

**小型功率继电器**  
**Miniature Power Relay**
**SRB****特点 Features**

- 小型 ( 20.5x7x15.1mm ) , 适用于高密度电路板。  
Small size (20.5x7x15.1 mm) for high density PCB mounting.
- 5A 触点切换能力。  
5A contact switching capability.
- 高耐压: 4000V ( 线圈触点间 )。  
High breakdown voltage : 4000V (between coil and contact)
- 可提供满足 IEC60335-1 的产品。  
IEC60335-1 compliant product is available.
- 可提供满足 IEC60079-15 的产品。  
IEC60079-15 compliant product is available.

**安规认证 Safety Approval**

UL , cUL 认证号 (File No) : E190598

TUV 认证号 (File No) : R50138320

VDE 认证号 (File No) : 40033402

CQC 认证号 (File No) : CQC07001019820、CQC11002064517、CQC21002306490

**触点参数 Contact Data**

|                                            |                        |
|--------------------------------------------|------------------------|
| 型号<br>Type                                 | SRB                    |
| 额定负载 ( 阻性 )<br>Rated load (Resistive load) | 5A 277VAC<br>3A 277VAC |
| 最大切换电流<br>Max. switching current           | 5A                     |
| 最大切换电压<br>Max. switching voltage           | 277VAC                 |
| 最大切换功率<br>Max. switching power             | 1385VA                 |
| 最小切换负载<br>Min. switching load              | 6V 1A                  |

**性能参数 Characteristic**

|                                                        |                            |
|--------------------------------------------------------|----------------------------|
| 触点材料<br>Contact material                               | 银合金 Silver alloy           |
| 接触电阻<br>Contact resistance                             | 100mΩ Max.(at 1A 6VDC)     |
| 吸合时间 (额定电压)<br>Operate time<br>(at rated coil voltage) | 10ms Max. (不加二极管 no diode) |
| 释放时间<br>Release time                                   | 5ms Max. (不加二极管 no diode)  |
| 绝缘电阻<br>Insulation resistance                          | 1,000MΩ Min. (DC500V)      |

|                             |                                                                                                                         |                                                                  |
|-----------------------------|-------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|
| 介质耐压<br>Dielectric strength | 触点与触点间 Between open contacts : 750VAC, 50/60Hz for 1min.                                                                |                                                                  |
|                             | 触点与线圈间 Between coil and contact : 4,000VAC, 50/60Hz for 1min.                                                           |                                                                  |
| 抗振动<br>Vibration resistance | 误动作<br>Functional                                                                                                       | 10 ~ 55Hz, 双振幅 1.5 mm<br>10 ~ 55Hz at double amplitude of 1.5 mm |
|                             | 耐久<br>Destructive                                                                                                       | 10 ~ 55Hz, 双振幅 1.5 mm<br>10 ~ 55Hz at double amplitude of 1.5 mm |
| 抗冲击<br>Shock resistance     | 误动作<br>Functional                                                                                                       | 10G Min.                                                         |
|                             | 耐久<br>Destructive                                                                                                       | 100G Min.                                                        |
| 寿命<br>Endurance             | 机械寿命(每小时 10,800 次, 室温)<br>Mechanical endurance (at 10,800ops./h)                                                        | 10,000,000 次<br>10,000,000(at room temperature)                  |
|                             | 电气寿命(每小时 360 次, 室温)<br>Electrical endurance (at 360ops./h)                                                              | 100,000 次<br>100,000(at room temperature)                        |
| 环境温度<br>Ambient temperature | -40°C ~ +85°C ( 不冷凝 No condensation )<br>若需要 105°C 产品, 请联系三友<br>For ambient temperature is 105°C, please contact Sanyou |                                                                  |
| 重量<br>Weight                | 约 3.9g<br>Approx. 3.9g                                                                                                  |                                                                  |

