

**特性 Features**

- TTL 驱动兼容 TTL Compatible drive
- TRIAC 输出 TRIAC Output
- 负载电流 Load current : 2A @ 24-280VAC
- 输入为直流驱动 Input is DC Drive
- 驱动电压 Driving voltage: 5VDC, 12VDC, 24VDC
- 驱动电流 Driving current: 10mA
- 介质耐压 Dielectric strength :2500Vrms
- 电路板安装方式 PCB Mounted
- 输出有交流过零型和交流随机型两种触发形式 There are two triggering forms for output: AC zero-cross type and AC random type

**典型应用 Application**

- 适用于电磁阀、电机等的控制 Suitable for control of solenoid valves, motors, etc

**输入参数 Input Specifications (Ta=25°C)**

|  |            |              |
|--|------------|--------------|
| 驱动电压/电流范围<br>Drive Voltage/Current Range   | 5          | 4-6VDC       |
|  | 12         | 9.6-14.4VDC  |
|  | 24         | 19.2-28.8VDC |
|  | I          | 10~25mA      |
| 确保导通电压/电流<br>Must Turn-on Voltage/Current  | 5          | 4VDC         |
|  | 12         | 9.6VDC       |
|  | 24         | 19.2VDC      |
|  | I          | 10mA         |
| 确保关断电压/电流<br>Must Turn-off Voltage/Current | -5/-12/-24 | 1VDC         |
|  | I          | 1mA          |
| 最大控制电流 Max. Input Current                  |            | 25mA         |

**其他参数 General Specifications (Ta=25°C)**

|  |              |
|--|--------------|
| 介质耐压 (输入/输出, 50Hz/60Hz)<br>I/O Dielectric Strength (50Hz/60Hz) | 2500Vrms     |
| 绝缘电阻(@500VDC)<br>Min. Insulation Resistance @500VDC            | 1000MΩ       |
| 工作温度范围<br>Ambient Temperature Range(Operating)                 | -30°C~+80°C  |
| 储存温度范围<br>Ambient Temperature Range(Storage)                   | -30°C~+100°C |
| 重量(典型值) Weight (Typical)                                       | 6g           |

**输出参数 Output Specifications (Ta=25°C)**

|   |  |
|---|--|
| 负载电压范围 Load Voltage Range   | 24-280VAC  |
| 最大瞬态电压 Max. Peak Voltage  | 600Vpk   |
| 最大断态漏电流(@额定负载电压下)<br>Max. Off-state Leakage Current @<br>Rated Load Voltage | 1.5mA  |
| 最小断态电压指数上升率(dv/dt) Min.<br>Off-State dv/dt @ Max. Rated Voltage             | 200V/μs  |
| 负载电流范围 Load Current Range   | 0.1-2A   |
| 最大浪涌电流(@10ms)<br>Max. 1 Cycle Surge Current @10ms                           | 35A <sub>pk</sub>                                      |
| 最大I <sup>2</sup> t值(@10ms)<br>Max. I <sup>2</sup> t for Fusing @10ms        | 6.1A <sup>2</sup> s                                    |
| 最大导通压降(@额定负载电流下)<br>Max. On-state Voltage Drop @ Rated<br>Load Current      | 1.5Vrms  |
| 最大导通时间 Max. Turn-on Time  | 过零型 Zero-cross:<br>1/2cycle+1ms,<br>随机型 Random-on: 1ms |
| 最大关断时间 Max. Turn-off Time   | 1/2cycle+1ms   |
| 使用频率<br>Operational Frequency Range   | 47-63Hz  |
| 最小功率因数 Min. Power Factor<br>@Max. Load                                      | 0.5  |

