PDFN3×3A-8L P MOS

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

V_{DS} (V) = -16V I_D =-49.5A (V_{GS} = ± 12V)

$R_{DS(ON)}$@-4.5V≤8mΩ(Typ. 6.6mΩ)

$R_{DS(ON)}$@-2.5V≤15mΩ(Typ. 9.8mΩ)

HF Product.

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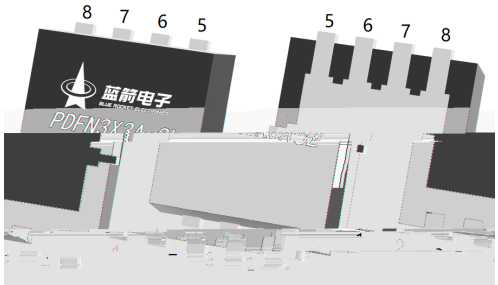
Notebook AC-in load switch,Battery protection charge/discharge.



See Marking Instructions.

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	-16	V
Drain Current - Continuous		I_D(T_c=25)	-49.5	A
Drain Current - Continuous		I_D(T_c=100)	-33	A
Drain Current – Pulsed		I_{DM}	-132	A
Gate-Source Voltage		V_{GS}	± 12	V
Power Dissipation		P_D(T_c=25)	27.5	W
Power Dissipation		P_D(T_c=100)	11	W
Single Pulse Avalanche Energy(L=0.5mH)		E_{AS}	160	mJ
Avalanche Current		I_{AS}	-15.5	A
Junction and Storage Temperature Range		T_j, T_{stg}	-55 to 150	
Thermal resistance, junction - ambient	t ≤ 10s	$R_{\theta JA}$	27	/ W
	Steady-State		60	
Thermal resistance, junction - case	Steady-State	$R_{\theta JC}$	4.55	

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	I_D=-250μA V_{GS}=0V	-16	-18.5		V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=-12.8V V_{GS}=0V			-1	uA
Gate-Body leakage current	I_{GSS}	V_{DS}=0V, V_{GS}= ±12V			±100	nA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS} I_D=-250μA	-0.5	-0.76	-1.0	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	V_{GS}=-4.5V, I_D=-15A		6.6	8	mΩ
		V_{GS}=-2.5V, I_D=-10A		9.8	15	
		V_{GS}=-1.8V, I_D=-5A		18		
Diode Forward Voltage	V_{SD}	I_S=-1A, V_{GS}=0V			-1.2	V
Reverse Recovery Time	t_{rr}	V_{DS}=-10V, I_D=-14A dI$_{SD}$/dt = 100 A/μs		2.9		ns
Reverse Recovery Charge	Q_{rr}			8		nC
Input Capacitance	C_{iss}	V_{DS}=-15V V_{GS}=0V f=1.0MHz		2620		pF
Output Capacitance	C_{oss}			440		
Reverse Transfer Capacitance	C_{rss}			375		
Gate resistance	R_g	V_{GS}=0V V_{DS}=0V f=1MHz		7.8		Ω

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Total Gate Charge	Q_g	V_{GS}=-4.5V, V_{DS}=-10V, I_D=-14A		26.5		nC
Gate Source Charge	Q_{gs}			2.4		
Gate Drain Charge	Q_{gd}			9.7		
Turn-On Delay Time	$t_{d(on)}$	V_{GS}=-4.5V V_{DS}=-10V I_D=-14A R_G=3Ω		15.7		ns
Turn-On Rise Time	t_r			116		
Turn-Off Delay Time	$t_{d(off)}$			86.1		
Turn-Off Fall Time	t_f			121		

