

# BRCS800P06SC

Rev.A May.-2023

## 描述 / Descriptions

SOP-8 塑封封装 P 道场效应管。

P-CHANNEL MOSFET in a SOP-8 Plastic Package.

## 特征 / Features

$V_{DS} = -60V$

$I_D = -6A (V_{GS} = \pm 20V)$

$R_{DS(ON)} @ -10V \leq 80mR (Typ. 61mR)$

$R_{DS(ON)} @ -4.5V \leq 120mR (Typ. 77mR)$

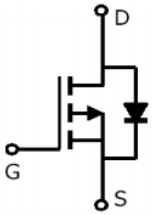
无卤产品。HF Product.

## 用途 / Applications

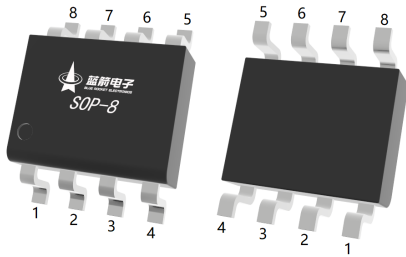
器件适合用作负载开关或用于 PWM 应用。

Device is suitable for use as a load switch or in PWM applications.

## 内部等效电路 / Equivalent Circuit



## 引脚排列 / Pinning



PIN 1 : S

PIN 2 : S

PIN 3 : S

PIN 4 : G

PIN 5 : D

PIN 6 : D

PIN 7 : D

PIN 8 : 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 <sub>DSS</sub>	-60	V
Gate-Body Leakage Voltage	V <sub>GSS</sub>	±20	V
Drain Current - Continuous	I <sub>D</sub>	-6	A
Power Dissipation (Surface Mounted on FR4 Board, t ≤ 10 sec.)	P <sub>D</sub>	5.3	W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55~150	°C
Maximum Junction-to-Ambient	t ≤ 10s	R <sub>θJA</sub>	40
Maximum Junction-to-Ambient	Steady-State		75
Maximum Junction-to-Lead	Steady-State	R <sub>θJL</sub>	23.5

**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	V <sub>(BR)DSS</sub>	V <sub>GS</sub> =0V I <sub>D</sub> =-250μA	-60	-71		V
Gate Threshold Voltage	V <sub>GS(th)</sub>	V <sub>DS</sub> =V <sub>GS</sub> I <sub>D</sub> =-250μA	-1	-2.1	-3	V
Static Drain-Source On-Resistance	R <sub>DS(on)</sub>	V <sub>GS</sub> =-10V I <sub>D</sub> =-2A		61	80	mΩ
		V <sub>GS</sub> =-4.5V I <sub>D</sub> =-1A		77	120	mΩ
Zero Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> =-60V V <sub>GS</sub> =0V			-1.0	μA
Gate-Body Leakage.	I <sub>GSS</sub>	V <sub>GS</sub> =-20V			-100	nA
		V <sub>GS</sub> =20V			100	nA
Drain-Source Diode Forward Voltage	V <sub>SD</sub>	V <sub>GS</sub> =0V I <sub>S</sub> =-1A T <sub>J</sub> =25°C			-1.2	V
Input Capacitance	C <sub>iss</sub>	V <sub>DS</sub> =-25V V <sub>GS</sub> =0V f=1.0MHz		1600		pF
Output Capacitance	C <sub>oss</sub>			400		
Reverse Transfer Capacitance	C <sub>rss</sub>			300		
Total Gate Charge	Q <sub>g(10V)</sub>	V <sub>DS</sub> =-30V V <sub>GS</sub> =-10.0V I <sub>D</sub> =-4A		18		nC
Total Gate Charge	Q <sub>g(4.5V)</sub>			9.1		
Gate-to-Source Charge	Q <sub>gs</sub>			2.7		
Gate-to-Drain Charge	Q <sub>gd</sub>			3.1		
Turn-On Delay Time	t <sub>d(on)</sub>	V <sub>DD</sub> =-30V V <sub>GS</sub> =-10V R <sub>L</sub> =7.5Ω R <sub>G</sub> =3Ω		8.5		ns
Turn-On Rise Time	t <sub>r</sub>			4.0		
Turn-Off Delay Time	t <sub>d(off)</sub>			32		
Turn-Off Fall Time	t <sub>f</sub>			8.0		

