

PDFN3×3A-8L N MOS

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

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

$I_D = 55 A (V_{GS} = 20V)$

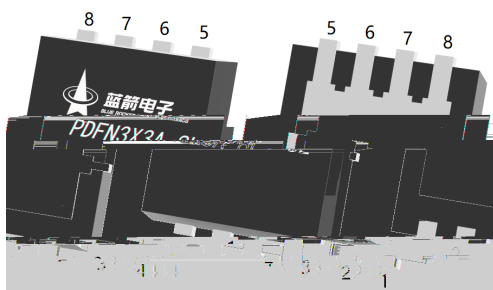
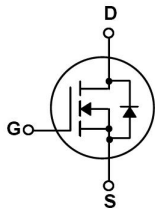
$R_{DS(ON)} @ 10V \ 5mR (Typ. 4.3mR)$

AEC-Q101

Qualified to AEC-Q101 Standards for High Reliability,

HF Product.

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

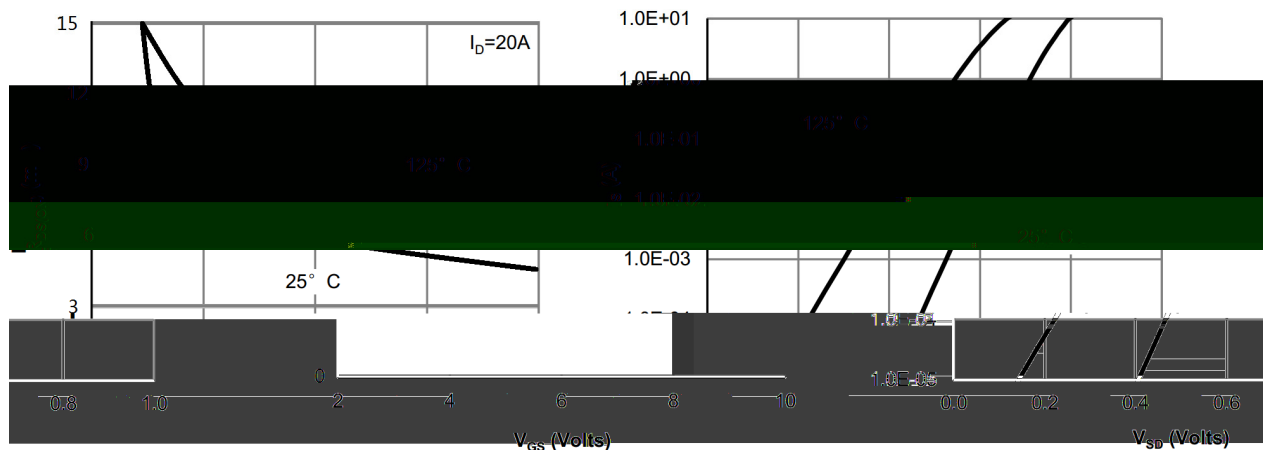
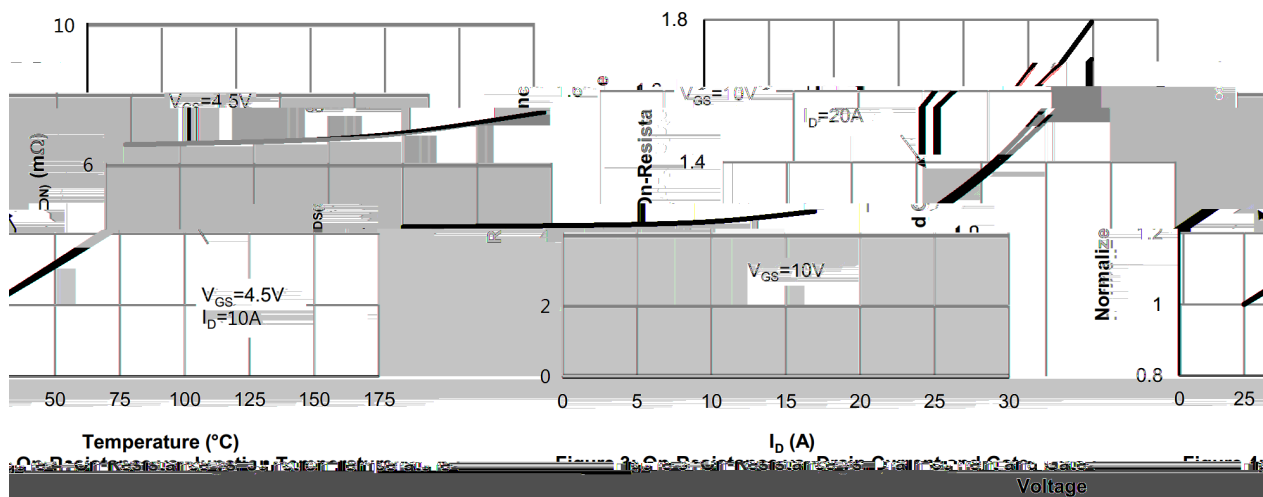
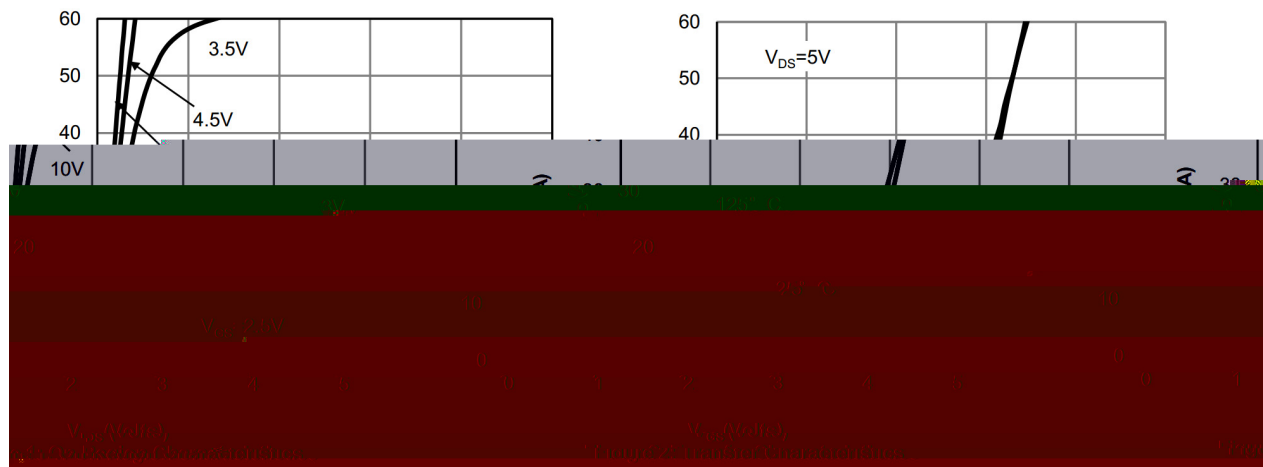


