

/ Descriptions

PDFN3×3A-8L N MOS

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

/ Features

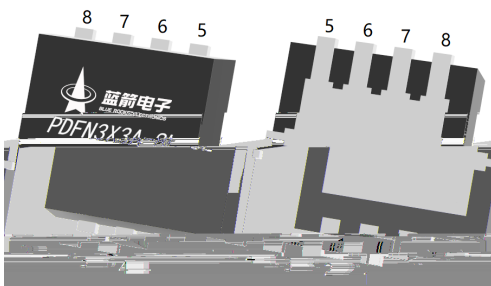
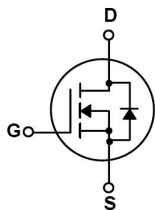
$V_{DS} (V) = 30V$ $I_D = 66A$ ($V_{GS} = \pm 20V$)

$R_{DS(ON)}@10V \leq 4.2m\Omega$ (Typ. 4.0m Ω)

$R_{DS(ON)}@4.5V \leq 8.0m\Omega$ (Typ. 5.3m Ω)

HF Product.

Load Switch Applications, Battery Power Management.



See Marking Instructions.

/ Absolute Maximum Ratings(Ta=25)

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	30	V
Drain Current		$I_D(T_c=25^{\circ}\text{C})$	66	A
Peak Drain Current		I_{DM}	170	A
Gate-Source Voltage		V_{GS}	± 20	V
Avalanche Current		I_{AS}	24.3	A
Single Pulsed Avalanche Energy		E_{AS}	295	mJ
Total Power Dissipation		$P_D(T_c=25^{\circ}\text{C})$	33	W
Junction and Storage Temperature Range		T_J, T_{STG}	-55 to 150	
Thermal resistance, junction - ambient	$t \leq 10\text{s}$	R_{JA}	40	/W
	Steady-State		75	
Thermal resistance, junction - case	Steady-State	R_{JC}	3.8	

/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Zero Gate Voltage Drain Current	BV_{DSS}	$V_{GS}=0\text{V}$ $I_D=250\text{ A}$	30	36		V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=30\text{V}$ $V_{GS}=0\text{V}$			1	A
Gate-Body Leakage Current Forward	I_{GSS}	$V_{GS}=\pm 20\text{V}$ $V_{DS}=0\text{V}$			± 0.1	A
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=250\text{ A}$	1.0	1.7	2.5	V
Forward On Voltage	V_{SD}	$I_S=1\text{A}$ $V_{GS}=0\text{V}$			1.4	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10\text{V}$ $I_D=20\text{A}$		4.0	4.2	m
		$V_{GS}=4.5\text{V}$ $I_D=10\text{A}$		5.3	8.0	m
Gate resistance	R_g	$V_{GS}=0\text{V}$ $V_{DS}=0\text{V}$ $f=1\text{MHz}$		2.8		
Input Capacitance	C_{iss}	$V_{GS}=0\text{V}$ $V_{DS}=25\text{V}$ $f=1.0\text{MHz}$		2000		pF
Output Capacitance	C_{oss}			240		pF
Reverse Transfer Capacitance	C_{rss}			185		pF

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Total Gate Charge	$Q_{g(10V)}$	$V_{GS}=10V,$ $I_D=20A$	8			
		$V_{DS}=15V,$				

