

描述 / Descriptions

PDFN3×3A-8L N MOS

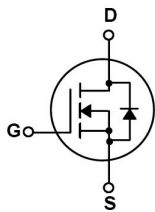
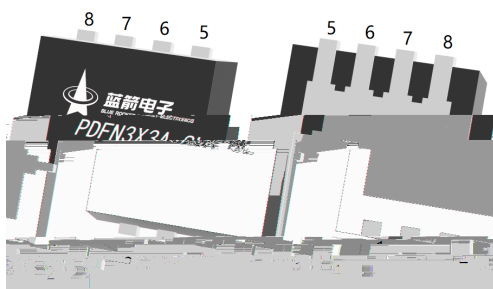
N-Channel Enhancement Mode Field Effect Transistor in a PDFN3×3A-8L Plastic Package.

特征 / Features $V_{DS} (V) = 40V$ $I_D = 82A (V_{GS} = \pm 20V)$ $R_{DS(ON)}@10V \ 3mR(Typ.2.5mR)$ $R_{DS(ON)}@4.5V \ 5mR(Typ.3.5mR)$

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°C)

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	40	V
Drain Current		$I_D(T_c=25^\circ\text{C})$	57	A
Drain Current - Pulsed		I_{DM}	137	A
Gate-Source Voltage		V_{GS}	± 20	V
Single Pulsed Avalanche Energy		E_{AS}	348	mJ
Avalanche Current		I_{AS}	33	A
Power Dissipation		$P_D(T_c=25^\circ\text{C})$	37	W
Operating and Storage Temperature Range		T_J, T_{stg}	-55 to 150	
Junction-to-Ambient	$t \leq 10$	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°C)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V$ $I_D=250\text{ A}$	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}	$V_{GS}=\pm 20V$ $V_{DS}=0V$			± 0.1	A
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=250\text{ A}$	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

