

BRCS400P03YA

Rev.B Feb.-2025

DATA SHEET

描述 / Descriptions

PDFN3×3-8L 塑封封装双 P 沟道 MOS 场效应管。
 Double P-CHANNEL MOSFET in a PDFN3×3-8L Plastic Package.

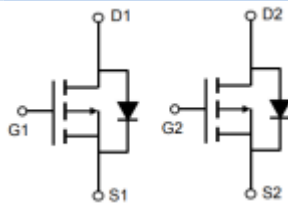
特征 / Features

$V_{DS}(V)=-30V$ $I_D=-5.5A$
 $R_{DS(ON)}<40m\Omega(V_{GS}=-10V)$
 $R_{DS(ON)}<70m\Omega(V_{GS}=-4.5V)$
 无卤产品。 HF Product.

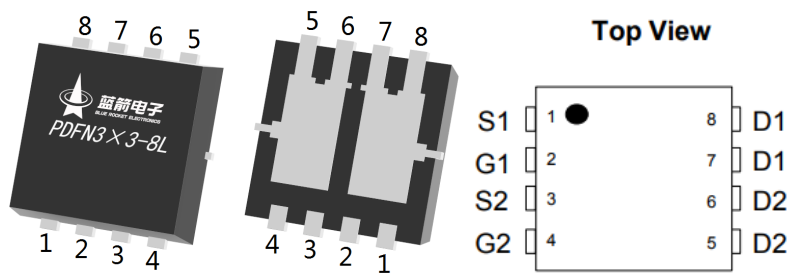
用途 / Applications

用作一般的开关和相位控制。
 Intended for use in general purpose switching and phase control applications.

内部等效电路 / Equivalent Circuit



引脚排列 / Pinning



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 _{DSS}	-30	V
Gate-Source Voltage	V _{GSS}	±20	V
Continuous Drain Current	I _D (T _A =25°C)	-5.5	A
Pulsed Drain Current	I _{DM}	-11	A
Power Dissipation	P _D (T _A =25°C)	2	W
Junction and Storage Temperature Range	T _J , T _{STG}	-55 to +150	°C
Maximum Junction-to-Ambient	R _{θJA} (t≤10s)	62.5	°C/W
Maximum Junction-to-Ambient	R _{θJA} (Steady-State)	90	°C/W

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}	I _D =-250μA V _{GS} =0V	-30			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =-30V V _{GS} =0V			-1.0	μA
Gate-Body leakage current	I _{GSS}	V _{DS} =0V V _{GS} =±20V			±100	nA
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} I _D =-250μA	-1.0	-1.5	-2.5	V
Static Drain-Source On-Resistance	R _{DS(ON)}	V _{GS} =-10V I _D =-10A		28.5	30	mΩ
		V _{GS} =-4.5V I _D =-8A		40	55	
Diode Forward Voltage	V _{SD}	I _S =-1A V _{GS} =0V			-1.2	V
Gate Resistance	R _g	V _{GS} =0V V _{DS} =0V f=1MHz		7		Ω
Input Capacitance	C _{iss}	V _{GS} =0V V _{DS} =-15V f=1MHz		850		pF
Output Capacitance	C _{oss}			100		
Reverse Transfer Capacitance	C _{rss}			65		
Total Gate Charge	Q _{g(10V)}	V _{GS} =-10V V _{DS} =-15V I _D =-5A		14.2		nC
Total Gate Charge	Q _{g(4.5V)}			7.4		
Gate-Source Charge	Q _{gs}			3.3		
Gate-Drain Charge	Q _{gd}			3.8		
Turn-on Delay Time	t _{d(ON)}	V _{GS} =-10V V _{DS} =-15V R _L =1.8Ω R _{GEN} =3Ω		8.3		ns
Turn-on Rise Time	t _r			6.5		
Turn-off Delay Time	t _{d(OFF)}			22		
Turn-off Fall Time	t _f			5.5		

