/ Descriptions

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

/ Features

V_{DS} (V) = 40V

I_D =82A (V_{GS} = ±20V)

$R_{DS(ON)}$@10V≤3mR(Typ.2.5mR)

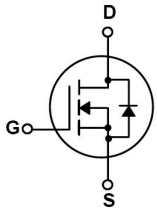
$R_{DS(ON)}$@4.5V≤5mR(Typ.3.5mR)

HF Product.

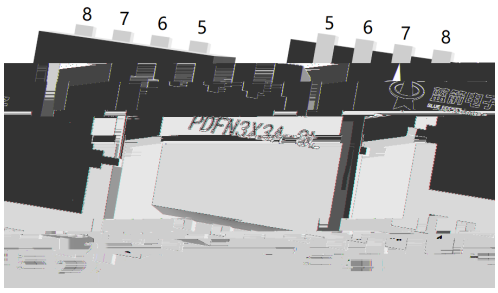
/ Applications

Load Switch Applications,Battery Power Management.

/ Equivalent Circuit



/ Pinning



出脚	定义
Pin1	S
Pin2	S

/ Marking

See Marking Instructions.

/ 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	$R_{\theta JA}$	42	/W
Junction-to-Ambient	Steady-State		78	
Junction-to-Case	Steady-State	$R_{\theta JC}$	3.4	

/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions		Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS}=0V	I_D=250μA	40	47		V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=40V	V_{GS}=0V			1	μA
Gate-Body Leakage Current Forward	I_{GSS}	V_{GS}=±20V	V_{DS}=0V			±0.1	μA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS}	I_D=250μA	1.0	1.7	3.0	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	V_{GS}=10V	I_D=20A		2.5	3	mΩ
		V_{GS}=4.5V	I_D=10A		3.5	5	mΩ
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		Ω
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=1Ω	V_{DS}=20V R_{GEN}=3.0Ω		11		ns
Turn-On Rise Time	t_r				11		
Turn-Off Delay Time	$t_{d(off)}$				40		
Turn-Off Fall Time	t_f				10		