电参数曲线图 / Electrical Characteristic Curve

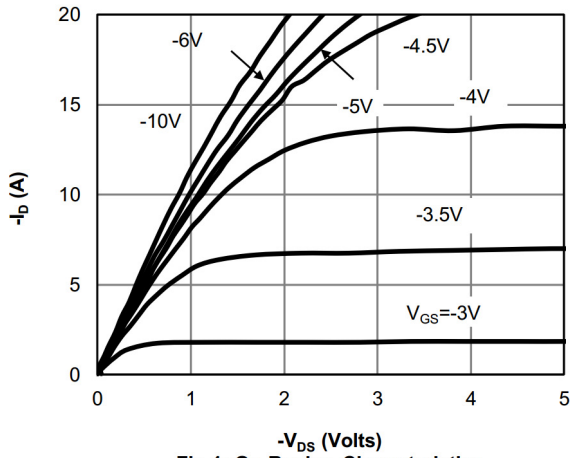


Fig 1: On-Region Characteristics

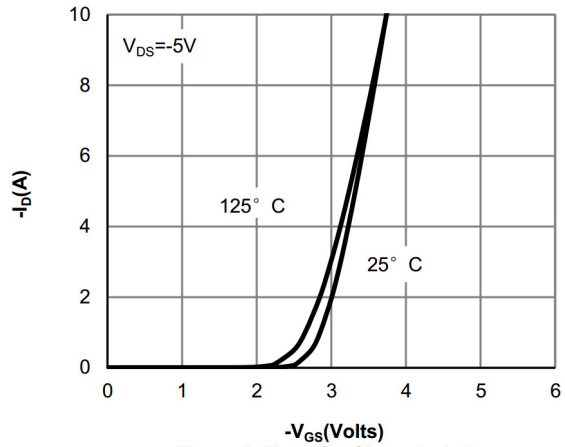


Figure 2: Transfer Characteristics

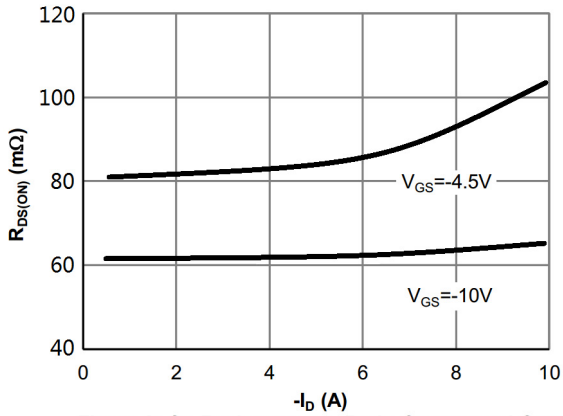


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

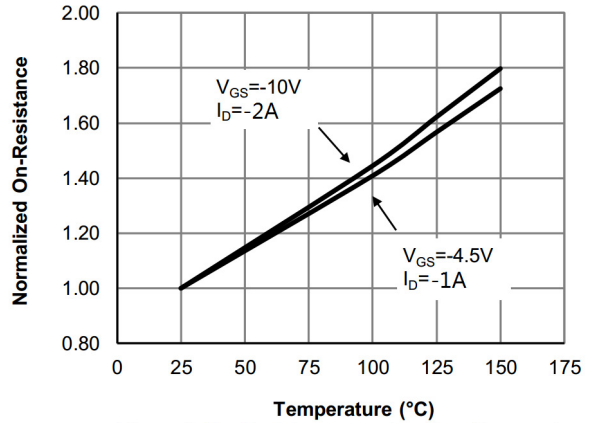


