描述 / Descriptions

PDFN3×3A-8L N MOS

N-Channel Enhancement Mode Field Effect Transistor in a PDFN3×3A-8L Plastic Package.

特征 / Features

V_{DS} (V) = 40V

I_D =82A (V_{GS} = ±20V)

$R_{DS(ON)}$@10V 3mR(Typ.2.5mR)

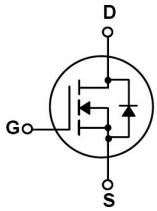
$R_{DS(ON)}$@4.5V 5mR(Typ.3.5mR)

HF Product.

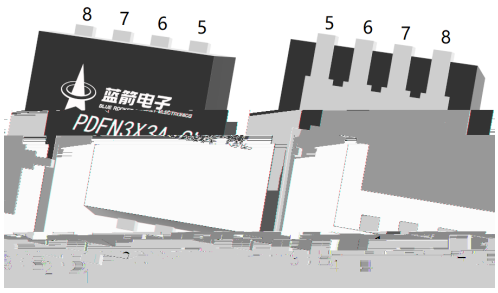
用途 / Applications

Load Switch Applications,Battery Power Management.

内部等效电路 / Equivalent Circuit



引脚排列 / Pinning



出脚	定义
Pin1	S
Pin2	S
Pin3	S
Pin4	G
Pin5	D
Pin6	D
Pin7	D
Pin8	D

印章代码 / Marking

See Marking Instructions.

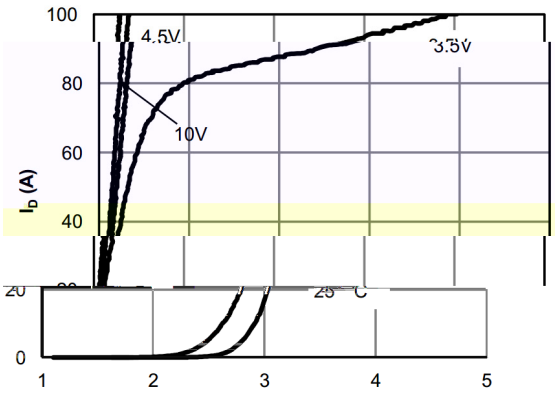
极限参数 / Absolute Maximum Ratings(Ta=25℃)

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DSS}	40	V
Drain Current		I_D(Tc=25)	57	A
Drain Current - Pulsed		I_{DM}	137	A
Gate-Source Voltage		V_{GSS}	±20	V
Single Pulsed Avalanche Energy		E_{AS}	348	mJ
Avalanche Current		I_{AS}	33	A
Power Dissipation		P_D(Tc=25)	37	W
Operating and Storage Temperature Range		T_J,T_{stg}	-55 to 150	
Junction-to-Ambient	t ≤ 10	R_{JA}	42	/W
Junction-to-Ambient	Steady-State		78	
Junction-to-Case	Steady-State	R_{JC}	3.4	

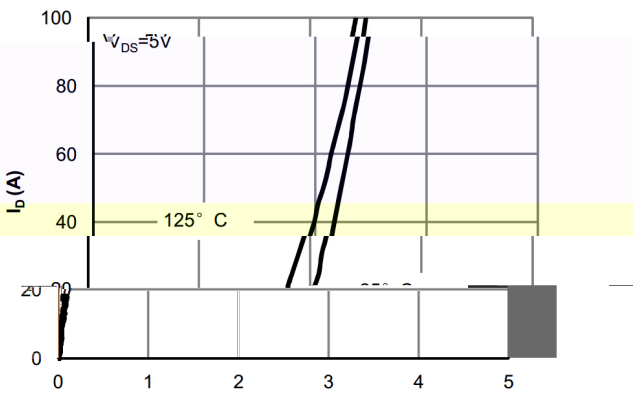
电性能参数 / Electrical Characteristics(Ta=25℃)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS}=0V I_D=250 A	40	47		V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=40V V_{GS}=0V			1	A
Gate-Body Leakage Current Forward	I_{GSS}	V_{GS}=±20V V_{DS}=0V			±0.1	A
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS} I_D=250 A	1.0	1.7	3.0	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	V_{GS}=10V I_D=20A		2.5	3	m
		V_{GS}=4.5V I_D=10A		3.5	5	m
Drain-Source Diode Forward Voltage	V_{SD}	V_{GS}=0V I_S=1A			1.2	V
Input Capacitance	C_{iss}	V_{DS}=25V V_{GS}=0V f=1.0MHz		9600		pF
Output Capacitance	C_{oss}			740		
Reverse Transfer Capacitance	C_{rss}			650		
Gate resistance	R_g	V_{GS}=0V V_{DS}=0V f=1MHz		1.3		
Total Gate Charge	$Q_{g(10V)}$	V_{GS}=10V V_{DS}=20V I_D=20A		51		nC
Total Gate Charge	$Q_{g(4.5V)}$			23		
Gate Source Charge	Q_{gs}			13.2		
Gate Drain Charge	Q_{gd}			3.1		
Turn-On Delay Time	$t_{d(on)}$	V_{GS}=10V V_{DS}=20V R_L=1 R_{GEN}=3.0		11		ns
Turn-On Rise Time	t_r			11		
Turn-Off Delay Time	$t_{d(off)}$			40		
Turn-Off Fall Time	t_f			10		

