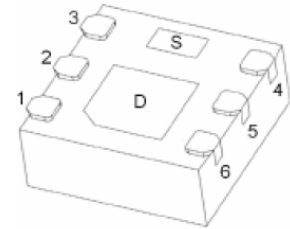
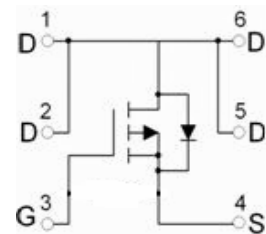


$V_{(BR)DSS}$	$R_{DS(on)MAX}$	$I_D$
-12V	30mΩ@-4.5V	-8A
	34mΩ@-3.7V	
	42mΩ@-2.5V	
	65mΩ@-1.8V	
	150mΩ@-1.5V	



DFNWB2×2-6L-J



### FEATURE

- Advanced trench MOSFET process technology
- Ultra low on-resistance with low gate charge

### APPLICATION

- PWM application
- Load switch
- Battery charge in cellular handset

### ABSOLUTE MAXIMUM RATINGS ( $T_a=25^{\circ}C$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	$V_{DS}$	-12	V
Gate-Source Voltage	$V_{GS}$	±8	
Drain Current-Continuous	$I_D$	-8	A
Drain Current-Pulsed	$I_{DM}^*$	-28	
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	357	$^{\circ}C/W$
Junction Temperature	$T_j$	125	
Storage Temperature	$T_{STG}$	-55 ~ +150	

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

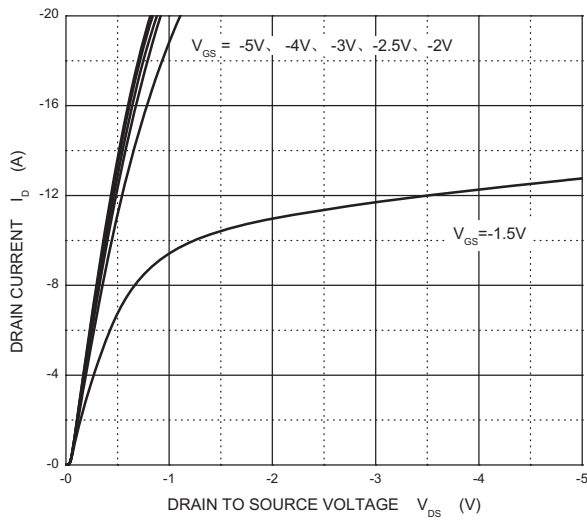
**MOSFET ELECTRICAL CHARACTERISTICS**
**T<sub>a</sub>=25 °C unless otherwise specified**

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
<b>Static Characteristics</b>						
Drain-source breakdown voltage	V <sub>(BR)DSS</sub>	V <sub>GS</sub> = 0V, I <sub>D</sub> = -250μA	-12			V
Zero gate voltage drain current	I <sub>DSS</sub>	V <sub>DS</sub> = -12V, 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			±0.1	μA
Gate threshold voltage (note 1)	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 (note 1)	R <sub>DS(on)</sub>	V <sub>GS</sub> = -4.5V, I <sub>D</sub> = -5A			30	mΩ
		V <sub>GS</sub> = -3.7V, I <sub>D</sub> = -4.6A			34	
		V <sub>GS</sub> = -2.5V, I <sub>D</sub> = -4.3A			42	
		V <sub>GS</sub> = -1.8V, I <sub>D</sub> = -1A			65	
		V <sub>GS</sub> = -1.5V, I <sub>D</sub> = -0.5A			150	
Forward transconductance (note 1)	g <sub>FS</sub>	V <sub>DS</sub> = -5V, I <sub>D</sub> = -5A		18		S
<b>Dynamic characteristics (note 2)</b>						
Input Capacitance	C <sub>iss</sub>	V <sub>DS</sub> = -6V, V <sub>GS</sub> = 0V, f = 1MHz		1275		pF
Output Capacitance	C <sub>oss</sub>			255		pF
Reverse Transfer Capacitance	C <sub>rss</sub>			236		pF
Gate resistance	R <sub>g</sub>	f = 1MHz	1.9		19	Ω
Total Gate Charge	Q <sub>g</sub>	V <sub>DS</sub> = -6V, V <sub>GS</sub> = -4.5V, I <sub>D</sub> = -5A		14	21	nC
Gate-Source Charge	Q <sub>gs</sub>			2.3		nC
Gate-Drain Charge	Q <sub>gd</sub>			3.6		nC
Turn-on delay time	t <sub>d(on)</sub>	V <sub>DD</sub> = -6V, V <sub>GEN</sub> = -4.5V, I <sub>D</sub> = -4A R <sub>L</sub> = 6Ω, R <sub>GEN</sub> = 1Ω		26	40	ns
Turn-on rise time	t <sub>r</sub>			24	40	ns
Turn-off delay time	t <sub>d(off)</sub>			45	70	ns
Turn-off fall time	t <sub>f</sub>			20	35	ns
<b>Source-Drain Diode characteristics</b>						
Diode forward current	I <sub>S</sub>				-8	A
Diode pulsed forward current	I <sub>SM</sub>				-28	A
Diode Forward voltage (note 1)	V <sub>DS</sub>	V <sub>GS</sub> = 0V, I <sub>S</sub> = -4A			-1.2	V
Diode reverse recovery time (note 2)	t <sub>rr</sub>	I <sub>F</sub> = -4A, dI/dt = 100A/μs		24	48	ns
Diode reverse recovery charge (note 2)	Q <sub>rr</sub>			8	16	nC

