

描述 / Descriptions

PDFN3×3A-8L 塑封封装 P 沟道 MOS 场效应管。

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

特征 / Features

$V_{DS} (V) = -40V$ $I_D = -20.5 A$ ($V_{GS} = \pm 20V$)

$R_{DS(ON)}@10V \leq 35m\Omega$ (Typ. $33m\Omega$)

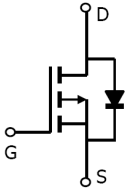
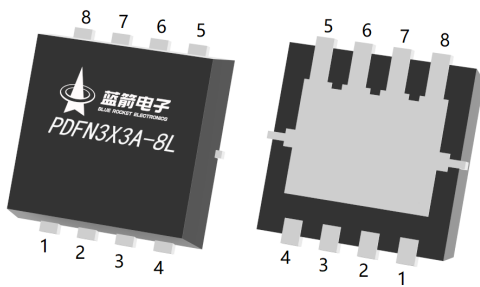
$R_{DS(ON)}@4.5V \leq 60m\Omega$ (Typ. $43m\Omega$)

无卤产品。HF Product.

用途 / Applications

用于高功率 DC/DC 转换和功率开关。

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

内部等效电路 / Equivalent Circuit**引脚排列 / Pinning**

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

印章代码 / Marking

见印章说明。

See Marking Instructions.

极限参数 / Absolute Maximum Ratings(Ta=25°C)

参数 Parameter		符号 Symbol	数值 Rating	单位 Unit
Drain-Source Voltage		V_{DS}	-40	V
Drain Current		$I_D(T_c=25^{\circ}\text{C})$	-20.5	A
Drain Current - Pulsed		I_{DM}	-65	A
Gate-Source Voltage		V_{GS}	± 20	V
Avalanche Current		I_{AS}	-17	A
Single Pulsed Avalanche Energy (L=0.5mH)		E_{AS}	144.5	mJ
Power Dissipation		$P_D(T_c=25^{\circ}\text{C})$	25	W
Storage Temperature Range		T_{stg}	-55~150	$^{\circ}\text{C}$
Thermal Resistance-Junction to Ambient	$t \leq 10\text{s}$	$R_{\theta JA}$	30	$^{\circ}\text{C/W}$
	Steady-State		75	
Thermal Resistance-Junction to Case	Steady-State	$R_{\theta JC}$	5	

电性能参数 / Electrical Characteristics(Ta=25°C)

参数 Parameter	符号 Symbol	测试条件 Test Conditions	最小值 Min	典型值 Typ	最大值 Max	单位 Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V$ $I_D=-250\mu A$	-40	-46		V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-40V$ $V_{GS}=0V$			1.0	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	-1.4	-2.5	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=-10V$ $I_D=-20A$		33	35	m Ω
		$V_{GS}=-4.5V$ $I_D=-10A$		40	60	
Drain-Source Diode Forward Voltage	V_{SD}	$V_{GS}=0V$ $I_S=-1A$			-1.2	V
Gate resistance	R_g	$V_{GS}=0V$ $V_{DS}=0V$, $f=1\text{MHz}$		9.5		Ω
Input Capacitance	C_{iss}	$V_{DS}=-25V$ $V_{GS}=0V$ $f=1.0\text{MHz}$		1500		pF
Output Capacitance	C_{oss}			620		
Reverse Transfer Capacitance	C_{rss}			440		
Total Gate Charge	$Q_{g(-10V)}$	$V_{GS}=-10V$ $V_{DS}=-20V$ $I_D=-12A$		16.5		nC
Total Gate Charge	$Q_{g(-4.5V)}$			7.8		
Gate Source Charge	Q_{gs}			4.2		
Gate Drain Charge	Q_{gd}			3.8		

电性能参数 / Electrical Characteristics(Ta=25°C)

参数 Parameter	符号 Symbol	测试条件 Test Conditions	最小值 Min	典型值 Typ	最大值 Max	单位 Unit
Turn-On Delay Time	t _{d(on)}	V _{GS} =-10V V _{DS} =-20V R _L =1.6 Ω R _{GEN} =3Ω		6.5		ns
Turn-On Rise Time	t _r			9.2		
Turn-Off Delay Time	t _{d(off)}			52		
Turn-Off Fall Time	t _f			50.8		

