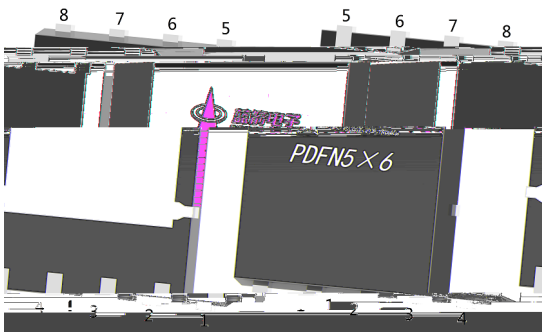
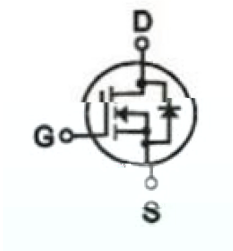


Rev.B May.-2023

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	$I_D$	215	A
Drain Current – Pulsed	$I_{DM}$	430	A
Gate-Source Voltage	$V_{GS}$	$\pm 20$	V
Power Dissipation	$P_D(T_c=25^\circ C)$	70	W
Single Pulse Avalanche Energy(L=0.5mH)	$E_{AS}$	542	mJ
Avalanche Current(L=0.5mH)	$I_{AS}$	44	A
Junction and Storage Temperature Range	$T_j, T_{stg}$	-55 to 150	
Thermal resistance, junction - case	$R_{\theta JC}$	1.79	/ W
Thermal resistance, junction - ambient	$R_{\theta JA}$	50	/ W

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	$BV_{DSS}$	$I_D=250\mu A, V_{GS}=0V$	40	46		V
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS}=40V, V_{GS}=0V$			1.0	$\mu A$
Gate-Body leakage current	$I_{GSS}$	$V_{DS}=0V, V_{GS}=\pm 20V$			$\pm 100$	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	1	1.5	2.5	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10V, I_D=20A$		0.93	1.0	m
		$V_{GS}=4.5V, I_D=10A$		1.28	2.0	
Input Capacitance	$C_{iss}$	$V_{DS}=25V, V_{GS}=0V, f=1.0MHz$		5800		pF
Output Capacitance	$C_{oss}$			1860		
Reverse Transfer Capacitance	$C_{rss}$			135		
Gate resistance	$R_g$	$V_{GS}=0V, f=1MHz, V_{DS}=0V$		1.0		$\Omega$
Total Gate Charge	$Q_g(10V)$	$V_{GS}=10V, V_{DS}=20V, I_D=20A$		70		nC
Total Gate Charge	$Q_g(4.5V)$			30		
Gate Source Charge	$Q_{gs}$			14.5		
Gate Drain Charge	$Q_{gd}$			10.5		
Turn-On Delay Time	$t_{d(on)}$	$V_{GS}=10V, V_{DS}=20V, R_L=1, R_{GEN}=3$		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		

