

/ Descriptions

PDFN5Ø6 N

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

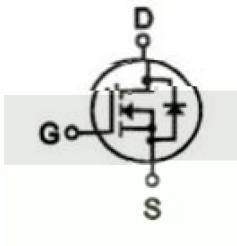
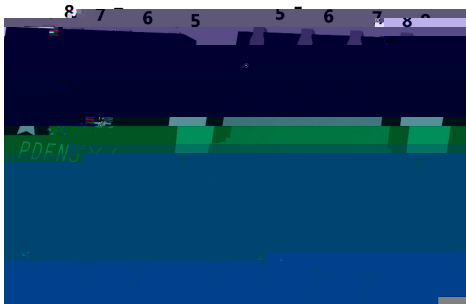
/ Features $V_{DS}(V)=60\text{ V}$ $I_D=158\text{ A}$ $R_{DS(ON)}@10V\leq 2.0\text{ m}\Omega$ (Typ.1.8mR) $R_{DS(ON)}@4.5V\leq 3.0\text{ m}\Omega$ (Typ.2.5mR)

HF Product.

/ Applications

GF0GF

Secondary Side Synchronous Rectification, DC-DC Converter, Motor Control, Load Switching.

/ Equivalent Circuit**/ Pinning**

PIN1 2 3 S PIN4 G PIN5 6 7 8 D

/ Marking

See Marking Instructions.

/ Absolute Maximum Ratings($T_a=25^\circ\text{C}$)

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V _{DS}	60	V
Continuous Drain Current		I _D (T _c =25)	158	A
Pulsed Drain Current		I _{DM}	316	A
Gate-Source Voltage		V _{GS}	± 20	V
Power Dissipation		P _D (T _c =25)	90	W
Avalanche energy(L=0.5mH)		E _{AS}	380	mJ
Avalanche Current(L=0.5mH)		I _{AS}	30.8	A
Junction and Storage Temperature Range		T _j , T _{stg}	-55 to 150	°C
Maximum Junction-to-Ambient	t ≤ 10s	R _{θ JA}	20	/ W
	Steady-State		57	
Maximum Junction-to-Case	Steady-State	R _{θ JC}	1.39	