出脚	定义
Pin1	S
Pin2	S
Pin3	S
Pin4	G
Pin5	D
Pin6	D
Pin7	D
Pin8	D

See Marking Instructions.

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	30	V
Drain Current		$I_D(T_c=25^\circ\text{C})$	55	A
Drain Current - Pulsed		I_{DM}	145	A
Gate-Source Voltage		V_{GS}	± 20	V
Single Pulsed Avalanche Energy		E_{AS}	220.9	mJ
Avalanche Current		I_{AS}	23.5	A
Power Dissipation		$P_D(T_c=25^\circ\text{C})$	30	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	

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	1.8	2.5	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10V$ $I_D=20A$		4.3	5	m Ω
		$V_{GS}=4.5V$ $I_D=10A$		6.7	8	m Ω
Drain-Source Diode Forward Voltage	V_{SD}	$V_{GS}=0V$ $I_S=1A$			1.2	V
Input Capacitance	C_{iss}	$V_{DS}=25V$ $V_{GS}=0V$ $f=1.0MHz$		2030		pF
Output Capacitance	C_{oss}			168		
Reverse Transfer Capacitance	C_{rss}			163		
Gate resistance	R_g	$V_{GS}=0V$ $V_{DS}=0V$ $f=1MHz$		3.1		Ω
Total Gate Charge	$Q_{g(10V)}$	$V_{GS}=10V$ $V_{DS}=15V$ $I_D=20A$		40		nC
Total Gate Charge	$Q_{g(4.5V)}$			22		
Gate Source Charge	Q_{gs}			11		
Gate Drain Charge	Q_{gd}			5		
Turn-On Delay Time	$t_{d(on)}$			11		
$V_{GS}=10V$ $V_{DS}=15V$ $R_L=0.75\Omega$ $R_{GEN}=3.0\Omega$						ns