电参数曲线图 / Electrical Characteristic Curve

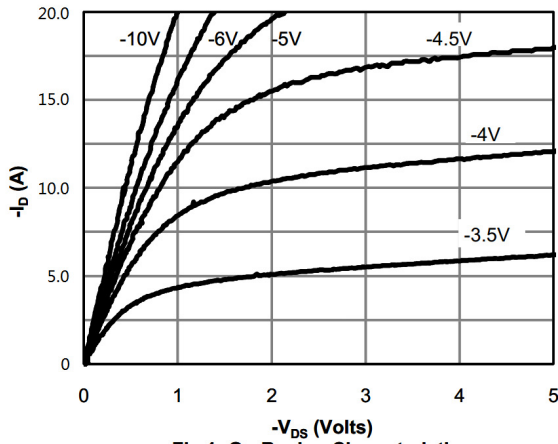


Fig 1: On-Region Characteristics

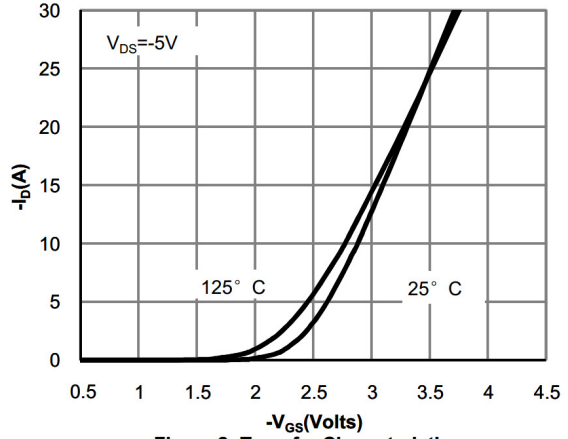


Figure 2: Transfer Characteristics

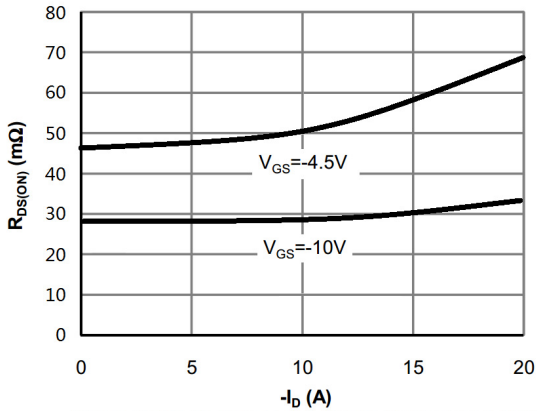


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

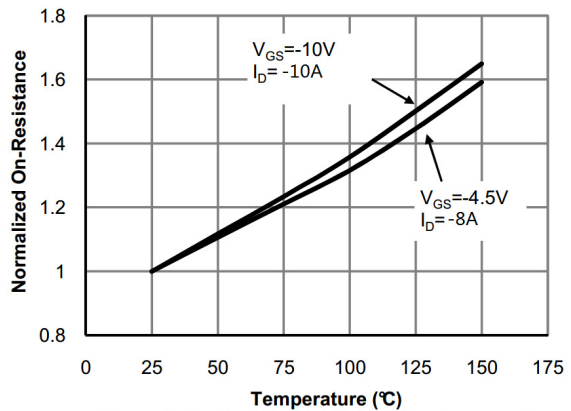


Figure 4: On-Resistance vs. Junction Temperature

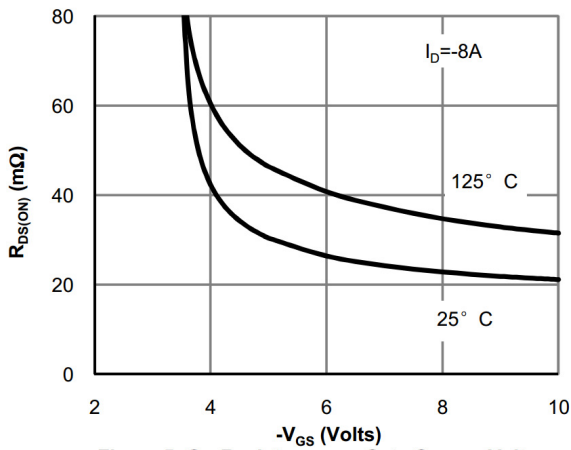


Figure 5: On-Resistance vs. Gate-Source Voltage (Note E)

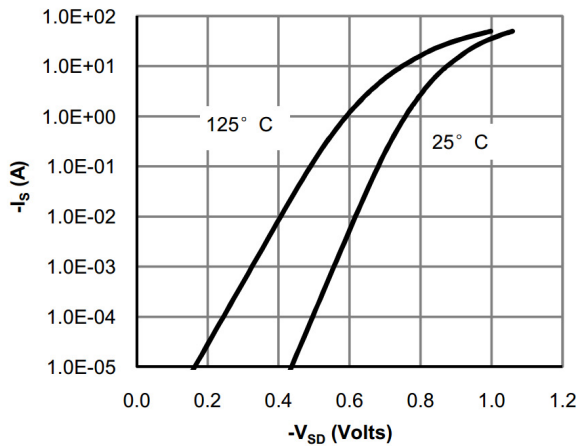


Figure 6: Body-Diode Characteristics (Note E)