■ 型号命名标准 Model Number Legend

|                                |   |     |   |   |   |     |   |      |
|--------------------------------|---|-----|---|---|---|-----|---|------|
| 基本型号 Basic Type:               | KSA   | 240 | D | 2 | R | -24 | T | ,XXX |
| 负载电压 Load Voltage:             | 240: 240VAC   |     |   |   |   |     |   |      |
| 驱动方式 Drive Type:               | D: DC Drive   |     |   |   |   |     |   |      |
| 负载电流 Load Current:             | 2: 2A   |     |   |   |   |     |   |      |
| 触发形式 Trigger Type:             | 无 Blank: 过零导通 Zero-cross; R: 随机导通 Random;                         |     |   |   |   |     |   |      |
| 驱动电压/电流 Drive Voltage/Current: | 5, 12, 24VDC; I: 10mA   |     |   |   |   |     |   |      |
| 引出端子类型 Pin Layout Type:        | 无 Blank: 常规脚位 Standard; T: T型脚位 T Type Footprint                  |     |   |   |   |     |   |      |
| 特殊特性 Special Characteristic:   | Blank: 标准型 Standard; XXX: 客户特殊特性号 Customer Special Feature Number |     |   |   |   |     |   |      |

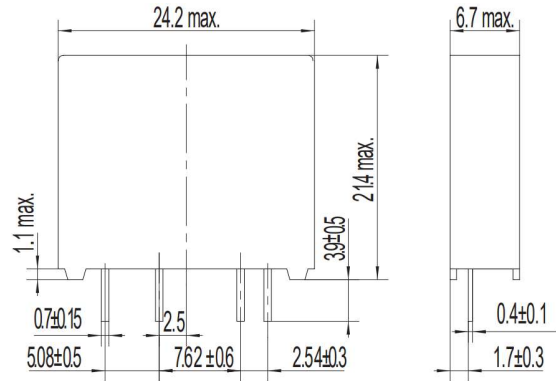
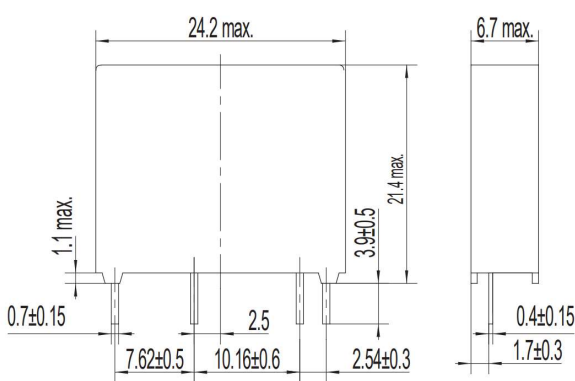
■ 具体型号列表 List of Models

| 驱动电压/电流 Drive Voltage/ Current | 型号 Model     |               |
|--------------------------------|--------------|---------------|
| 5VDC                           | KSA240D2-5   | KSA240D2-5T   |
|                                | KSA240D2R-5  | KSA240D2R-5T  |
| 12VDC                          | KSA240D2-12  | KSA240D2R-5T  |
|                                | KSA240D2R-12 | KSA240D2R-12T |
| 24VDC                          | KSA240D2-24  | KSA240D2-24T  |
|                                | KSA240D2R-24 | KSA240D2R-24T |
| I                              | KSA240D2-I   | KSA240D2R-IT  |
|                                | KSA240D2-I   | KSA240D2R-IT  |

