TM08P018BF6

P-Channel Enhancement Mosfet

General Description

- Low $R_{DS(ON)}$
- RoHS and Halogen-Free Compliant

Applications

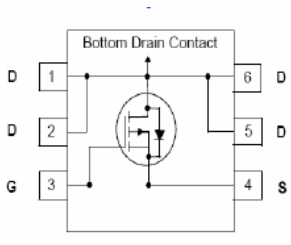
- Load switch
- PWM

General Features

V_{DS} =-18V I_D =-8.0A

$R_{DS(ON)}$ =26mΩ(typ.) @ V_{GS} =-4.5V

100% UIS Tested
100% R_g Tested



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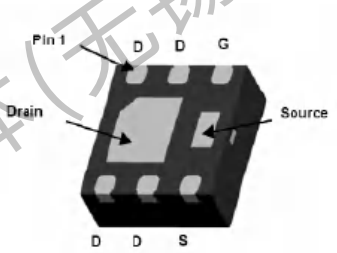
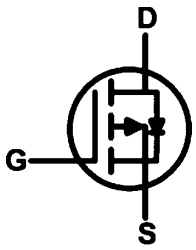
BF6: PDFN2*2-6L





Absolute Maximum Ratings (T_C=25℃ unless otherwise noted)

Symbol	Parameter	Rating	Units
V_{DS}	Drain-Source Voltage	-18	V
V_{GS}	Gate-Source Voltage	±12	V
I_D@T_A=25℃	Continuous Drain Current, V_{GS} @-4.5V	-8	A
I_D@T_A=100℃	Continuous Drain Current, V_{GS} @-4.5V	- 4.6	A
I_{DM}	Pulsed Drain Current	-32	A
P_D@T_A=25℃	Total Power Dissipation	3.2	W
T_{STG}	Storage Temperature Range	-55 to 175	℃
T_J	Operating Junction Temperature Range	-55 to 175	℃

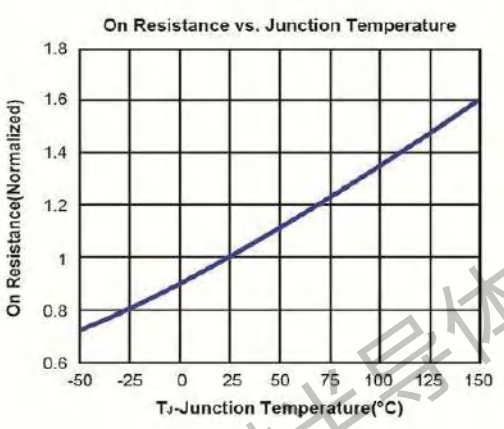
Thermal Data

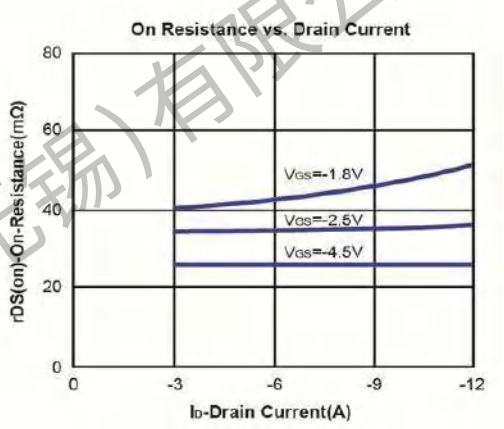
Symbol	Parameter	Typ.	Max.	Unit
$R_{\theta JA}$	Thermal Resistance Junction-ambient	---	30	℃/W
$R_{\theta JC}$	Thermal Resistance Junction-Case	---	28.2	℃/W

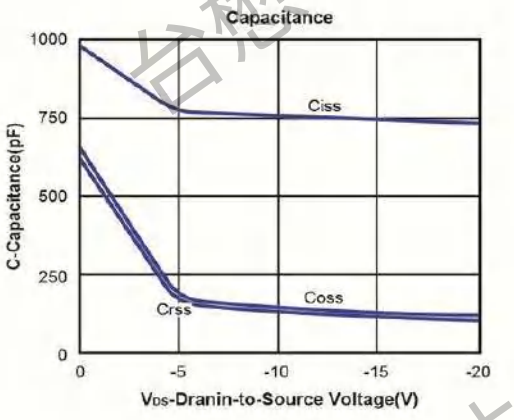
Electrical Characteristics (T_J=25℃ unless otherwise specified)

