

/ Descriptions

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

/ Features

$V_{DS} (V) = 30V$
 $I_D = 74A (V_{GS} = 20V)$
 $R_{DS(ON)}@10V \quad 3.7mR(Typ.3.5mR)$
 $R_{DS(ON)}@4.5V \quad 6.5mR(Typ.4.5mR)$

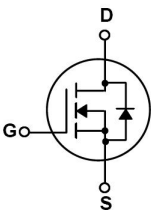
Qualified to AEC-Q101 Standards for High Reliability,

HF Product.

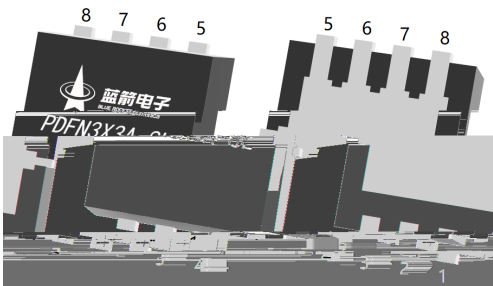
/ Applications

Load Switch Applications,Battery Power Management, Meet the stringent requirements of automotive applications.

/ 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.

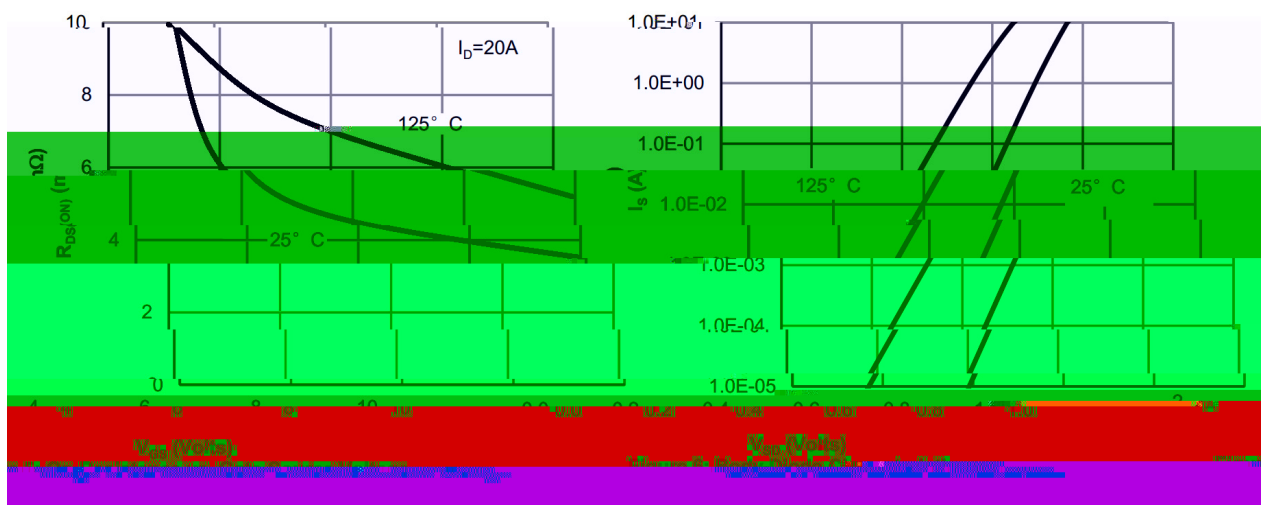
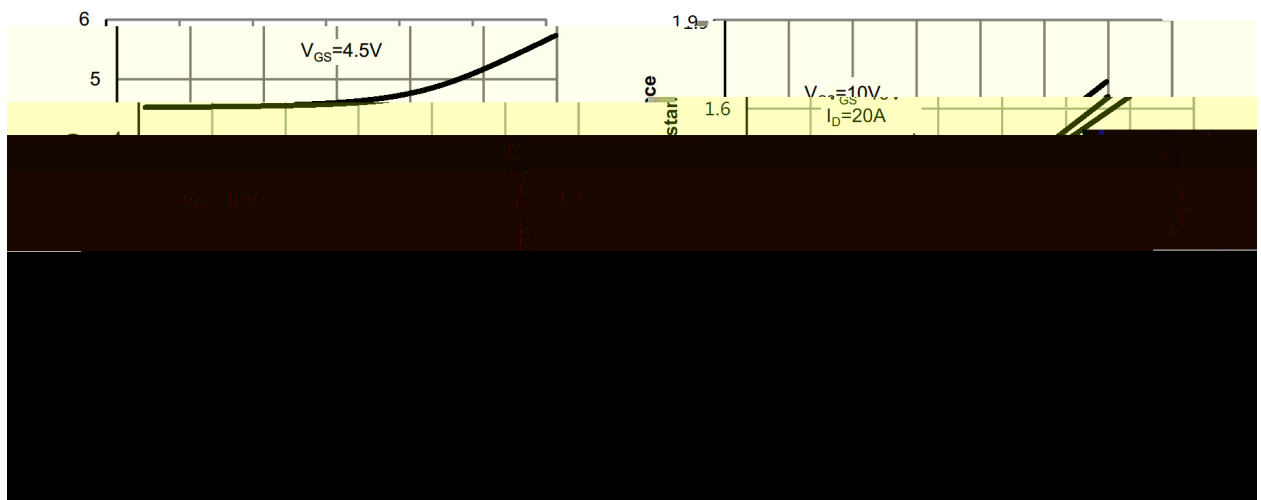
