

Rev.A May.-2022

PDFN 3×3-8L N MOS

Double N-CHANNEL MOSFET in a PDFN 3×3-8L Plastic Package.

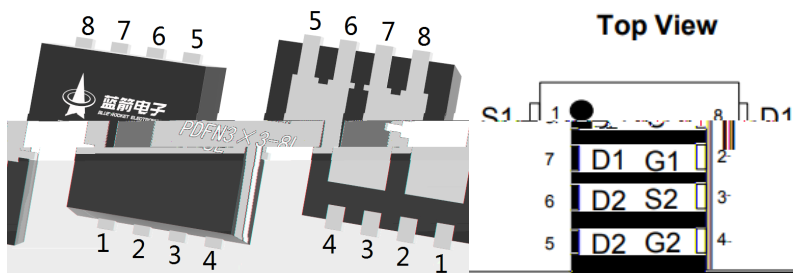
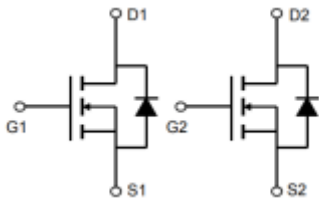
$V_{DS} (V) = 30V$

$I_D = 24A (V_{GS} = 20V)$

$R_{DS(ON)} @ 10V \quad 13mR (Typ. 11mR)$

HF Product.

Intended for use in general purpose switching and phase control applications.



See Marking Instructions.

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DSS}	30	V
Drain Current		$I_D(T_C=25^\circ\text{C})$	24	A
Drain Current - Pulsed		I_{DM}	55	A
Gate-Source Voltage		V_{GSS}	± 20	V
Single Pulsed Avalanche Energy		E_{AS}	199	mJ
Avalanche Current		I_{AS}	12.9	A
Power Dissipation		$P_D(T_C=25^\circ\text{C})$	15.5	W
Operating and Storage Temperature Range		T_J, T_{stg}	-55 to 150	
Junction-to-Ambient	$t = 10$	$R_{\theta JA}$	40	/W
Junction-to-Ambient	Steady-State		75	
Junction-to-Case	Steady-State	$R_{\theta JC}$	9	

Parameter	Symbol	Test Conditions		Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V$	$I_D=250\mu A$	30			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=30V$	$V_{GS}=0V$			1	μA
Gate-Body Leakage Current Forward	I_{GSS}	$V_{GS}=\pm 20V$	$V_{DS}=0V$			± 0.1	μA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$	$I_D=250\mu A$	1.0	1.8	3.0	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10V$	$I_D=20A$		11	13	$m\Omega$
		$V_{GS}=4.5V$	$I_D=10A$		16	20	$m\Omega$
Drain-Source Diode Forward Voltage	V_{SD}	$V_{GS}=0V$	$I_S=1A$			1.2	V
Input Capacitance	C_{iss}	$V_{DS}=25V$ $f=1.0MHz$	$V_{GS}=0V$		666		pF
Output Capacitance	C_{oss}				26		
Reverse Transfer Capacitance	C_{rss}				63		
Gate resistance	R_g	$V_{GS}=0V$ $f=1MHz$	$V_{DS}=0V$		1.7		Ω
Total Gate Charge	$Q_{g(10V)}$	$V_{GS}=10V$ $I_D=8A$	$V_{DS}=15V$		13.6		nC
Total Gate Charge	$Q_{g(4.5V)}$				6.8		
Gate Source Charge	Q_{gs}				1.6		
Gate Drain Charge	Q_{gd}				3.6		
Turn-On Delay Time	$t_{d(on)}$	$V_{GS}=10V$ $R_L=1.87\Omega$	$V_{DS}=15V$ $R_{GEN}=4.5\Omega$		5		ns
Turn-On Rise Time	t_r				3.5		
Turn-Off Delay Time	$t_{d(off)}$				22		
Turn-Off Fall Time	t_f				4.5		