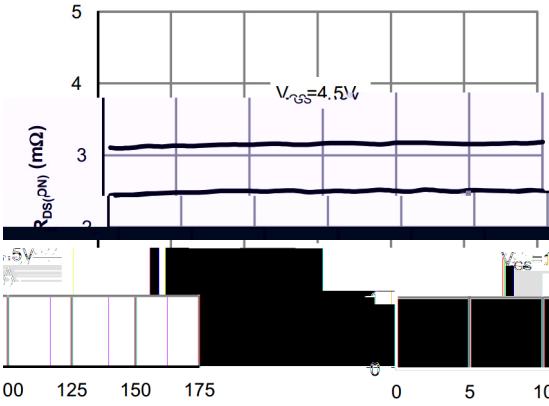
电参数曲线图 / Electrical Characteristic Curve



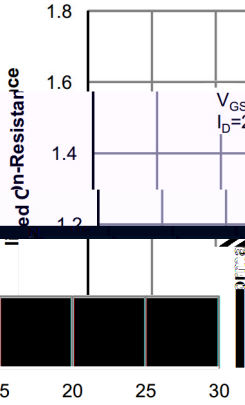
V_{GS} (Volts)
Figure 2: Transfer Characteristics



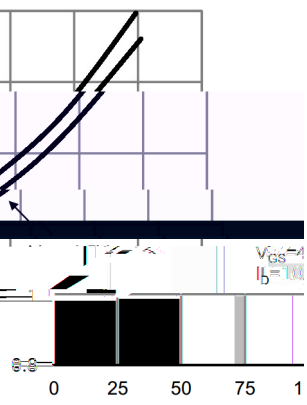
V_{DS} (Volts)
Figure 1: On-Region Characteristics



