

/ Descriptions

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

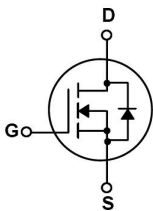
/ Features

$V_{DS} (V) = 30V$
 $I_D = 40 A (V_{GS} = 20V)$
 $R_{DS(ON)}@10V \ 6mR(Typ.4.7mR)$
HF Product.

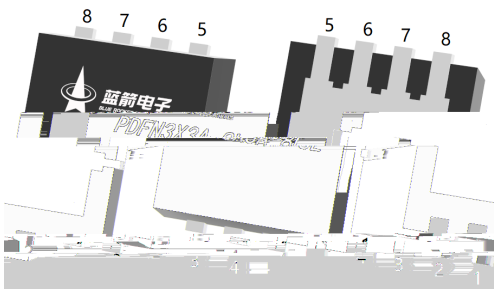
/ Applications

DC/DC
These devices are well suited for high efficiency switching DC/DC converters and switch mode power supplies.

/ Equivalent Circuit



/ Pinning



出脚	定义
Pin1	S
Pin2	S
Pin3	S
Pin4	G
Pin5	D
Pin6	D
Pin7	D
Pin8	D

/ Marking

See Marking Instructions.

/ Absolute Maximum Ratings(Ta=25)

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	30	V
Drain Current		$I_D(T_C=25)$	40	A
Drain Current - Pulsed		I_{DM}	130	A
Gate-Source Voltage		V_{GS}	± 20	V
Single Pulsed Avalanche Energy		E_{AS}	211	mJ
Avalanche Current		I_{AS}	23	A
Power Dissipation		$P_D(T_C=25)$	29	W
Operating and Storage Temperature Range		T_J, T_{stg}	-55 to 150	
Junction-to-Ambient	$t \leq 10$	$R_{\theta JA}$	40	/W
Junction-to-Ambient	Steady-State		75	
Junction-to-Case	Steady-State	$R_{\theta JC}$	4.2	

Parameter	Symbol	Test Conditions		Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV _{DSS}	V _{GS} =0V	I _D =250μA	30	32		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} =±20V	V _{DS} =0V			±0.1	μA
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS}	I _D =250μA	1.0	1.8	2.5	V
Static Drain-Source On-Resistance	R _{DS(on)}	V _{GS} =10V	I _D =20A		4.7	6	mΩ
		V _{GS} =4.5V	I _D =10A		7.1	9	mΩ
Drain-Source Diode Forward Voltage	V _{SD}	V _{GS} =0V	I _S =10A		0.75	1.2	V
Input Capacitance	C _{iss}	V _{DS} =25V f=1.0MHz	V _{GS} =0V		2090		pF
Output Capacitance	C _{oss}				790		
Reverse Transfer Capacitance	C _{rss}				634		
Gate resistance	R _g	V _{GS} =0V f=1MHz	V _{DS} =0V		1.9		Ω
Total Gate Charge	Q _{g(10V)}	V _{GS} =10V I _D =18A	V _{DS} =15V		33		nC
Total Gate Charge	Q _{g(4.5V)}				16		
Gate Source Charge	Q _{gs}				5.2		
Gate Drain Charge	Q _{gd}				6.2		
Turn-On Delay Time	t _{d(on)}	V _{DD(on)}					