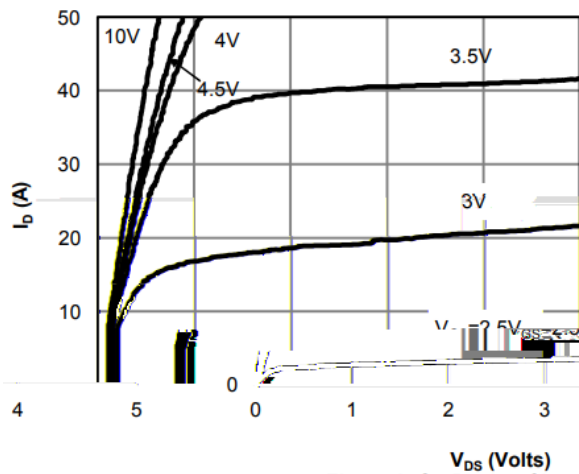


Figure 1: On-Region Characteristics

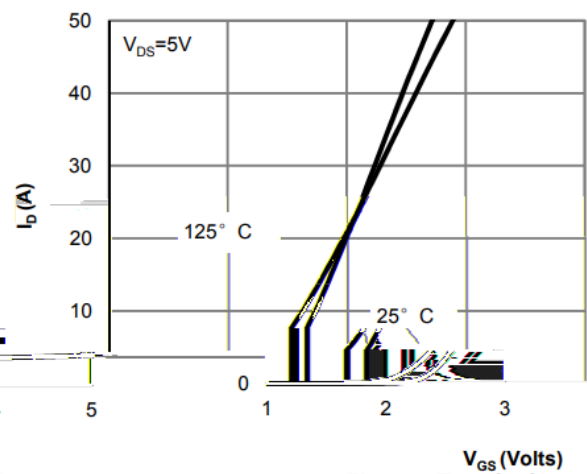


Figure 2: Transfer Characteristics

