

|                |                 |
|----------------|-----------------|
| <b>PCB 继电器</b> | <b>HJR-21FF</b> |
|----------------|-----------------|

- 12A switching capability
- SPST-NO configuration
- Small footprint
- Sealed version available
- Class B/F available
- Conform to RoHS,ELV directive



**ORDERING CODE 订购代码**

|   |                 |                                     |  |  |  |  |
|---|-----------------|-------------------------------------|--|--|--|--|
| <b>HJR-21FF</b> — <u>S</u> — <u>H</u> * ( <u>TBF-1</u> ) / <u>12VDC</u> / <u>xx</u> |                 |                                     |  |  |  |  |
| 1   | 2               | 3                                   | 4  | 5  | 6  | 7  |
| 1. Relay Model 继电器型号  | 2. S: Sealed 密封 | 3. 触点转换形式<br>H: Form A<br>Z: Form C | 4. 环境温度<br>F: TUV 105°C<br>Nil: TUV 85°C | 5. Insulated Level 绝缘等级<br>TBF-1: Class F 级<br>Nil: Standard Type 标准 | 6. Coil Nominal Voltage 线圈额定电压<br>3,5,6,9,12,18,24,48VDC | 7. 特殊代号<br>IT: GWIT 灼热丝 750°C(at ≤2 s)<br>Ex: 防爆<br>Nil: Standard Type标准 |

**COIL DATA 线圈参数 (at 20°C)**

|                                 |                               |      |     |      |      |      |      |       |
|---------------------------------|-------------------------------|------|-----|------|------|------|------|-------|
| Nominal Voltage 额定电压(VDC)       | 3                             | 5    | 6   | 9    | 12   | 24   | 48   | 0.36W |
| Coil Resistance 线圈阻值(Ω ±10%)    | 25                            | 69   | 100 | 225  | 400  | 1600 | 6400 |       |
| Rated Current 额定电流(mA)          | 120                           | 71.4 | 60  | 40   | 30   | 15   | 7.5  |       |
| Max Operate Voltage 最大吸合电压(VDC) | 2.25                          | 3.75 | 4.5 | 6.75 | 9    | 18   | 36   |       |
| Min Release Voltage 最小释放电压(VDC) | 0.15                          | 0.25 | 0.3 | 0.45 | 0.6  | 1.2  | 2.4  |       |
| Coil Resistance 线圈阻值(Ω ±10%)    | 20                            | 56   | 80  | 180  | 320  | 1280 | 5120 | 0.45W |
| Rated Current 额定电流(mA)          | 150                           | 90   | 75  | 50   | 37.5 | 18.7 | 9    |       |
| Max Operate Voltage 最大吸合电压(VDC) | 2.25                          | 3.75 | 4.5 | 6.75 | 9    | 18   | 36   |       |
| Min Release Voltage 最小释放电压(VDC) | 0.15                          | 0.25 | 0.3 | 0.45 | 0.6  | 1.2  | 2.4  |       |
| Max Applicable Voltage 最大过载电压   | 70°C时额定电压的130%，23°C时额定电压的170% |      |     |      |      |      |      |       |

**CONTACT DATA 触点参数**

|                              |  |   |
|------------------------------|--|---|
| Contact Form 触点形式            | 1H/1Z  |   |
| Contact Material 触点材料        | Silver Alloy   |   |
| Load 负载                      | Resistive load(COS Φ=1)  |   |
| Contact Ratings 触点负载         | 1H: 12A 240VAC<br>15A 125VAC(TUV)<br>15A 120VAC, TV-5A@120VAC  | 1Z: 10A 240VAC<br>12A 120VAC, TV-5A@120VAC<br>15A 125VAC(TVU) |
| Minimum load 最小负载            | 10mA 5VDC  |   |
| Max Switching Voltage 最大转换电压 | 250VAC/30VDC   |   |
| Max Switching Current 最大转换电流 | 15A  |   |
| Max Switching Power 最大转换功率   | 2770VA/240W  |   |
| Contact Resistance 接触电阻      | 100m Ω Max at 6VDC 1A  |   |
| Life Expectancy 寿命           | Electrical 电气寿命: 100,000 Operations(at30Operations/minute)     |   |
|                              | Mechanical 机械寿命: 10,000,000 Operations(at300Operations/minute) |   |

