

BRCS020N03ZC

Rev.A Jan.-2022

DATA SHEET

/ Descriptions

PDFN5x6 N-Channel MOSFET in a PDFN5x6 Plastic Package .

/ Features

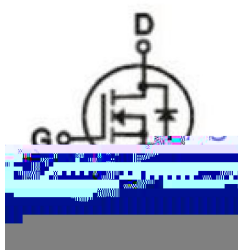
Low $R_{DS(ON)}$ to minimize conductive loss; low Gate Charge for fast switching; Low Thermal resistance; HF Product.

/ Applications

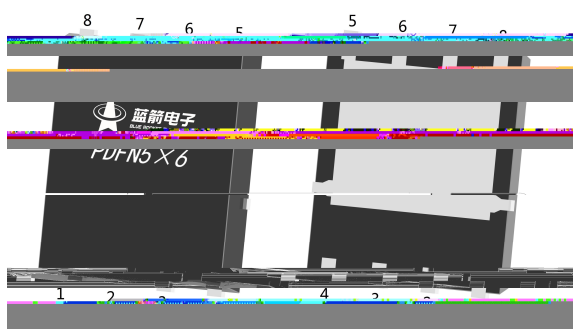
MB/NB/UMPC/VGA	Buck	-
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Battery Management,High Frequency Point-of-Load Synchronous Buck Converter for MB/NB/UMPC/VGA,Networking DC-DC Power System,Load Switch.

/ Equivalent Circuit



/ Pinning



PIN1、2、3: S PIN4: G PIN5、6、7、8: D

Pin	极性
1	S
2	S
3	S
4	G
5	D
6	D
7	D
8	D

/ Marking

见印章说明。See Marking Instructions.

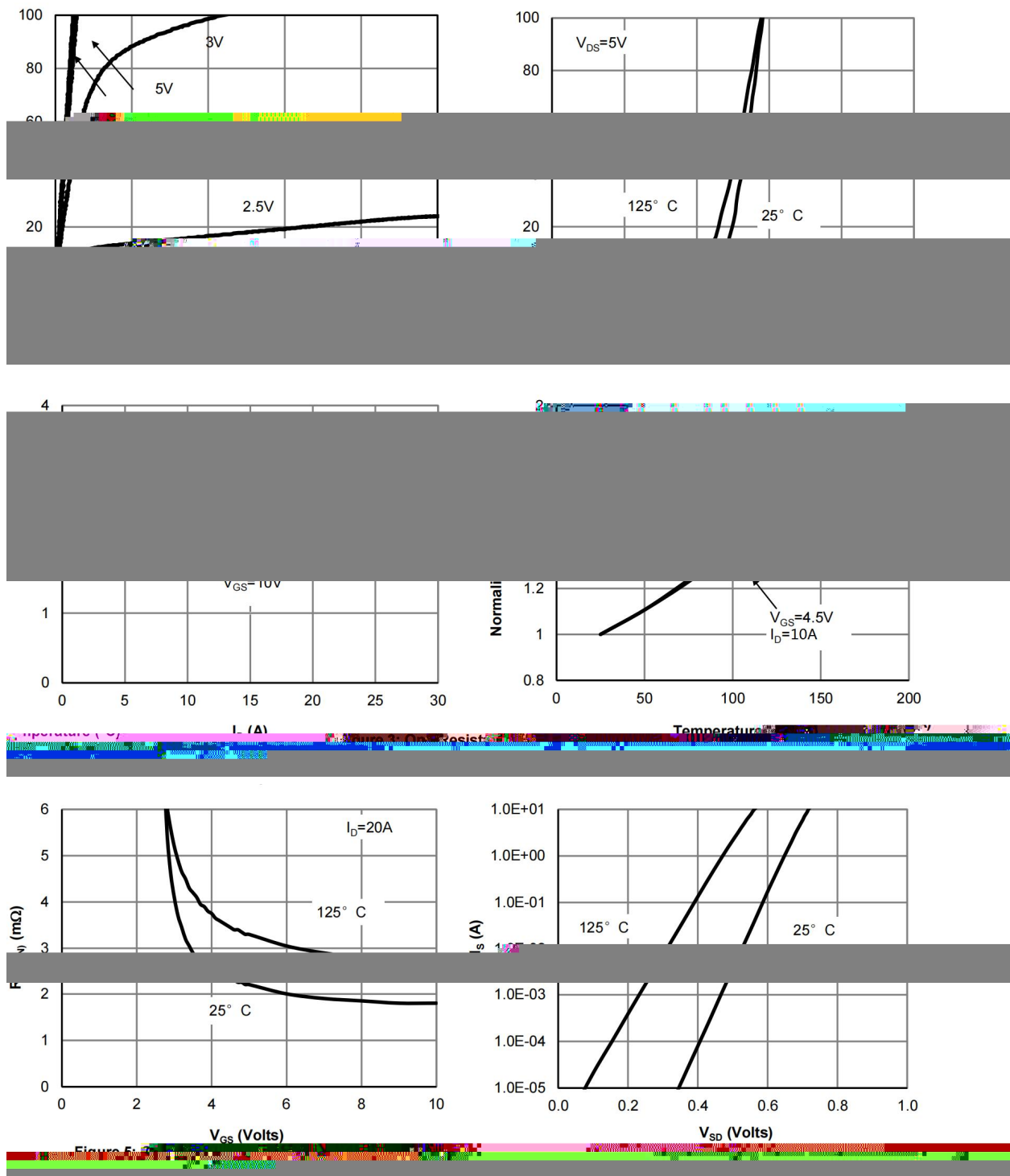
Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V _{DS}	30	V
Drain Current - Continuous		I _D	150	A
Drain Current – Pulsed		I _{DM}	285	A
Gate-Source Voltage		V _{GS}	± 20	V
Power Dissipation		P _D (T _c =25°C)	78	W
Single Pulse Avalanche Energy(L=0.5mH)		E _{AS}	590	mJ
Avalanche Current(L=0.5mH)		I _{AS}	33.5	A
Junction and Storage Temperature Range		T _j , T _{stg}	-55 to 150	°C
Thermal resistance, junction - ambient	t ≤ 10s	R _{θJA}	20	°C / W
	Steady-State		50	
Thermal resistance, junction - case	Steady-State	R _{θJC}	1.6	

