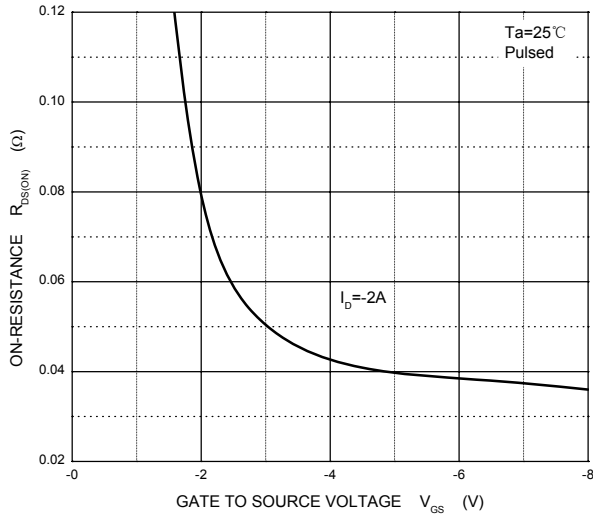
Output Characteristics



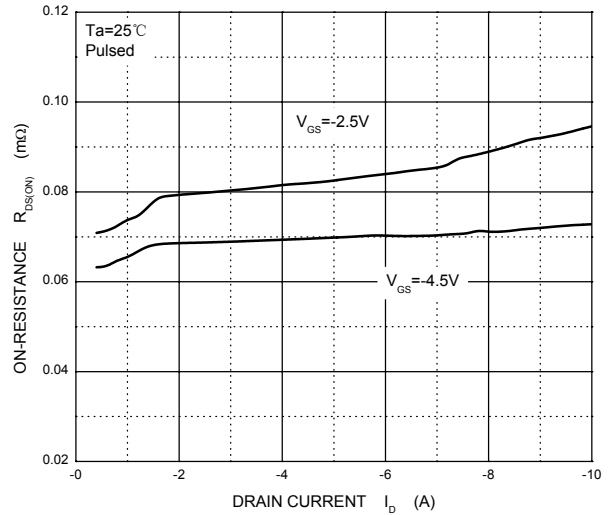
Transfer Characteristics



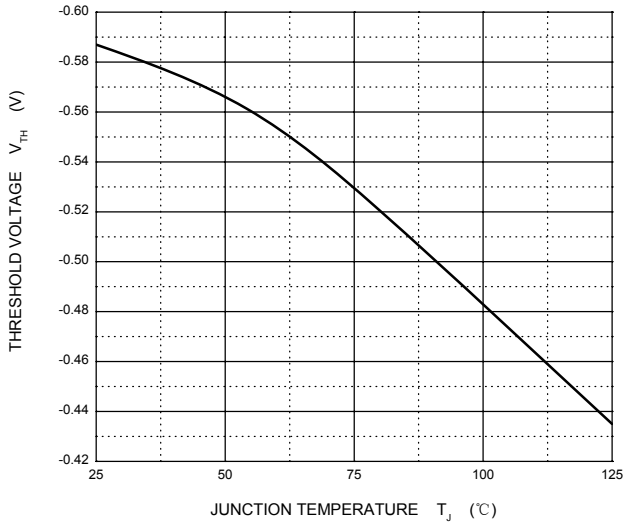
$R_{DS(ON)}$  —  $V_{GS}$



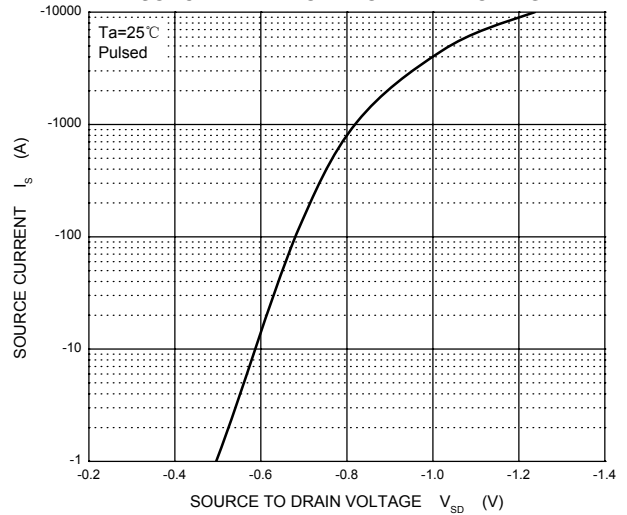
$R_{DS(ON)}$  —  $I_D$



Threshold Voltage



SORCE DRAIN DIODE FORWARD VOLTAGE



# Schottky Characteristics

