Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
-20V	16mΩ@-4.5V	-13A
	23mΩ@-2.5V	

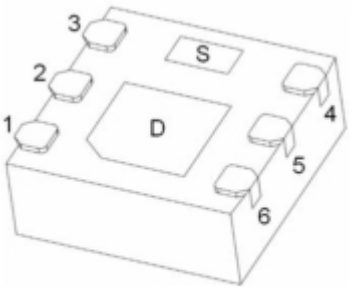
Feature

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

Applications

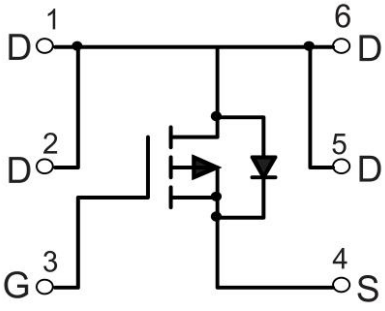
- PWM application
- Load switch
- Battery charge in cellular handset

Package

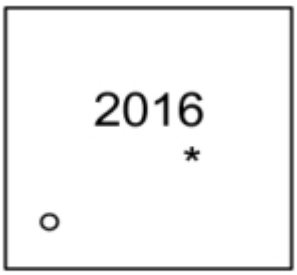


DFNWB2*2-6L

Circuit diagram



Marking



2016 =Device Code
*** =Month Code**

Absolute maximum ratings

(T_a=25℃ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-source Voltage	V_{DS}	-20	V
Gate-source Voltage	V_{GS}	±12	V
Drain Current (T_C=25℃)	I_D	-13	A
Pulsed Drain Current [1]	I_{DM}	-52	A
Total Power Dissipation (T_C=25℃)	P_D	4	W
Thermal Resistance Junction-to-Case @ Steady State	$R_{\theta JC}$	31.25	℃/W
Junction and Storage Temperature Range	T_J, T_{STG}	-55 ~ +150	℃

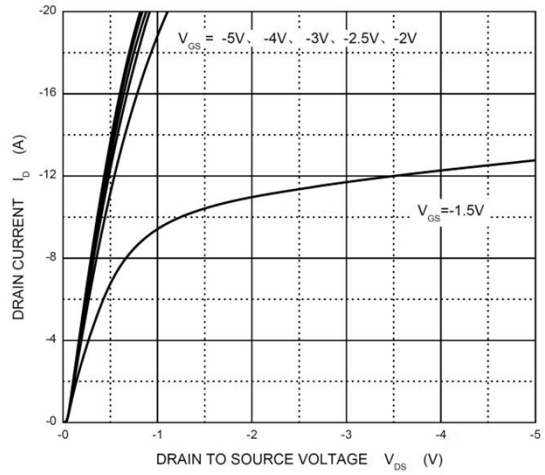
Electrical characteristics

(T_A=25℃, unless otherwise noted)