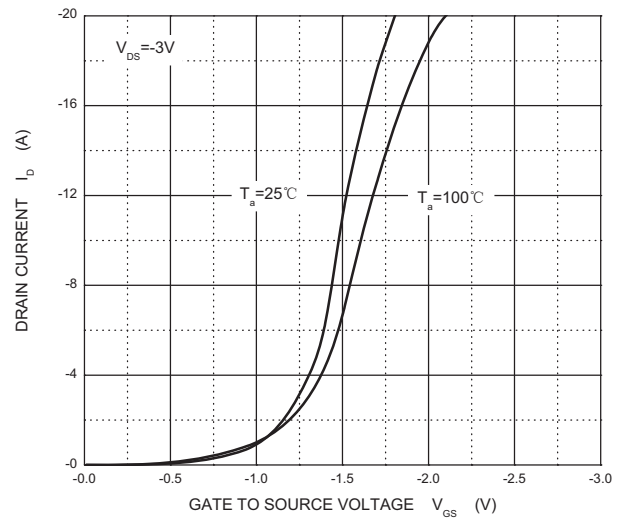
**Notes :** 1. Pulse test; pulse width ≤ 300μs, duty cycle ≤ 2%.

## Typical Characteristics

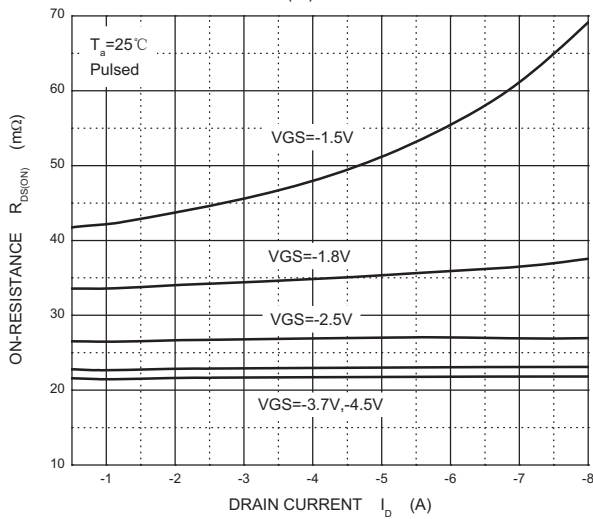
### Output Characteristics



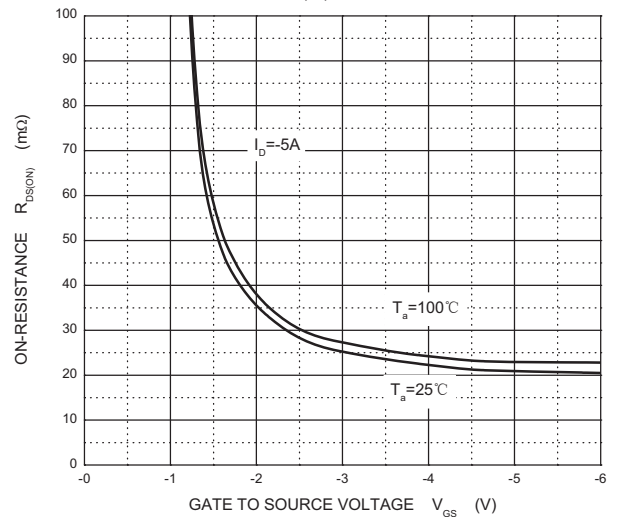
### Transfer Characteristics



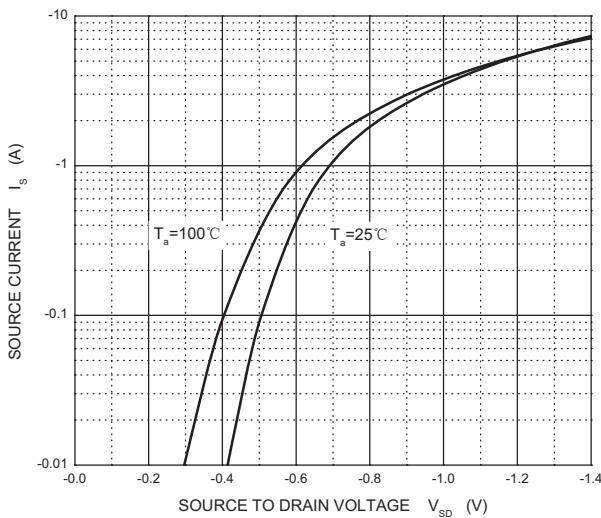
### $R_{DS(ON)}$ — $I_D$



### $R_{DS(ON)}$ — $V_{GS}$



### $I_S$ — $V_{SD}$



### Threshold Voltage