Figure 4: On-Resistance vs. Junction Temperature

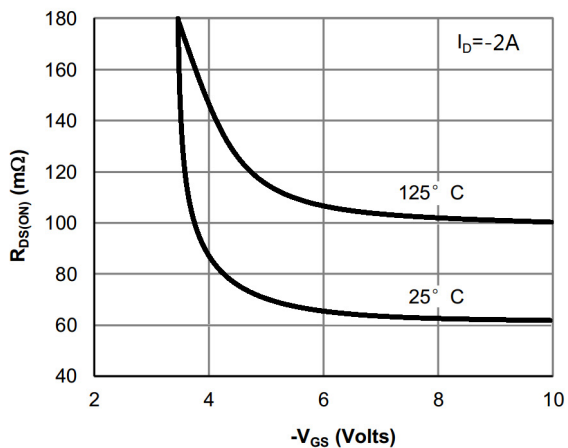


Figure 5: On-Resistance vs. Gate-Source Voltage

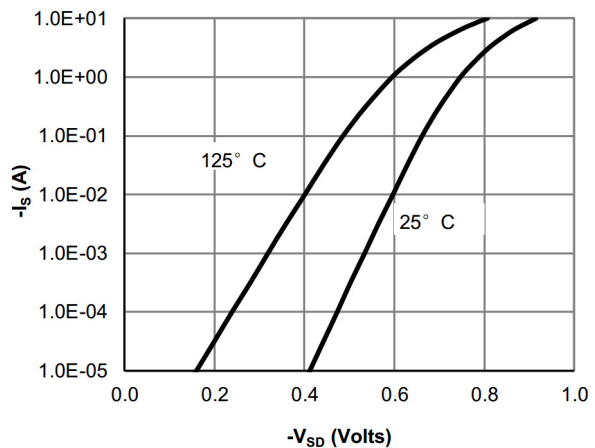


Figure 6: Body-Diode Characteristics

**电参数曲线图 / Electrical Characteristic Curve**

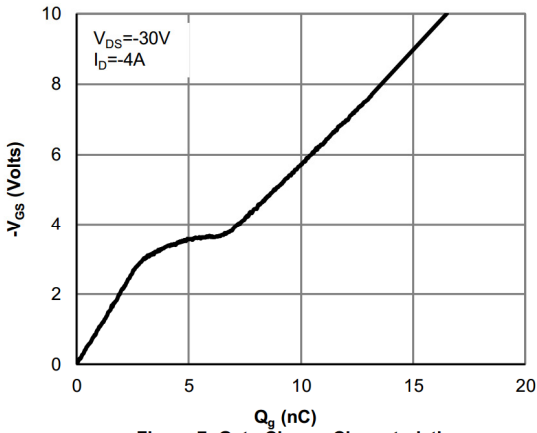