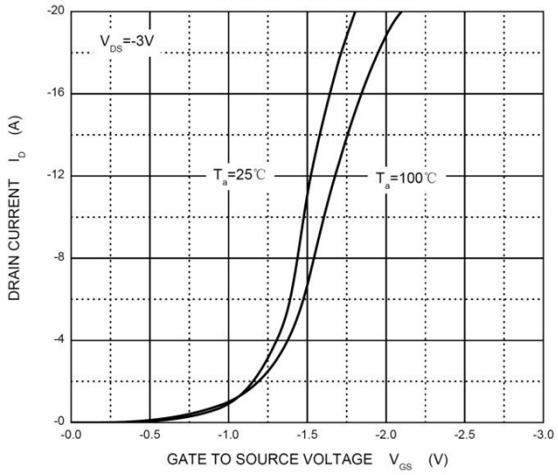
Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-source breakdown voltage	$BV_{(BR)DSS}$	V_{GS} = 0V, I_D =-250μA	-20	-	-	V
Zero gate voltage drain current	I_{DSS}	V_{DS} =-16V, V_{GS} = 0V	-	-	-1	uA
Gate-body leakage current	I_{GSS}	V_{GS} =±10V, V_{DS} = 0V	-	-	±0.1	uA
Gate threshold voltage (1)	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =-250μA	-0.4	-0.7	-1	V
Drain-source on-resistance (1)	$R_{DS(on)}$	V_{GS} =-4.5V, I_D =-5A	-	16	20	mΩ
		V_{GS} =-2.5V, I_D =-4A	-	23	35	
Dynamic Characteristics						
Input capacitance	C_{iss}	V_{DS}=-6V, V_{GS}=0V, f=1MHz		1275		pF
Output capacitance	C_{oss}			255		
Reverse transfer capacitance	C_{rss}			236		
Total Gate Charge	Q_g	V_{DS} =-6V, V_{GS}=-4.5V, I_D=-5A		14	21	nC
Gate-Source Charge	Q_{gs}			2.3		
Gate-Drain Charge	Q_{gd}			3.6		
Turn-on Delay Time	$T_{d(on)}$	V_{DD}=-6V, V_{GEN}=-4.5V, I_D =4A, R_{GEN} =1Ω, R_L=6Ω		26	40	nS
Turn-on Rise Time	T_r			24	40	
Turn-Off Delay Time	$T_{d(off)}$			45	70	
Turn-Off Fall Time	t_f			20	35	
Source-Drain Diode Characteristics						
Diode Forward voltage	V_{SD}	I_S=-4A, V_{GS} = 0V			-1.2	V