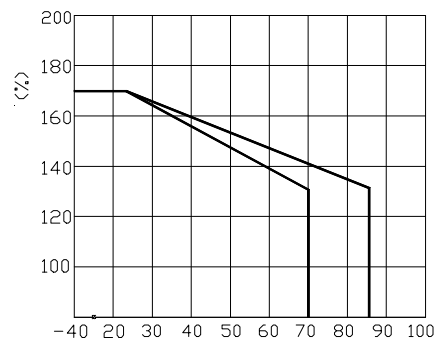
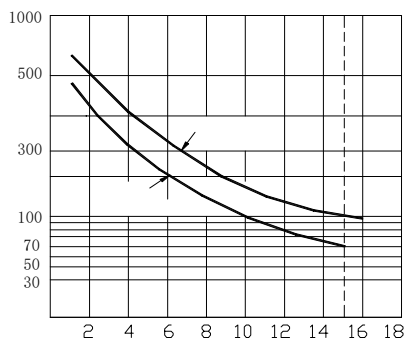
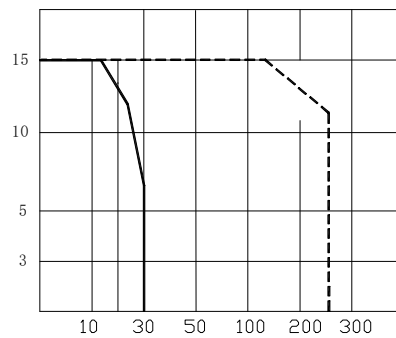
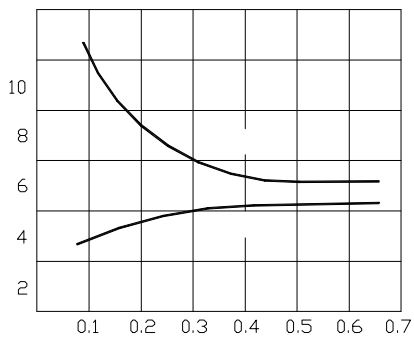
### ■ CHARACTERISTICS DATA 性能参数

|   |   |
|---|---|
| Insulation Resistance 绝缘阻值                      | 100M $\Omega$ Min at 500VDC   |
| Dielectric Strength Between Open Contacts 触点间耐压 | 750VAC( for one minute)   |
| Between Contacts and coil 触点与线圈间耐压              | 1500VAC(for one minute)   |
| Operate Time 吸合时间                               | 10ms  |
| Release Time 释放时间                               | 5ms   |
| Temperature Range 环境温度                          | -40 $^{\circ}$ C to +70 $^{\circ}$ C, (F: UL 85 $^{\circ}$ C, TUV 105 $^{\circ}$ C) |
| Shock Resistance 冲击                             | Operating Extremes 动作极限: 10G  |
|   | Damage Limits 破坏极限: 100G  |
| Vibration Resistance 振动                         | 10-55Hz, 1.5mm  |
| Max. switching frequency 最大转换频率                 | Mechanical: 18,000 operations/hr  |
|   | Electrical: 1,800 operations/hr   |
| Humidity 湿度                                     | 40-85%  |
| Weight 重量                                       | Approx 13g  |
| Safety Standard 安全标准                            | UL cUL TÜV CQC  |