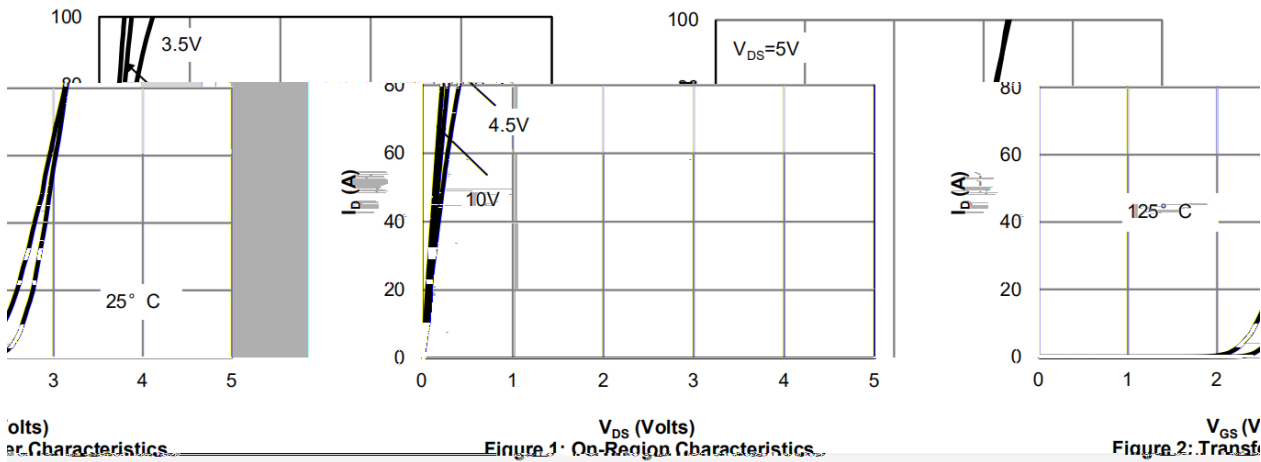
/ Absolute Maximum Ratings($T_a=25^\circ\text{C}$)

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	30	V
Drain Current		$I_D(T_c=25^\circ\text{C})$	74	A
Drain Current - Pulsed		I_{DM}	185	A
Gate-Source Voltage		V_{GS}	± 20	V
Single Pulsed Avalanche Energy		E_{AS}	449	mJ
Avalanche Current		I_{AS}	33.5	A
Power Dissipation		$P_D(T_c=25^\circ\text{C})$	35	W
Operating and Storage Temperature Range		T_J, T_{stg}	-55 to 150	
Junction-to-Ambient	$t \leq 10$	$R_{\theta JA}$	42	/W
Junction-to-Ambient	Steady-State		78	
Junction-to-Case	Steady-State	$R_{\theta JC}$	3.6	