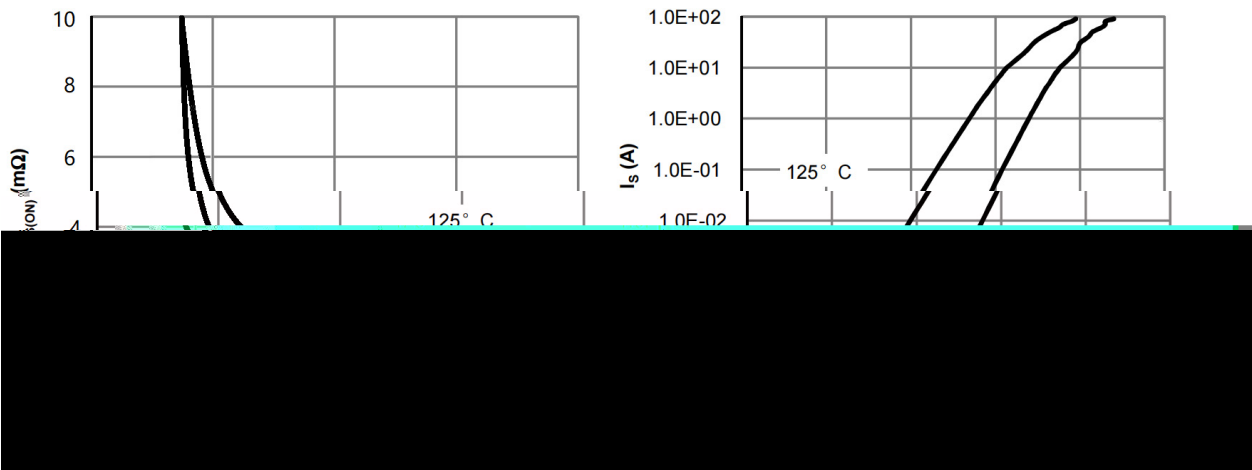
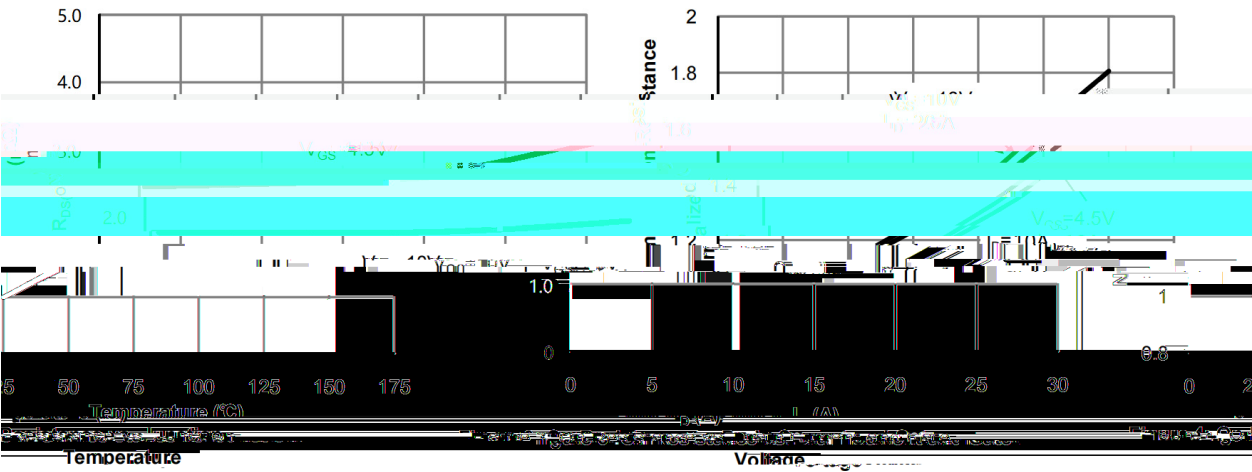
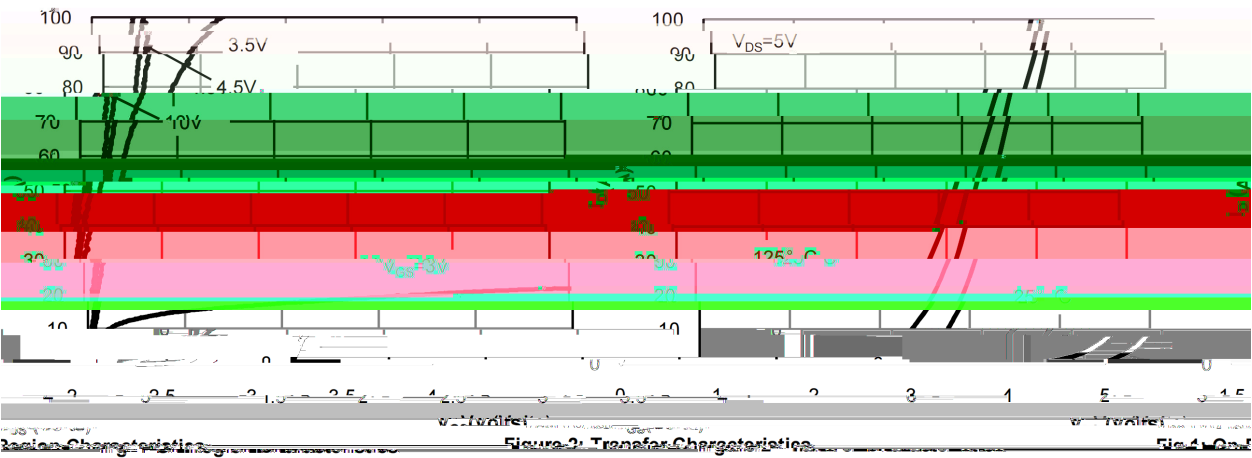
/ Electrical Characteristics($T_a=25^\circ\text{C}$)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0\text{V}$ $I_D=250\mu\text{A}$	60	65		V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=60\text{V}$ $V_{GS}=0\text{V}$			1	μA
Gate-Body Leakage Current Forward	I_{GSS}	$V_{GS}=\pm 20\text{V}$ $V_{DS}=0\text{V}$			± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=250\mu\text{A}$	1	1.6	2.5	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10\text{V}$ $I_D=20\text{A}$		1.8	2.5	m Ω
		$V_{GS}=4.5\text{V}$ $I_D=10\text{A}$		2.4	3.5	
Forward On Voltage	V_{SD}	$V_{GS}=0\text{V}$ $I_S=1\text{A}$			1.2	V
Gate resistance	R_g	$f=1\text{MHz}$		1.0		Ω
Input Capacitance	C_{iss}	$V_{DS}=25\text{V}$ $V_{GS}=0\text{V}$ $f=1.0\text{MHz}$		6700		pF
Output Capacitance	C_{oss}			1400		
Reverse Transfer Capacitance	C_{rss}			70		
Total Gate Charge	$Q_{g(10V)}$	$V_{GS}=10\text{V}$, $V_{DS}=30\text{V}$, $I_D=20\text{A}$		60		nC
Total Gate Charge	$Q_{g(4.5V)}$			23		
Gate Source Charge	Q_{gs}			16		
Gate Drain Charge	Q_{gd}			3		