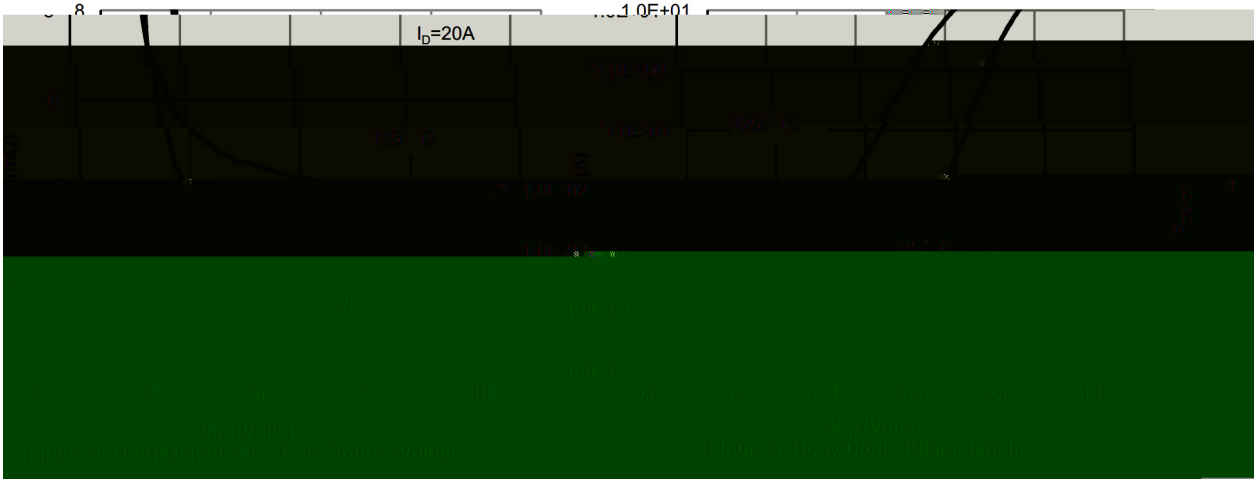
re (°C)
. Junction Temperature



I_D (A)
Figure 3: On-Resistance vs. Drain Current and Gate Voltage



Temperatu
Figure 4: On-Resistance vs.



电参数曲线图 / Electrical Characteristic Curve

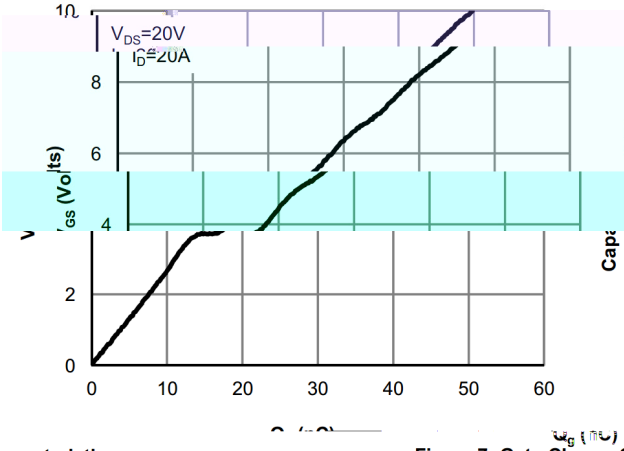


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Figure 7: Gate-Charge Characteristics

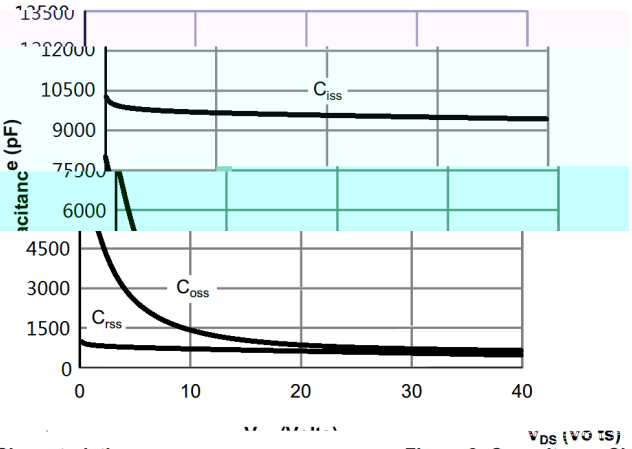
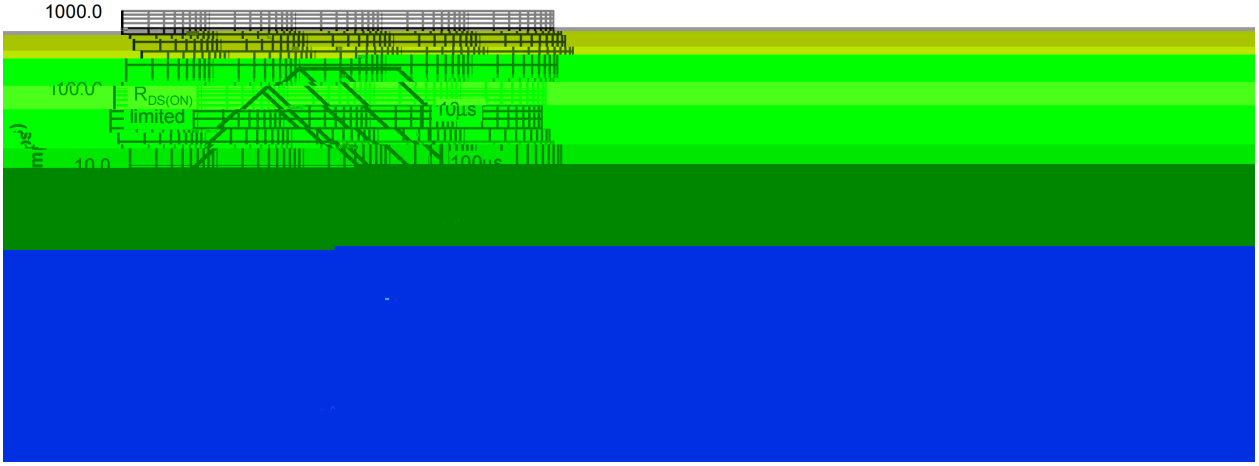