Electrical Characteristic Curve

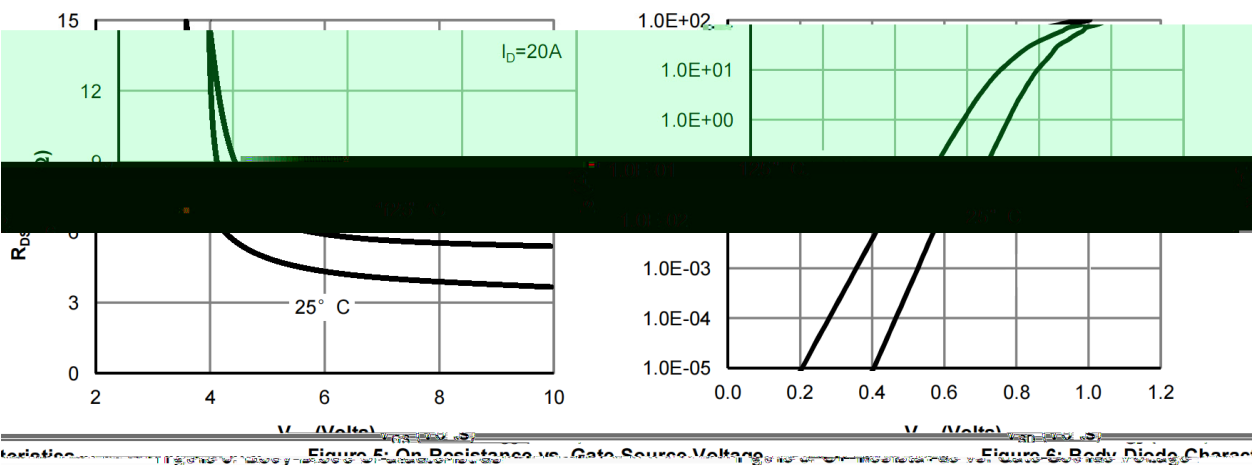
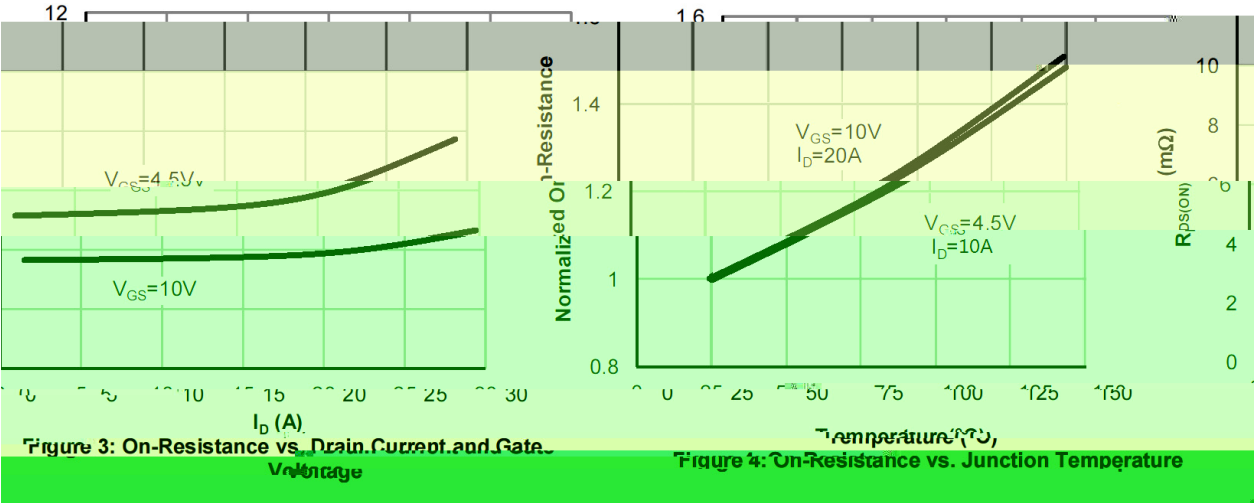
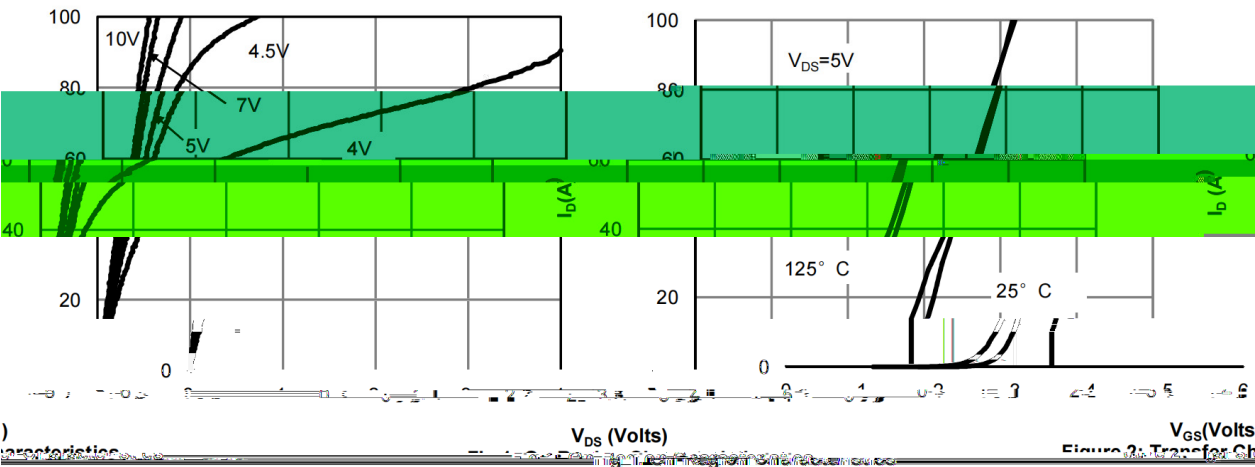