电参数曲线图 / Electrical Characteristic Curve

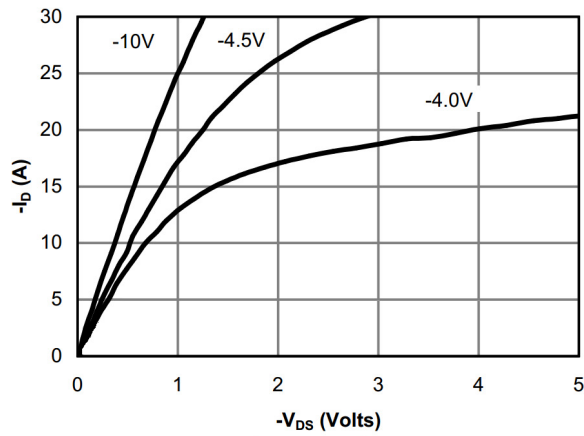


Figure 1: On-Region Characteristics

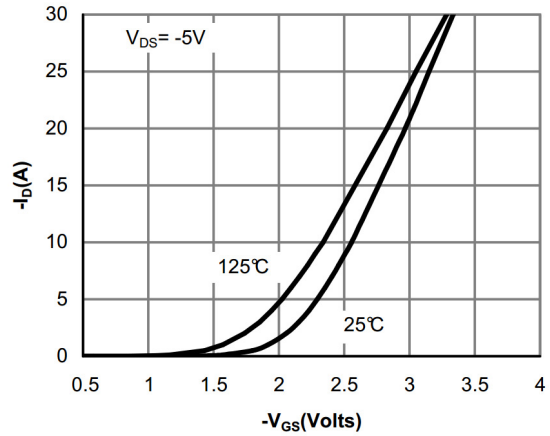


Figure 2: Transfer Characteristics

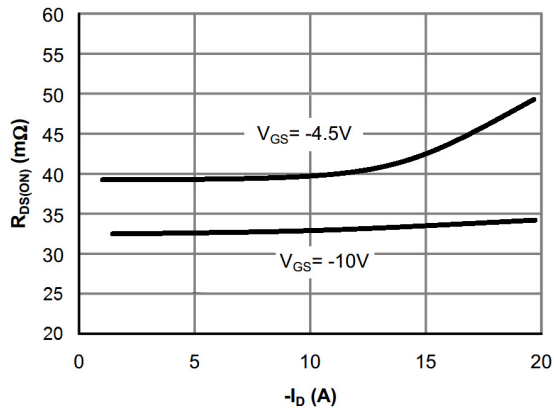


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

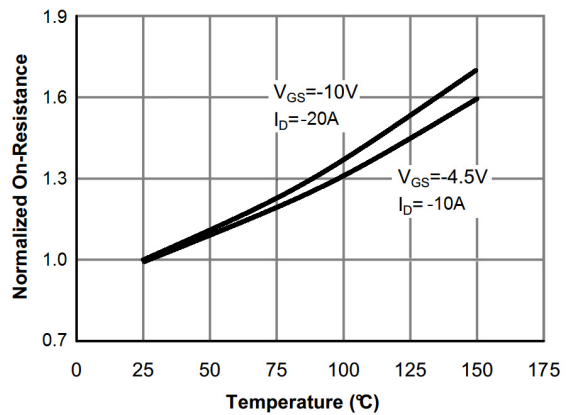