Figure 7: Gate-Charge Characteristics

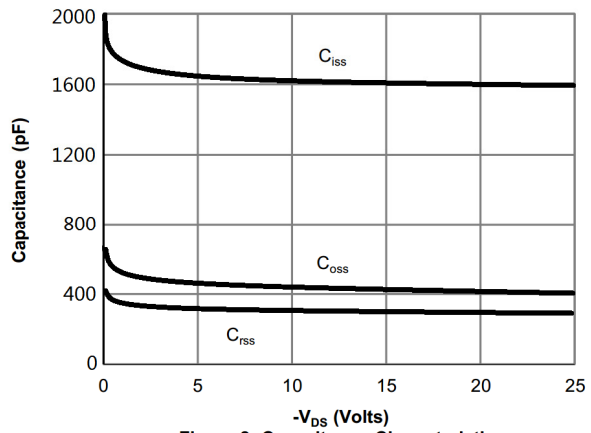


Figure 8: Capacitance Characteristics

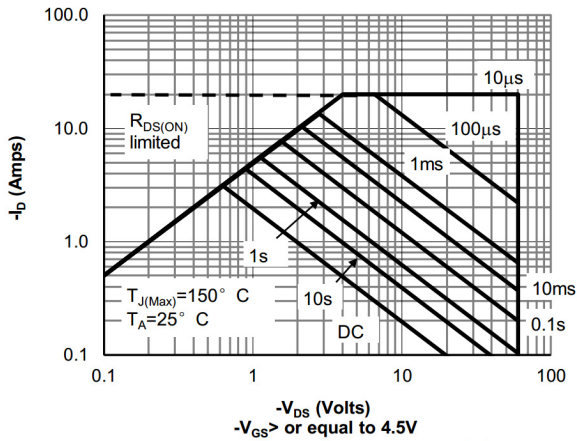


Figure 9: Maximum Forward Biased Safe Operating Area

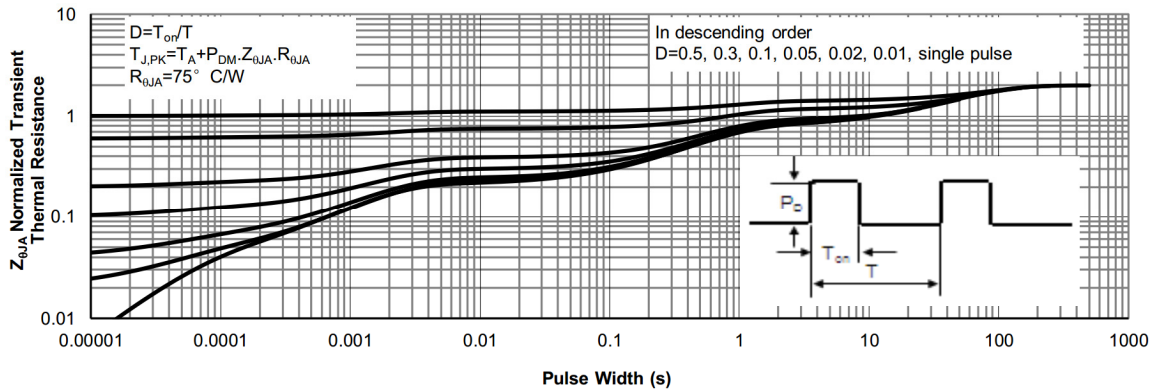
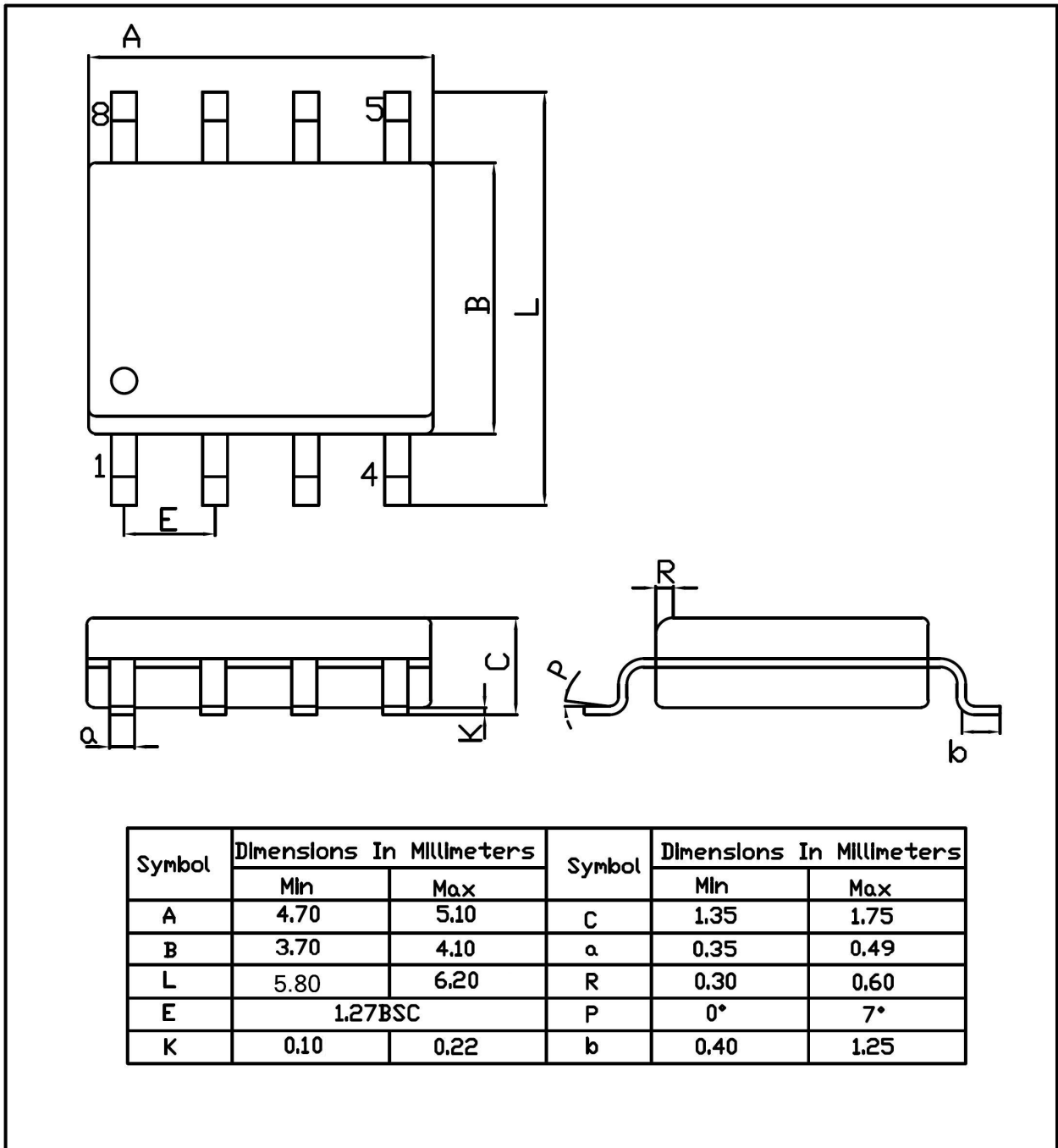