## 线圈参数 Coil Data (at 20°C)

| 额定电压<br>( VDC )<br>Nominal<br>voltage<br>(VDC) | 额定电流<br>±10%(mA)<br>Nominal<br>operating<br>current ±<br>10%(mA) | 线圈电阻<br>±10% (Ω)<br>Coil<br>resistance<br>±10%(Ω) | 最大连续外加电压<br>Max. allowable<br>voltage       | 吸合电压<br>(Max.)<br>Operate voltage<br>(Max.) | 释放电压<br>(Min.)<br>Release voltage<br>(Min.) | 额定功率<br>Nominal<br>operating<br>power |
|------------------------------------------------|------------------------------------------------------------------|---------------------------------------------------|---------------------------------------------|---------------------------------------------|---------------------------------------------|---------------------------------------|
| 5                                              | 40.00                                                            | 125                                               | 额定电压的<br>130%<br>130% of nominal<br>voltage | 额定电压的<br>75%<br>75% of nominal<br>voltage   | 额定电压的<br>5%<br>5% of nominal<br>voltage     | 0.2W                                  |
| 6                                              | 33.33                                                            | 180                                               |                                             |                                             |                                             |                                       |
| 9                                              | 22.22                                                            | 405                                               |                                             |                                             |                                             |                                       |
| 12                                             | 16.67                                                            | 720                                               |                                             |                                             |                                             |                                       |
| 18                                             | 11.11                                                            | 1,620                                             |                                             |                                             |                                             |                                       |
| 24                                             | 8.33                                                             | 2,880                                             |                                             |                                             |                                             |                                       |
| 5                                              | 72.00                                                            | 69                                                |                                             |                                             |                                             | 0.36W                                 |
| 6                                              | 60.00                                                            | 100                                               |                                             |                                             |                                             |                                       |
| 9                                              | 40.00                                                            | 225                                               |                                             |                                             |                                             |                                       |
| 12                                             | 30.00                                                            | 400                                               |                                             |                                             |                                             |                                       |
| 18                                             | 20.00                                                            | 900                                               |                                             |                                             |                                             |                                       |
| 24                                             | 15.00                                                            | 1600                                              |                                             |                                             |                                             |                                       |

上述值为初始值；请勿在产品上连续施加最大电压 > 10min，以免线圈过度发热。

The data shown above are initial values. Do not apply maximum allowable voltage on coil for more than 10 minutes to avoid overheating of the coil.

## 安规认证负载（注：更多详细的认证负载，参考安规证书）

Safety Certificate Ratings (Note: More details of approved ratings, please refer to the safety certificates)

| 认证类型<br>Certificates     | CQC                                                | TUV                    | VDE                    | UL/cUL                                                                                                                                                                                                         |
|--------------------------|----------------------------------------------------|------------------------|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 认证号码<br>File No.         | CQC07001019820<br>CQC11002064517<br>CQC21002306490 | R50138320              | 40033402               | E190598                                                                                                                                                                                                        |
| 认证负载<br>Approved Ratings | 5A 277VAC<br>3A 277VAC                             | 5A 277VAC<br>3A 277VAC | 5A 277VAC<br>3A 277VAC | 5A 277VAC , Resistive<br>3A 277VAC , Resistive<br>3A 30VDC , Resistive<br>5A 250VAC , Resistive<br>3A 250VAC , Resistive<br>5A 250VAC , General Use<br>3A 250VAC , General Use<br>1/8HP 240VAC<br>TV-3, 120VAC |

- (1) 上述未注明温度的负载，均指环境温度为室温。  
All values unspecified are at room temperature.
- (2) 以上仅列出了该产品认证的部分负载，每个负载的详细测试条件不同，因此电寿命次数不一样。如需了解详细情况，请联系三友。  
Only typical ratings are listed above and the endurance differ in each load. Other specific load information are available upon request.
- (3) 对于塑封式、防水式产品试验时，应打开外壳的透气孔。  
For sealed type testing, please open the ventilation hole in the case before test.