Figure 8: Capacitance Ch



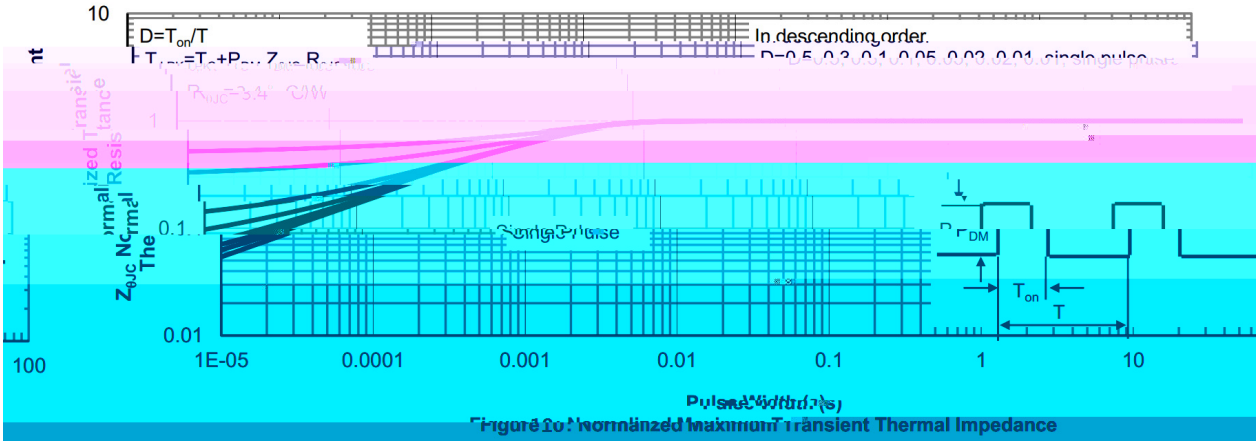
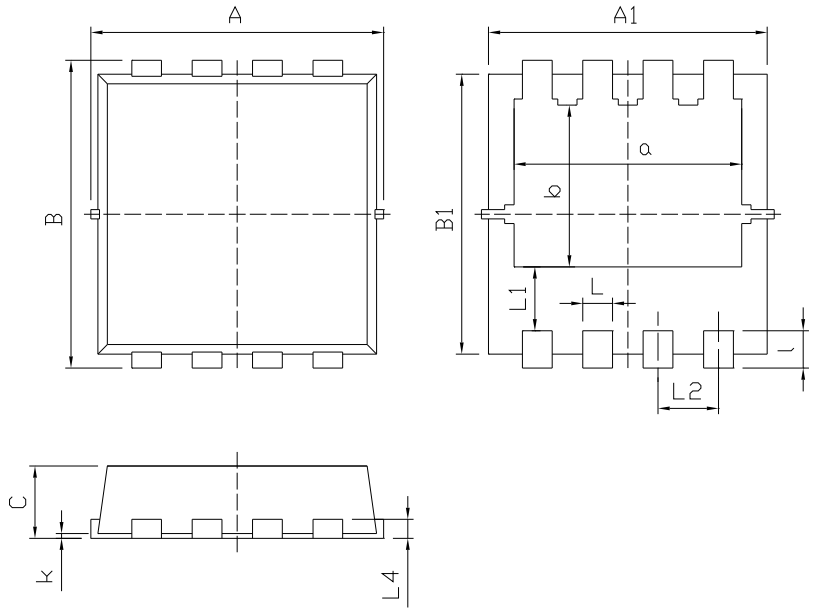