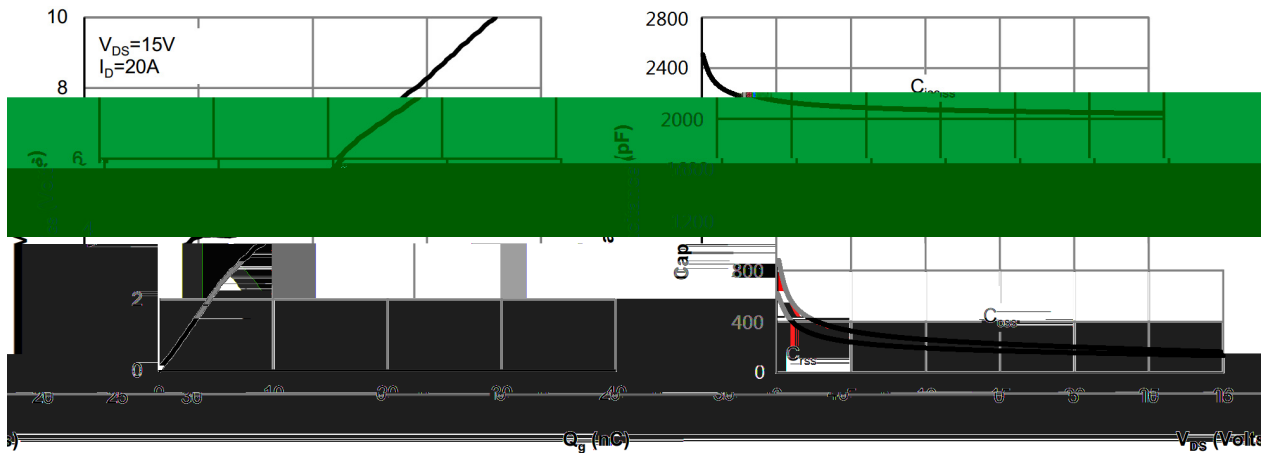


Characteristics

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

Figure 6: Body-Diode Characteristics

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Characteristics Figure 7: Gate-Charge Characteristics Figure 8: Capacitance Characteristics