/ Electrical Characteristic Curve

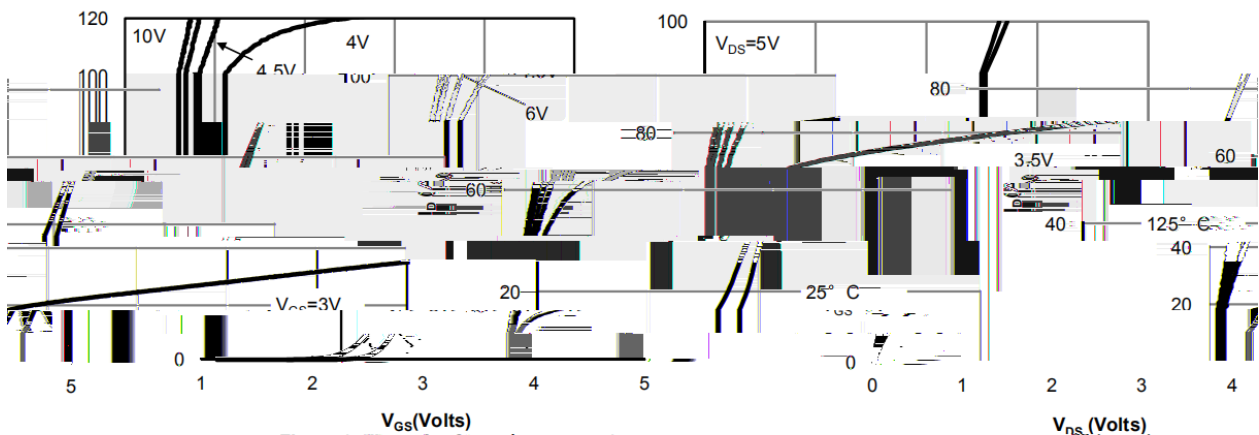


Figure 2: Transfer Characteristics

Figure 3: On-Region Characteristics

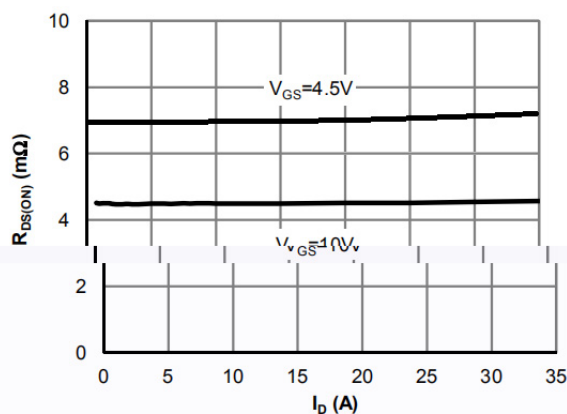