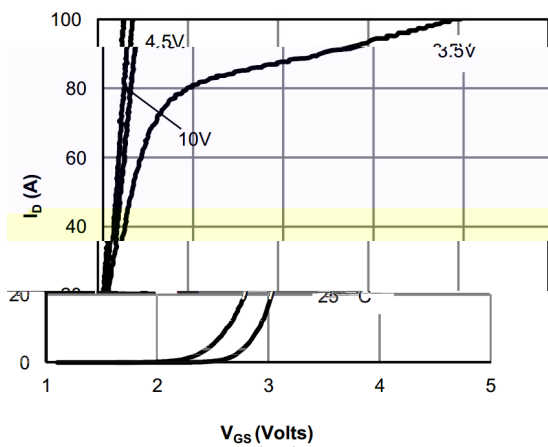


Figure 2: Transfer Characteristics

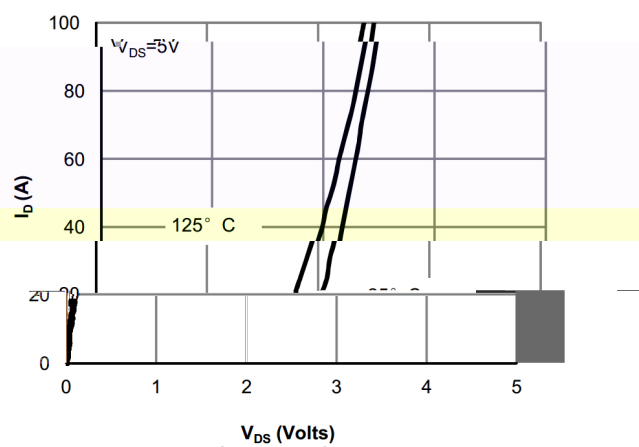


Figure 1: On-Region Characteristics

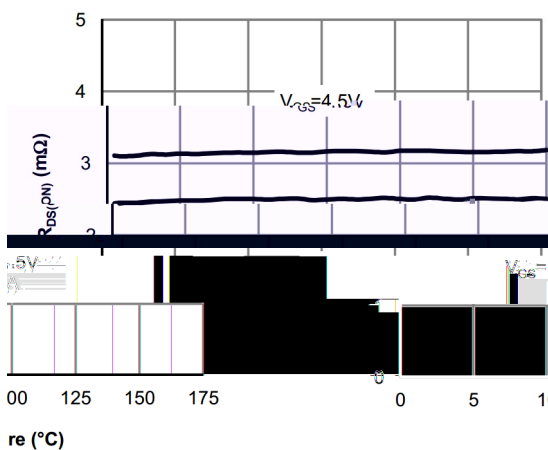


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

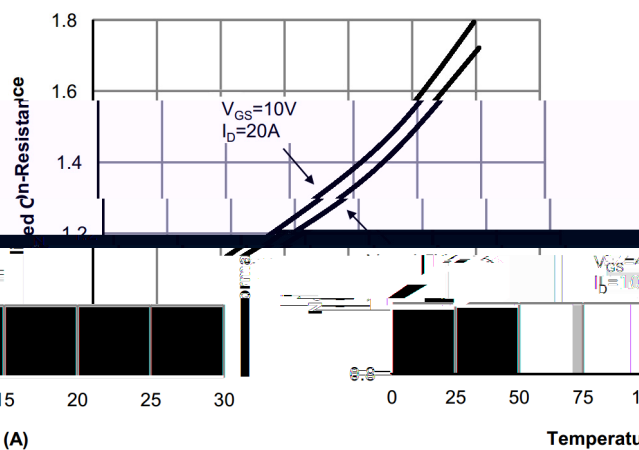


