

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

$V_{DS} (V) = 40V$

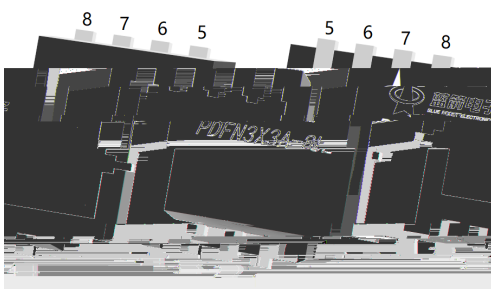
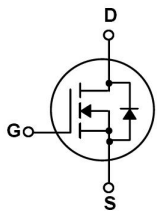
$I_D = 82A (V_{GS} = \pm 20V)$

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

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

HF Product.

Load Switch Applications, Battery Power Management.



出脚	定义
Pin1	S
Pin2	S
4	S
5	S
6	S
7	S
8	S

See Marking Instructions.

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		$V_{DSS}$	40	V
Drain Current		$I_D(T_C=25^\circ\text{C})$	57	A
Drain Current - Pulsed		$I_{DM}$	137	A
Gate-Source Voltage		$V_{GSS}$	$\pm 20$	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	$t = 10$	$R_{JA}$	42	/W
Junction-to-Ambient	Steady-State		78	
Junction-to-Case	Steady-State	$R_{JC}$	3.4	

Parameter	Symbol	Test Conditions		Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	$BV_{DSS}$	$V_{GS}=0V$	$I_D=250\mu A$	40	47		V
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS}=40V$	$V_{GS}=0V$			1	$\mu A$
Gate-Body Leakage Current Forward	$I_{GSS}$	$V_{GS}=\pm 20V$	$V_{DS}=0V$			$\pm 0.1$	$\mu A$
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$	$I_D=250\mu A$	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	$C_{iss}$	$V_{DS}=25V$ $f=1.0MHz$	$V_{GS}=0V$		9600		pF
Output Capacitance	$C_{oss}$				740		
Reverse Transfer Capacitance	$C_{rss}$				650		
Gate resistance	$R_g$	$V_{GS}=0V$ $f=1MHz$	$V_{DS}=0V$		1.3		
Total Gate Charge	$Q_{g(10V)}$	$V_{GS}=10V$ $I_D=20A$	$V_{DS}=20V$		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	$t_{d(on)}$	$V_{GS}=10V$ $R_L=1$	$V_{DS}=20V$ $R_{GEN}=3.0$		11		ns
Turn-On Rise Time	$t_r$				11		
Turn-Off Delay Time	$t_{d(off)}$				40		
Turn-Off Fall Time	$t_f$				10		