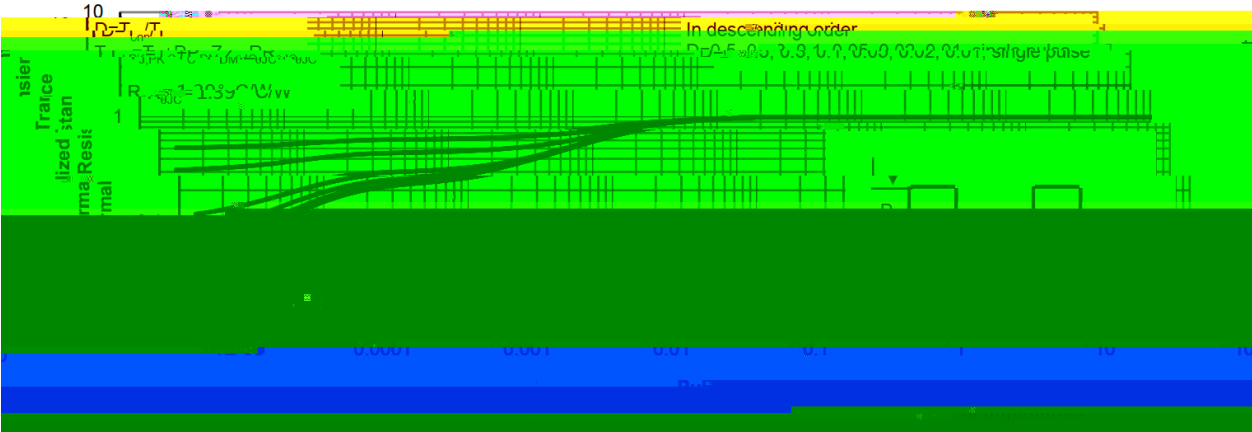
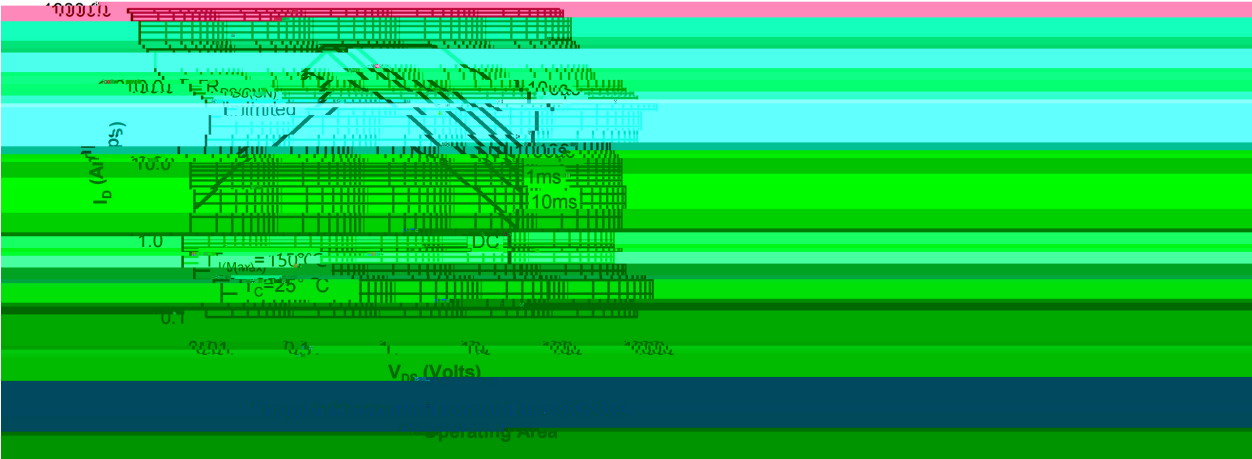
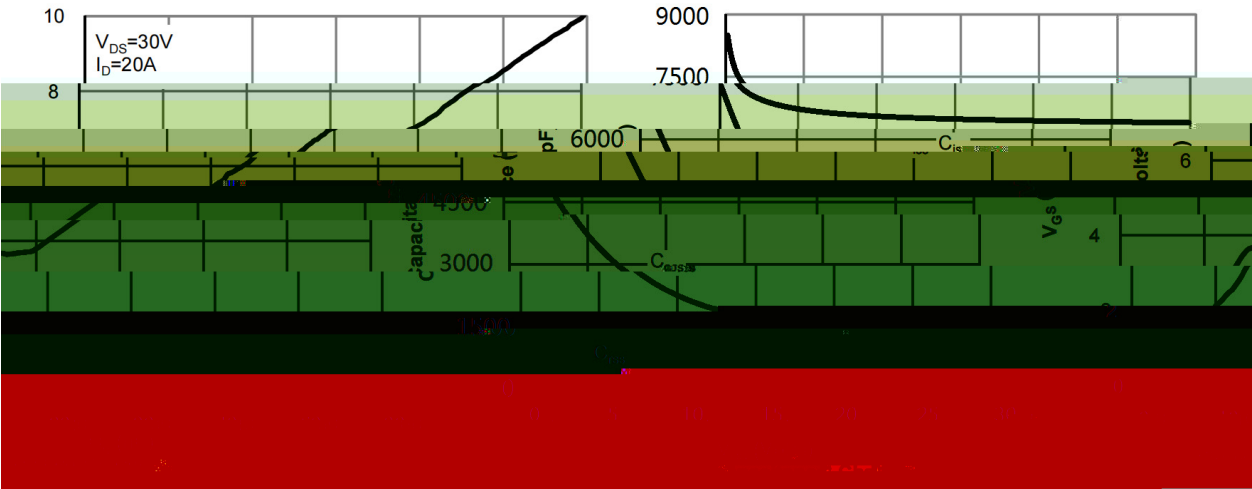
/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Turn-On Delay Time	t _{d(on)}	V _{GS} =10V V _{DS} =20V R _L =1Ω R _{GEN} =3Ω		13		ns
Turn-On Rise Time	t _r			4		
Turn-Off Delay Time	t _{d(off)}			47		
Turn-Off Fall Time	t _f			6.5		