/ Electrical Characteristic Curve

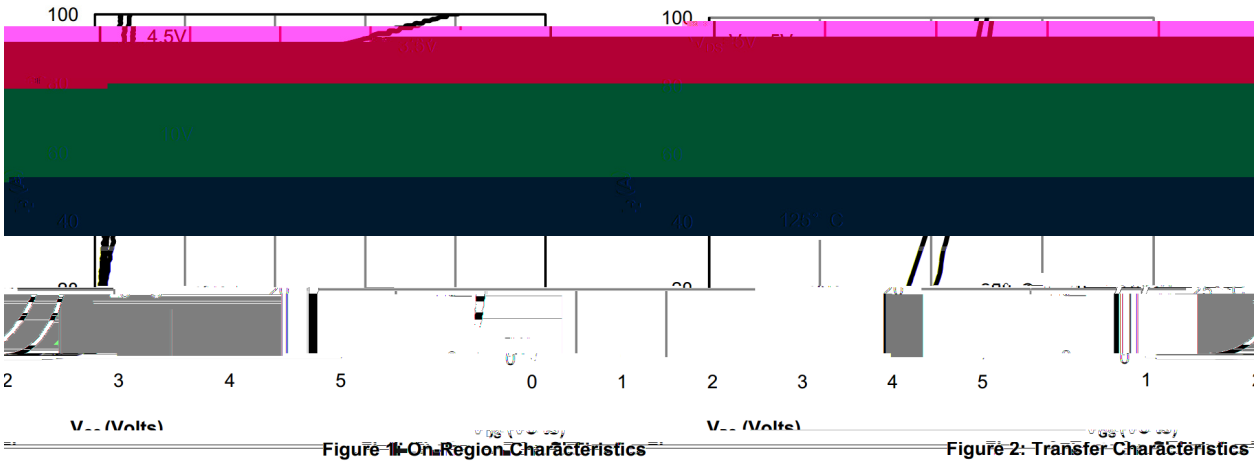


Figure 1: On-Region Characteristics

Figure 2: Transfer Characteristics

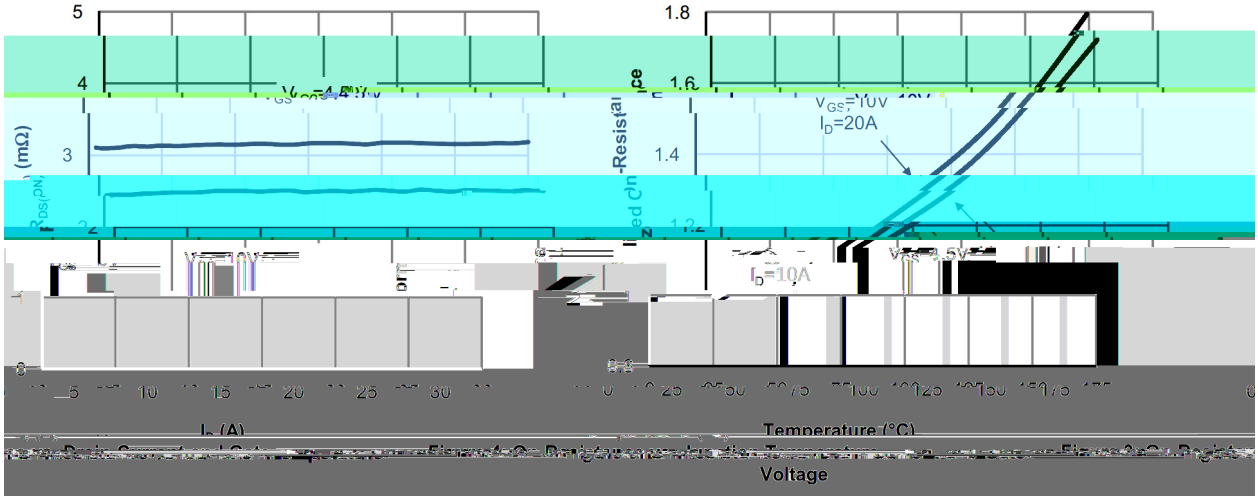
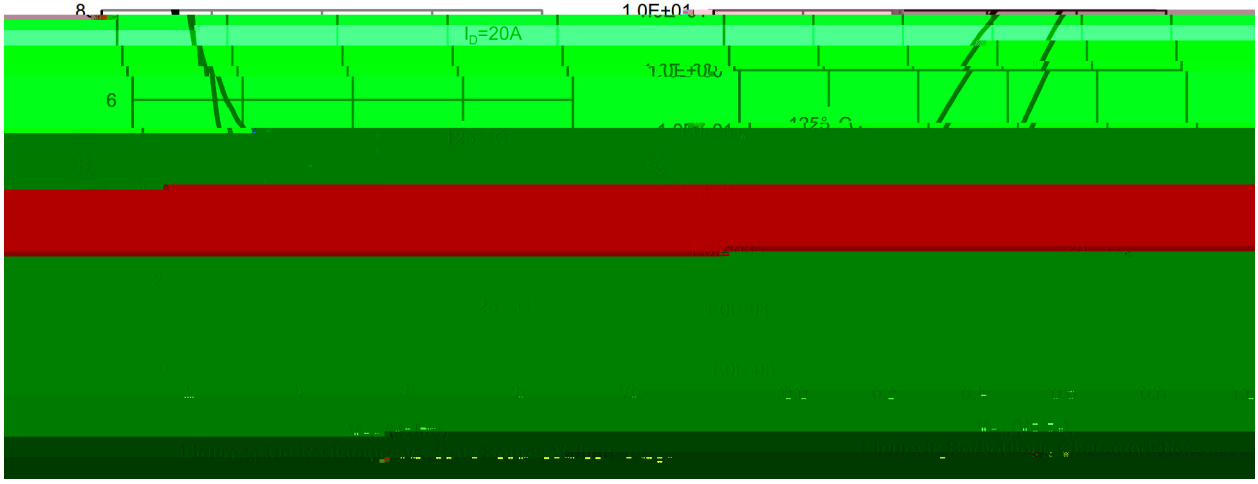


