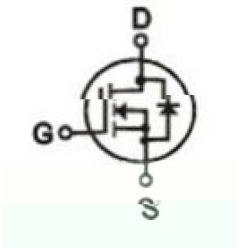
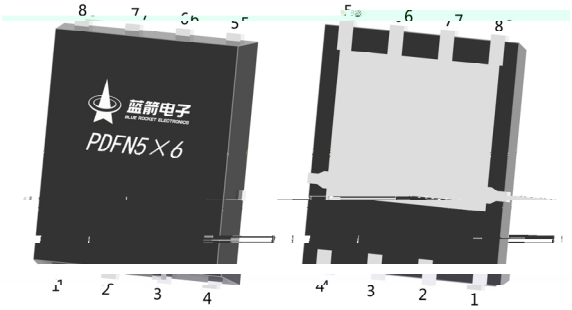
PDFN5 6 N
N-Channel MOSFET in a PDFN5 6 Plastic Package.

Low $R_{DS(ON)}$ to minimize conductive loss;low Gate Charge for fast switching;Low Thermal resistance; HF Product.

Battery Management.





PIN1 2 3 S PIN4 G PIN5 6 7 8 D

See Marking Instructions.

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	40	V
Drain Current - Continuous	I_D	170	A
Drain Current – Pulsed	I_{DM}	340	A
Gate-Source Voltage	V_{GS}	20	V
Power Dissipation	$P_D(T_c=25\ \ )$	65	W
Single Pulse Avalanche Energy(L=0.5mH)	E_{AS}	358	mJ
Avalanche Current(L=0.5mH)	I_{AS}	32	A
Junction and Storage Temperature Range	T_j, T_{stg}	-55 to 150	
Thermal resistance, junction - case	R_{JC}	1.9	/ W
Thermal resistance, junction - ambient	R_{JA}	55	/ W

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	I_D=250uA, V_{GS}=0V	40	46		V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=40V, V_{GS}=0V			1.0	uA
Gate-Body leakage current	I_{GSS}	V_{DS}=0V, V_{GS}= ±20V			±100	nA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS}, I_D=250uA	1	1.9	2.5	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	V_{GS}=10V, I_D=10A		1.2	1.5	m
		V_{GS}=4.5V, I_D=10A		2.0	2.5	
Input Capacitance	C_{iss}	V_{DS}=25V V_{GS}=0V f=1.0MHz		4200		pF
Output Capacitance	C_{oss}			2000		
Reverse Transfer Capacitance	C_{rss}			120		
Gate resistance	R_g	V_{GS}=0V V_{DS}=0V f=1MHz		1.0		
Total Gate Charge	Q_g(10V)	V_{GS}=10V, V_{DS}=20V, I_D=20A		52		nC
Total Gate Charge	Q_g(4.5V)			21		
Gate Source Charge	Q_{gs}			12		
Gate Drain Charge	Q_{gd}			5		
Turn-On Delay Time	$t_{d(on)}$	V_{GS}=10V, V_{DS}=20V, R_L=1Ω, R_{GEN}=3Ω		15		ns
Turn-On Rise Time	t_r			5.8		
Turn-Off Delay Time	$t_{d(off)}$			62		
Turn-Off Fall Time	t_f			10		