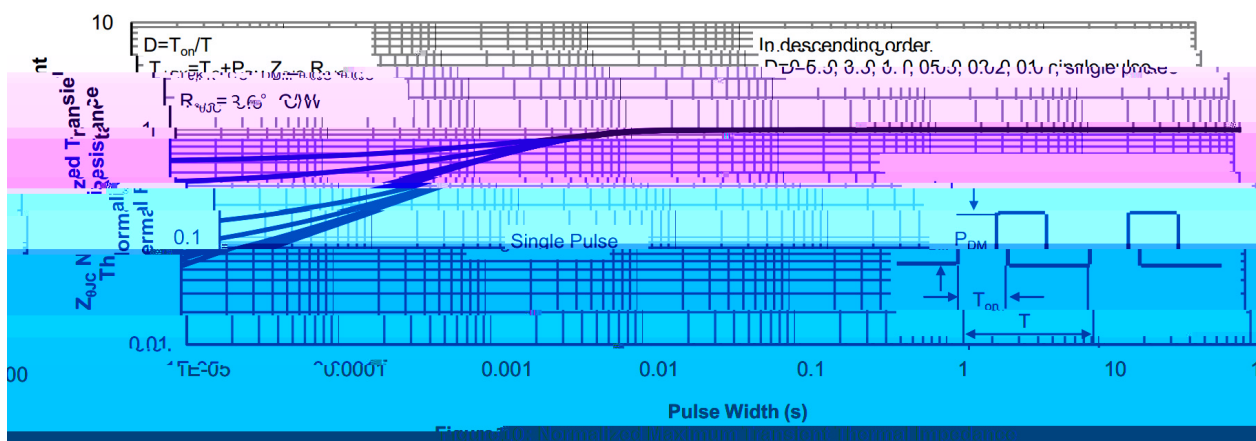
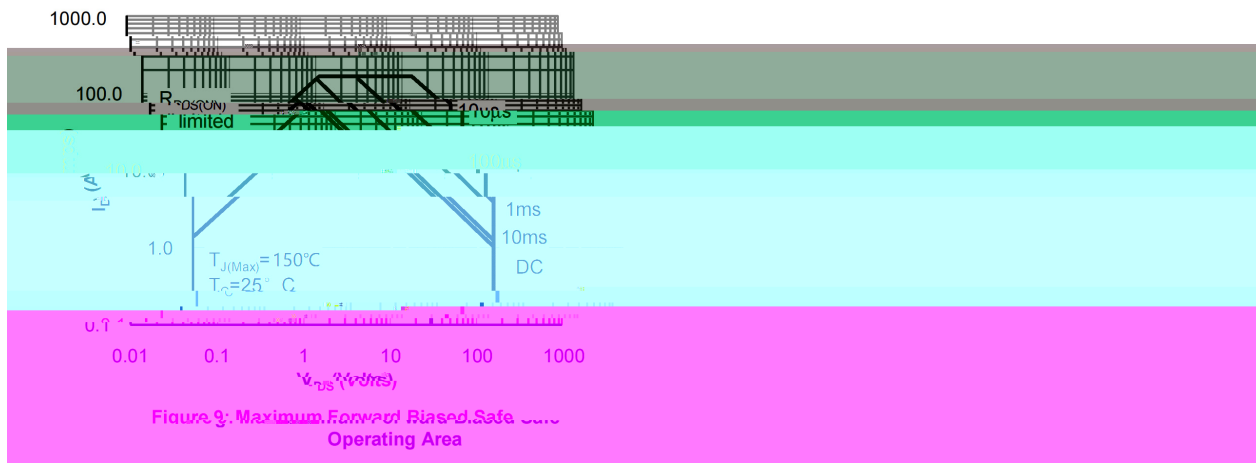
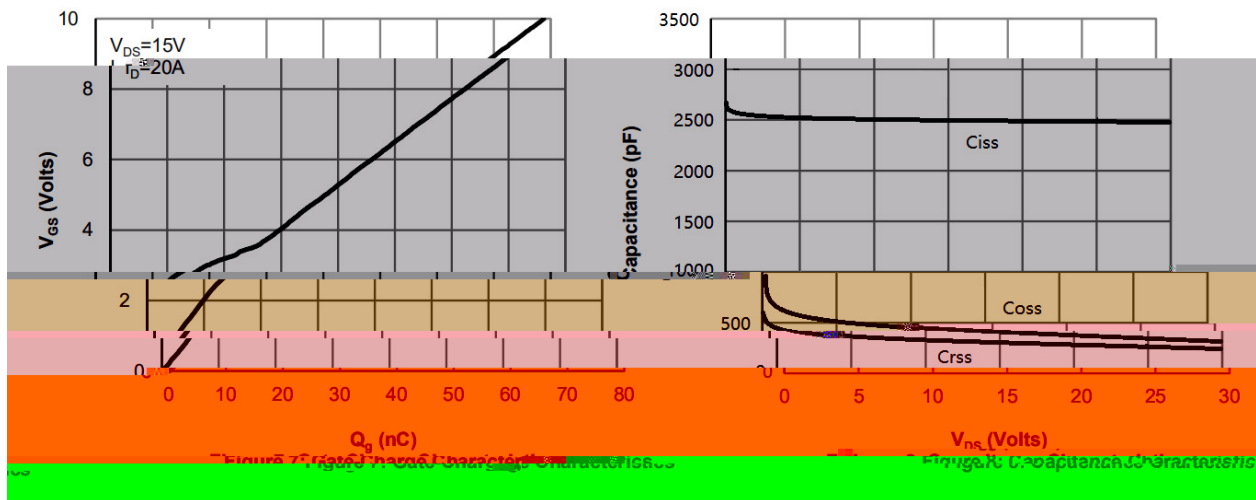
/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V$ $I_D=250\mu A$	30	35		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	1.5	3.0	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10V$ $I_D=20A$		3.5	3.7	m Ω
		$V_{GS}=4.5V$ $I_D=10A$		4.5	6.5	m Ω
Drain-Source Diode Forward Voltage	V_{SD}	$V_{GS}=0V$ $I_S=1A$			1.2	V
Input Capacitance	C_{iss}	$V_{DS}=25V$ $V_{GS}=0V$ $f=1.0MHz$		2750		pF
Output Capacitance	C_{oss}			380		
Reverse Transfer Capacitance	C_{rss}			240		
Gate resistance	R_g	$V_{GS}=0V$ $V_{DS}=0V$ $f=1MHz$		2.6		Ω
Total Gate Charge	$Q_{g(10V)}$	$V_{GS}=10V$ $V_{DS}=15V$ $I_D=20A$		80		nC
Total Gate Charge	$Q_{g(4.5V)}$			35		
Gate Source Charge	Q_{gs}			13		
Gate Drain Charge	Q_{gd}			13		
Turn-On Delay Time	$t_{d(on)}$	$V_{GS}=10V$ $V_{DS}=15V$ $R_L=0.75\Omega$ $R_{GEN}=3.0\Omega$		6.7		ns
Turn-On Rise Time	t_r			3.8		
Turn-Off Delay Time	$t_{d(off)}$			32		
Turn-Off Fall Time	t_f			5.2		

