

BRCS020N03ZC

Rev.A Jan.-2022

DATA SHEET

/ Descriptions

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

/ Features

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

/ Applications

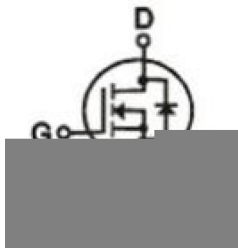
MB/NB/UMPC/VGA

Buck

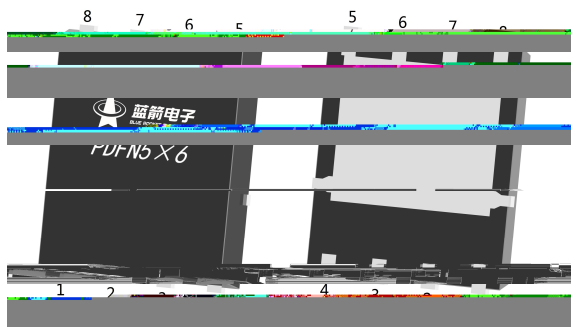
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Battery Management,High Frequency Point-of-Load Synchronous Buck Converter for MB/NB/UMPC/VGA,Networking DC-DC Power System,Load Switch.

/ 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	$P_D(T_c=25^\circ C)$	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	$^\circ C$
Thermal resistance, junction - ambient	$t \leq 10s$	R_{JA}	$^\circ C/W$
	Steady-State		
Thermal resistance, junction - case	Steady-State	R_{JC}	50
			1.6