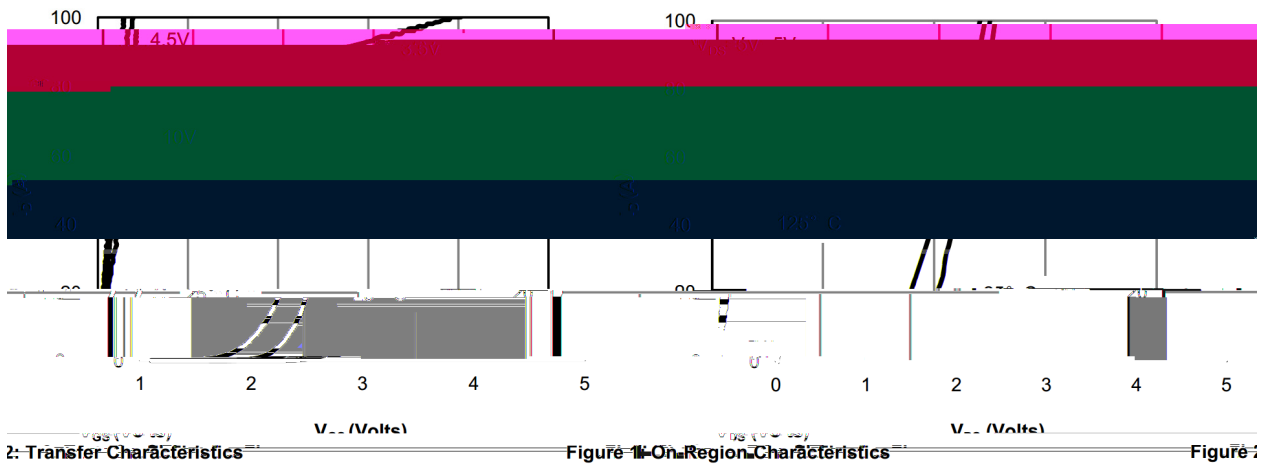


Figure 1: On-Region Characteristics

Figure 2: Transfer Characteristics

Figure 3: On-Region Characteristics

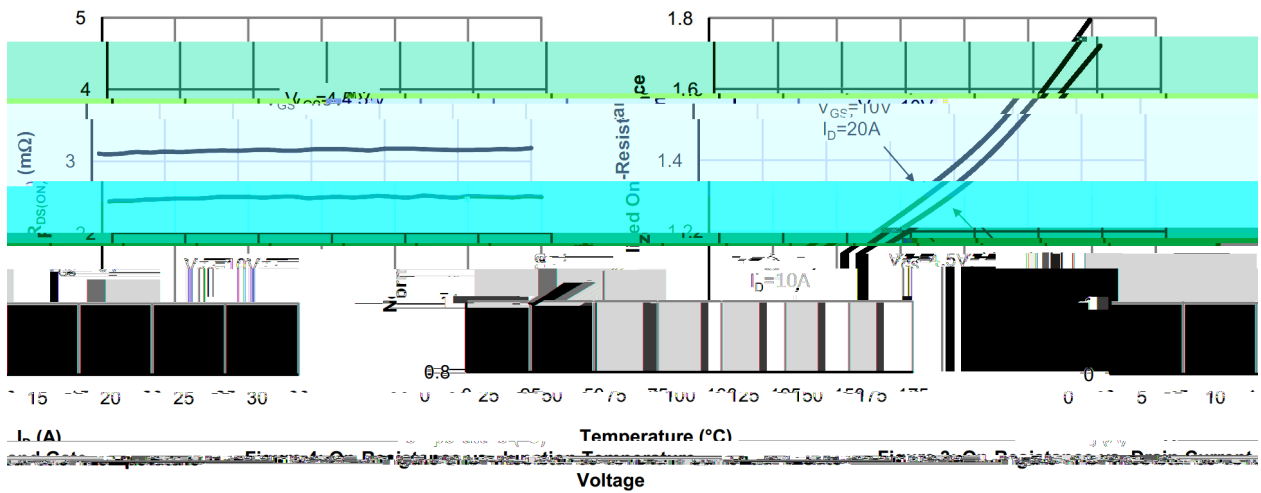


Figure 2: On-Region Characteristics

Figure 3: On-Region Characteristics

Figure 4: On-Region Characteristics