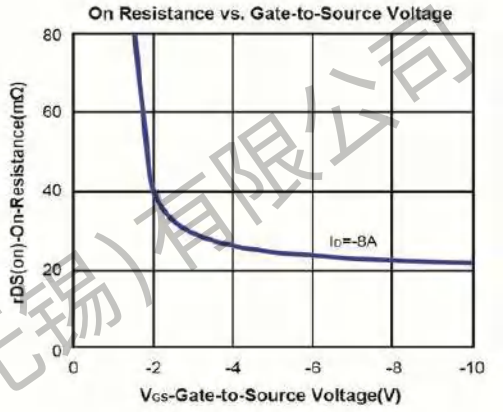
Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
Off Characteristic						
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	V_{GS}=0V, I_D= -250μA	-18	-	-	V
I_{DSS}	Zero Gate Voltage Drain Current	V_{DS}= -20V, V_{GS}=0V,	-	-	-1	μA
I_{GSS}	Gate to Body Leakage Current	V_{DS}=0V, V_{GS}= ±12V	-	-	±100	nA
On Characteristics						
$V_{GS(th)}$	Gate Threshold Voltage	V_{DS}=V_{GS}, I_D= -250μA	-0.4	-0.65	-1.0	V
$R_{DS(on)}$	Static Drain-Source on-Resistance note2	V_{GS}= -4.5V, I_D= -5A	-	26	33	mΩ
		V_{GS}= -2.5V, I_D= -4A	-	34	43	
Dynamic Characteristics						
C_{iss}	Input Capacitance	V_{DS}= -10V, V_{GS}=0V, f=1.0MHz	-	950	-	pF
C_{oss}	Output Capacitance		-	242	-	pF
C_{rss}	Reverse Transfer Capacitance		-	231	-	pF
Q_g	Total Gate Charge	V_{DS}= -10V, I_D= -5A, V_{GS}= -4.5V	-	12.6	-	nC
Q_{gs}	Gate-Source Charge		-	2.2	-	nC
Q_{gd}	Gate-Drain("Miller") Charge		-	4.4	-	nC
Switching Characteristics						
$t_{d(on)}$	Turn-on Delay Time	V_{DD} = -10V, I_D= -8A, V_{GS}= -4.5V, R_{GEN}=2.5Ω	-	10	-	ns
t_r	Turn-on Rise Time		-	31	-	ns
$t_{d(off)}$	Turn-off Delay Time		-	28	-	ns
t_f	Turn-off Fall Time		-	8	-	ns
Drain-Source Diode Characteristics and Maximum Ratings						
I_S	Maximum Continuous Drain to Source Diode Forward Current		-	-	-8	A
I_{SM}	Maximum Pulsed Drain to Source Diode Forward Current		-	-	-32	A
V_{SD}	Drain to Source Diode Forward Voltage	V_{GS}=0V, I_S= -8A	-	-0.8	-1.2	V

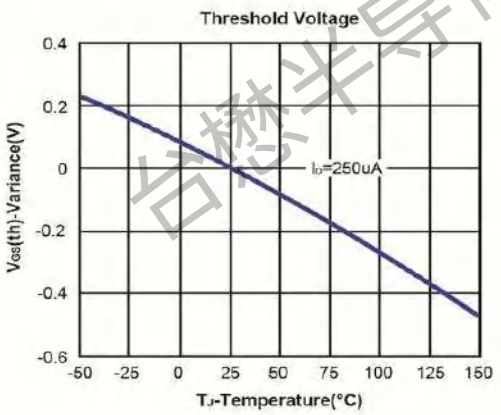
Typical Characteristics (TJ=25℃Noted)