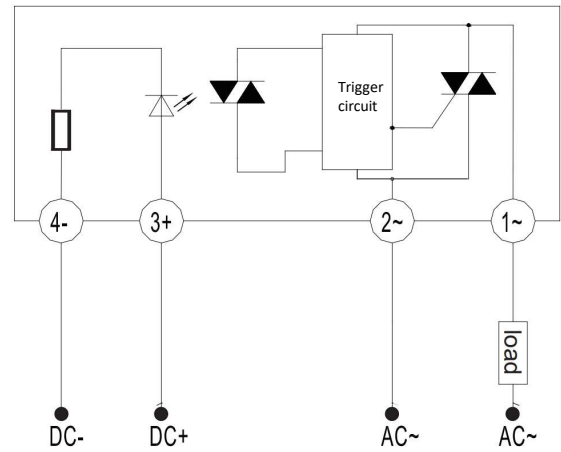
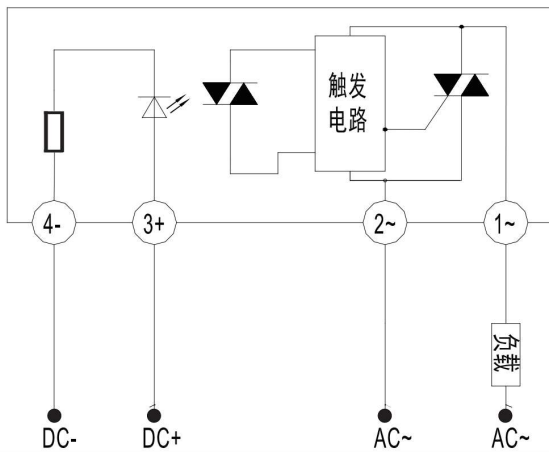
■ 外形尺寸 Outline Dimensions

◆ 普通脚位 Standard Footprint

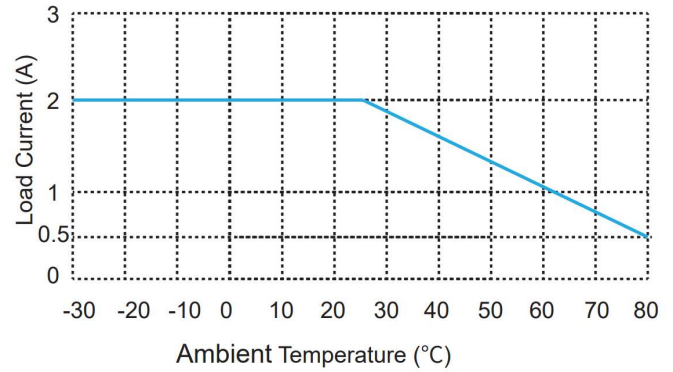
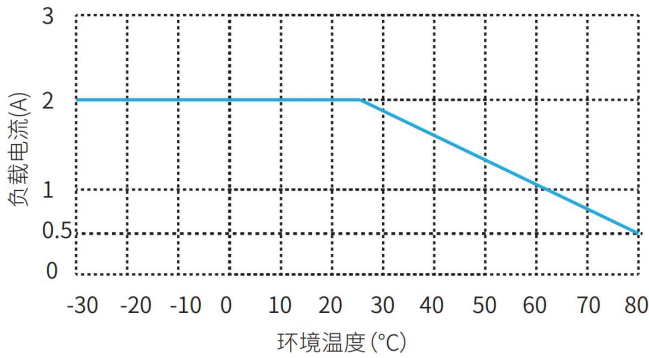
◆ T型脚位 T Type Footprint



■ 接线图 Wiring Diagram



■ 温度曲线 Thermal Derating Curve



■ 使用注意事项 Precautions for Use

1. 260°C气焊温度下，整个过程不能超过10秒，350 °C时，焊接过程不能超过5秒，否则可能导致产品损坏。 Soldering must be finished within 10 seconds at 260°C, or finished within 5 seconds at 350°C. Otherwise it may cause damage to the relay.
2. 控制端极性要保证正确，否则会损坏产品。 The polarity of control terminal must be observed. Otherwise it may cause damage to the relay.
3. 产品工作的环境温度较高时，请参照温度曲线降额使用。 When ambient temperature is above 25°C, the maximum load current decreases. See thermal derating curve.

■ 安全警告 Safety warning

1. 使用过程中产品的侧面及底板会发热，请在冷却后再触摸。 The side and bottom plate of the product will heat up during use, please touch it after cooling.
2. 安装或使用本产品前，请确保断开所有电源。 Before installing or using this product, ensure that all power supplies are disconnected.
3. 请检查所有连接是否妥当后再打开电源。 Please check that all connections are correct before turning on the power.

■ 认证标准 Approval standards

| 认证类型/certification type | 测试标准/Test criteria |
|-------------------------|--------------------|
| UL                      | UL508              |
| TUV                     | EN62314            |