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

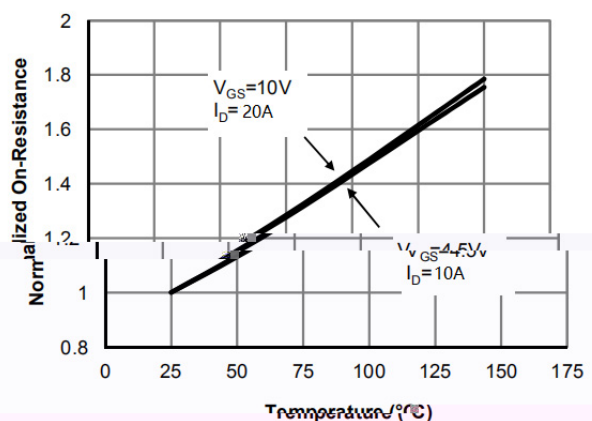


Figure 4: On-Resistance vs. Junction Temperature

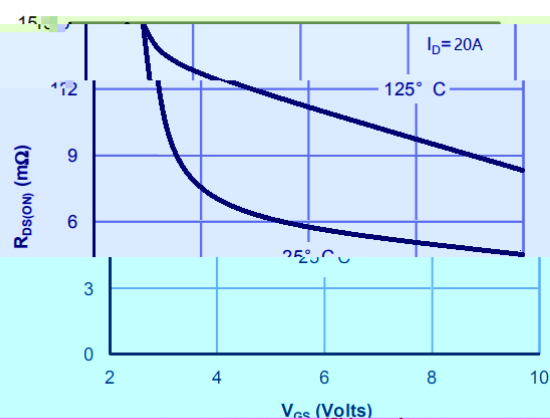


