型号：PD4435

P-Ch 30V Fast Switching MOSFETs

The PD4435 is the high cell density trenched P-ch MOSFETs, which provide excellent RDSON and gate charge for most of the synchronous buck converter applications.

主要特性/Features

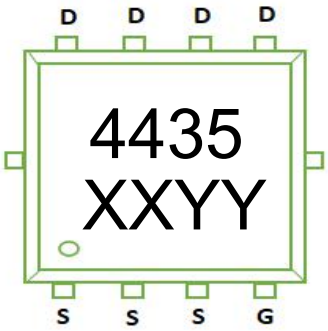
P-MOSFET

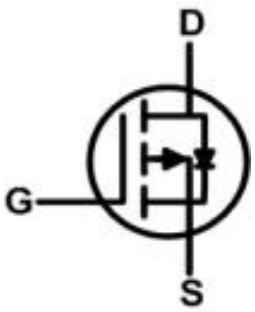
BVDSS	RDSON	ID
-30V	9.5 mΩ	-42A

应用/Application

Battery Switch .
Load switch .
Power management.

印字/MARKING　等效电路/Equivalent Circuit





极限参数/ P-MOSFET Absolute Maximum Ratings(TA=25℃unless otherwise noted)

Symbol	Parameter	Rating		Units
		10s	Steady State	
V_{DS}	Drain-Source Voltage	-30		V
V_{GS}	Gate-Source Voltage	±20		V
I_D@T_C=25℃	Continuous Drain Current, V_{GS} @ -10V[1]	-42		A
I_D@T_C=100℃	Continuous Drain Current, V_{GS} @ -10V[1]	-27		A
I_D@T_A=25℃	Continuous Drain Current, V_{GS} @ -10V[1]	-14.3	-9	A
I_D@T_A=70℃	Continuous Drain Current, V_{GS} @ -10V[1]	-11.4	-7.2	A
I_{DM}	Pulsed Drain Current[2]	-130		A
EAS	Single Pulse Avalanche Energy[3]	125		mJ
I_{AS}	Avalanche Current	-50		A
P_D@T_C=25℃	Total Power Dissipation[4]	37		W
P_D@T_A=25℃	Total Power Dissipation[4]	4.2	1.67	W
T_{STG}	Storage Temperature Range	-55 to 150		℃
T_J	Operating Junction Temperature Range	-55 to 150		℃

热参数/ Thermal Data

Symbol	Parameter	Typ.	Max.	Unit
$R_{\theta JA}$	Thermal Resistance Junction-Ambient [1]	---	75	℃/W
$R_{\theta JA}$	Thermal Resistance Junction-Ambient [1] (t ≤10s)	---	30	℃/W
$R_{\theta JC}$	Thermal Resistance Junction-Case[1]	---	3.36	℃/W

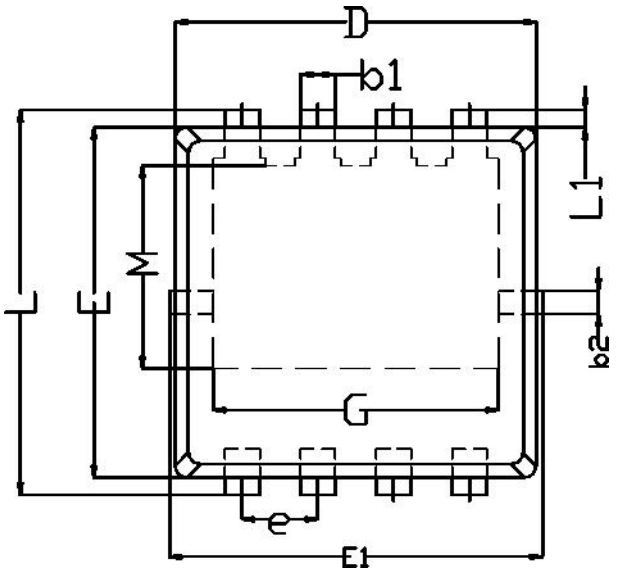
电性能参数/ P-MOSFET Electrical Characteristics (TA=25℃unless otherwise noted)