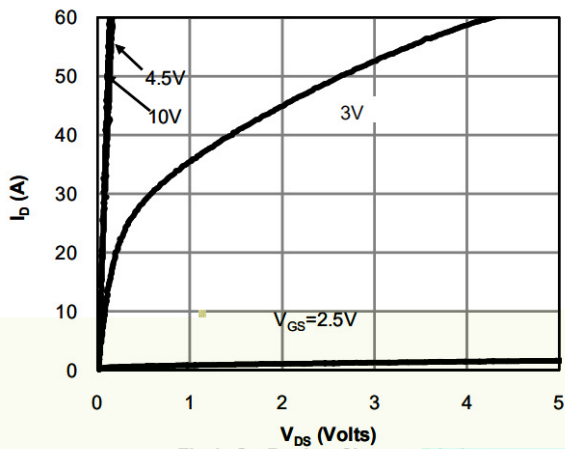


Figure 1: On-Resistance Characteristics

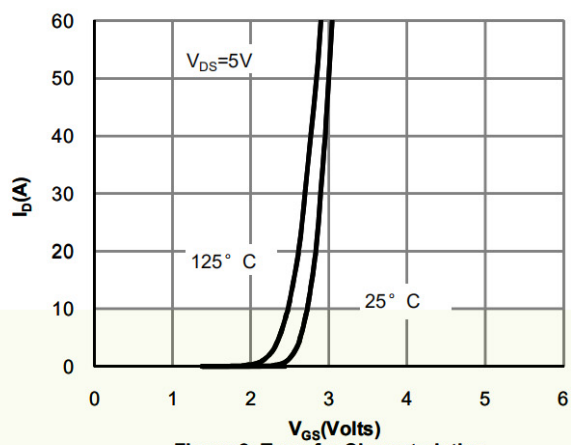


Figure 2: Transfer Characteristics

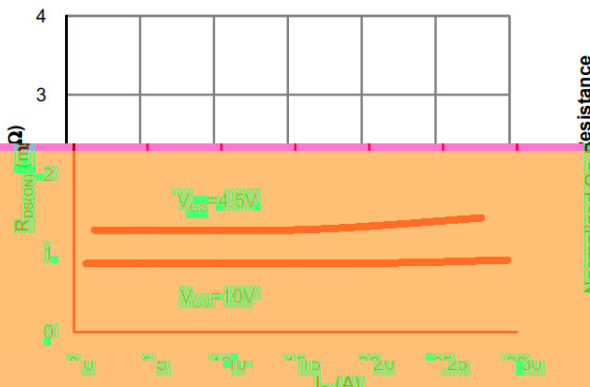


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

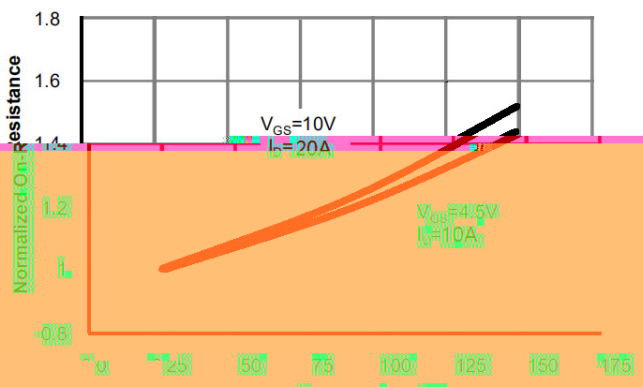