Figure 5: On-Resistance vs. Gate-Source Voltage

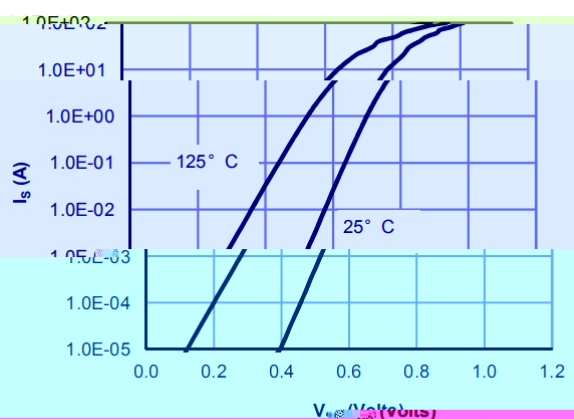
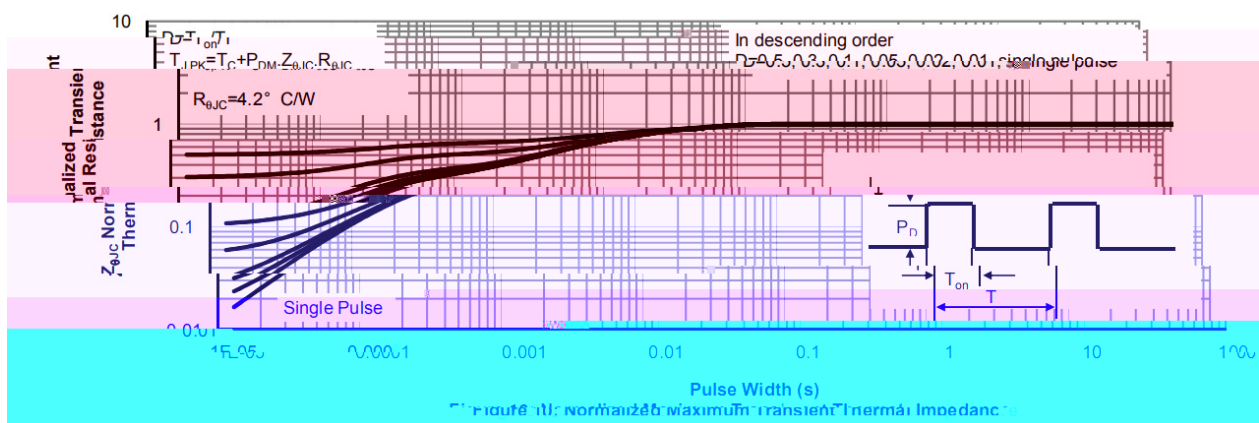
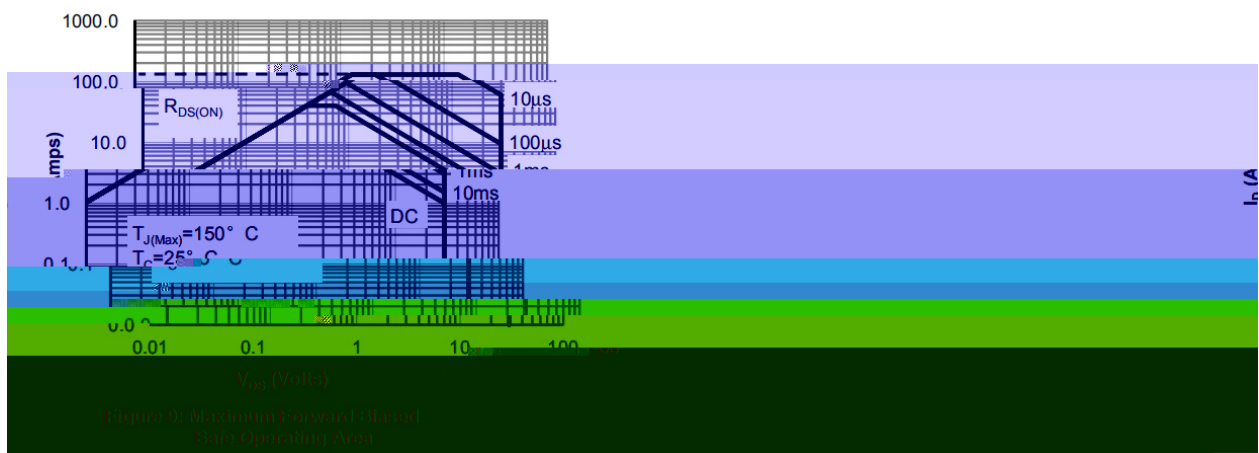
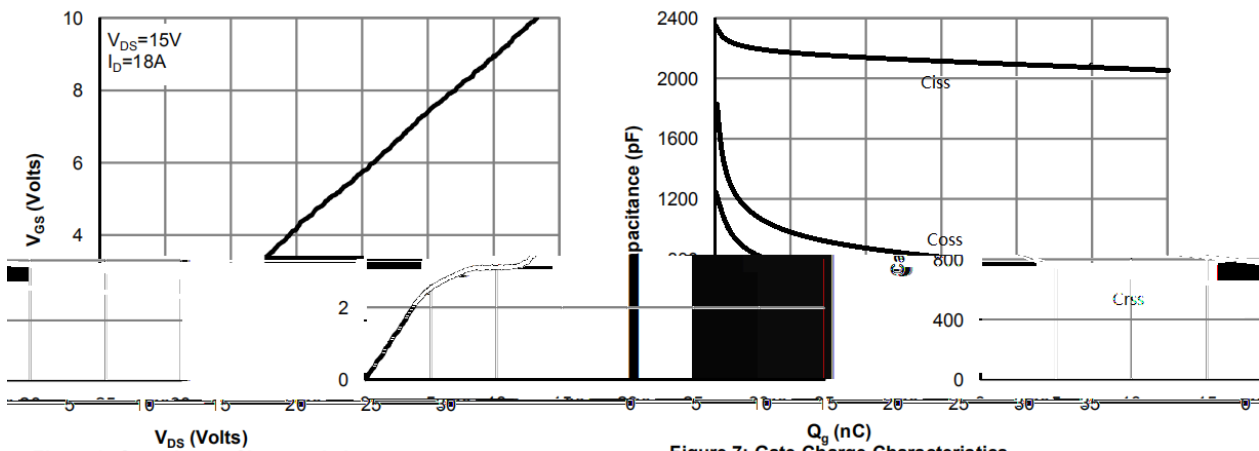


