Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
-20V	27mΩ@-4.5V	-6A
	35mΩ@-2.5V	

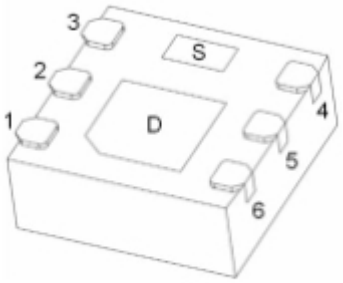
Feature

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

Applications

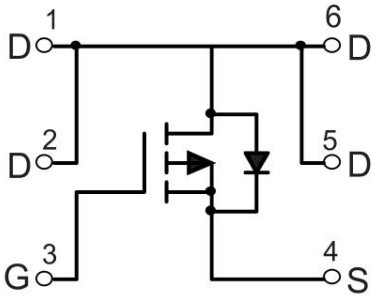
- PWM application
- Load switch
- Battery charge in cellular handset

Package

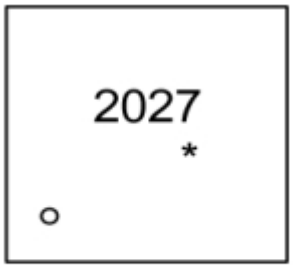


PDFN2X2-6L

Circuit diagram



Marking



2027 =Device Code
*** =Month Code**

Absolute maximum ratings

(T_a=25℃ unless otherwise noted)

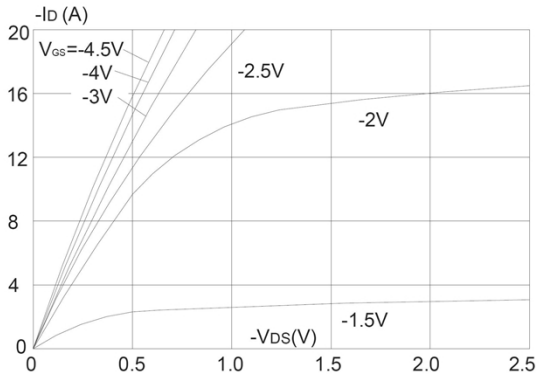
Parameter	Symbol	Value	Unit
Drain-source Voltage	V_{DS}	-20	V
Gate-source Voltage	V_{GS}	±12	V
Drain Current (T_C=25℃)	I_D	-6	A
Pulsed Drain Current [1]	I_{DM}	-24	A
Total Power Dissipation (T_C=25℃)	P_D	10	W
Thermal Resistance Junction-to-Case @ Steady State	$R_{\theta JC}$	12.5	℃/ W
Junction and Storage Temperature Range	T_J ,T_{STG}	-55 ~ +150	℃

Electrical characteristics

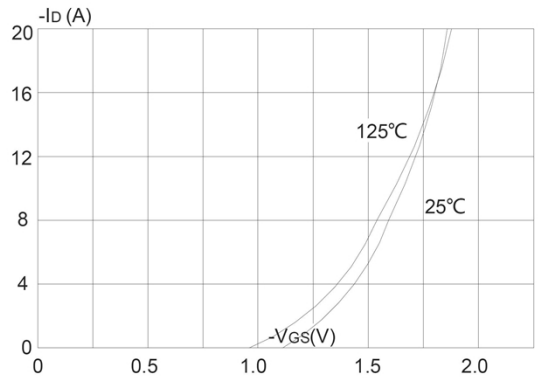
(T_A=25℃, unless otherwise noted)

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} =±12V, V_{DS} = 0V			±100	uA
Gate threshold voltage (1)	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =-250μA	-0.6	-0.9	-1.3	V
Drain-source on-resistance	$R_{DS(on)}$	V_{GS} =-4.5V, I_D =-3A		27	35	mΩ
		V_{GS} =-2.5V, I_D =-2A		35	46	
Dynamic Characteristics						
Input capacitance	C_{iss}	V_{DS}=-10V, V_{GS}=0V, f=1MHz		775		pF
Output capacitance	C_{oss}			105		
Reverse transfer capacitance	C_{rss}			66		
Total Gate Charge	Q_g	V_{DS} =-10V,V_{GS} =-4.5V, I_D=-5A		7.8		nC
Gate-Source Charge	Q_{gs}			1.3		
Gate-Drain Charge	Q_{gd}			1.6		
Turn-on Delay Time	$T_{d(on)}$	V_{DD}=-10V, V_{GEN}=-4.5V, I_D =-4A, R_{GEN} =1Ω, R_L=6Ω		10		nS
Turn-on Rise Time	T_r			32		
Turn-Off Delay Time	$T_{d(off)}$			50		
Turn-Off Fall Time	t_f			51		
Source-Drain Diode Characteristics						
Diode Forward voltage	V_{DS}	I_S=-1A, V_{GS} = 0V			-1.2	V