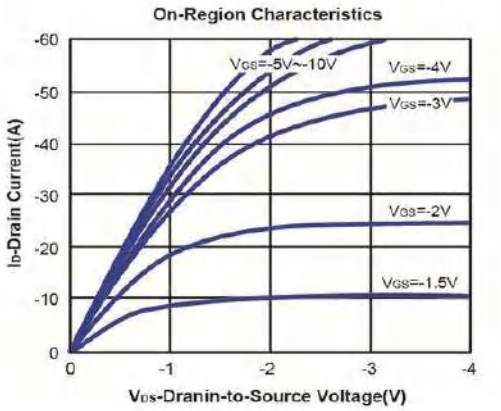












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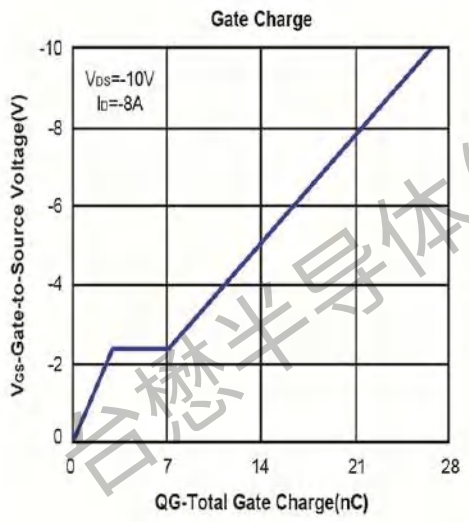
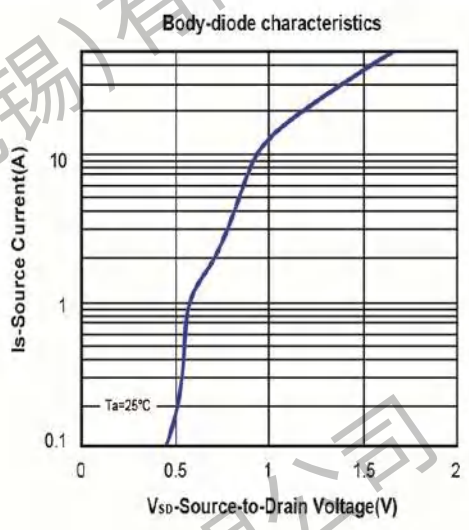
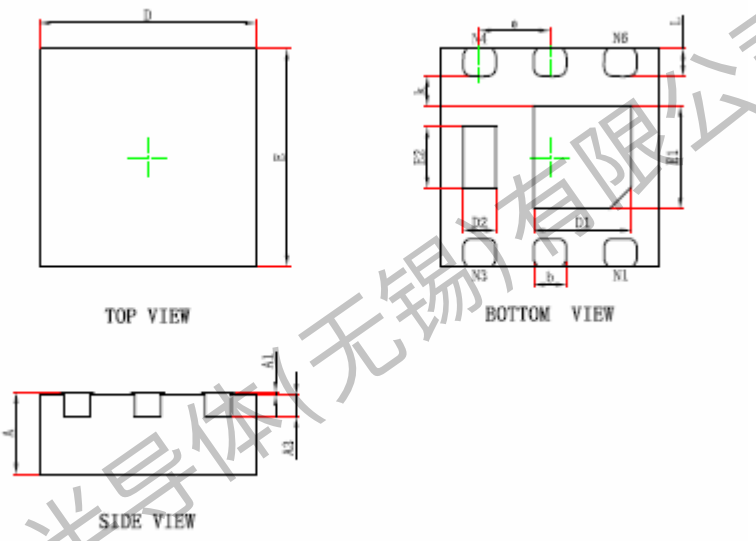




Package Mechanical Data: PDFN2*2-6L



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.700	0.800	0.028	0.031
A1	0.000	0.050	0.000	0.002
A3	0.203REF.		0.008REF.	
D	1.924	2.076	0.076	0.082
E	1.924	2.076	0.076	0.082
D1	0.800	1.000	0.031	0.039
E1	0.850	1.050	0.033	0.041
D2	0.200	0.400	0.008	0.016
E2	0.460	0.660	0.018	0.026
k	0.200MIN.		0.008MIN.	
b	0.250	0.350	0.010	0.014
e	0.650TYP.		0.026TYP.	
L	0.174	0.326	0.007	0.013

Notes

1. All dimensions are in millimeters.
2. Tolerance ±0.10mm (4 mil) unless otherwise specified
3. Package body sizes exclude mold flash and gate burrs. Mold flash at the non-lead sides should be less than 5 mils.
4. Dimension L is measured in gauge plane.
5. Controlling dimension is millimeter, converted inch dimensions are not necessarily exact.

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Revision history:

Date	Rev	Description	Page
2023.07.21	23.07	Original	