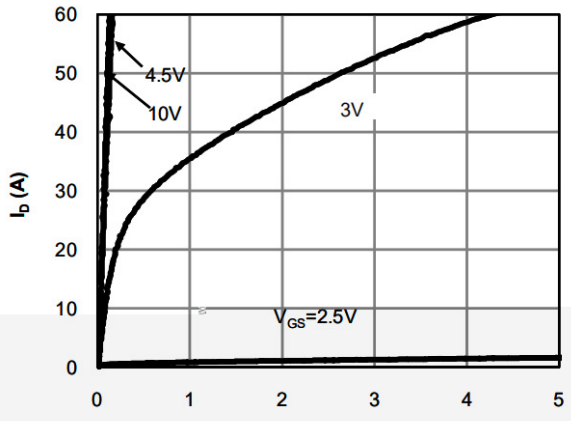


Fig.1 On-Region Characteristics

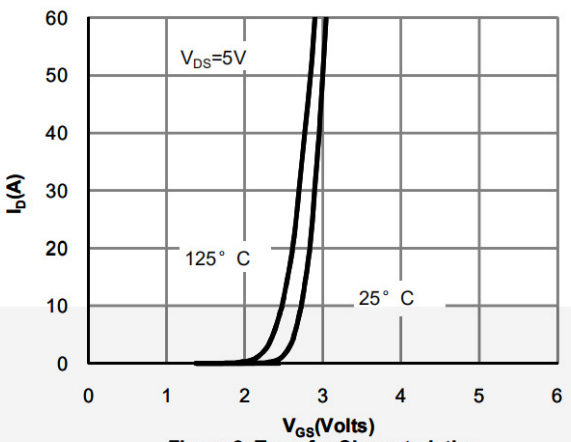


Figure 2: Transfer Characteristics

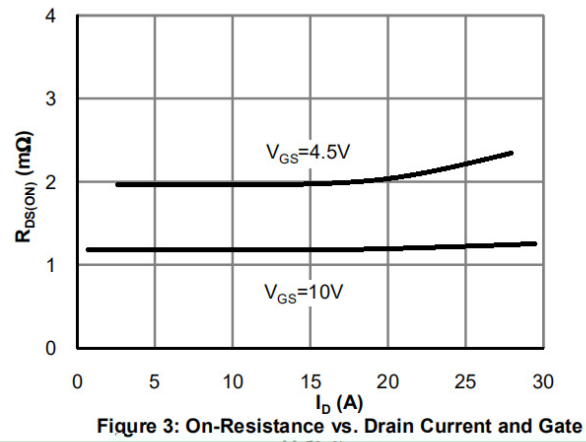


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

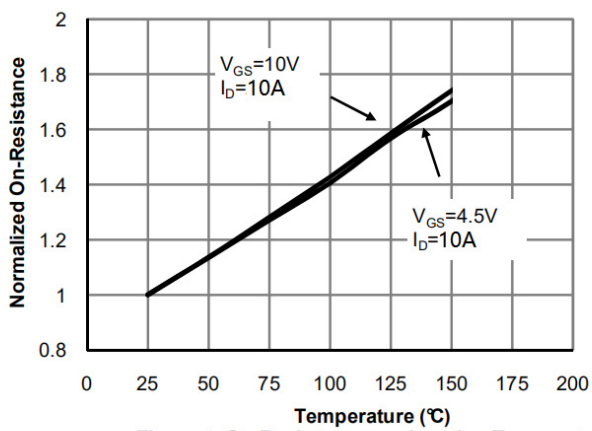


Figure 4: On-Resistance vs. Junction Temperature

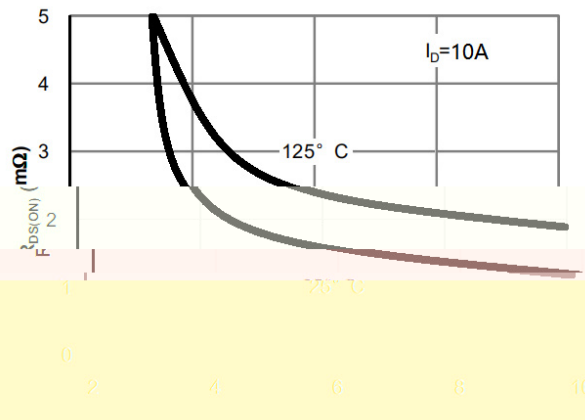