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$I_D=250\mu\text{A}, V_{GS}=0\text{V}$	30	35		V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=30\text{V}, V_{GS}=0\text{V}$			1	μA
Gate-Body leakage current	I_{GSS}	$V_{DS}=0\text{V}, V_{GS}=\pm 20\text{V}$			± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu\text{A}$	1.0	1.5	3.0	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	$V_{GS}=10\text{V}, I_D=20\text{A}$		1.8	2.0	m Ω
		$V_{GS}=4.5\text{V}, I_D=10\text{A}$		2.4	3.0	

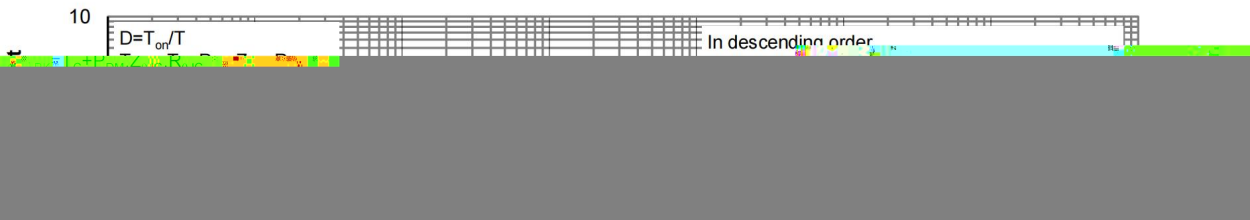
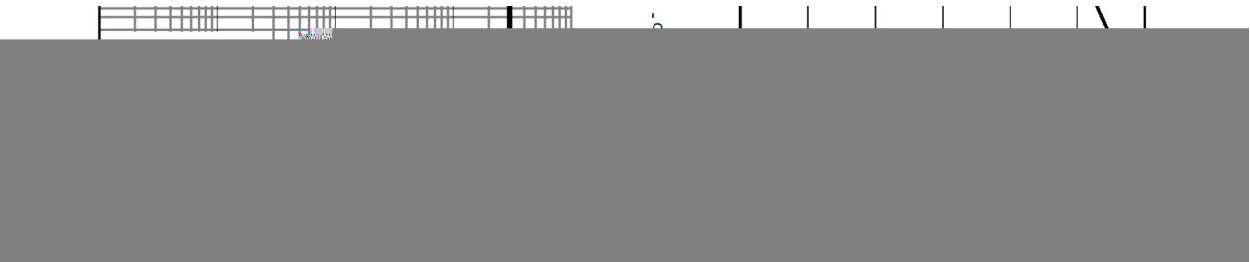
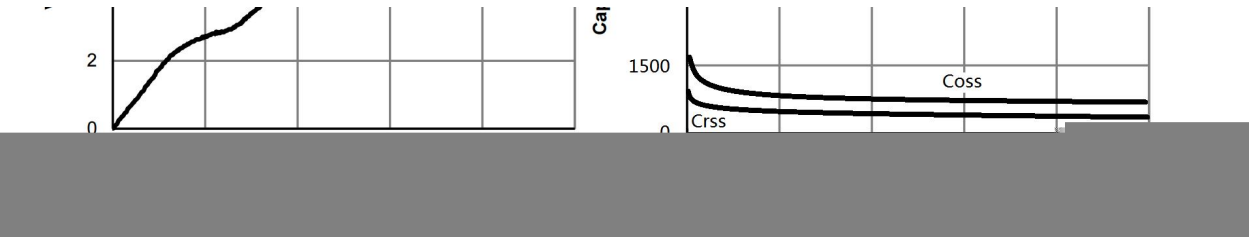
/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Turn-On Delay Time	$t_{d(on)}$	$V_{GS}=10V$ $V_{DS}=15V$ $R_L=0.75\ \Omega$ $R_{GEN}=3\ \Omega$		9		ns
Turn-On Rise Time	t_r			5		
Turn-Off Delay Time	$t_{d(off)}$			87		
Turn-Off Fall Time	t_f			20		