Figure 5: On-Resistance vs. Gate-Source Voltage. Figure 6: Body Diode Characteristic.

/ Electrical Characteristic Curve

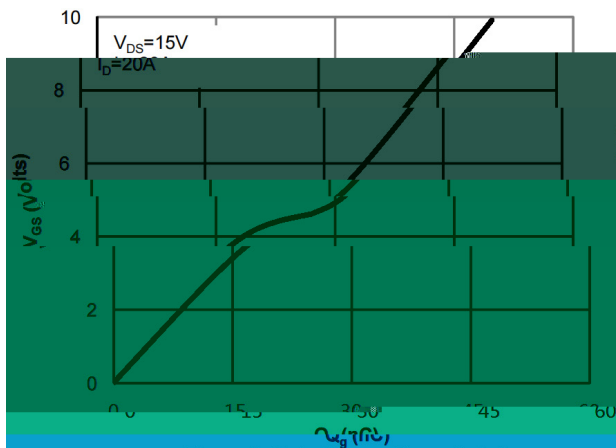


Figure 7: Gate-Charge Characteristics

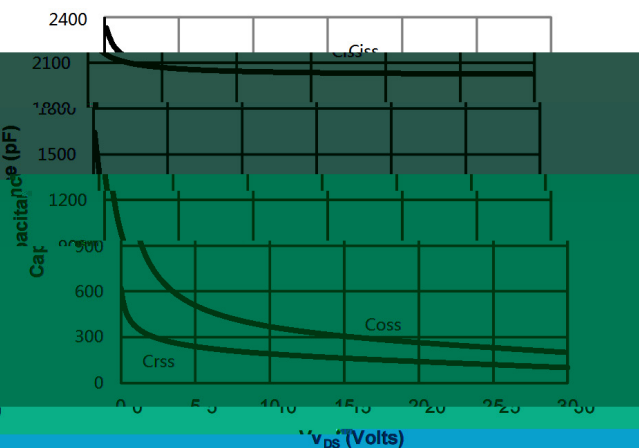
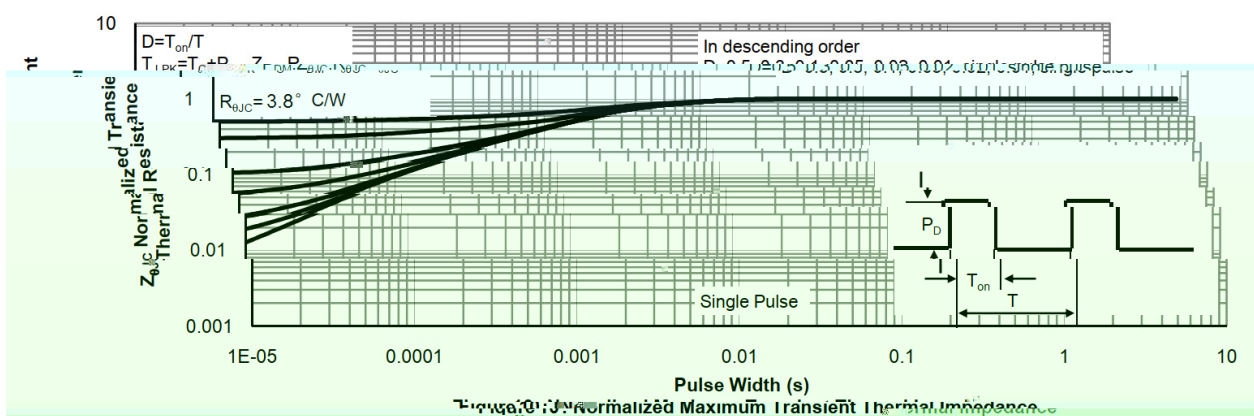
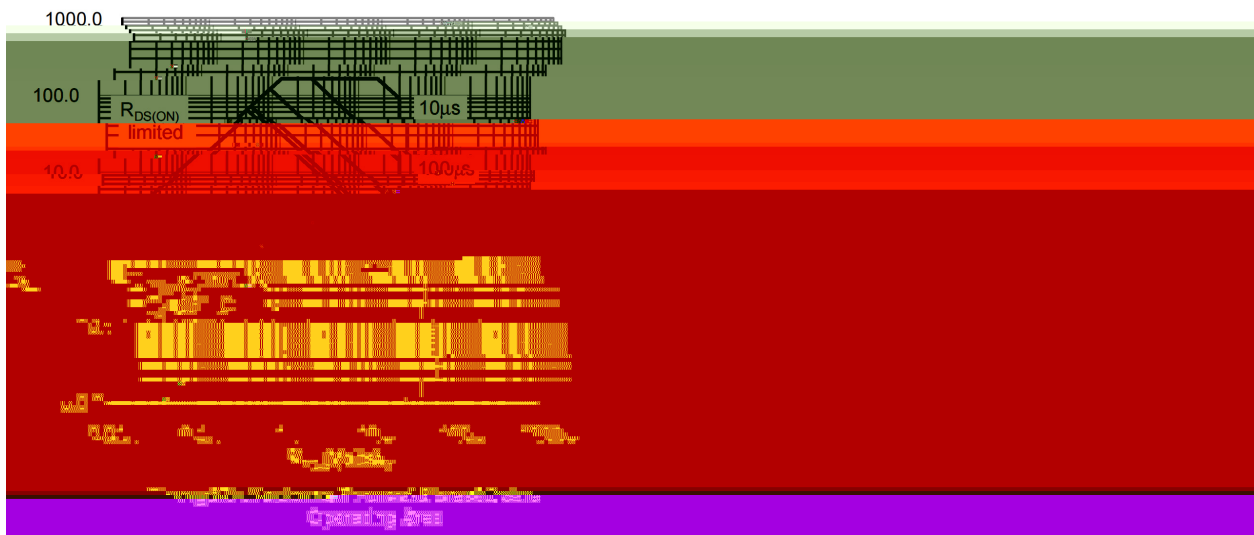