/ Electrical Characteristic Curve



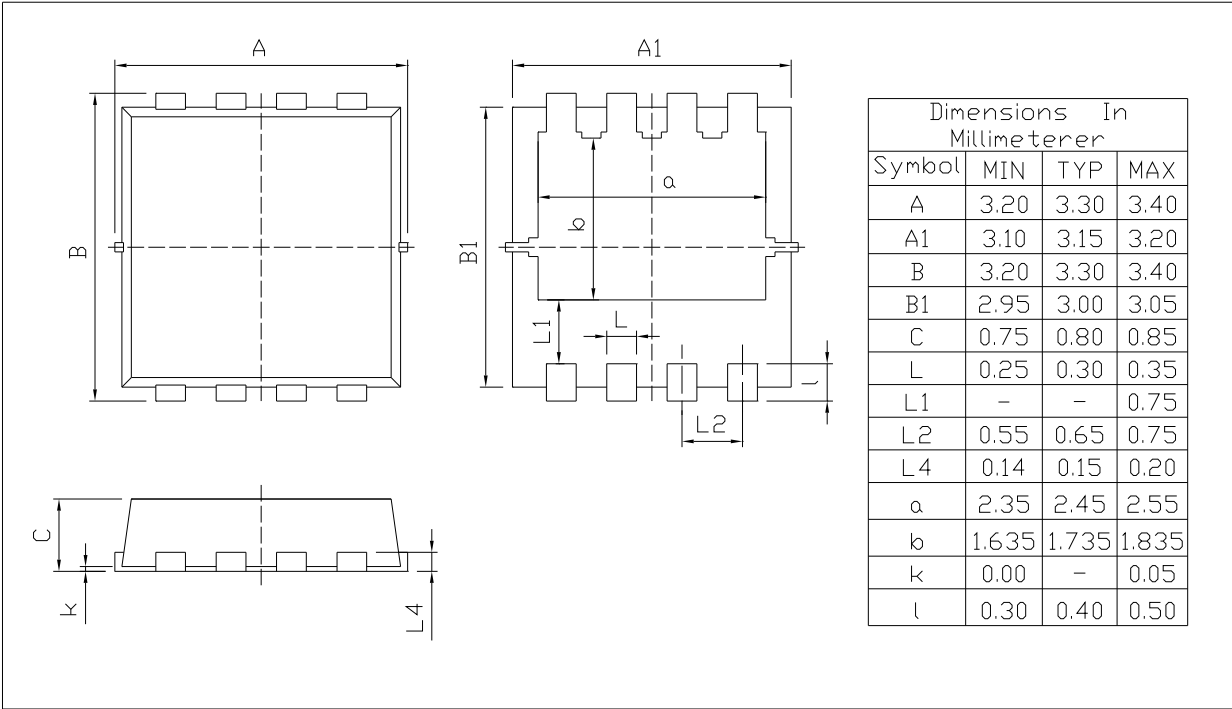
I Electrical Characteristic Curve



/ Package Dimensions

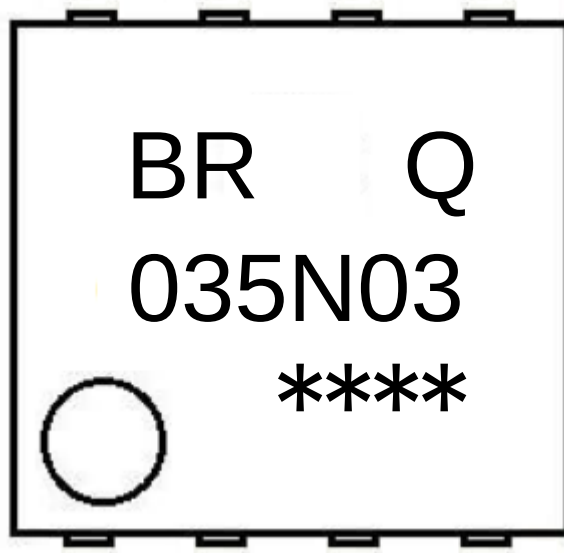
PDFN3X3A-8L

Unit:mm



Rev.00 202011

/ Marking Instructions



BR

Q

035N03

Note:

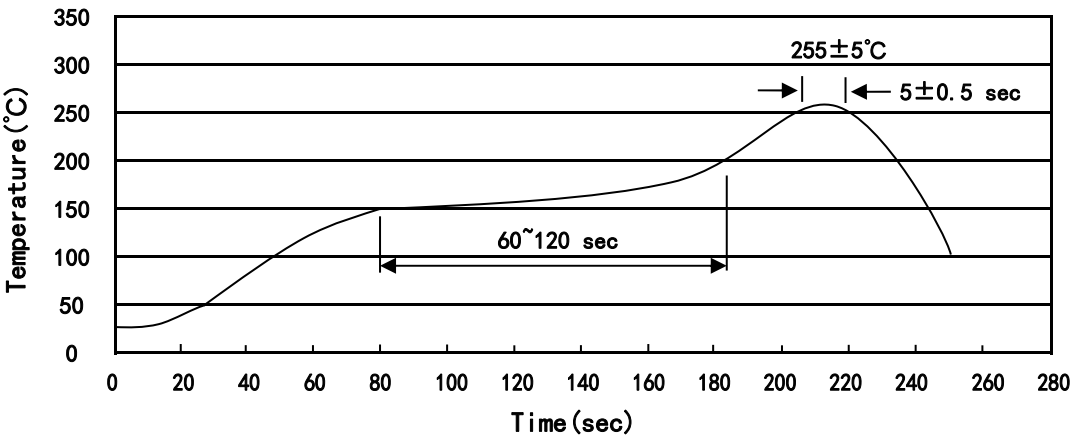
BR: Company Code

Q: Automobile halogen-free product Code

035N03: Product Type Code

****: Lot No. Code, code change with Lot No

() / Temperature Profile for IR Reflow Soldering(Pb-Free)



Note:

- 1. 150 200 60 120sec; 1.Preheating:150~200 , Time:60~120sec.
- 2. 255 5 5 0.5sec; 2.Peak Temp.:255 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