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

Figure 4: On-Resistance Variation with Temperature



/ Electrical Characteristic Curve

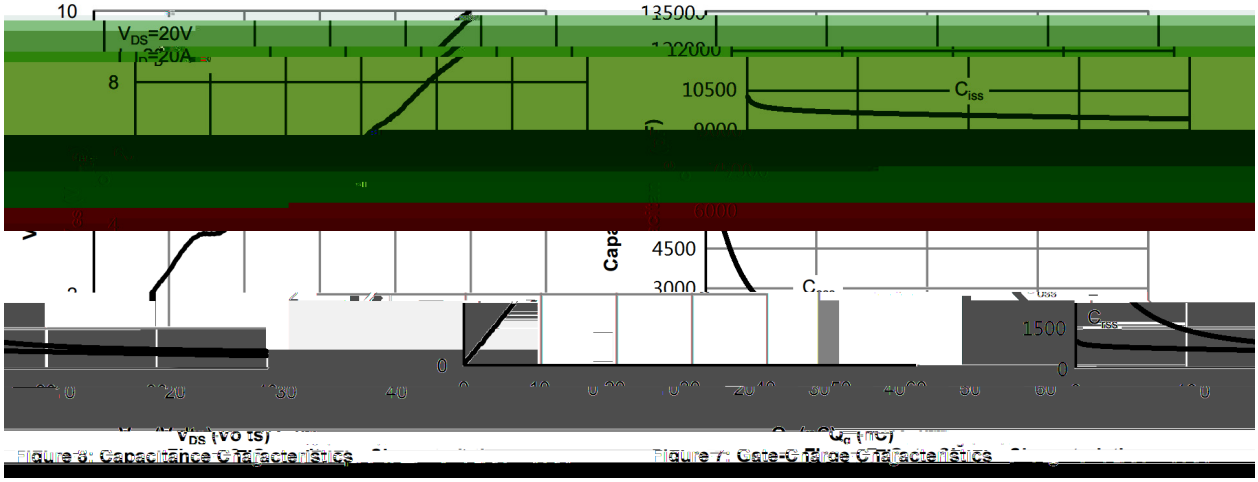
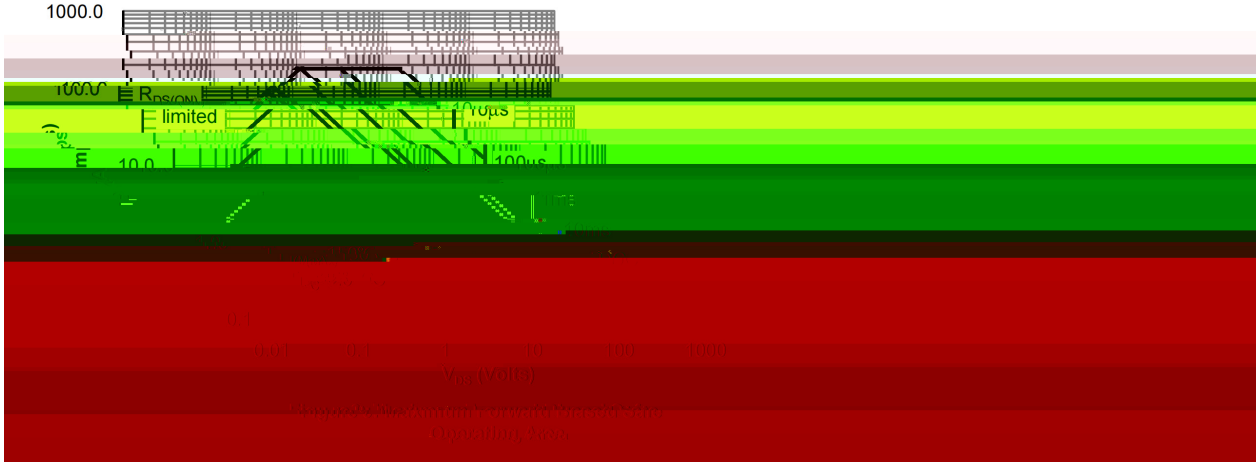
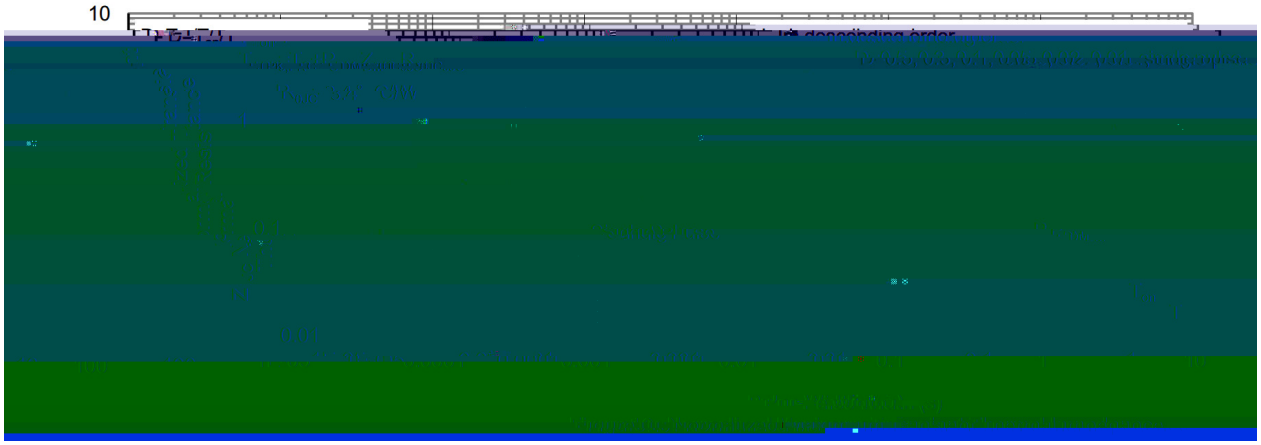