Figure 4: On-Resistance vs. Junction Temperature

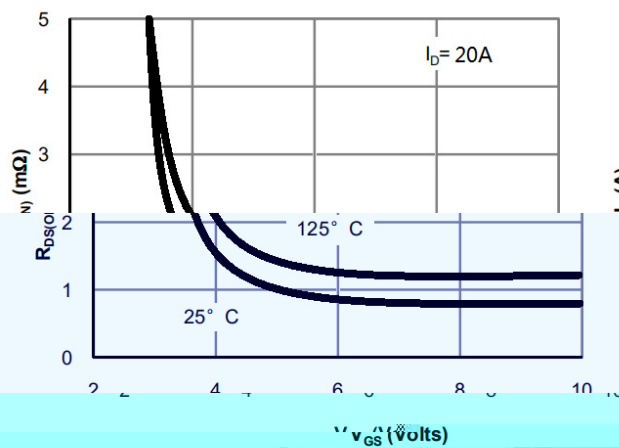


Figure 5: On-Resistance vs. Gate-Source Voltage

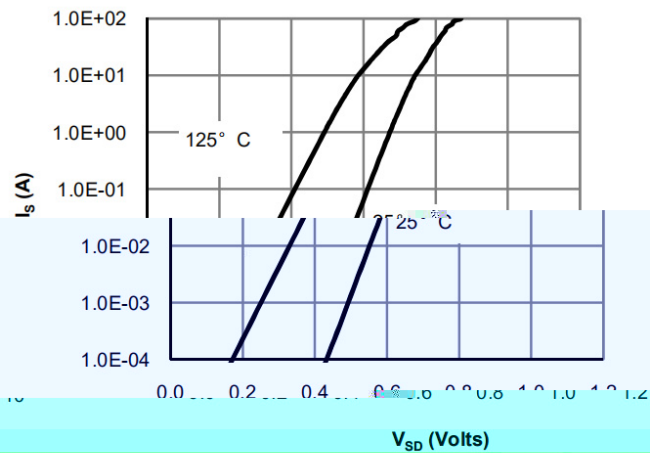
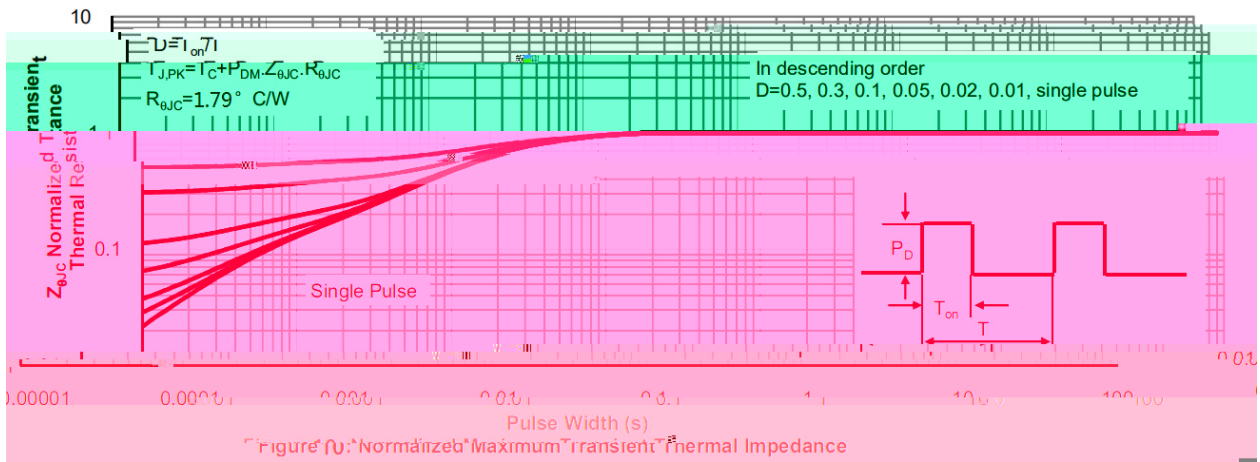
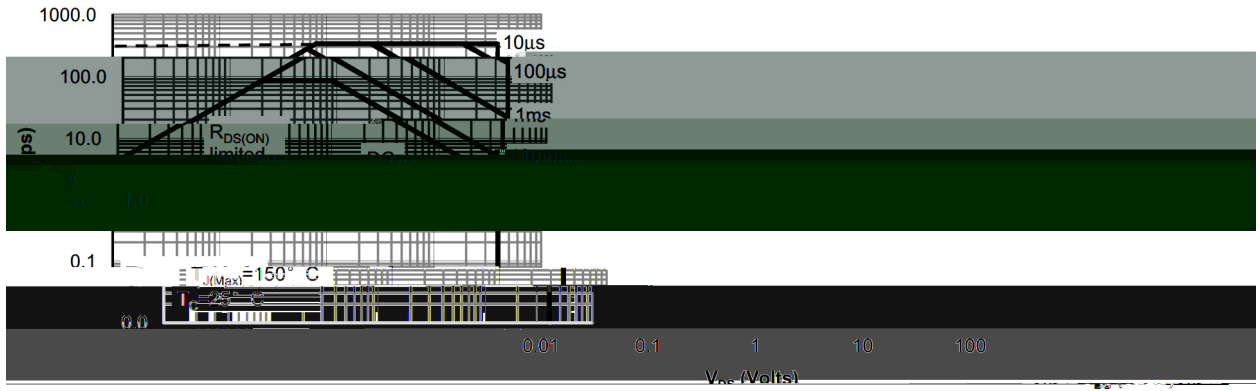
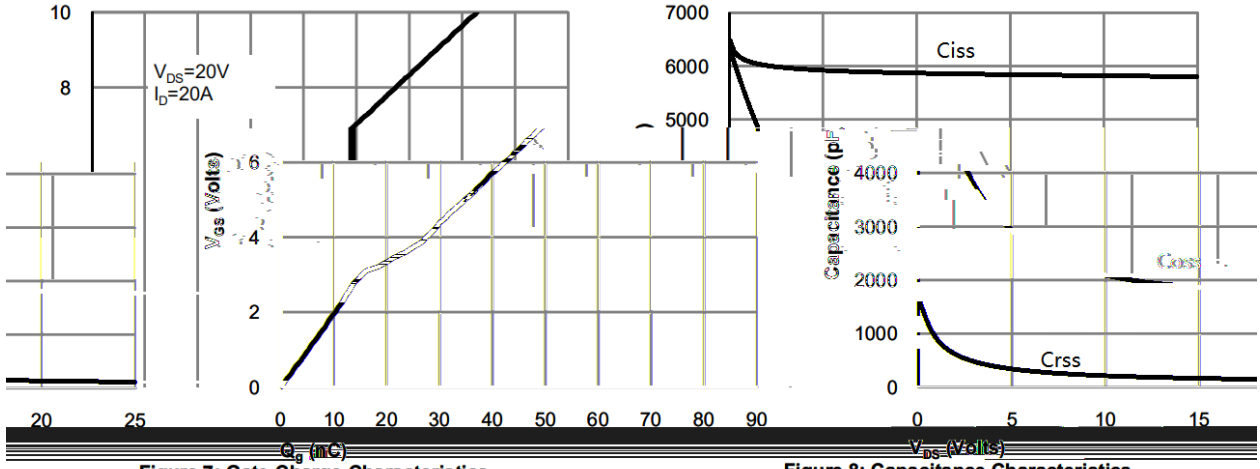