电参数曲线图 / Electrical Characteristic Curve

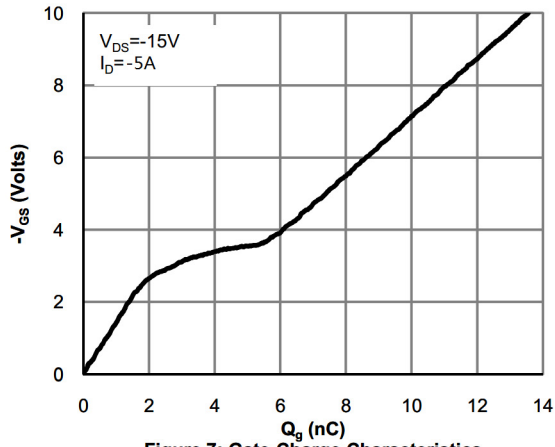


Figure 7: Gate-Charge Characteristics

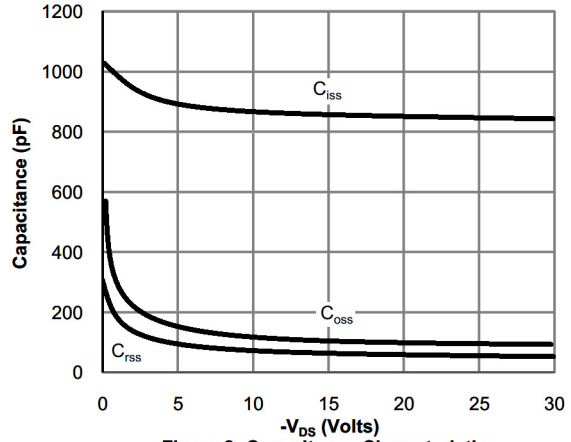


Figure 8: Capacitance Characteristics

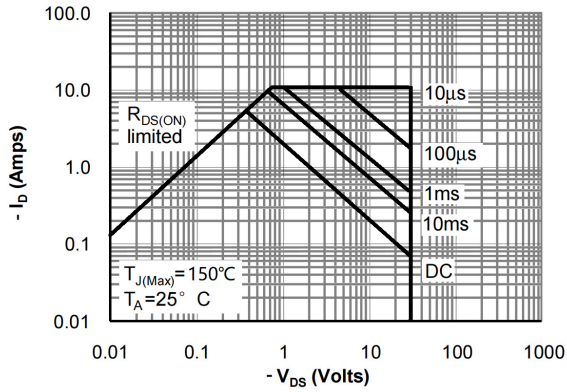


Figure 9: Maximum Forward Biased Safe Operating Area

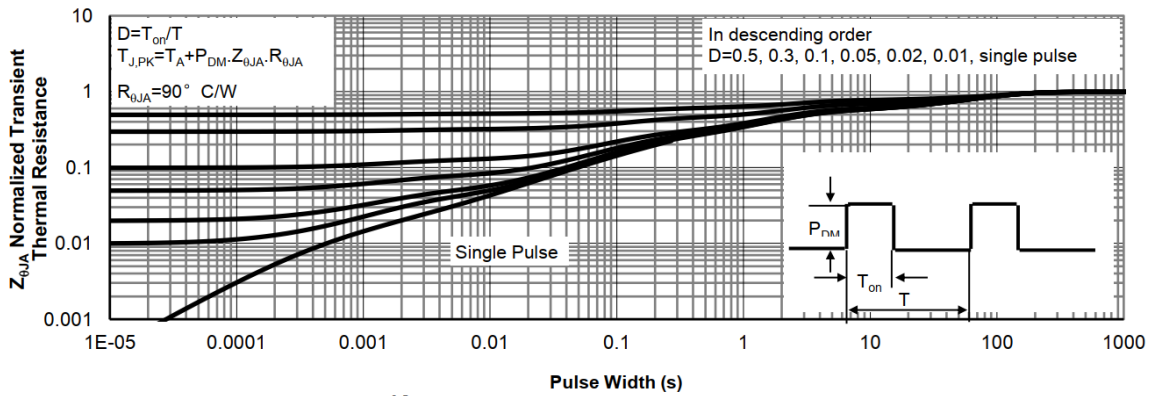
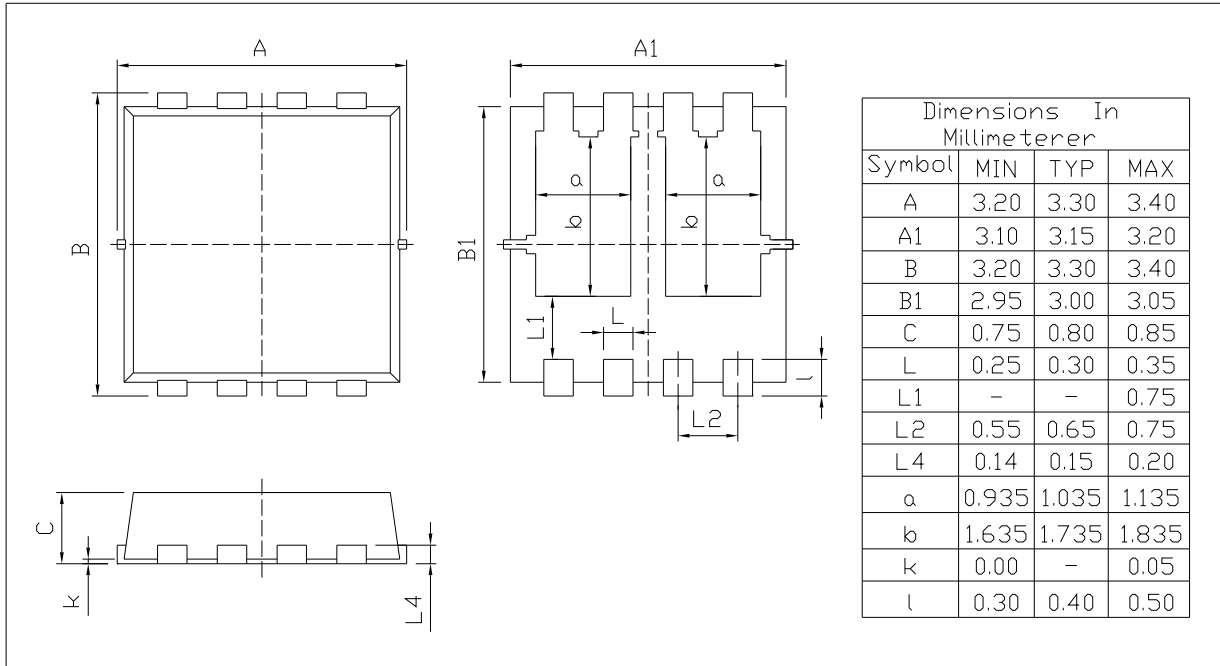