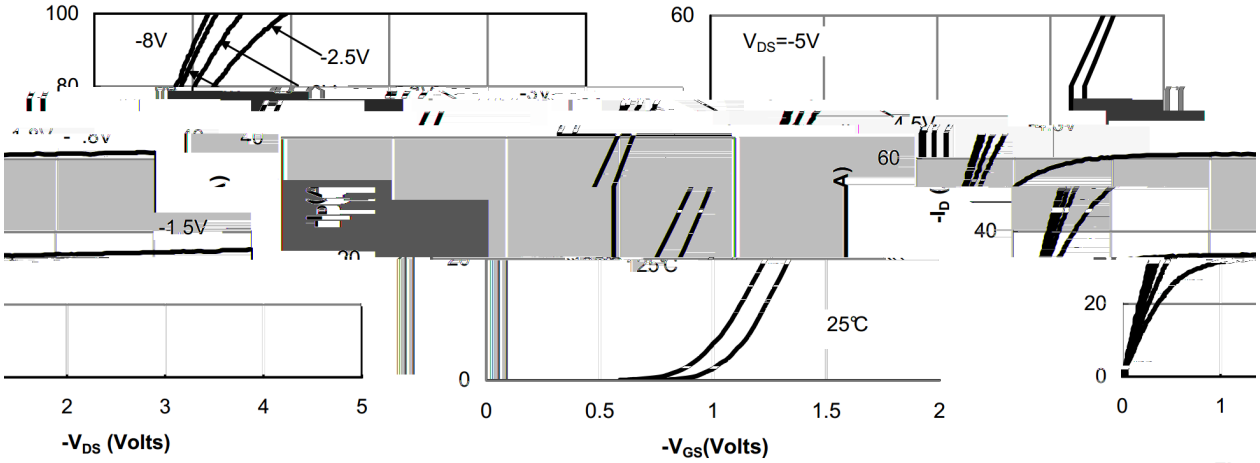


Figure 2: Transfer Characteristics

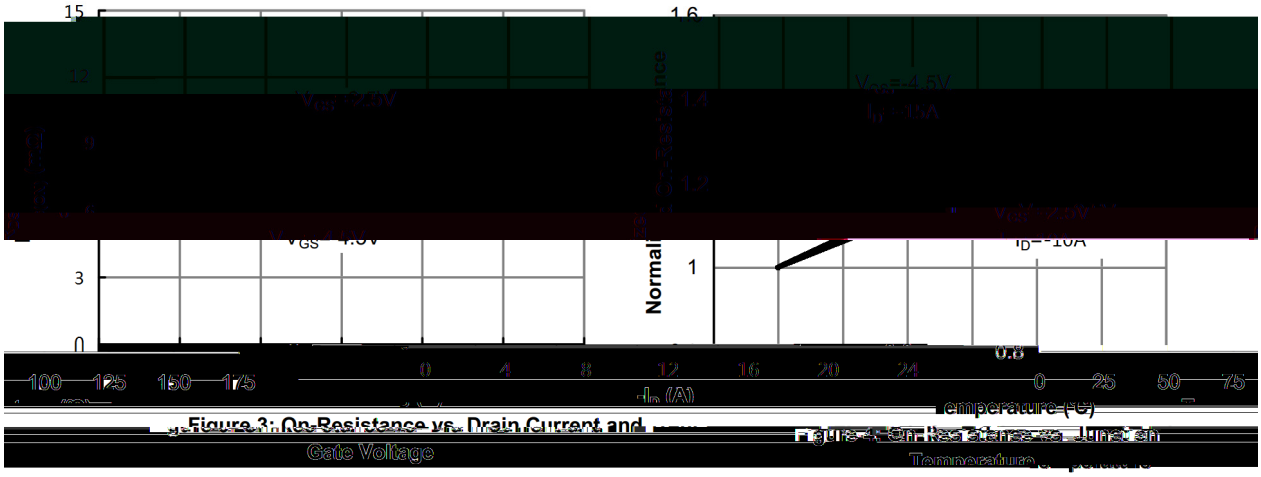


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

Figure 4: On-Resistance vs. Junction Temperature

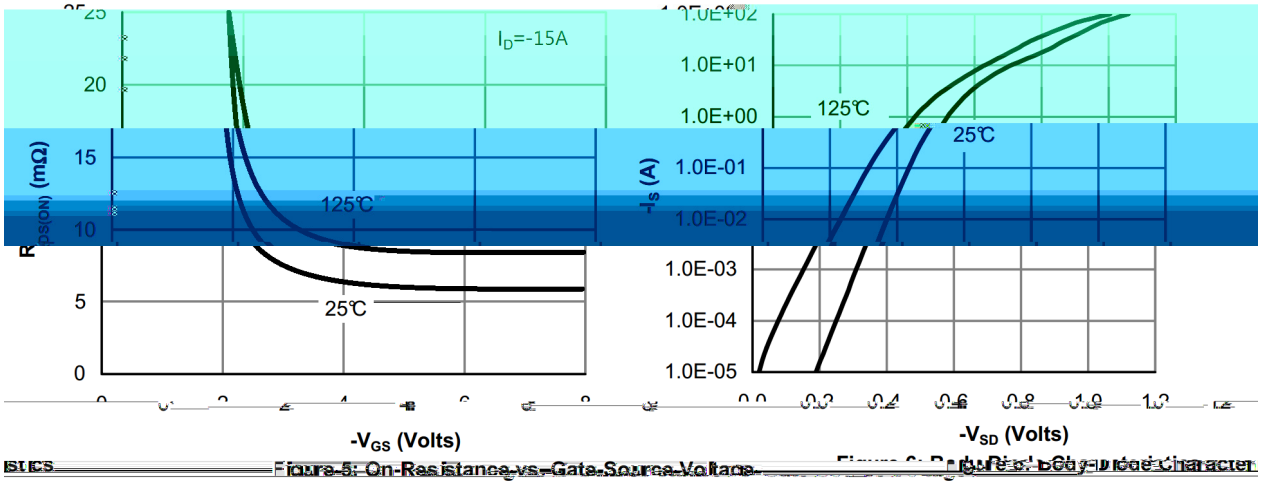