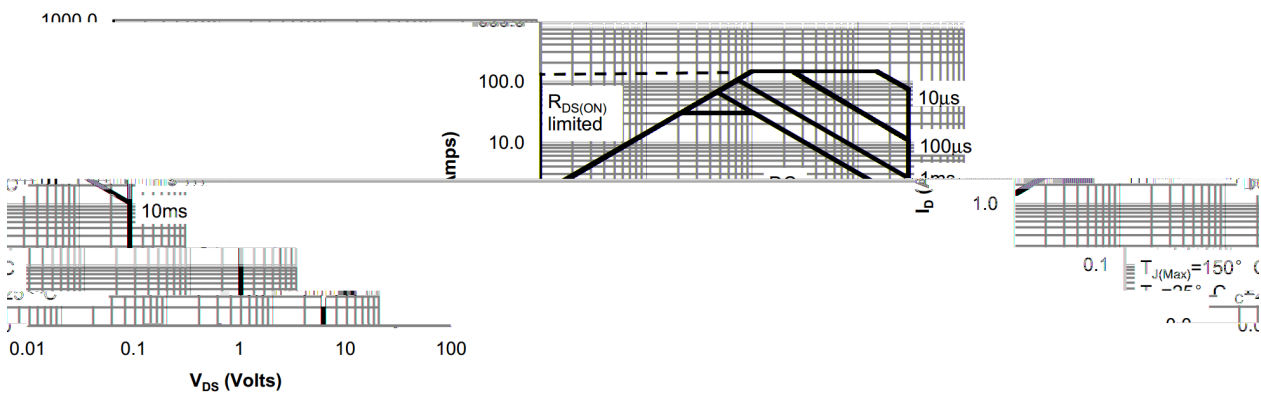


Figure 9: Maximum Forward Bias Safe Operating Area

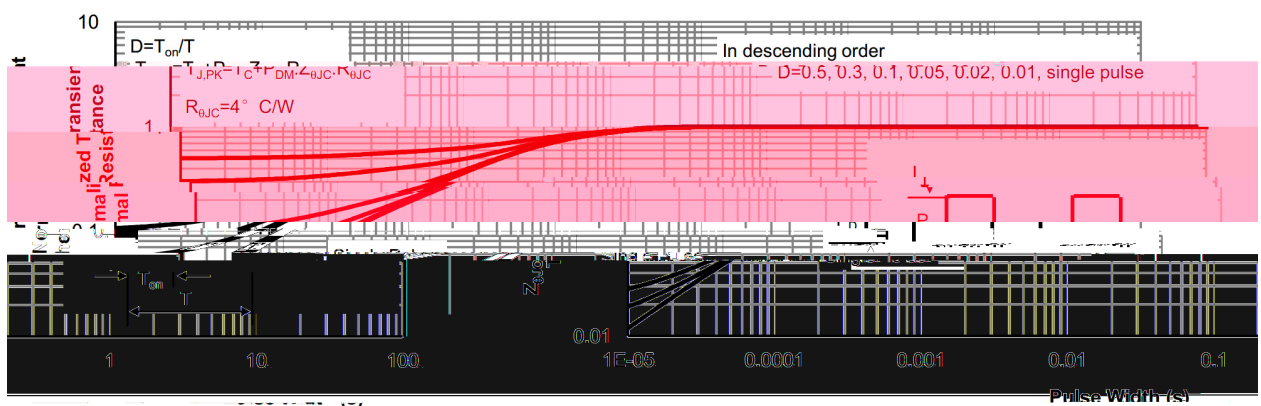
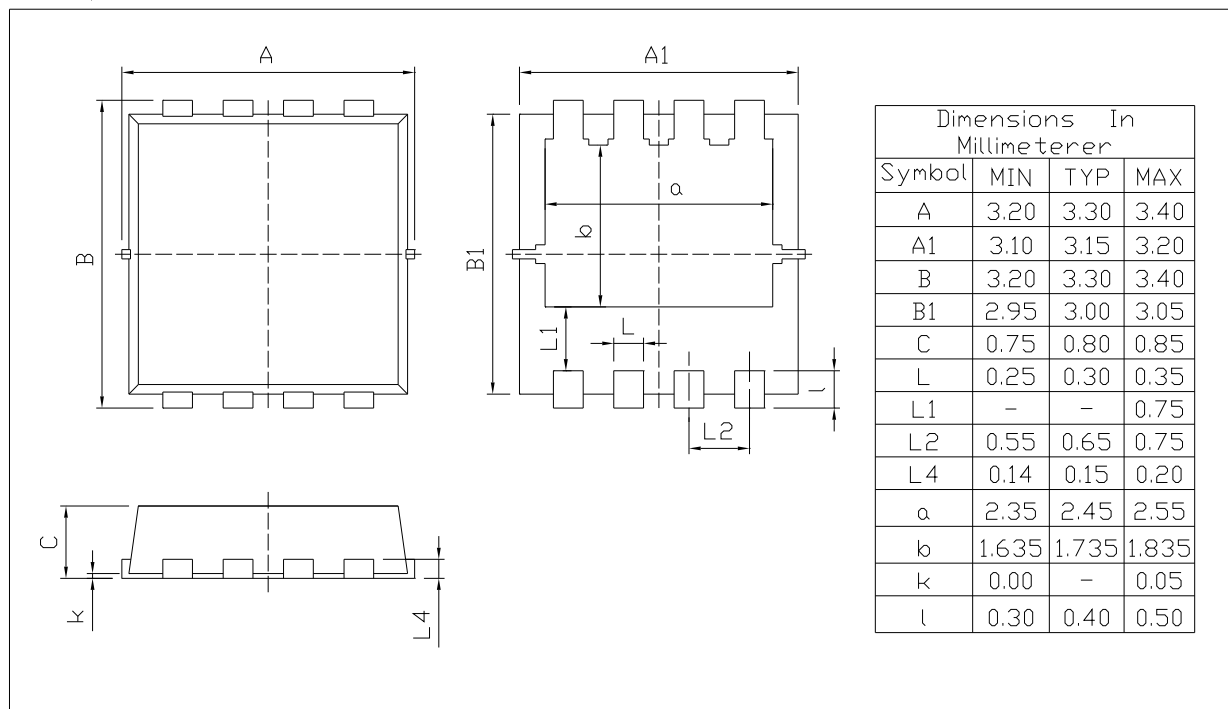