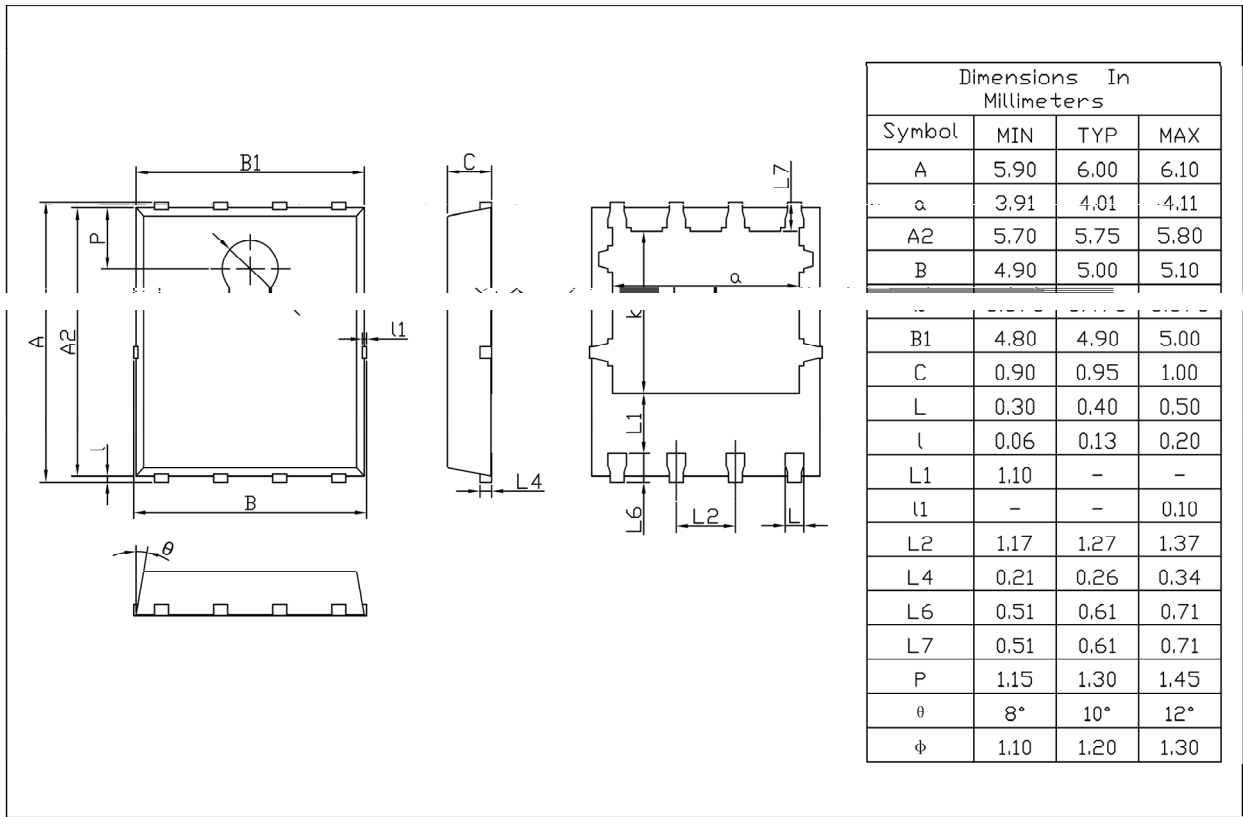


Figure 6: Drain-Source Voltage



PDFN5 × 6

Unit:mm



Rev.01 202209

Rev.B May.-2023


**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					Dimension (unit mm <sup>3</sup> )		
	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