Figure 4: On-Resistance vs. Junction Temperature

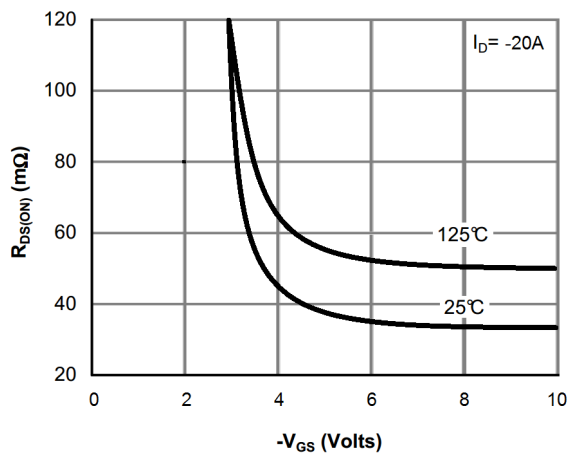


Figure 5: On-Resistance vs. Gate-Source Voltage

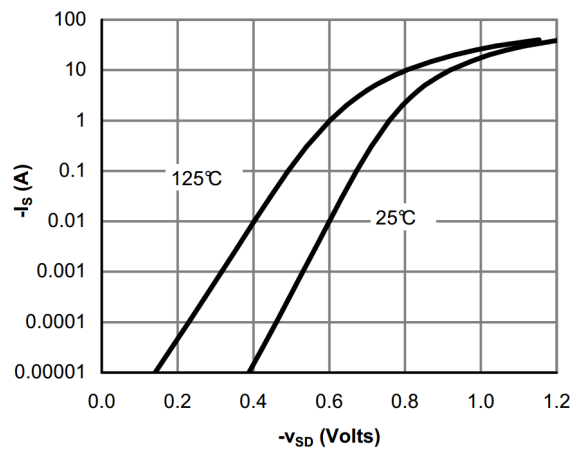
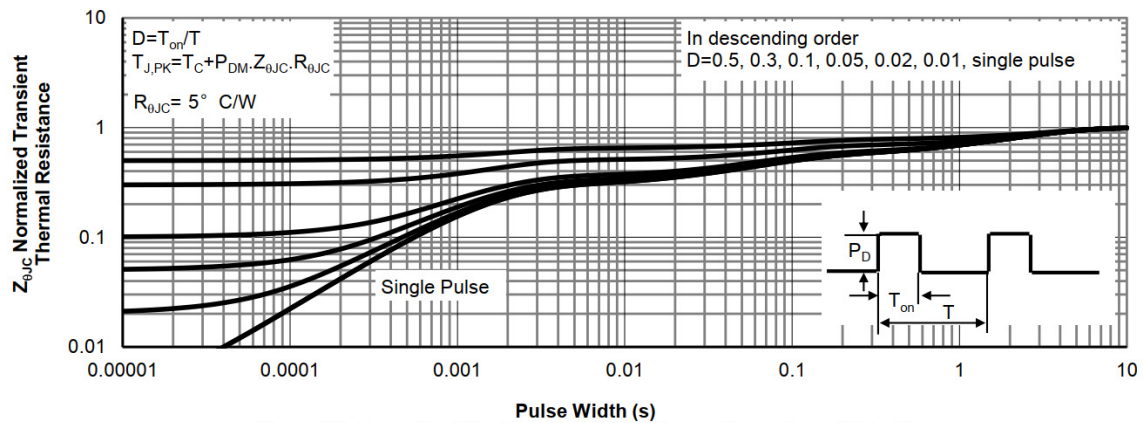
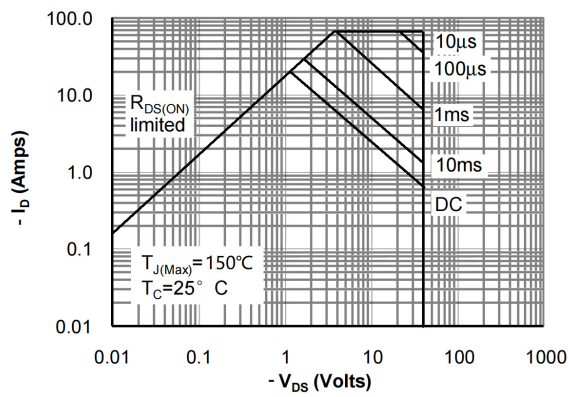
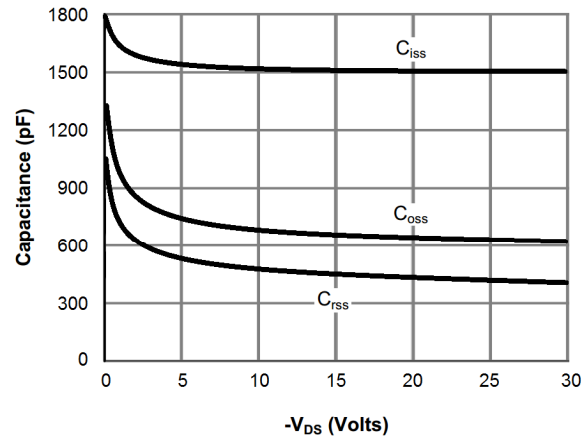
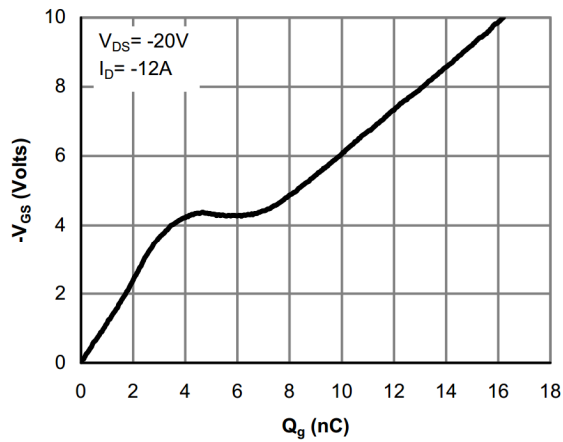