Figure 6: Capacitance Characteristics

Figure 7: Gate-Charge Characteristics

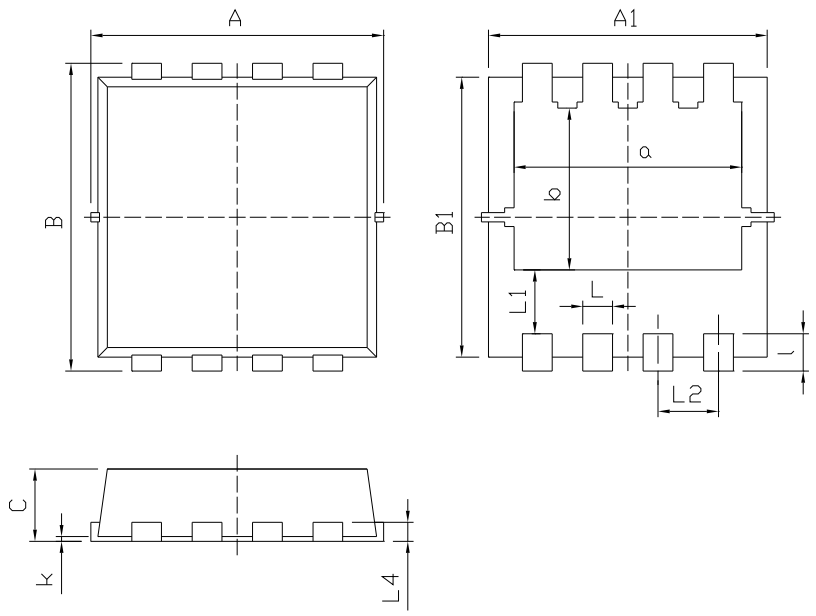




/ Package Dimensions

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

/ Marking Instructions



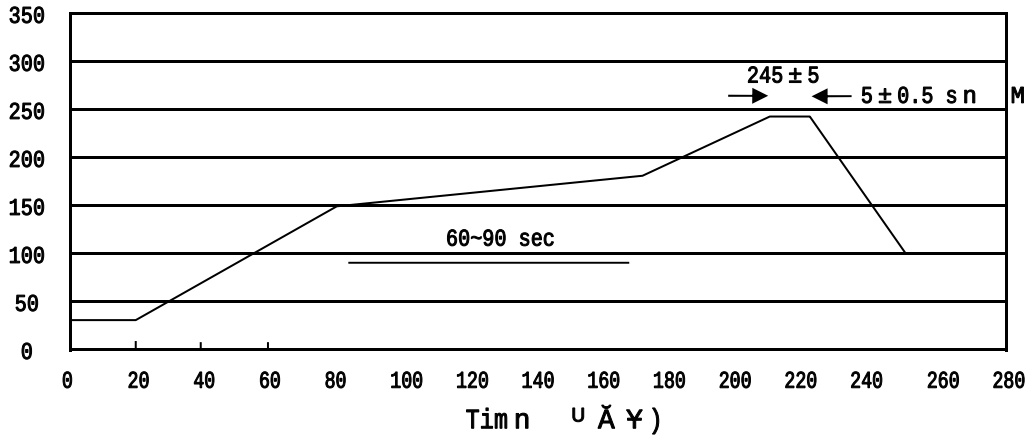
BR

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.

/ Resistance to Soldering Heat Test Conditions

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

/ Packaging SPEC.

/ REEL

Package Type	Units					Dimension			(unit mm³)
	Units/Reel /	Reels/Inner Box /	Units/Inner Box /	Inner Boxes/Outer Box /	Units/Outer Box /	Reel	Inner Box	Outer Box	[redacted]360k5