Figure 10: Normalized Maximum Transient Thermal Impedance

外形尺寸图 / Package Dimensions

PDFN3X3A-8L

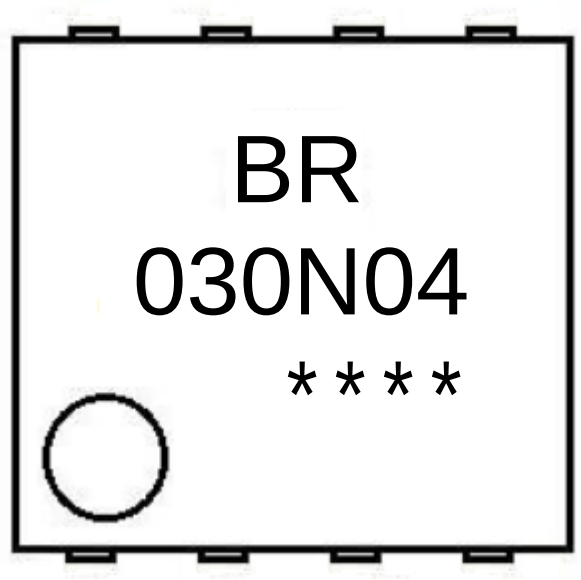
Unit:mm



Dimensions In Millimeterer			
Symbol	MIN	TYP	MAX
A	3.20	3.30	3.40
A1	3.10	3.15	3.20
B	3.20	3.30	3.40
B1	2.95	3.00	3.05
C	0.75	0.80	0.85
L	0.25	0.30	0.35
L1	-	-	0.75
L2	0.55	0.65	0.75
L4	0.14	0.15	0.20
a	2.35	2.45	2.55
b	1.635	1.735	1.835
k	0.00	-	0.05
l	0.30	0.40	0.50

Rev.00 202011

印章说明 / Marking Instructions



BR

030N04

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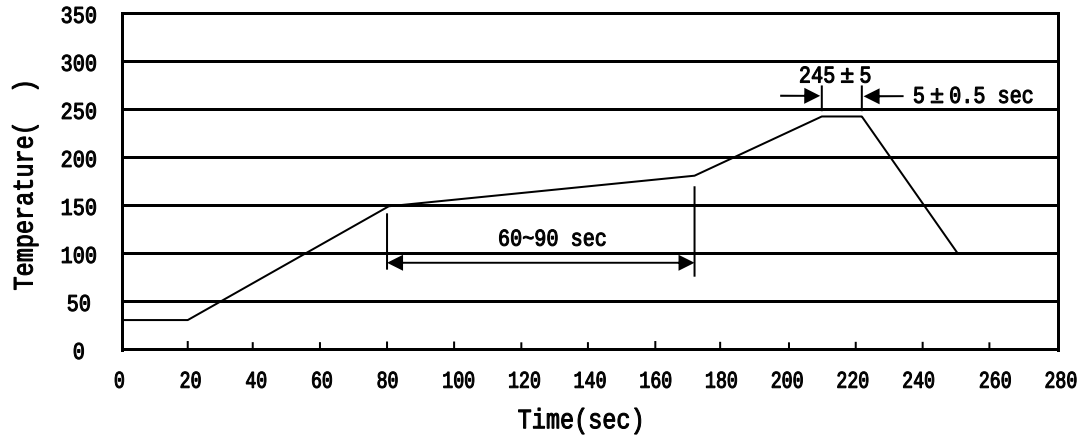
Note:

BR:	Company Code
030N04:	Product Type Code
****:	Lot No. Code, code change with Lot No

回流焊温度曲线图(无铅) / Temperature Profile for IR Reflow Soldering(Pb-Free)



1		150	180		60	90sec;	Note: 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.

耐焊接热试验条件 / Resistance to Soldering Heat Test Conditions

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

包装规格 / Packaging SPEC.

/ REEL

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit：mm³)		
	只卷盘	卷盘盒	只盒	盒箱	只箱		盒	箱
PDFN3×3A-8L	5,000	2	10,000	6	60,000	13 ×12	360×360×50	380×335×366

使用说明 / Notices