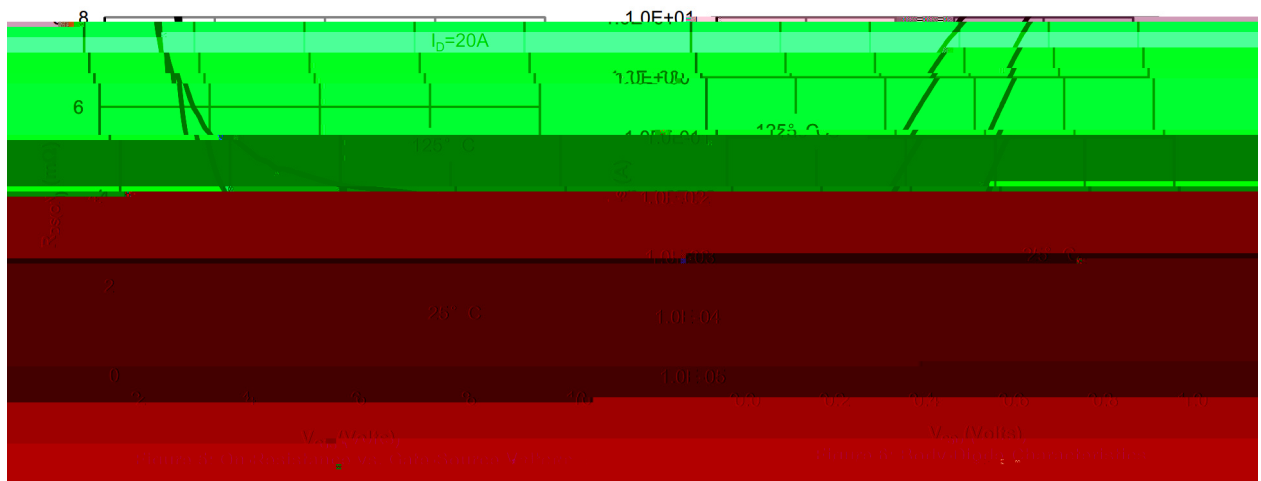


Figure 3: On-Region Characteristics

Figure 4: On-Region Characteristics

Figure 5: On-Region Characteristics

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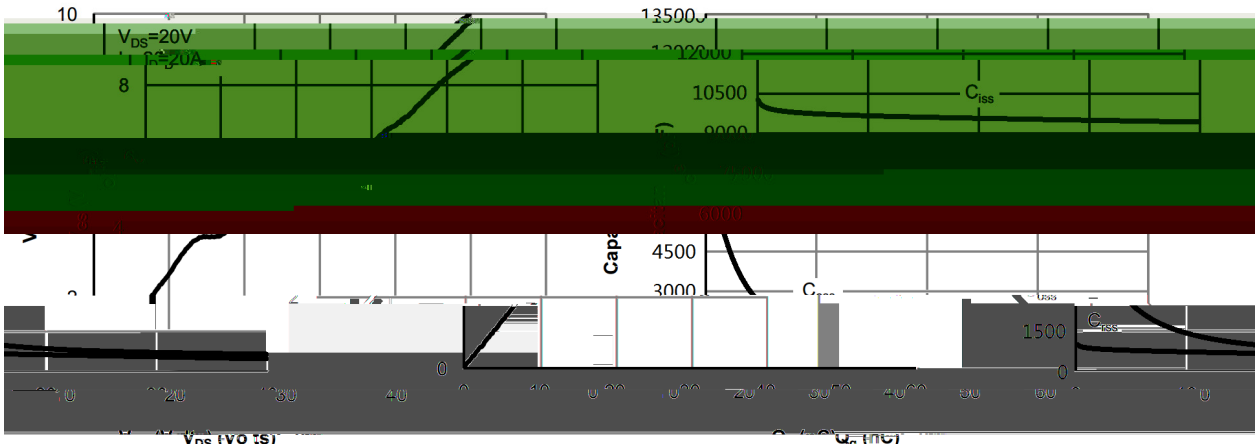
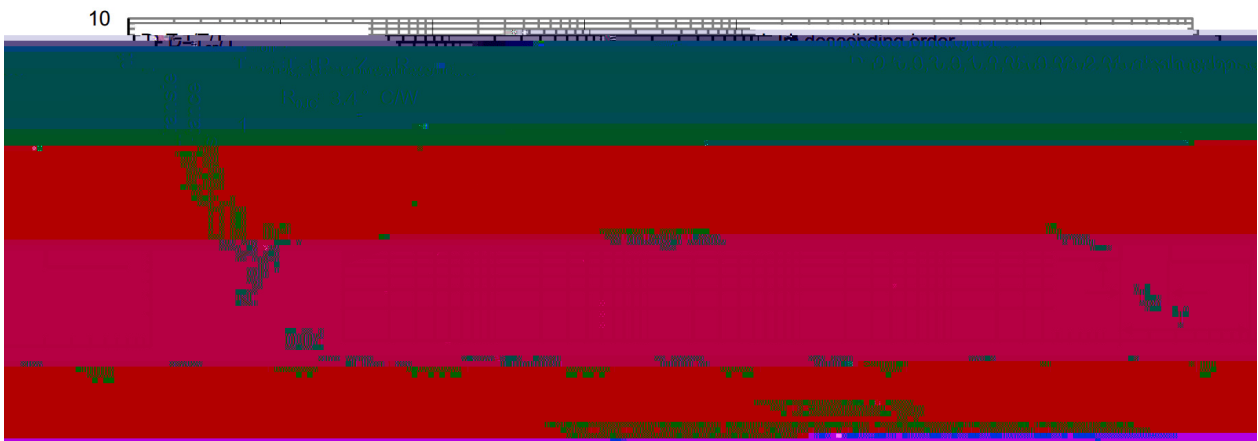
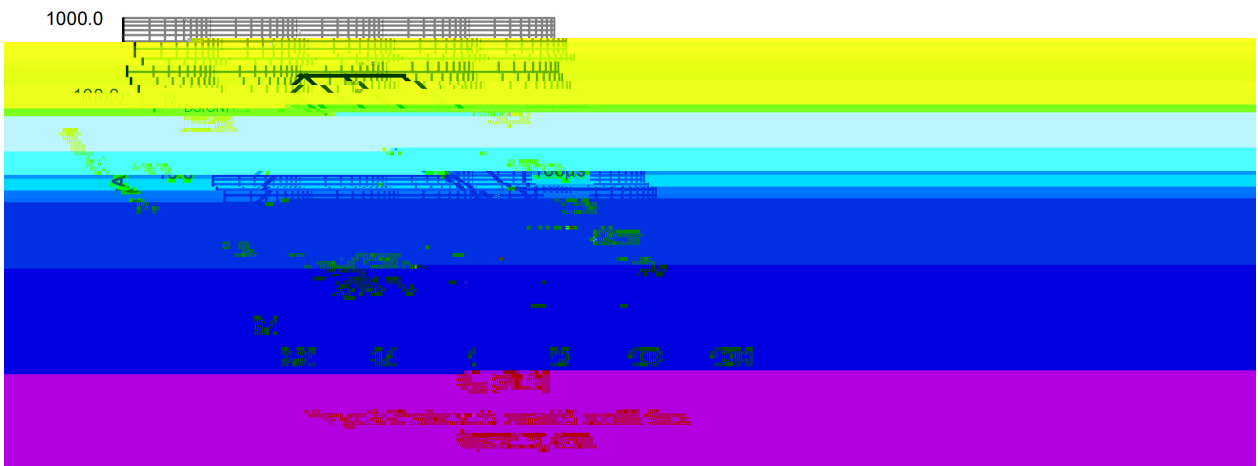