Figure 4: On-Resistance vs. Temperature



电参数曲线图 / Electrical Characteristic Curve

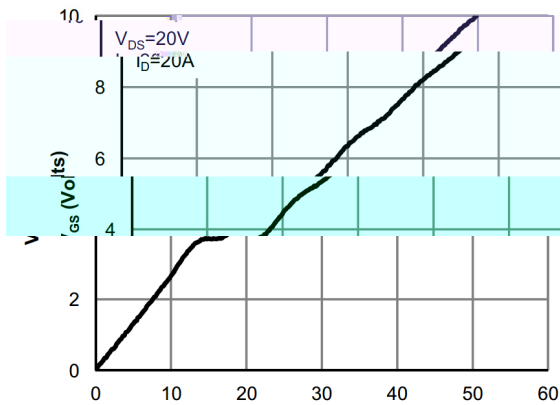


Figure 7: Gate-Charge Characteristics

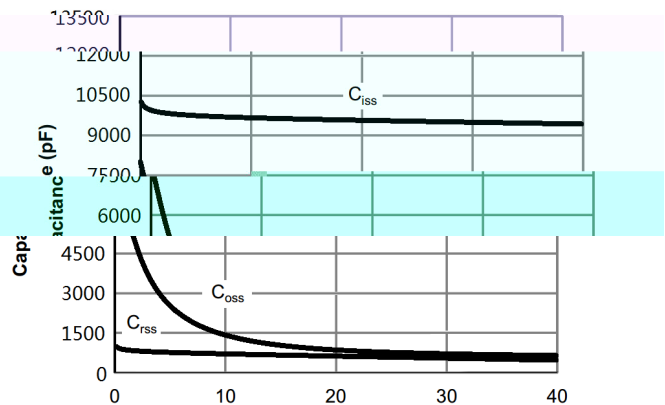
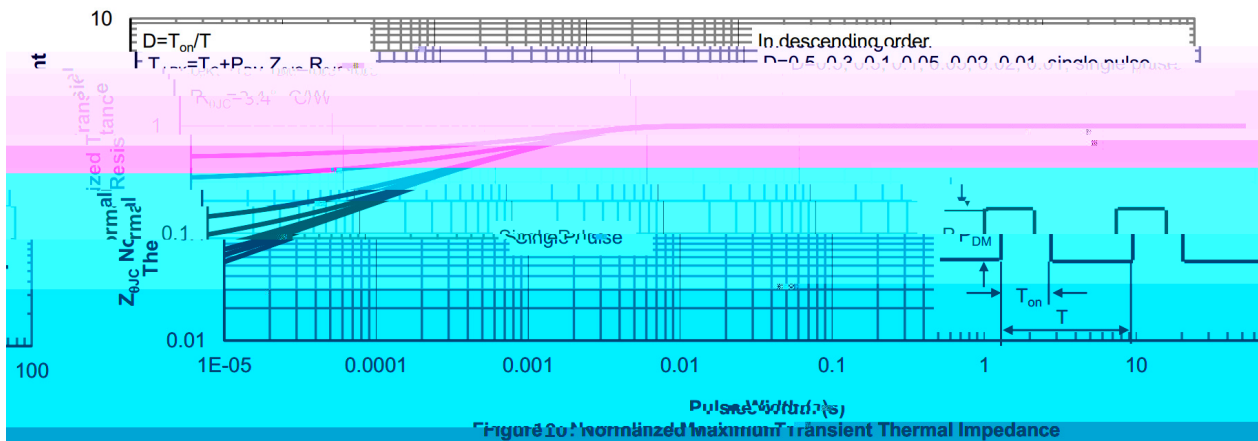
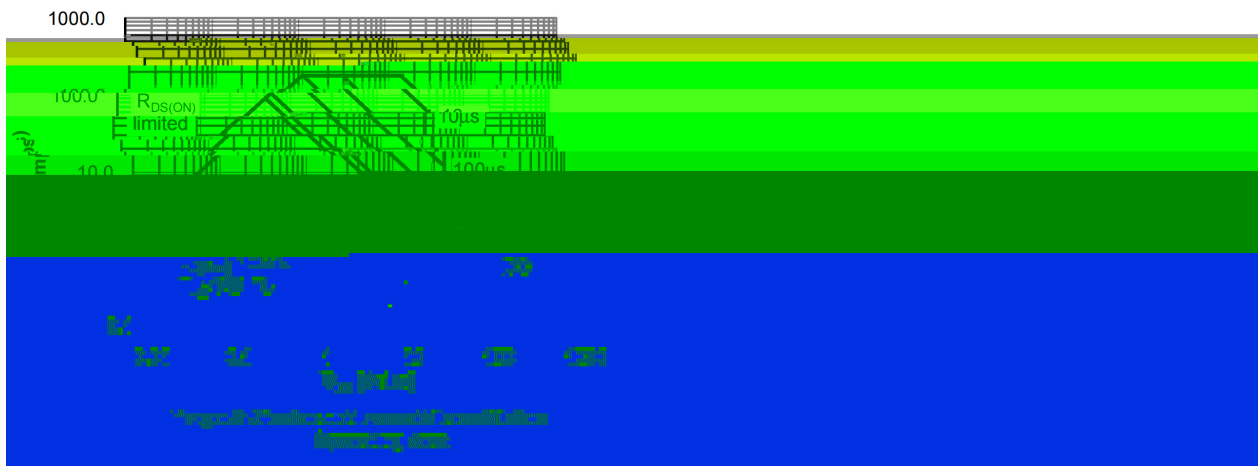