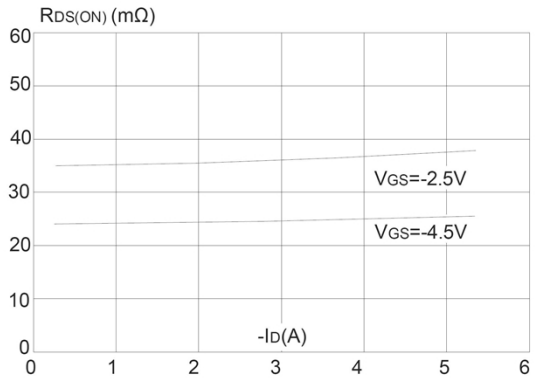
Typical Characteristics



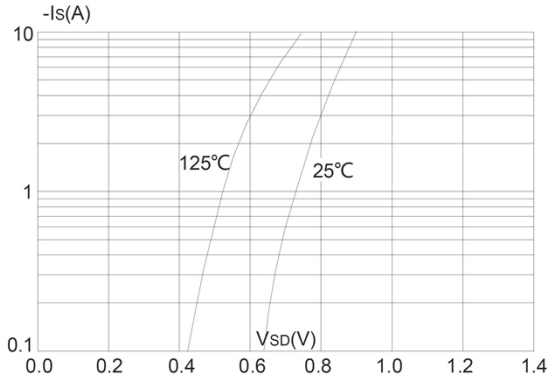
Output Characteristics



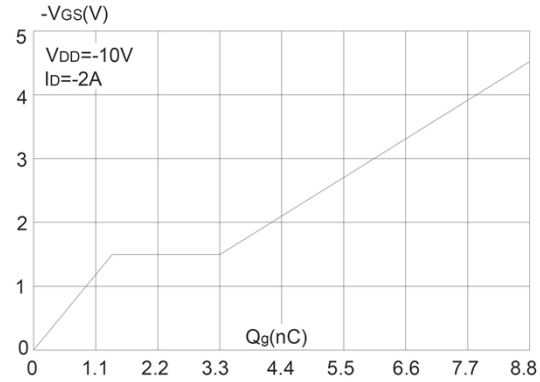
Typical Transfer Characteristics



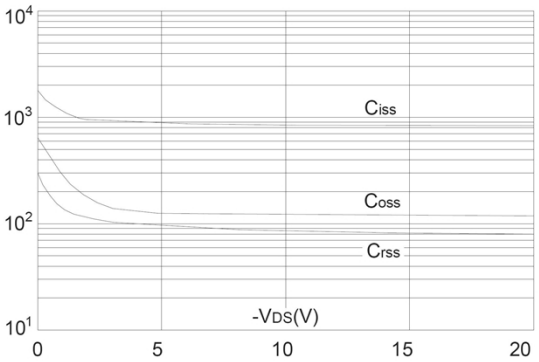
On-resistance vs. Drain Current



Body Diode Characteristics

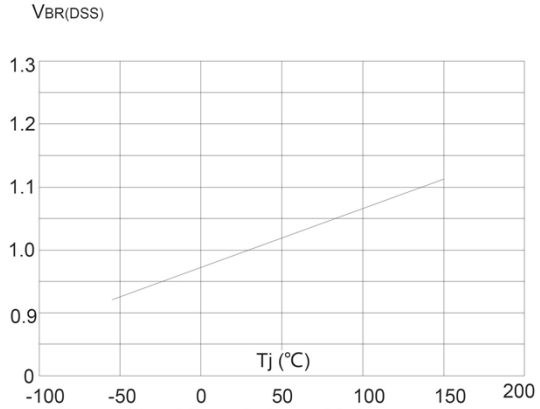


Gate Charge Characteristics

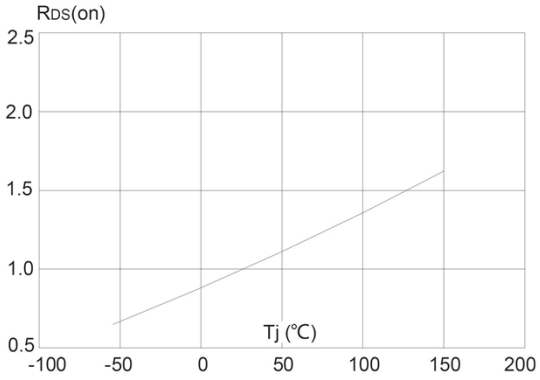


Capacitance Characteristics

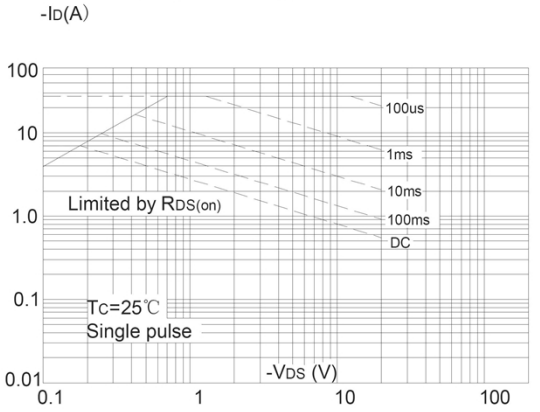
C(pF)