Figure 5: On-Resistance vs. Gate-Source Voltage

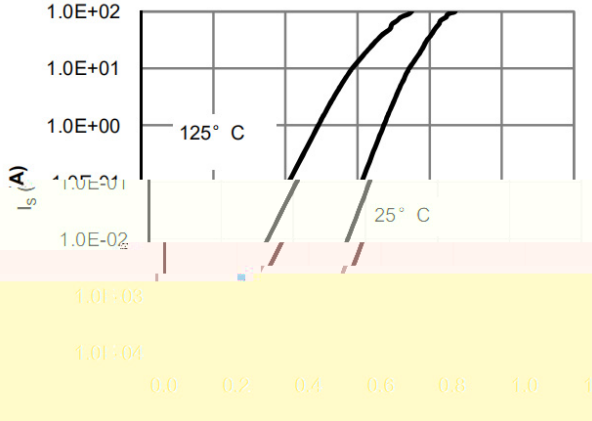


Figure 6: Body-Diode Characteristics

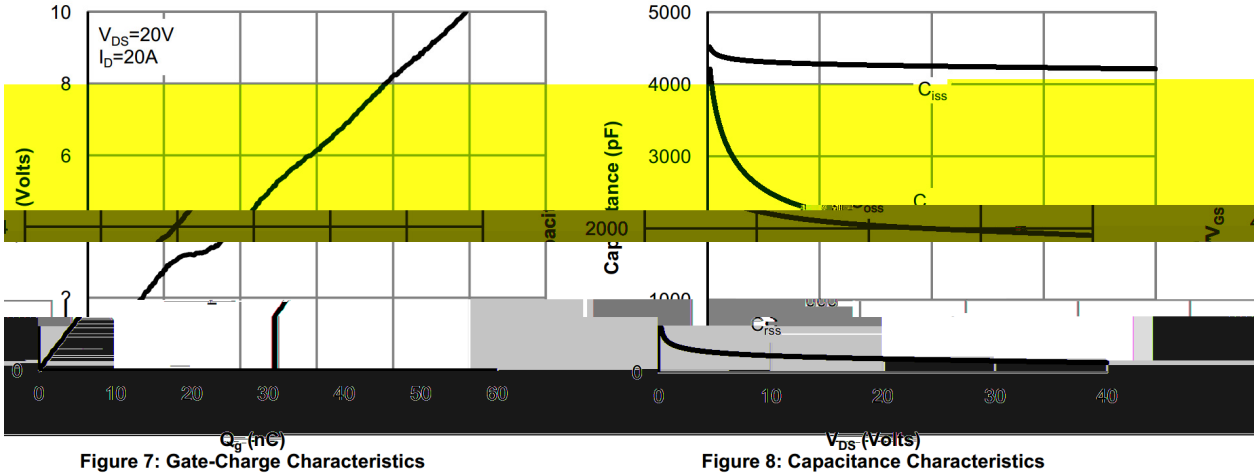


Figure 7: Gate-Charge Characteristics

Figure 8: Capacitance Characteristics

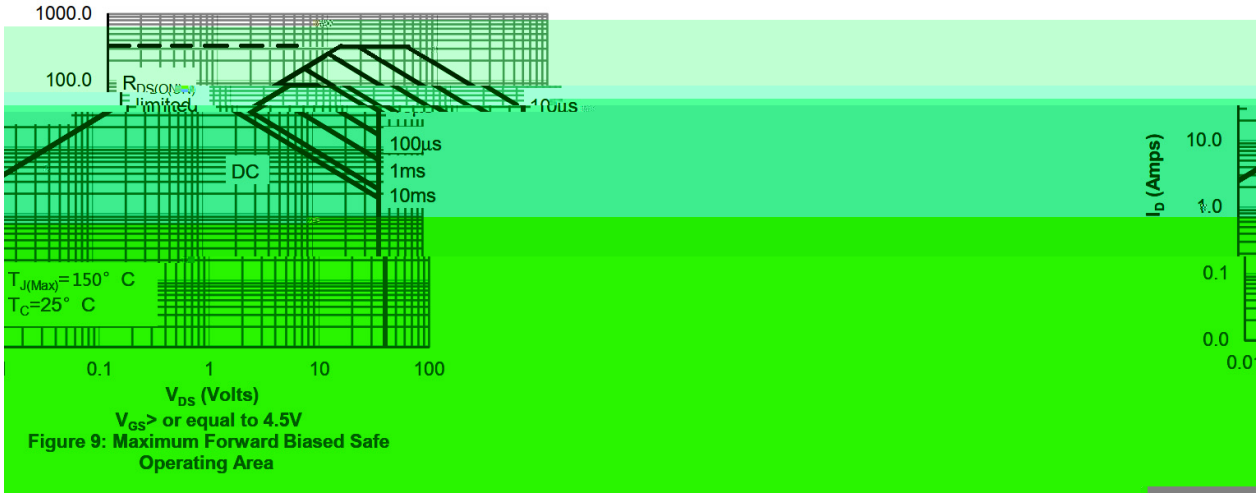


Figure 9: Maximum Forward Biased Safe Operating Area

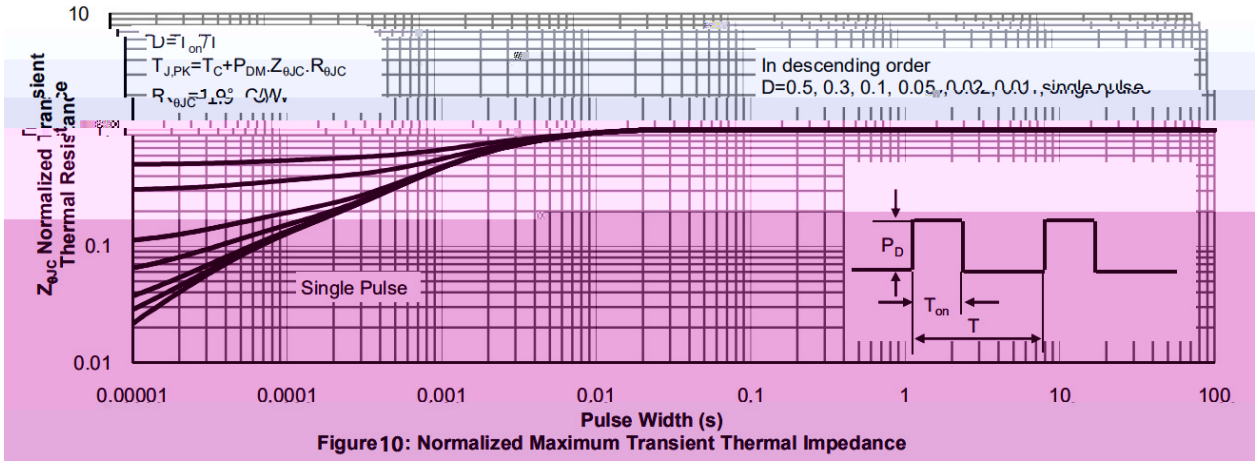
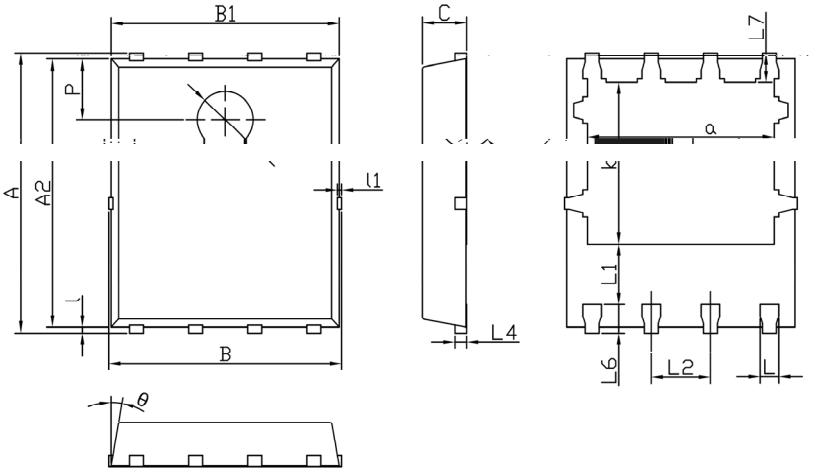