Figure 5: On-Resistance vs. Gate-Source Voltage

Figure 6: Body-Diode Characteristics

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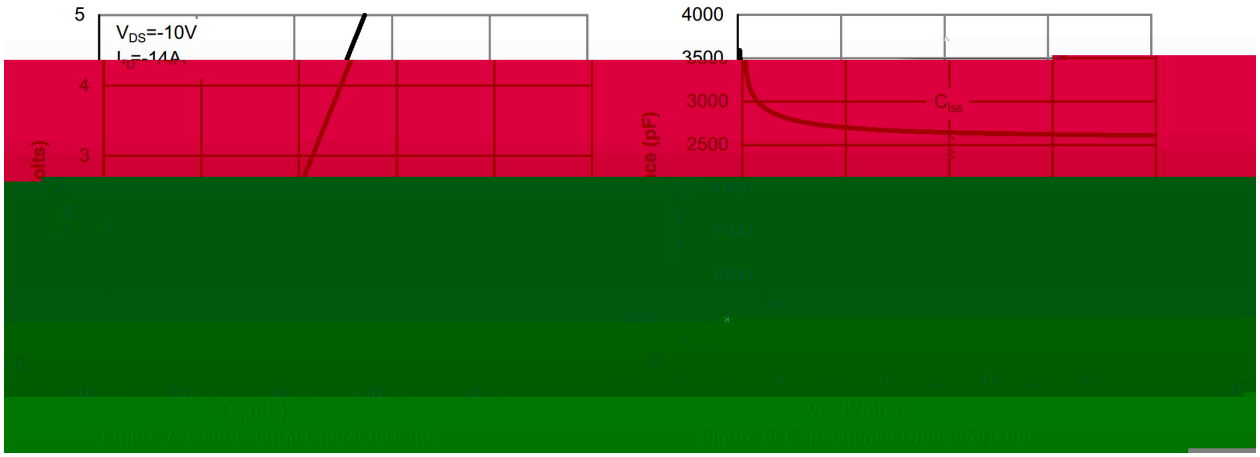
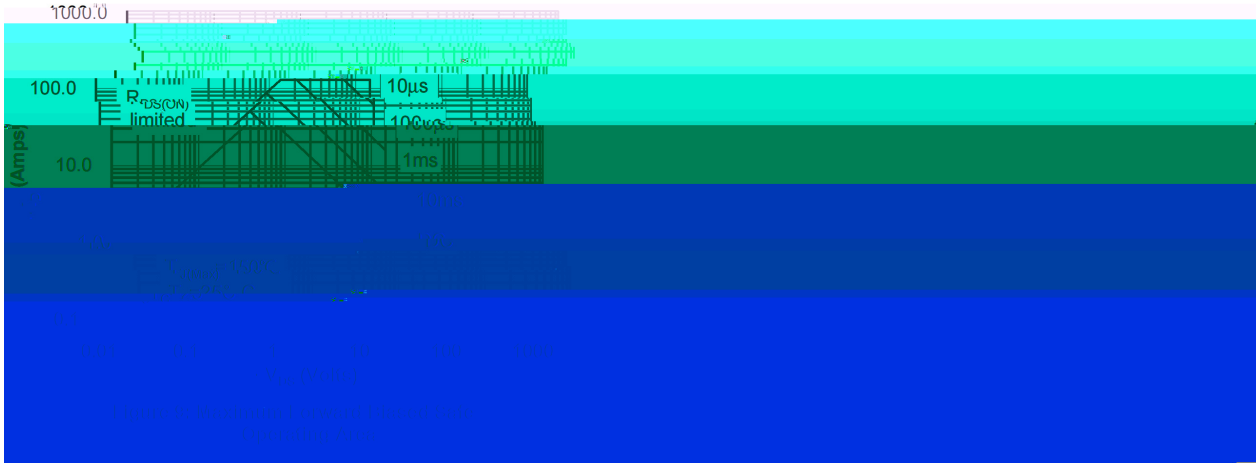
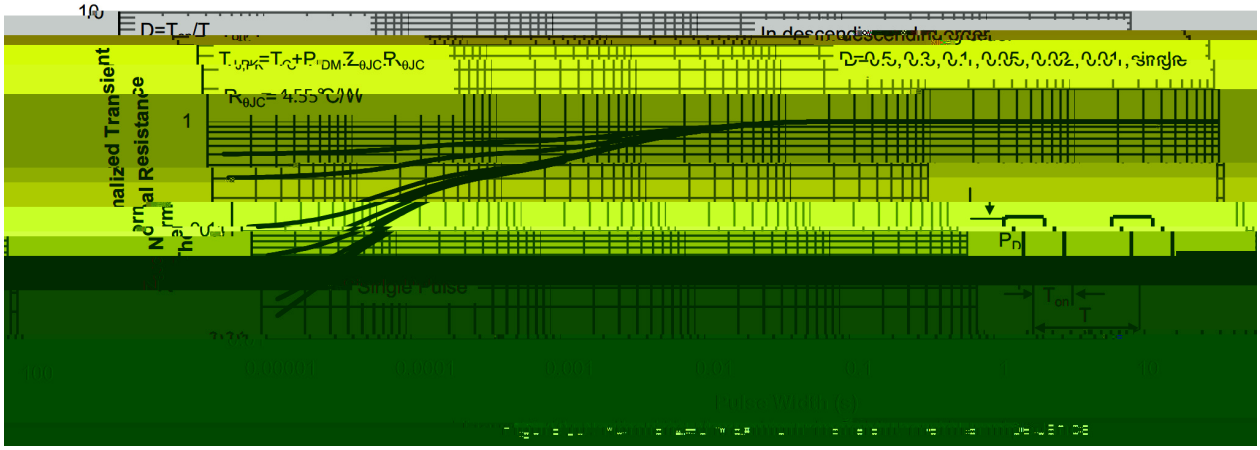
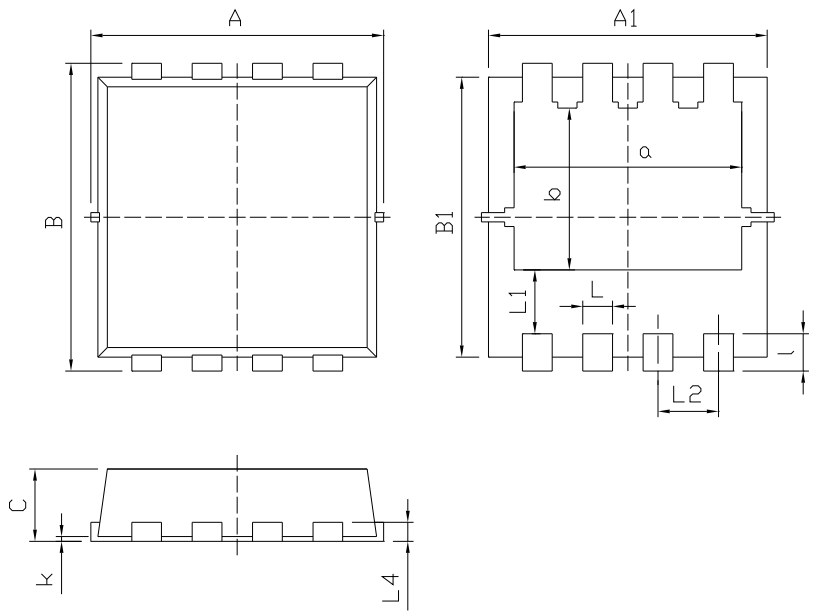