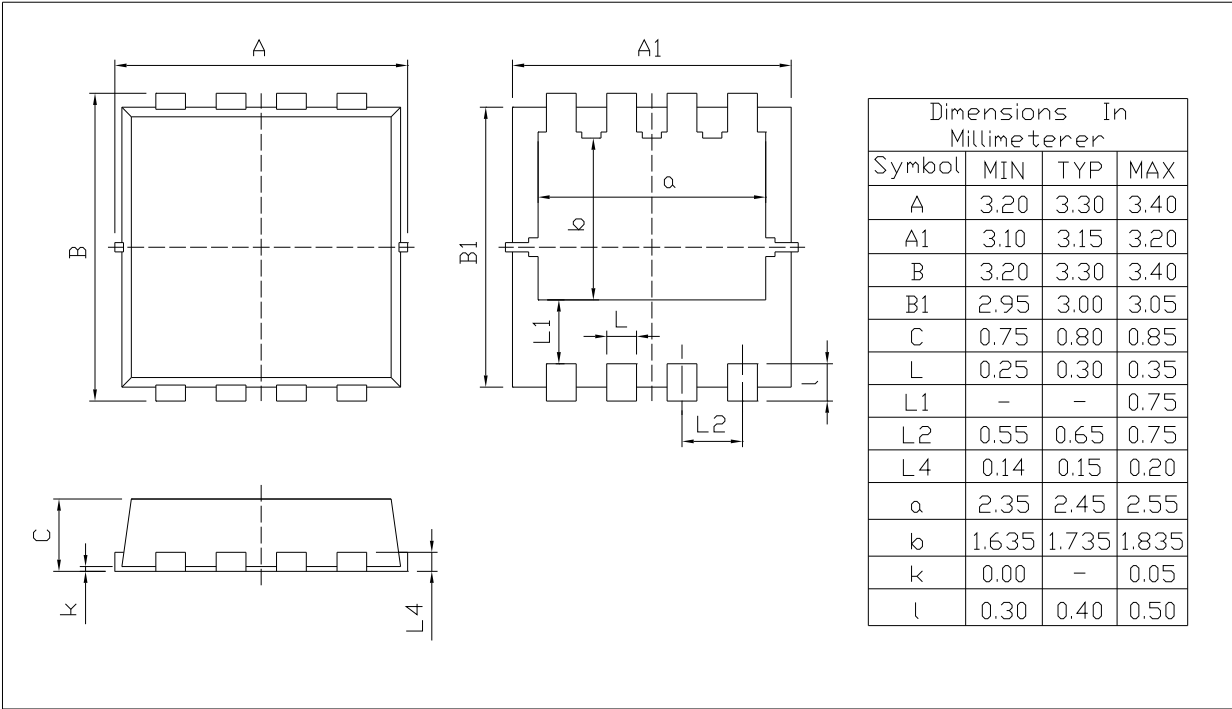
Figure 8: Capacitance Characteristics



外形尺寸图 / Package Dimensions

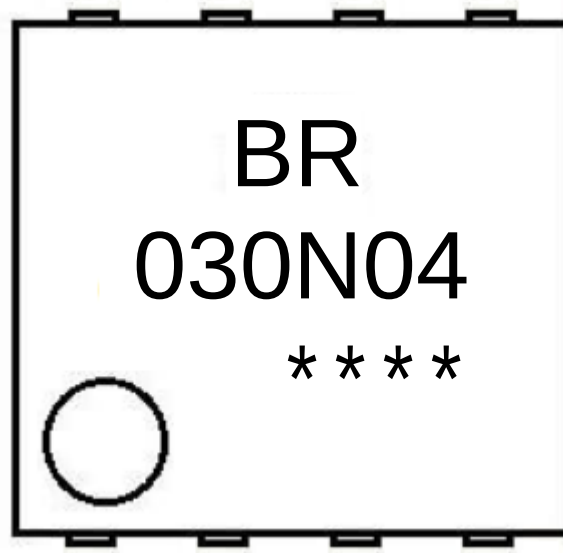
PDFN3X3A-8L

Unit:mm



Rev.00 202011

印章说明 / Marking Instructions



BR

030N04

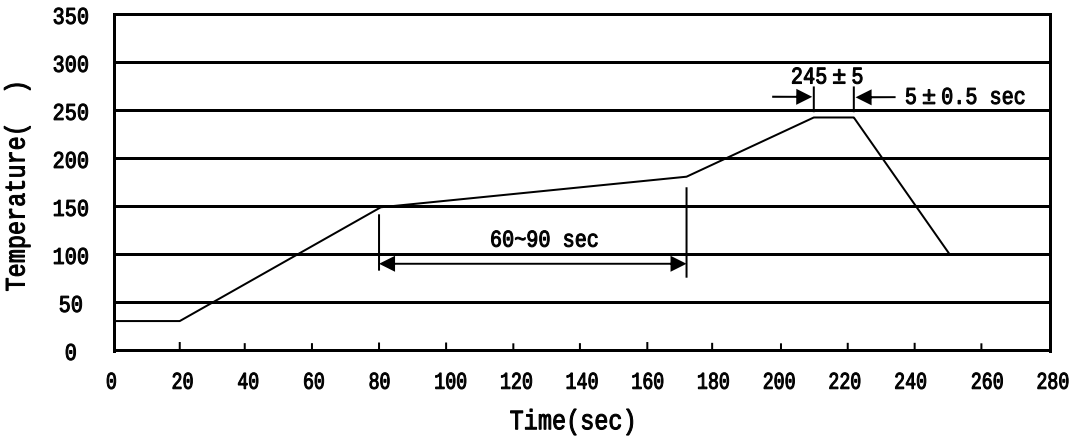
Note:

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)



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 | /sec. | 3. Cooling Speed: 2~10 °C/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: mm ³)		
	Units/Reel 只/卷盘	Reels/Inner Box 卷盘/盒	Units/Inner Box 只/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Reel	Inner Box 盒	Outer Box 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