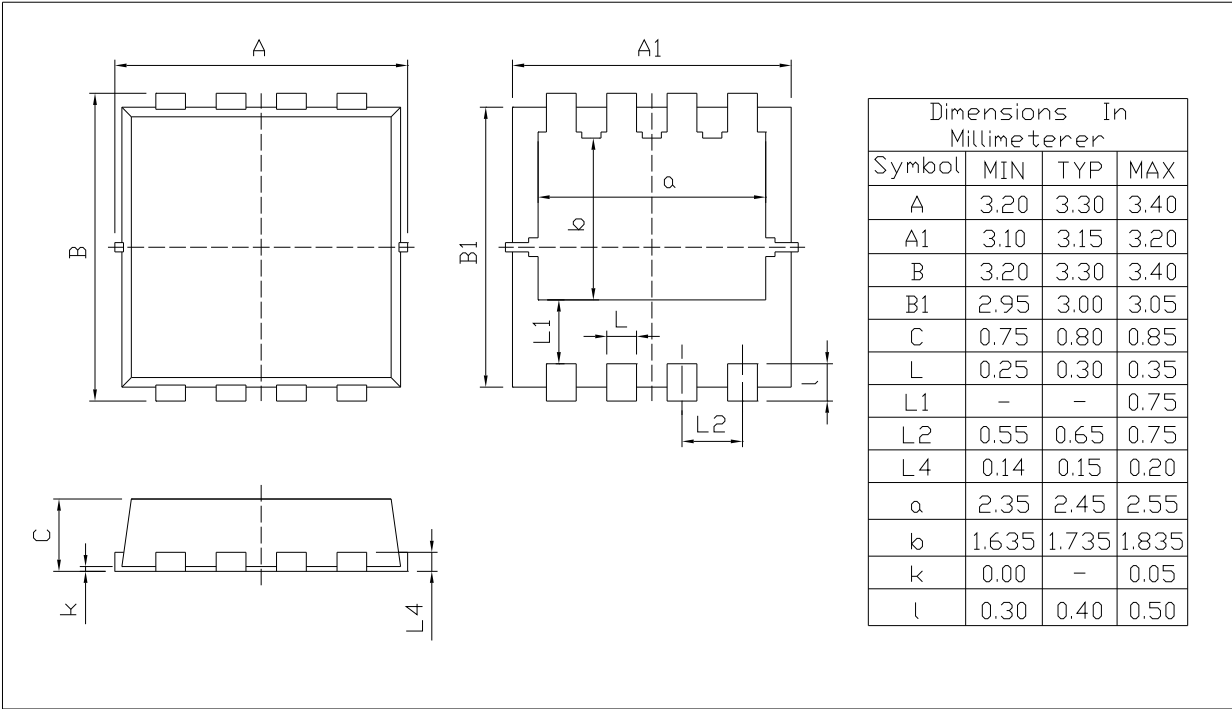
Figure 6: Body Diode Characteristics

/ Electrical Characteristic Curve



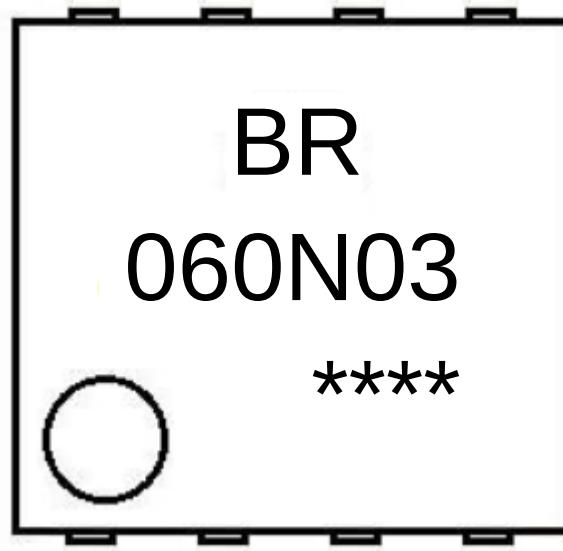
/ Package Dimensions

PDFN3X3A-8LUnit:mm



Rev.00 202011

/ Marking Instructions



BR

060N03

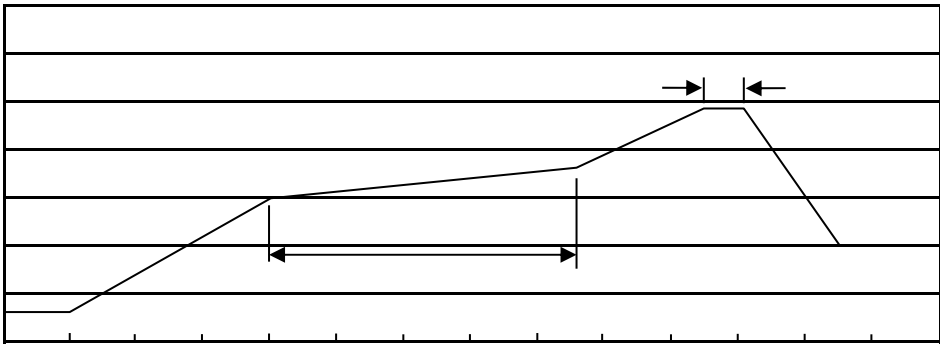
Note:

BR: Company Code

060N03: 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;

2

245±5

5±0.5sec;
- 3

2 10 /sec.
- 1.Preheating:150~180 , Time:60~90sec.

2.Peak Temp.:245±5 , Duration:5±0.5sec.

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