5
V_{DS}=-10V
I_D=-14A
4
3
4000
3500
3000
2500
C_{iss}


100.0
10.0
$R_{DS(ON)}$ limited
10μs
1ms


D=T_{on}/T
T_{JPK}=T_C+P_{DM}.$Z_{\theta JC}$.$R_{\theta JC}$
$R_{\theta JC}$=4.55℃/W
1
Single Pulse
T_{on}
T

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

BR

080P016

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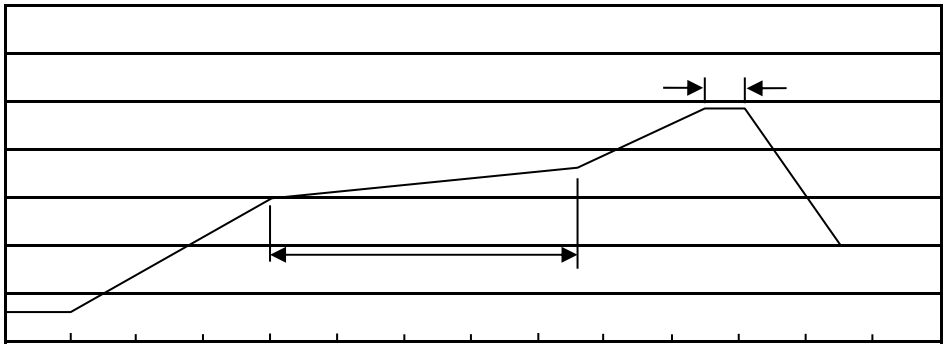
Note:

BR:	Company Code
080P016:	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

/ 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
PDFN3×3A-8L	5,000	2	10,000	6	60,000	13 ×12	360×360×50	380×335×366