Figure 10: Normalized Maximum Transient Thermal Impedance

PDFN5X6

Unit:mm



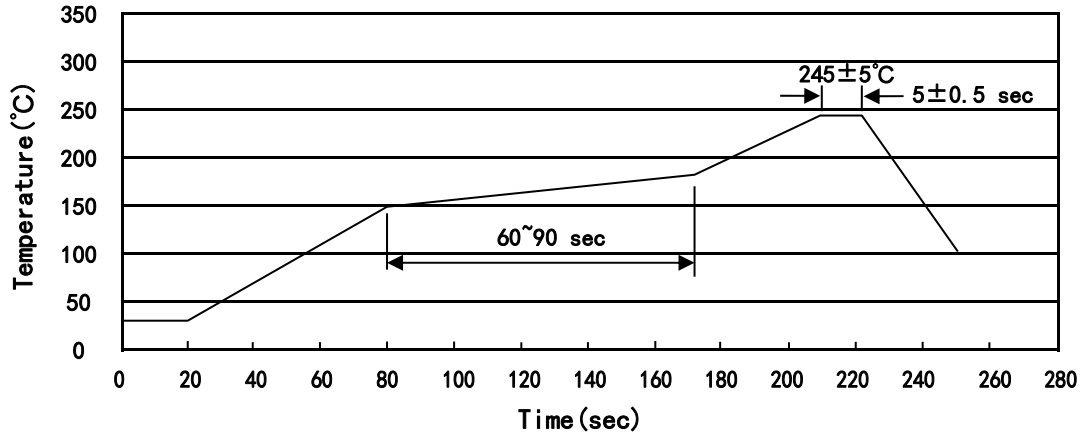
Dimensions In Millimeters			
Symbol	MIN	TYP	MAX
A	5.90	6.00	6.10
a	3.91	4.01	4.11
A2	5.70	5.75	5.80
B	4.90	5.00	5.10
B1	4.80	4.90	5.00
C	0.90	0.95	1.00
L	0.30	0.40	0.50
l	0.06	0.13	0.20
L1	1.10	–	–
l1	–	–	0.10
L2	1.17	1.27	1.37
L4	0.21	0.26	0.34
L6	0.51	0.61	0.71
L7	0.51	0.61	0.71
P	1.15	1.30	1.45
θ	8°	10°	12°
Φ	1.10	1.20	1.30

Rev.01 202209

015N04S

Note

BR	Company Code
015N04S	Product Type
****:	Lot No. Code, code change with Lot No



Note:

1 150 180 60 90sec;

1.Preheating:150~180 , Time:60~90sec.

2 245 5 5 0.5sec;

2.Peak Temp.:245 5 , Duration:5 0.5sec.

3 2 10 /sec.

3. Cooling Speed: 2~10 /sec.

260 5 10 1 sec. Temp.:260±5 Time:10±1 sec

/ REEL

Package Type	Units 包装数量					Dimension 包装尺寸 (unit：mm³)		
	Units/Reel	Reels/Inner Box	Units/Inner Box	Inner Boxes/Outer Box	Units/Outer Box	Reel	Inner Box	Outer Box
PDFN5×6	5000	2	10000	6	60000	13”×12	360×360×50	380×335×366