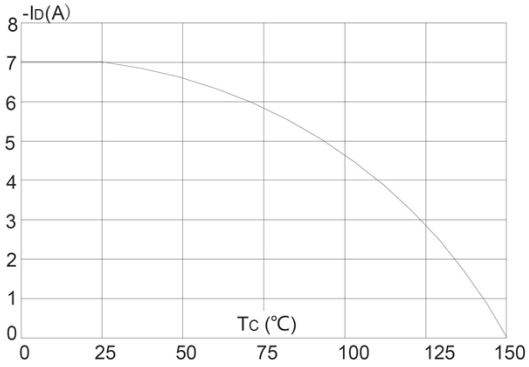
Normalized Breakdown Voltage vs. Junction Temperature



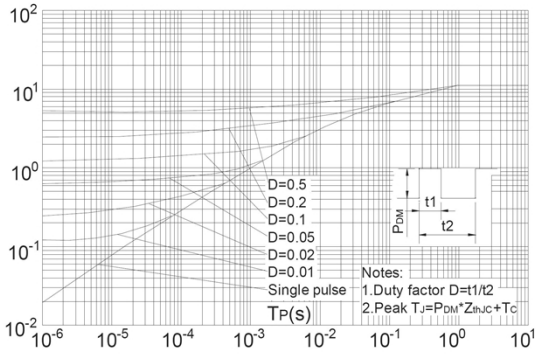
Normalized on Resistance vs. Junction Temperature



Maximum Safe Operating Area

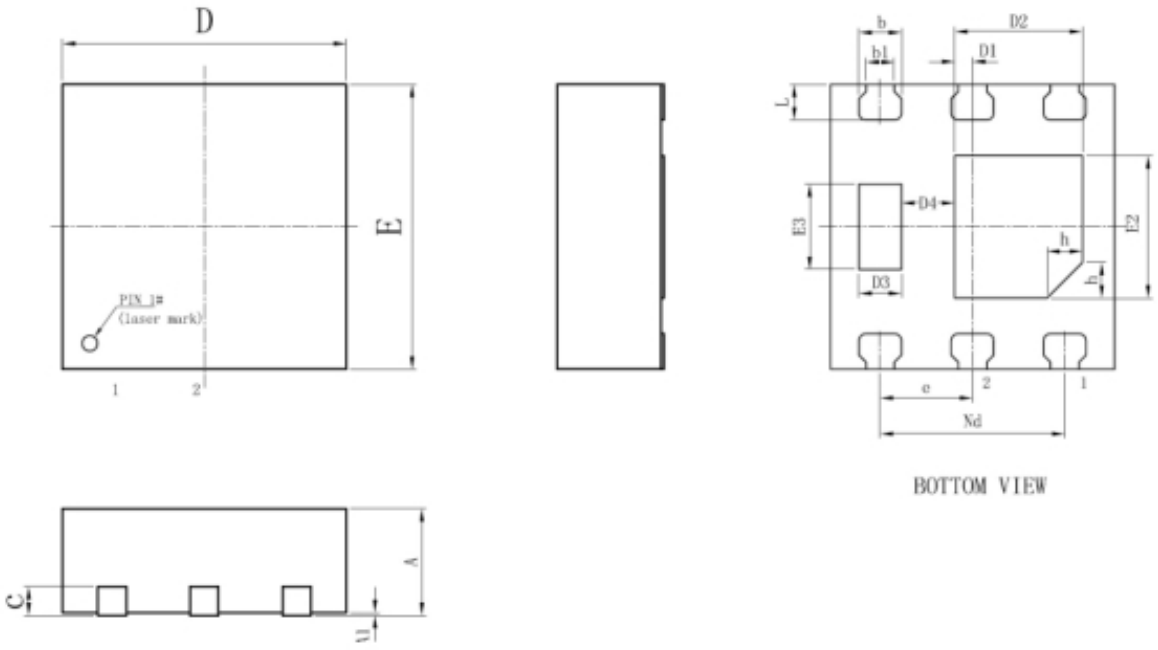


Maximum Continuous Drain Current vs. Case Temperature



Maximum Effective Transient Thermal Impedance, Junction-to-Case

PDFN2X2-6L 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	