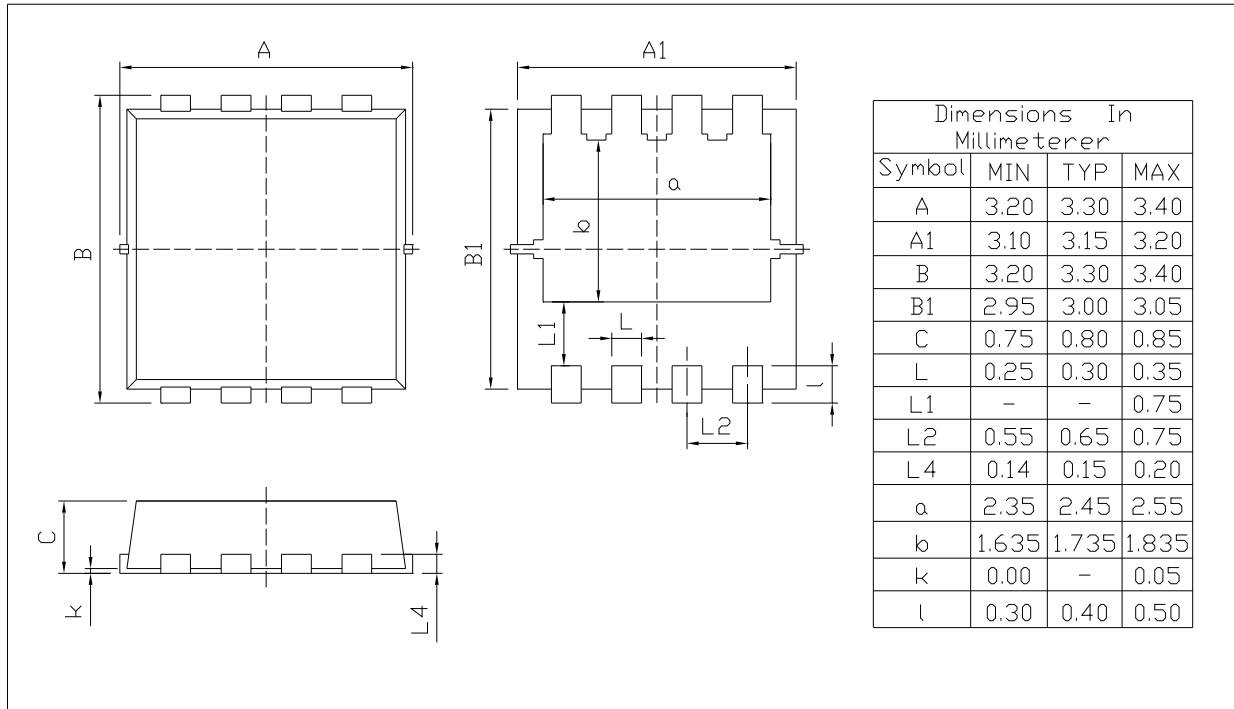
Figure 6: Capacitance  $C_{gs}$  Characteristics