Figure 10: Normalized Maximum Transient Thermal Impedance

外形尺寸图 / Package Dimensions

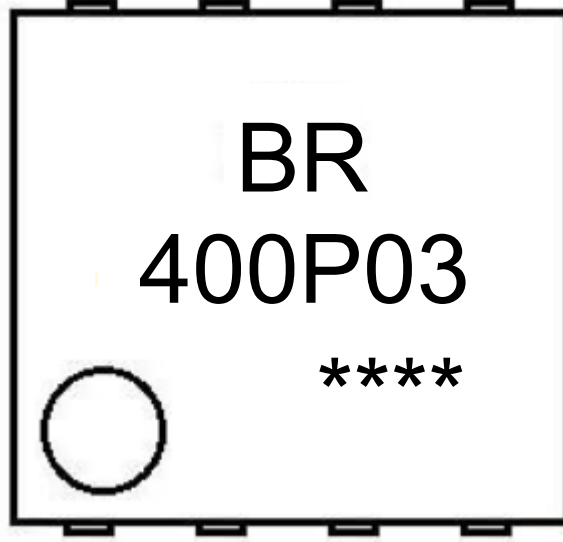
PDFN3X3-8L

Unit:mm



Rev.00 202011

印章说明 / Marking Instructions



说明：

BR： 为公司代码

400P03： 为型号代码

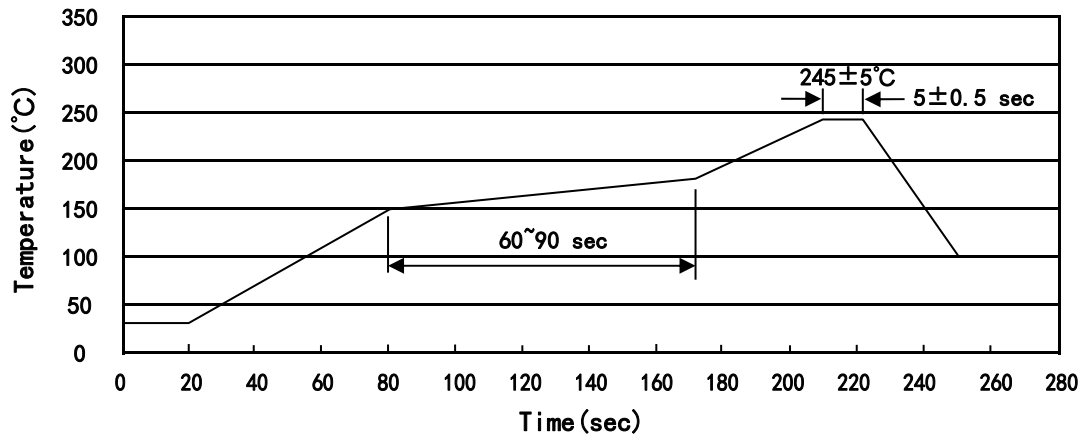
****： 为生产批号代码，随生产批号变化

Note:

BR: Company Code

400P03: 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
PDFN3×3-8L	5,000	2	10,000	6	60,000	13" ×12	360×360×50	380×335×366

使用说明 / Notices