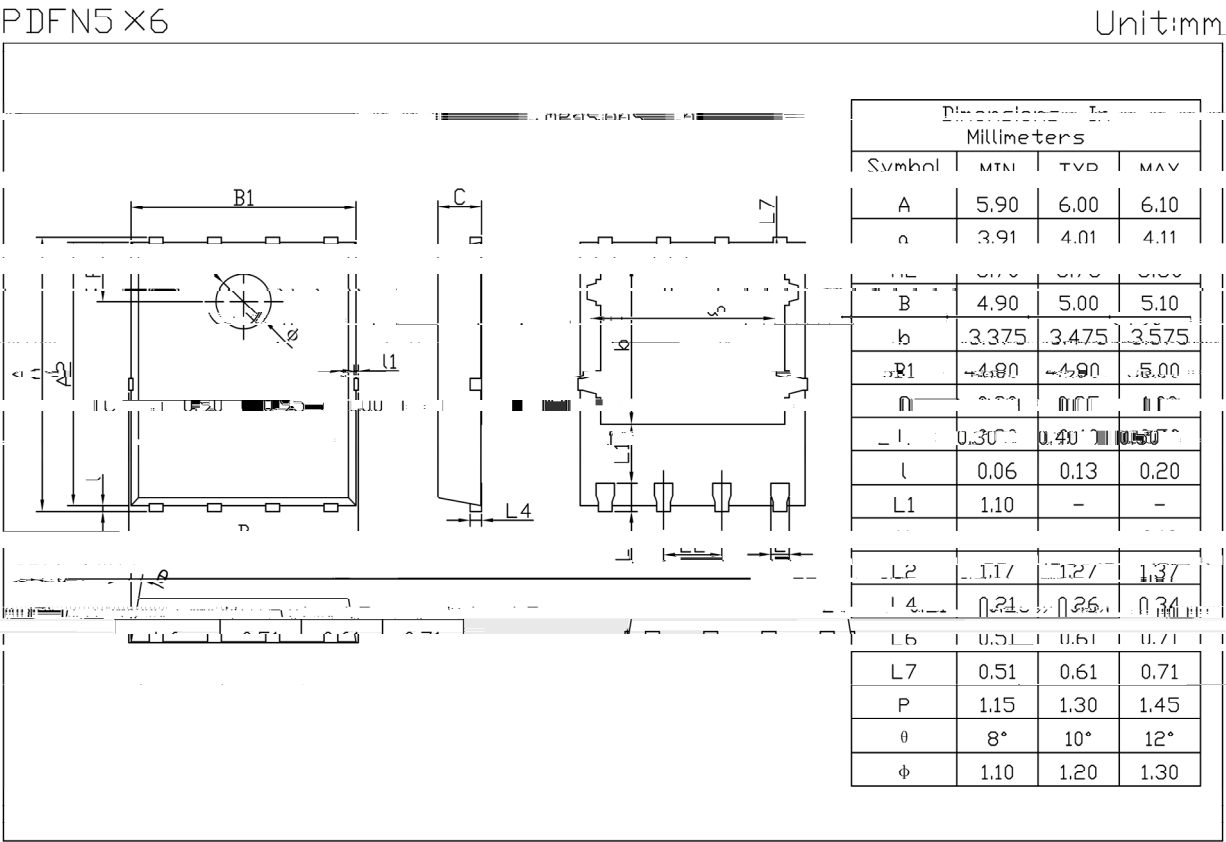
Electrical Characteristic Curve



/ Electrical Characteristic Curve



I Package Dimensions



Rev.01 202209

BRCS020N06SZC

Rev.B Dec.-2024

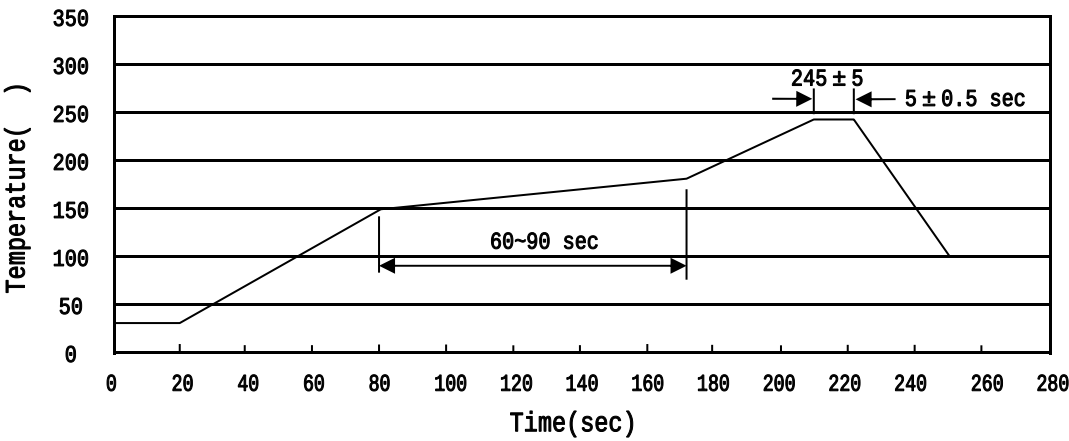


蓝箭电子
BLUE ROCKET ELECTRONICS

DATA SHEET

/ Marking Instructions

() / Temperature Profile for IR Reflow Soldering(Pb-Free)



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.

/ Resistance to Soldering Heat Test Conditions

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

/ Packaging SPEC.

/ REEL

Package Type	Units					Dimension (unit mm ³)		
	2	2	2	2	2			
PDFN5×6	5,000	2	10,000	6	60,000	13"×12	360×360×50	380×335×366

/ Notices