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

Diod

/ 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

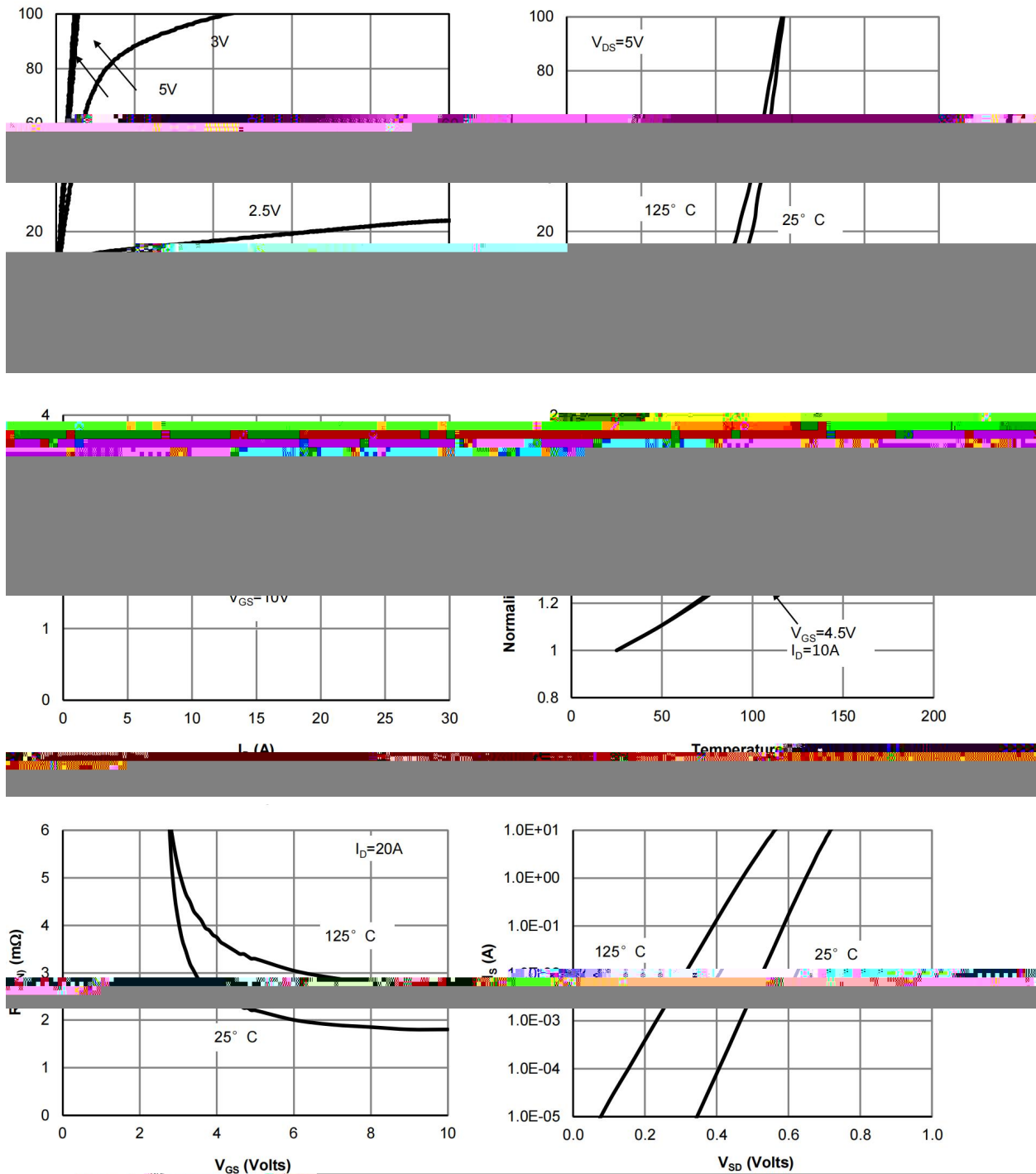
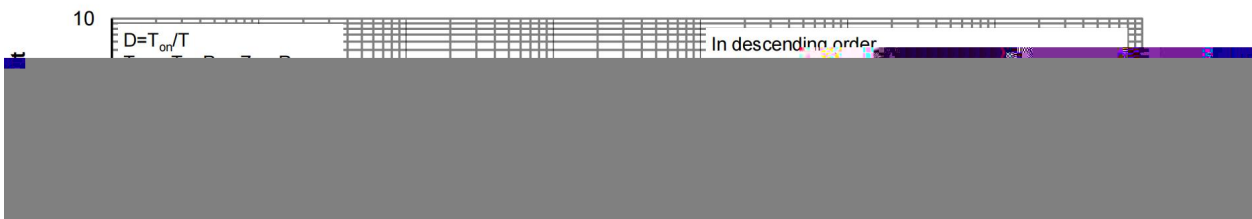
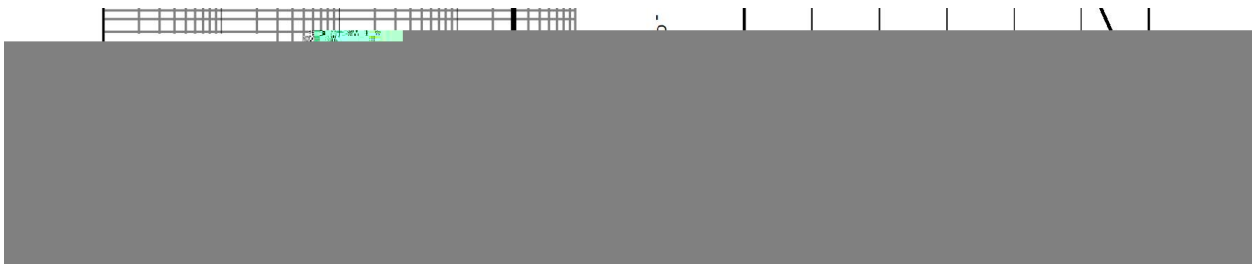
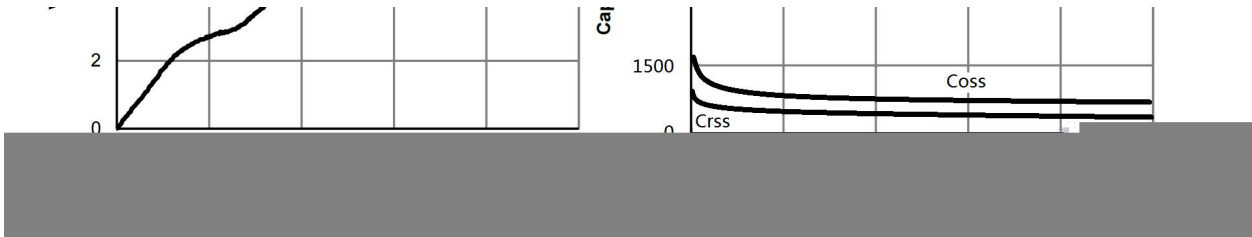
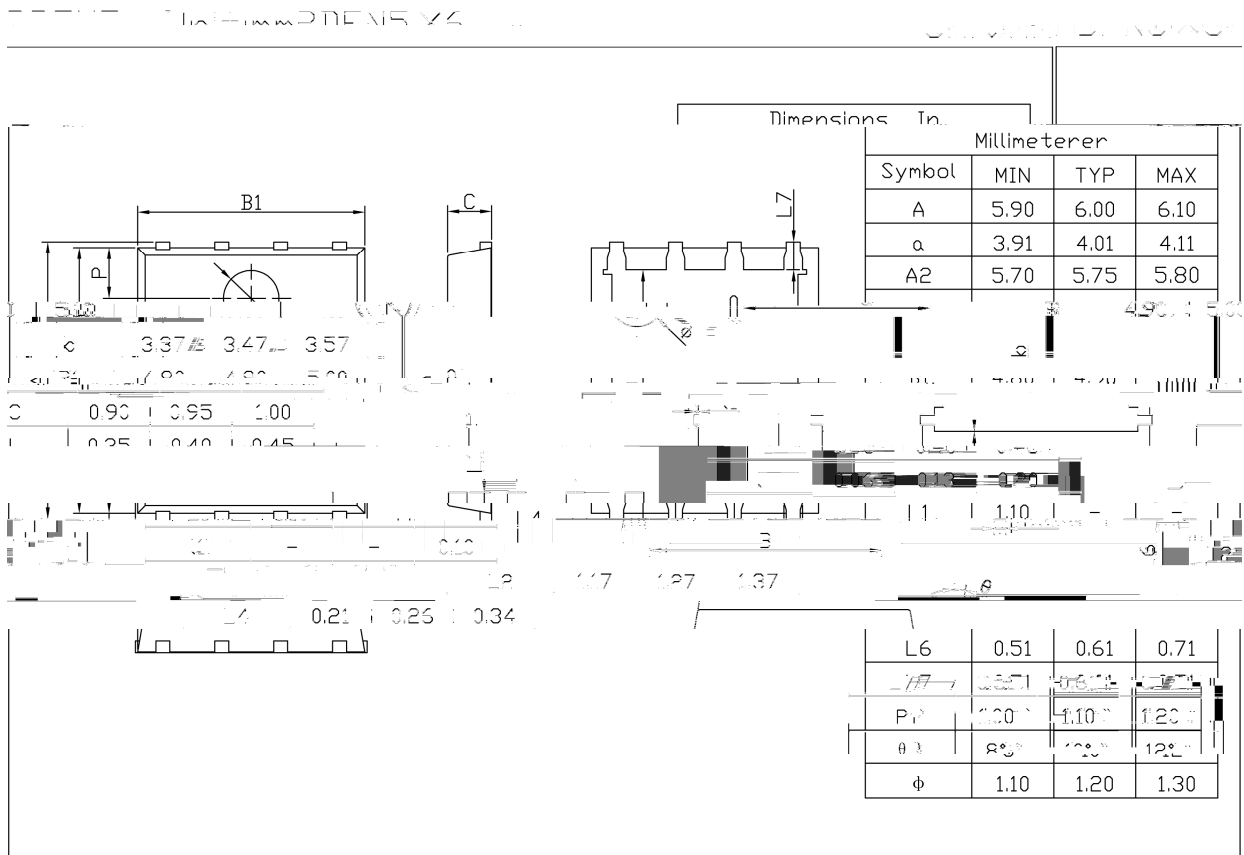


Figure 5: Resistance

/ Electrical Characteristic Curve

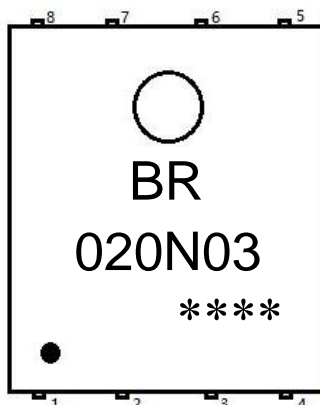


/ Package Dimensions



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;		1.Preheating:150~180°C, Time:60~90sec.
2	245±5	5±0.5sec;		2.Peak Temp.:245±5°C, Duration:5±0.5sec.
3		2 10°C/sec.		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 Units 包装数量
封装形式