Figure 10: Normalized Maximum Transient Thermal Impedance

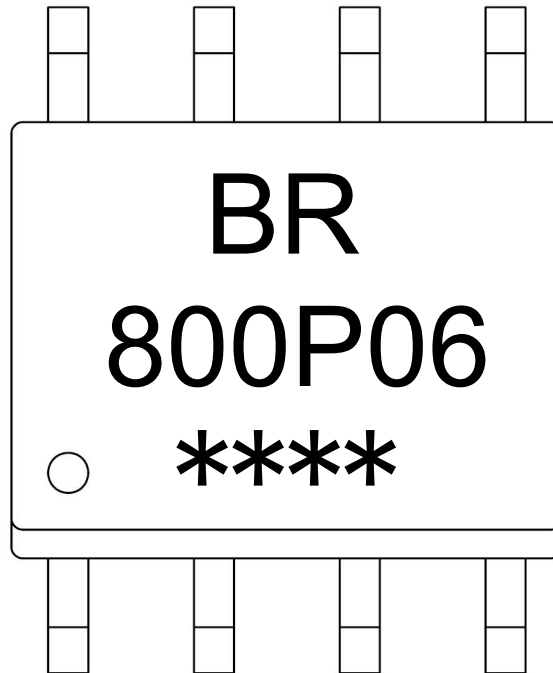
外形尺寸图 / Package Dimensions

SOP-8

Unit:mm



印章说明 / Marking Instructions



说明：

BR： 为公司代码

800P06： 为型号代码

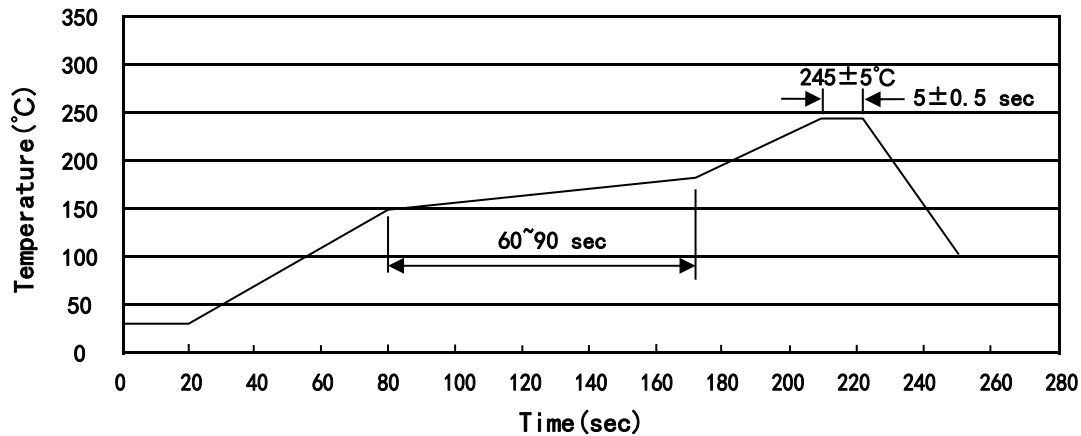
\*\*\*\*： 为生产批号代码，随生产批号变化

Note:

BR: Company Code

800P06: Product Type

\*\*\*\*: 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 <sup>3</sup> )		
	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
SOP/ESOP-8	4,000	2	8,000	6	48,000	13" × 12	360×360×50	380×335×366

**使用说明 / Notices**