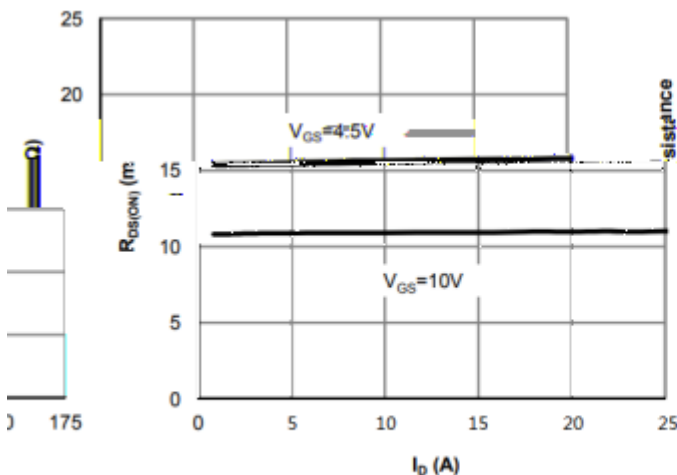


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

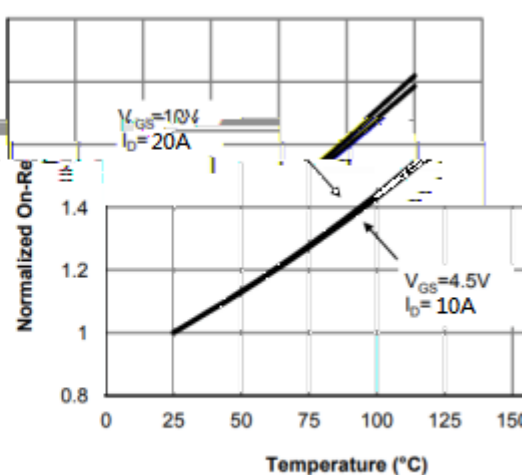