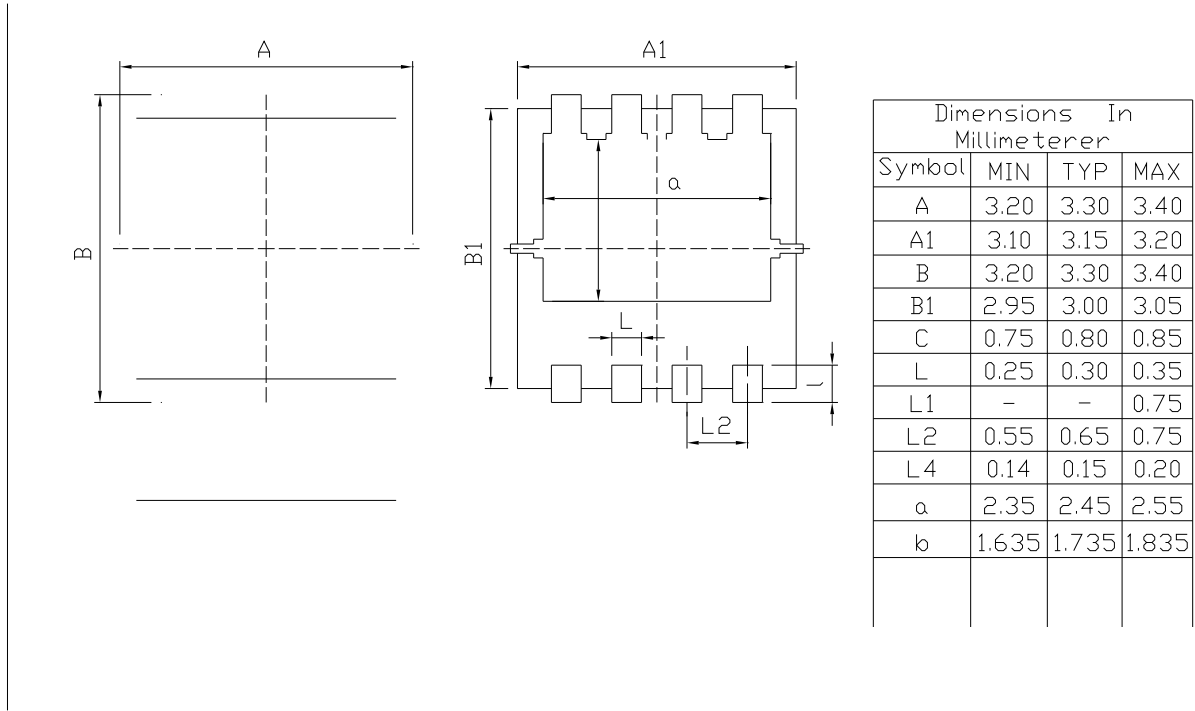
Figure 8: Capacitance Characteristics



/ Package Dimensions

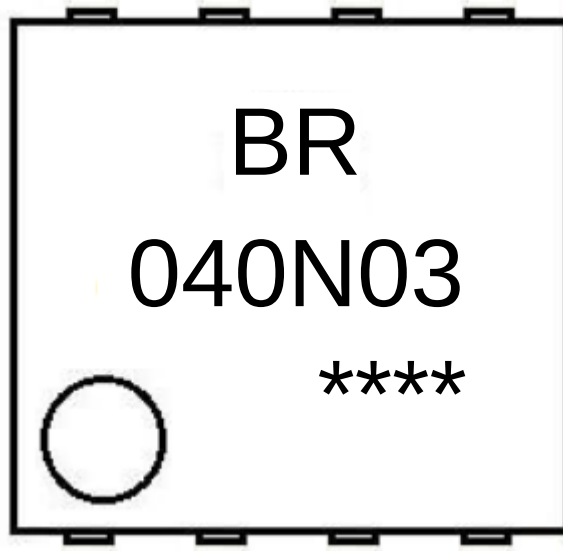
PDFN3X3A-8L

Unit:mm



Rev.00 202011

/ Marking Instructions



BR

040N03

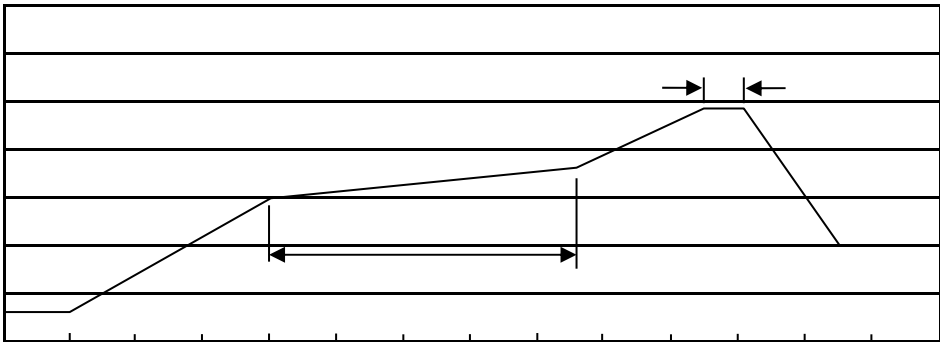
Note:

BR: Company Code

040N03: 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 mm ³)		
	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

/ Notices