Figure 6: Body-Diode Characteristics

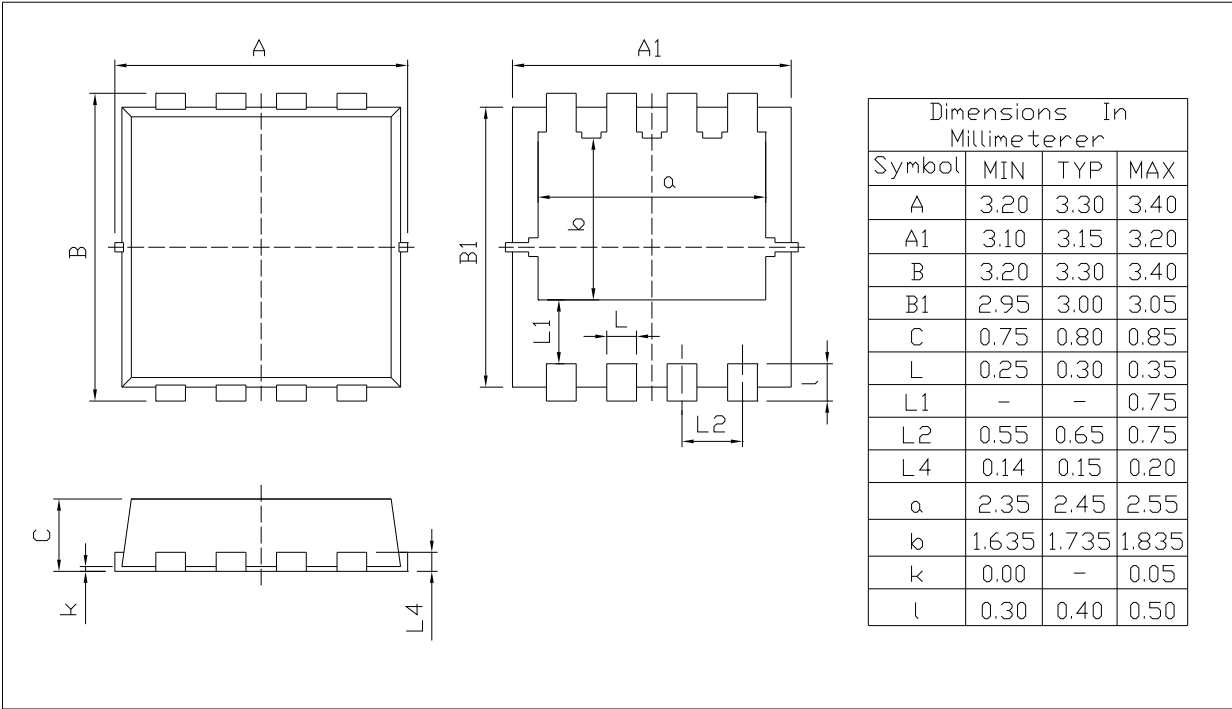
电参数曲线图 / Electrical Characteristic Curve