Typical Characteristics

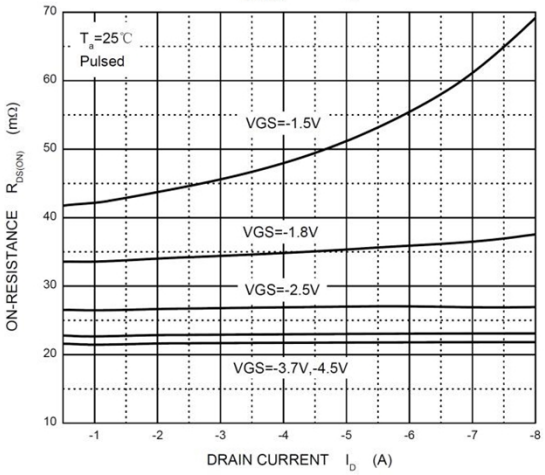
Output Characteristics



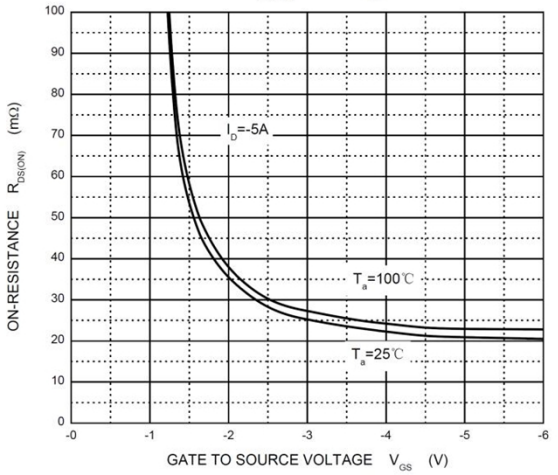
Transfer Characteristics



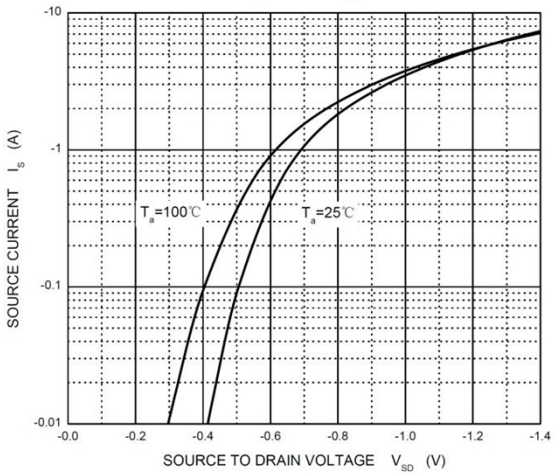
$R_{DS(ON)}$ —— I_D



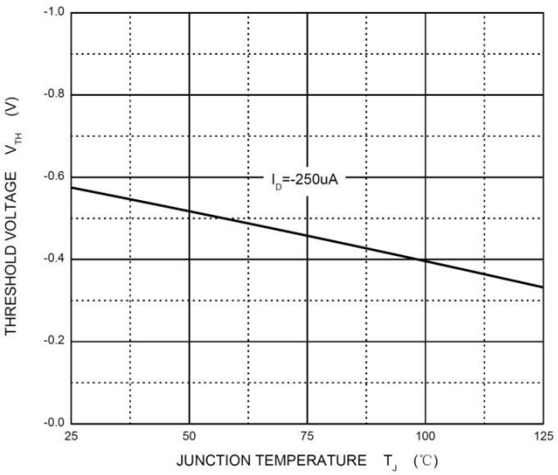
$R_{DS(ON)}$ —— V_{GS}



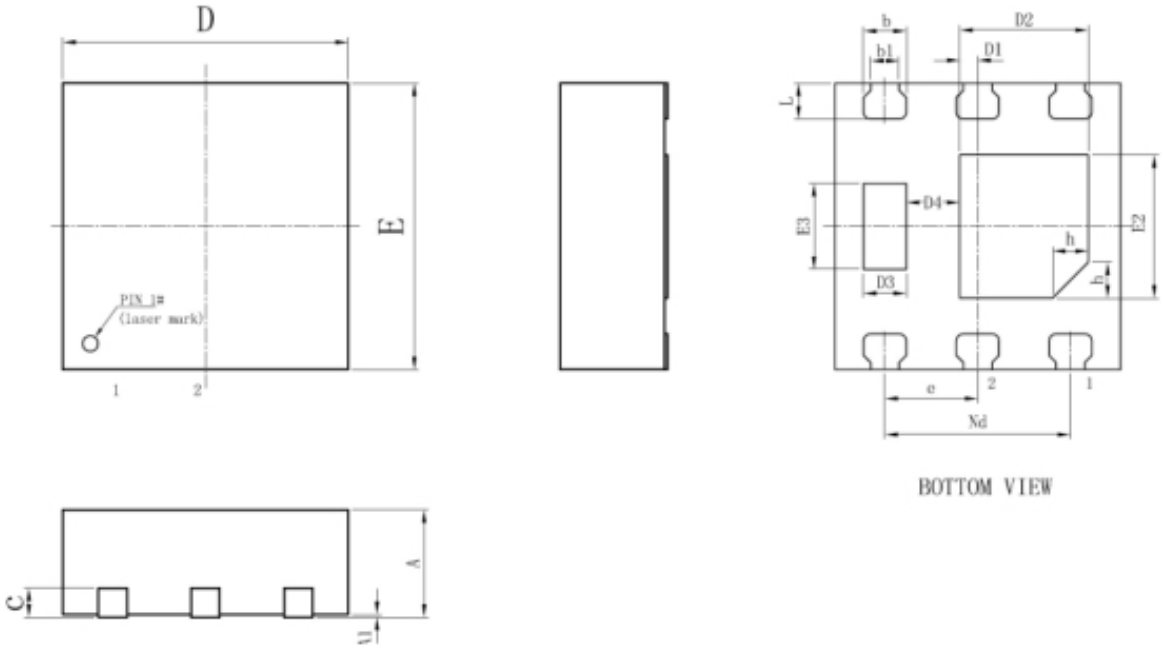
I_S —— V_{SD}



Threshold Voltage



SOT-23-3L Package Information



Symbol	Dimensions In Millimeters		
	Min.	Typ.	Max.
A	0.70	0.75	0.80
A1		0.02	0.05
b	0.25	0.30	0.35
b1		0.20REF	
c		0.203REF	
D	1.90	2.00	2.10
D1	0.08	0.125	0.18
D2	0.85	0.90	0.95
D3	0.25	0.30	0.35
D4	0.33	0.375	0.43
e		0.65BSC	
Nd		1.30BSC	
E	1.90	2.00	2.10
E2	0.95	1.00	1.05
E3	0.55	0.60	0.65
L	0.20	0.25	0.30
h		0.25REF	