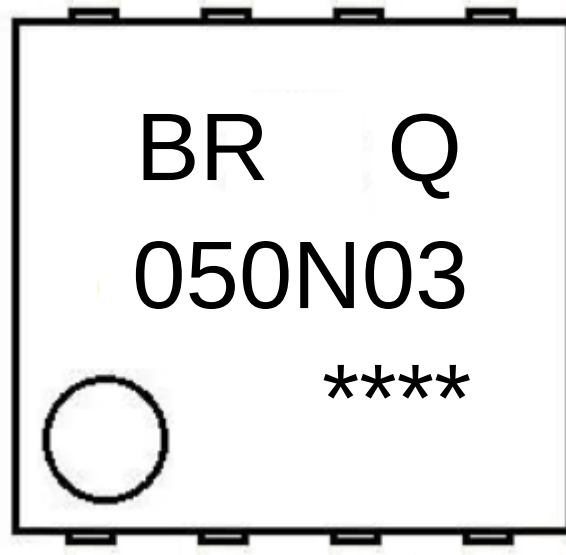
Figure 10: Normalized Maximum Transient Thermal Impedance

PDFN3X3A-8L

Unit:mm



Rev.00 202011



BR

Q

050N03

Note:

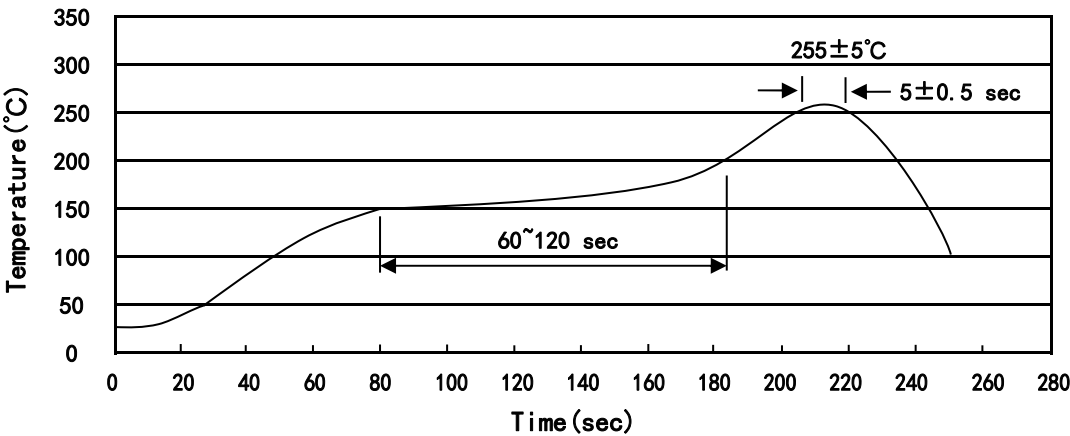
BR: Company Code

Q: Automobile halogen-free product Code

050N03: 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.

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)		
	只 卷盘	卷盘 盒	只 盒	盒 箱	只 箱		盒	箱
PDFN3×3A-8L	5,000	2	10,000	6	60,000	13 ×12	360×360×50	380×335×366