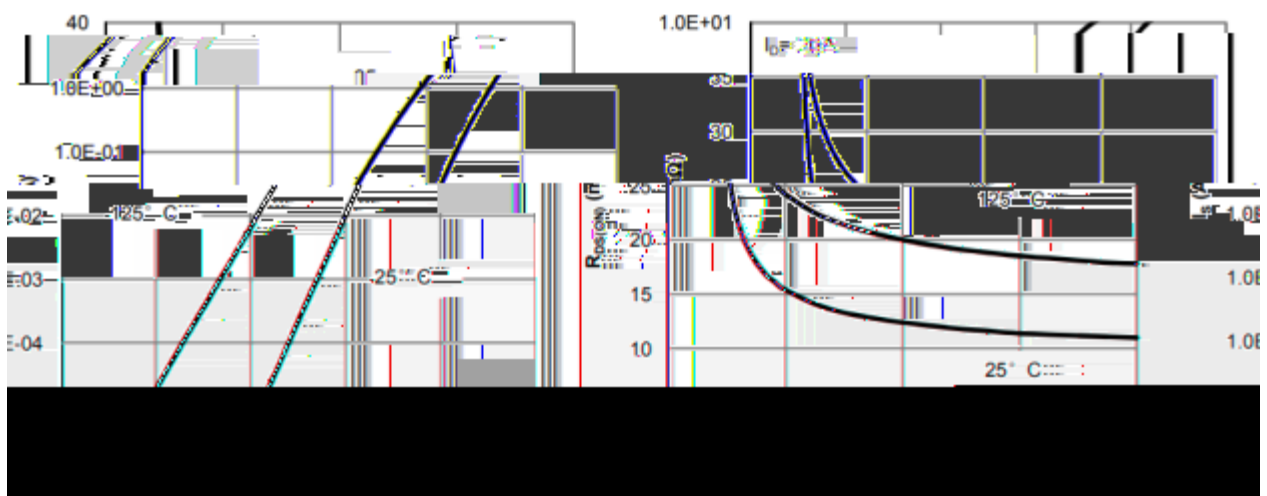
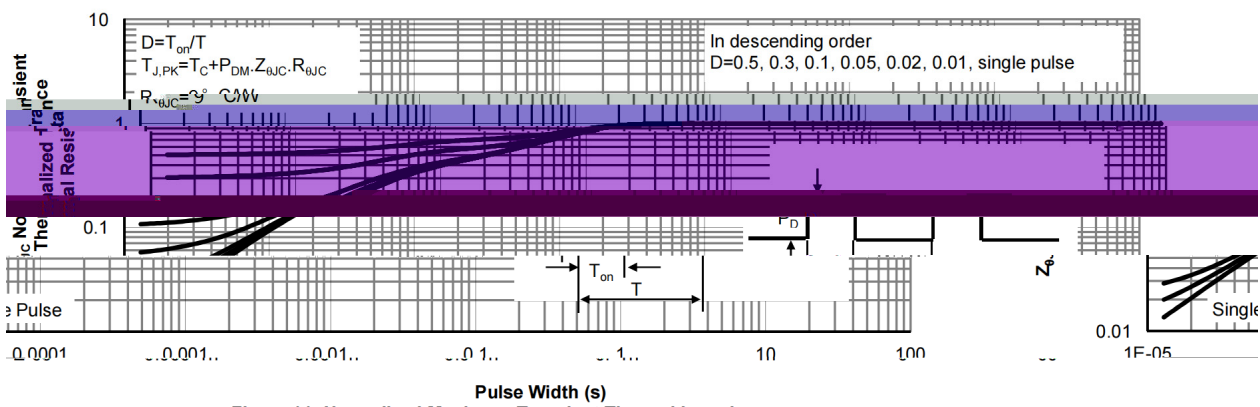
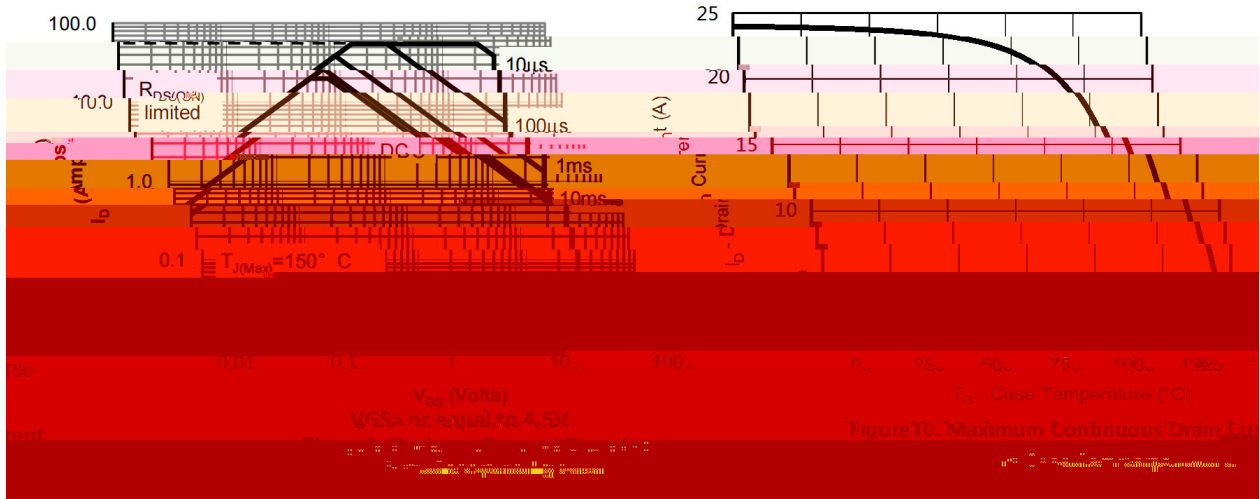
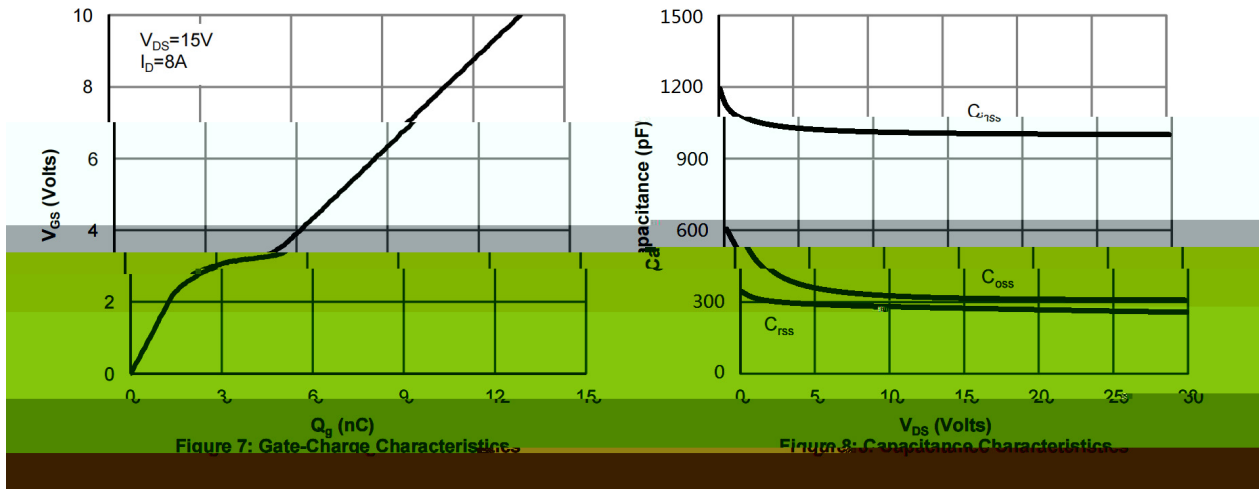