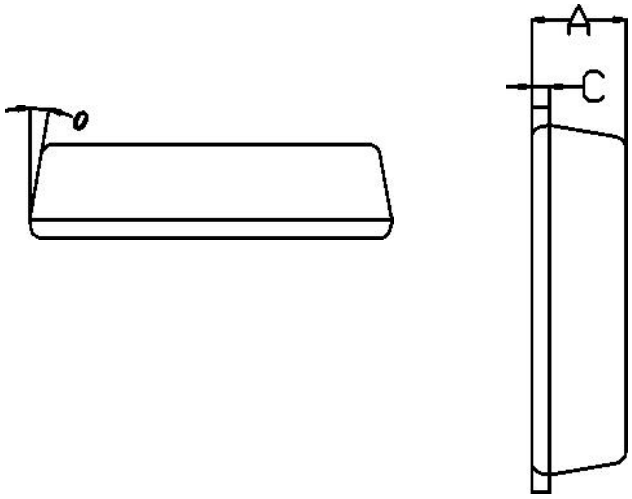
Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
BV_{DSS}	Drain-Source Breakdown Voltage	V_{GS}=0V，I_D=-250uA	-30	---	---	V
$\triangle BV_{DSS}/\triangle T_J$	BVDSS Temperature Coefficient	Reference to 25℃，I_D=-1mA	---	-0.0232	---	V/℃
$R_{DS(ON)}$	Static Drain-Source On-Resistance[2]	V_{GS}=-10V，I_D=-30A	---	---	14	mΩ
		V_{GS}=-4.5V，I_D=-15A	---	---	22	
$V_{GS(th)}$	Gate Threshold Voltage	V_{GS}=V_{DS}，I_D =-250uA	-1.2	---	-2.5	V
$\triangle V_{GS(th)}$	$V_{GS(th)}$ Temperature Coefficient		---	4.6	---	mV/℃
I_{DSS}	Drain-Source Leakage Current	V_{DS}=-24V，V_{GS}=0V，T_J=25℃	---	---	-1	uA
		V_{DS}=-24V，V_{GS}=0V，T_J=55℃	---	---	-5	
I_{GSS}	Gate-Source Leakage Current	V_{GS}= ±20V，V_{DS}=0V	---	---	±100	nA
gfs	Forward Transconductance	V_{DS}=-5V，I_D=-30A	---	30	---	S
R_g	Gate Resistance	V_{DS}=0V，V_{GS}=0V，f=1MHz	---	9	---	Ω
Q_g	Total Gate Charge (-4.5V)	V_{DS}=-15V，V_{GS}=-4.5V，I_D=-15A	---	22	---	nC
Q_{gs}	Gate-Source Charge		---	8.7	---	
Q_{gd}	Gate-Drain Charge		---	7.2	---	
$T_{d(on)}$	Turn-On Delay Time	V_{DD}=-15V，V_{GS}=-10V，R_G=3.3Ω I_D=-15A	---	8	---	ns
T_r	Rise Time		---	73.7	---	
$T_{d(off)}$	Turn-Off Delay Time		---	61.8	---	
T_f	Fall Time		---	24.4	---	
C_{iss}	Input Capacitance	V_{DS}=-15V，V_{GS}=0V，f=1MHz	---	2215	---	pF
C_{oss}	Output Capacitance		---	310	---	
C_{rss}	Reverse Transfer Capacitance		---	237	---	

二极管特性/Diode Characteristics

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
I_S	Continuous Source Current[1,5]	V_G=V_D=0V，Force Current	---	---	-42	A
I_{SM}	Pulsed Source Current[2,5]		---	---	-130	A
V_{SD}	Diode Forward Voltage[2]	V_{GS}=0V，I_S=-1A，T_J=25℃	---	---	-1	V
t_{rr}	Reverse Recovery Time	I_F=-15A，dI/dt=100A/μs，T_J=25℃	---	19	---	nS
Q_{rr}	Reverse Recovery Charge		---	9	---	nC

成品外观尺寸/PDFN3*3 Package Information





Syabol	Din in mi		
	Min	Nom	Max
A	0.75	0.80	0.85
LI	0.10	0.15	0.20
bl	0.25	0.30	0.35
b2	0.15	0.20	0.25
C	0.10	0.15	0.20
D	3.050	3.100	3.150
e	0.650OSO		
E	2.950	3.000	3.050
El	3.150	3.200	3.250
L	3.250	3.300	3.350
M	L685	1.735	1.785
G	2.400	2.450	2.500
0	0"	5,	w

深圳市三咬 科技股份有限公司	E3 0	Date:	TITLE: PDFN3X3-8L Package outline	
	DGN:ERIC CHANG	ll-Aug-10	Customer: SLS	Not to Scale
InfarMtion ootrtaiM the sole	CHK:		DWG No:SLS-DWG-017	REV A
rqrodDoed vitii out psniMion of SLS	APPO:		Unit: mm	SH 1 of 1