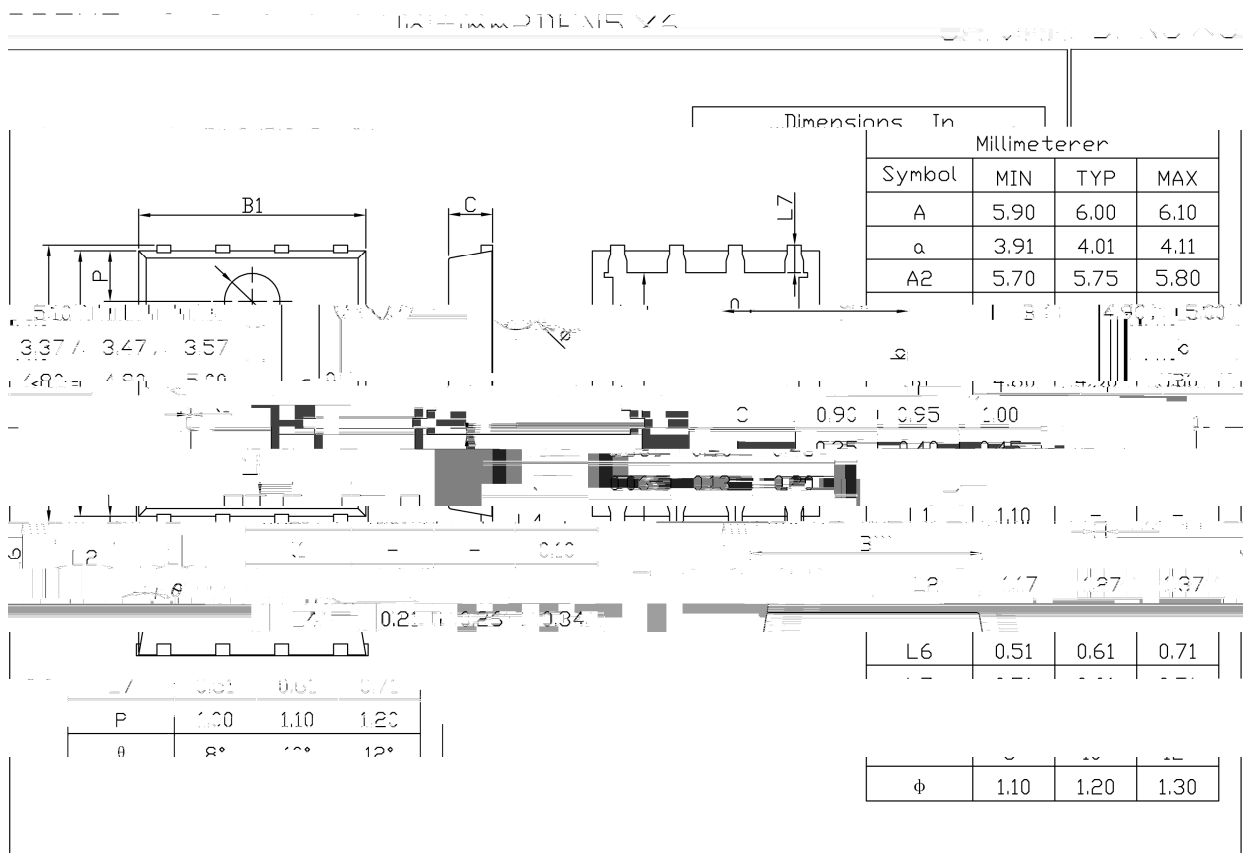
/ Electrical Characteristic Curve



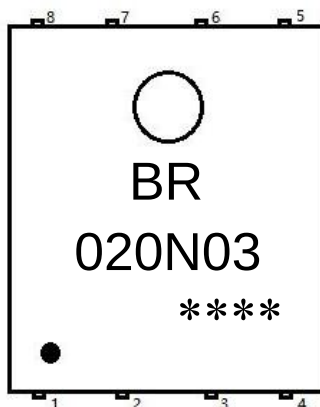
/ Electrical Characteristic Curve



/ Package Dimensions



Rev.00 201812

/ Marking Instructions

说明：

BR： 为公司代码

020N03： 为为产品型号

****： 为生产批号代码，随生产批号变化

Note：

BR： Company Code

020N03： Product Type

****: Lot No. Code, code change with Lot No

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

Note:

- 1 150 180 60 90sec;
- 2 245±5 5±0.5sec;
- 3 2 10°C/sec.

- 1.Preheating:150~180°C, Time:60~90sec.
- 2.Peak Temp.:245±5°C, Duration:5±0.5sec.
3. Cooling Speed: 2~10°C/sec.

/ Resistance to Soldering Heat Test Conditions

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

/ Packaging SPEC.

/ REEL

Package Type
封装形式

Units 包装数量