Figure 7: Gate-Charge  $Q_g$  Characteristics

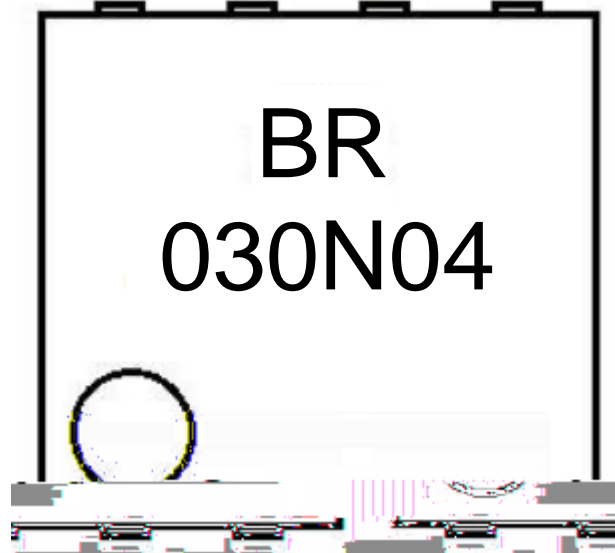


## PDFN3X3A-8L

Unit:mm



Rev.00 202011



BR

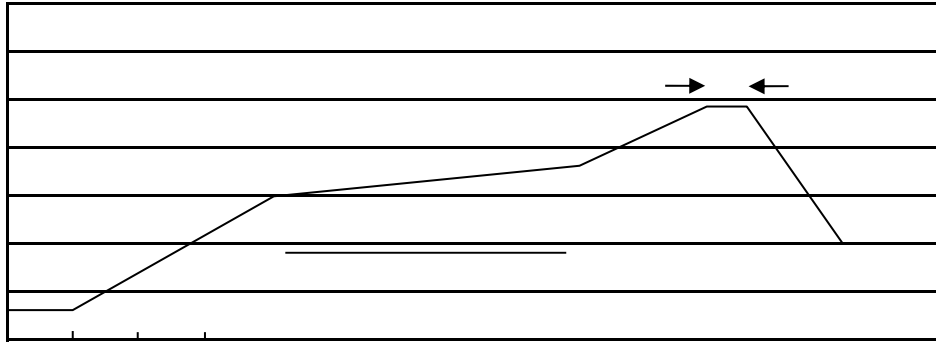
030N04

Note:

BR: Company Code

030N04: Product Type Code

\*\*\*\*: 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 , 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.            |

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

Package Type	Units					Dimension (unit mm <sup>3</sup> )		
	Units/Reel	Reels/Inner Box	Units/Inner Box	Inner Boxes/Outer Box	Units/Outer Box	Reel	Inner Box	Outer Box