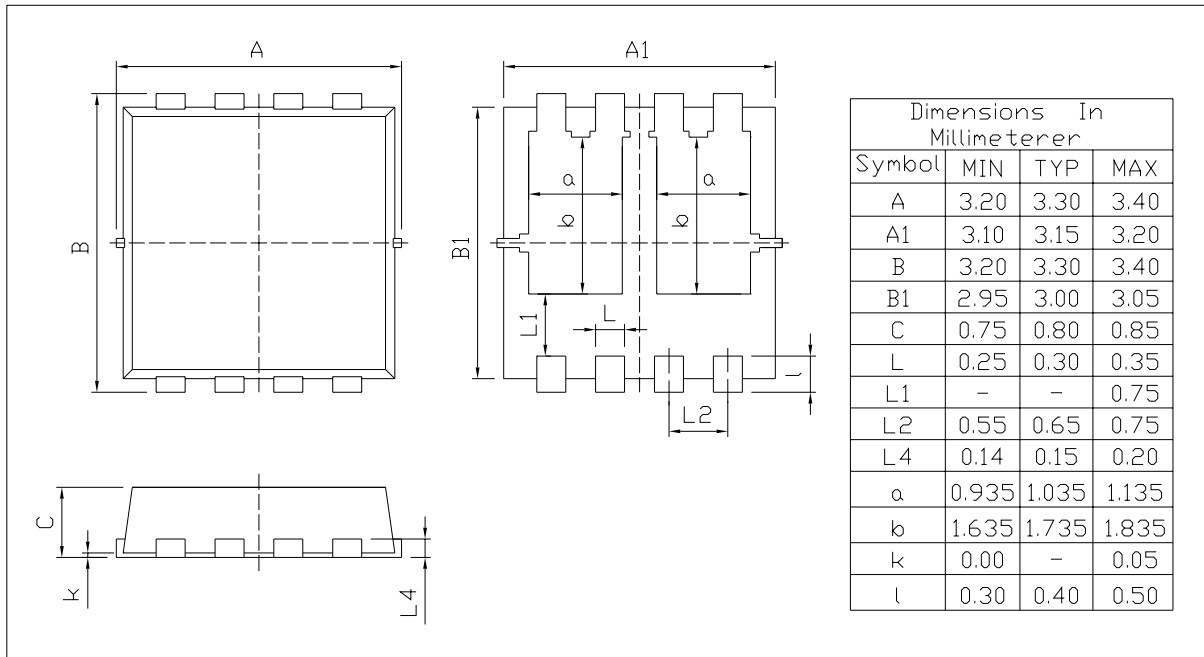
Figure 4: On-Resistance vs. Junction Temperature



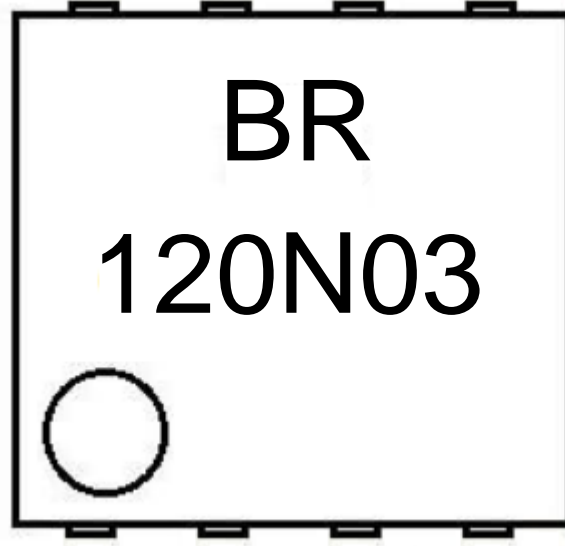


PDFN3X3-8L

Unit:mm



Rev.00 202011



BR

120N03

Note:

BR: Company Code

120N03: 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 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