外形尺寸图 / Package Dimensions

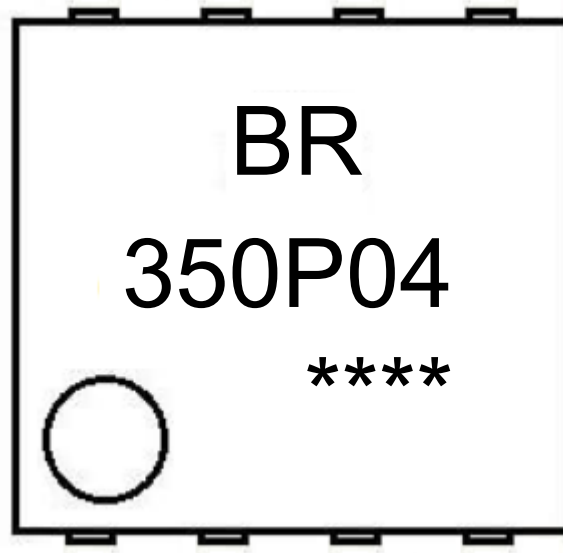
PDFN3X3A-8L

Unit:mm



Rev.00 202011

印章说明 / Marking Instructions



说明：

BR： 为公司代码

350P04： 为型号代码

*****： 为生产批号代码，随生产批号变化

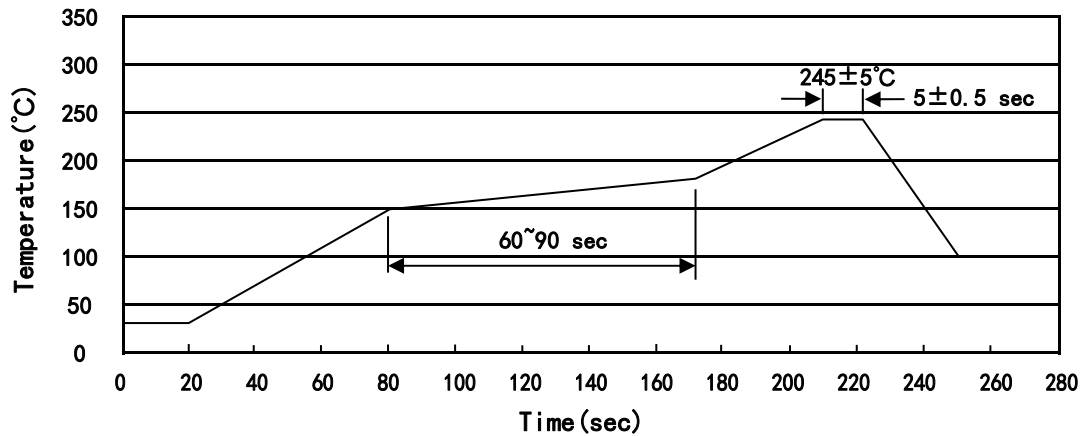
Note:

BR: Company Code

350P04: Product Type Code

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

回流焊温度曲线图(无铅) / Temperature Profile for IR Reflow Soldering(Pb-Free)



说明：

- 1、预热温度 150~180°C，时间 60~90sec;
- 2、峰值温度 245±5°C，时间持续为 5±0.5sec;
- 3、焊接制程冷却速度为 2~10°C/sec.

Note:

- 1.Preheating:150~180°C, Time:60~90sec.
- 2.Peak Temp.:245±5°C, Duration:5±0.5sec.
3. Cooling Speed: 2~10°C/sec.

耐焊接热试验条件 / Resistance to Soldering Heat Test Conditions

温度：260±5°C

时间：10±1 sec.

Temp.:260±5°C

Time:10±1 sec

包装规格 / Packaging SPEC.

卷盘包装 / 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 盒	Outer Box 箱
PDFN3×3A-8L	5,000	2	10,000	6	60,000	13" ×12	360×360×50	380×335×366

使用说明 / Notices