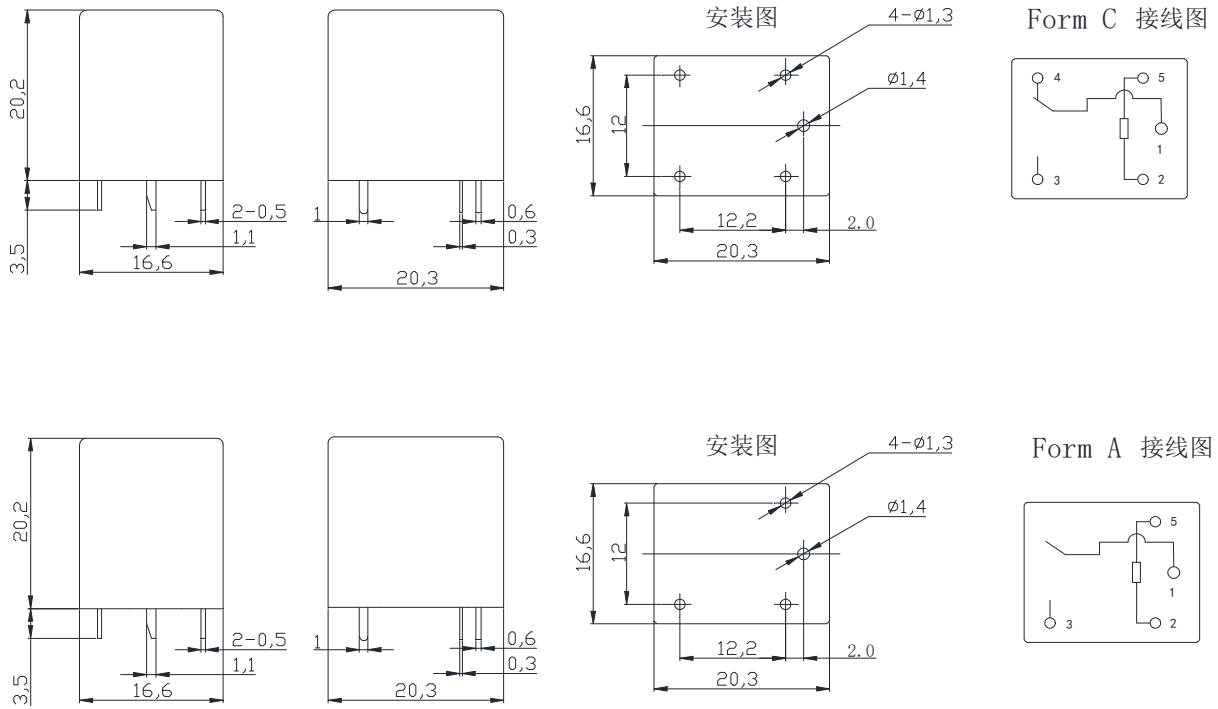
### ■ APPROVED STANDARDS 安全标准

| Model(型号) | Coiling rating (线圈电压)        | Safety Standard (安全标准) | Contact rating (触点负载)                       |
|-----------|------------------------------|------------------------|---|
| HJR-21FF  | 3 to 48VDC                   | UL/cUL                 | H: 15A 120VAC 12A 240VAC<br>TV-5A@ 120VAC   |
|           |                              |                        | Z,D: 12A 120VAC 10A 240VAC<br>TV-5A@ 120VAC |
|           |                              | TÜV                    | H: 15A 125VAC<br>12A 240VAC                 |
|           |                              |                        | Z: 15A 125VAC<br>10A 240VAC                 |
| CQC       | 10A: 240VAC<br>H: 12A 240VAC |                        |   |

### ■ ENGINEERING DATA 设计参数



## ■ OVERALL AND MOUNTING DIMENSIONS 安装图



备注：1) 产品部分外形尺寸中未注尺寸公差：当外形尺寸 $\leq 1\text{mm}$ 时，公差为 $\pm 0.2\text{mm}$ ；当外形尺寸在 $1\sim 5\text{mm}$ 时，公差为 $\pm 0.3\text{mm}$ ；  
当外形尺寸 $> 5\text{mm}$ 时，公差为 $\pm 0.4\text{mm}$ 。

2) 安装孔尺寸中未注尺寸公差均为 $\pm 0.1\text{mm}$ 。

### 声明：

本产品规格书仅供客户使用时参考，如有更改，恕不另行通知。