## 订货标记 Ordering Information

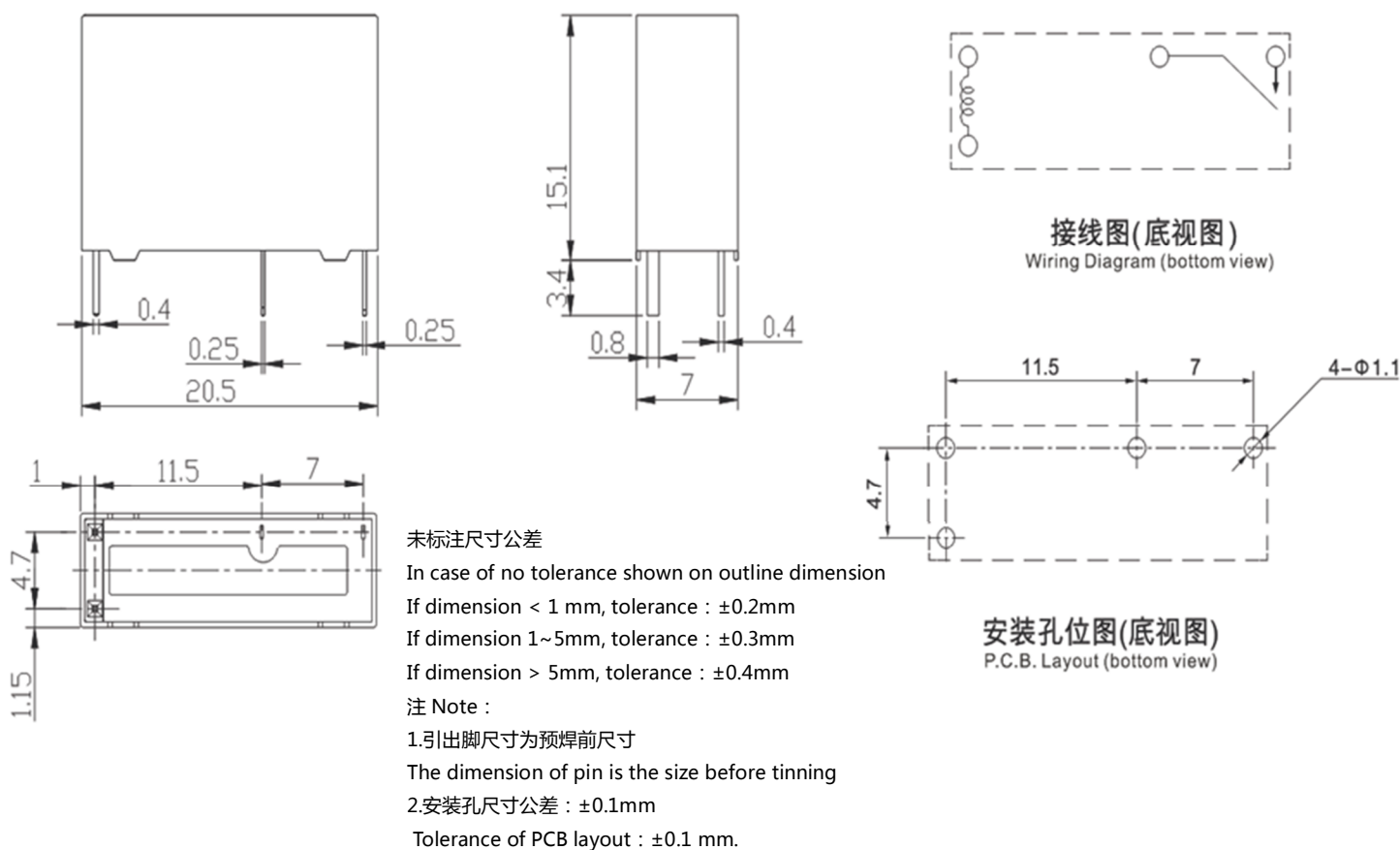
## 型号命名规则 Nomenclature

|     |    |    |    |   |   |   |    |     |                                                                                                                                |
|-----|----|----|----|---|---|---|----|-----|--------------------------------------------------------------------------------------------------------------------------------|
| SRB | -S | -1 | 12 | D | M | 2 | -F | -XX |                                                                                                                                |
|     |    |    |    |   |   |   |    |     | 特殊参数 Special Parameter : 无-标准型, 10-3A 产品, 字母或数字-特殊要求<br>Nil-Standard type, 10-3A product, Letter or number-Special requirement |
|     |    |    |    |   |   |   |    |     | 绝缘等级 Insulation System : 无 - 普通型 (Nil – Standard) ,<br>B - Class B , F - Class F                                               |
|     |    |    |    |   |   |   |    |     | 触点材质 Contact Material : 2 – AgNi , 3 – AgSnO <sub>2</sub>                                                                      |
|     |    |    |    |   |   |   |    |     | 触点形式 Contact Arrangement : M-Form A                                                                                            |
|     |    |    |    |   |   |   |    |     | 线圈功耗 Coil Power : D-0.20W , H-0.36W                                                                                            |
|     |    |    |    |   |   |   |    |     | 线圈电压 Rated Coil Voltage (VDC) : 05 , 06 , 09 , 12 , 18 , 24                                                                    |
|     |    |    |    |   |   |   |    |     | 触点组数 Number of Poles : 1-1 Pole                                                                                                |
|     |    |    |    |   |   |   |    |     | 封装形式 Protective Construction : S-塑封式 Flux proofed ,<br>SH-防水式 Sealed type washable                                             |
|     |    |    |    |   |   |   |    |     | 基本型号 Type : SRB                                                                                                                |

- (1) 塑封式不能在污染环境 (含有  $H_2S$ 、 $SO_2$ 、 $NO_2$ 、粉尘等污染物) 中使用。  
Flux-proof relays can not be used in the environment with pollutants like  $H_2S$ ,  $SO_2$ ,  $NO_2$ , dust, etc.
- (2) 塑封式装入 PCB 焊接后, 不能进行整体清洗或表面处理。  
Water cleaning or surface process is not suggested after the flux-proof relays are assembled on PCB.
- (3) 客户特殊要求 (XX), 由我司评估后, 按特性符号标识。  
Customized special suffix is available after being evaluated by Sanyou.

### 外形尺寸图、接线图、安装孔位图 (单位 : mm)

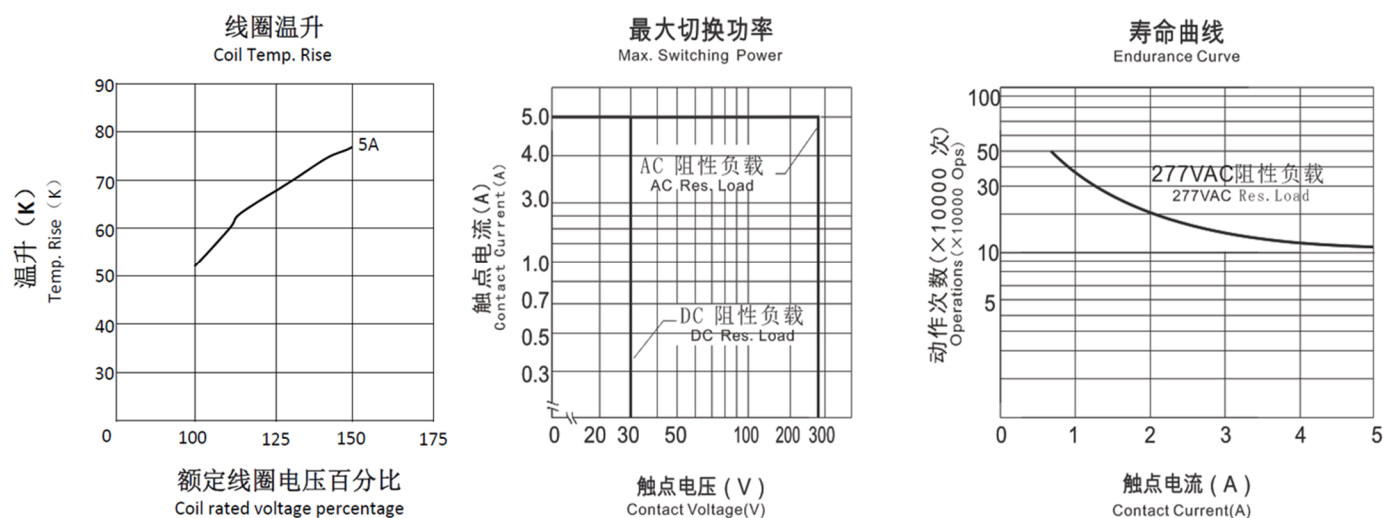
### Outline dimension, wiring diagram, PCB layout (Unit: mm)



### 典型用途 Typical Applications

- 通讯 Telecommunication equipment
- 安全设备 Safety equipment
- 办公室设备等 office equipment
- 家用电器等, 如空调, 微波炉 Home appliances such as air conditioner, microwave oven

## 性能曲线图 Characteristic Curves



声明：本产品规格书仅供客户使用时参考，若有更改，恕不另行通知。

对三友而言，不可能评定继电器在每个具体应用领域的所有性能参数要求，因而客户应该根据具体的使用条件选择与之相匹配的产品。对于密封继电器在安装清洗后，使用前请打开外壳上的透气孔。若有疑问，请与三友联系获取更多的技术支持。但产品选型责任仅由客户负责。

Disclaimer : The specification is for reference only. Specifications are subject to change without prior notice.

We could not evaluate all the performance and all the parameters for every possible application. Thus the user should in a right position to choose the suitable product for their own application. For sealed relays after installation and cleaning, please open the vent hole on the case before use. If there is any query, please contact Sanyou for the technical service. However it is the user's responsibility to determine which product should be used.