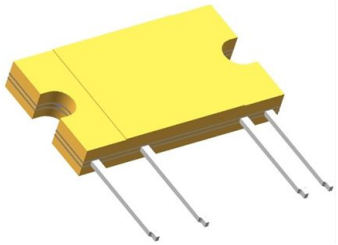
# YAS2/D2Z22——700V SSR



## 概述 Features

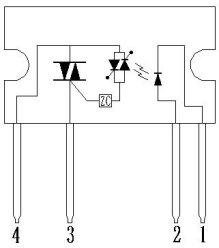
- 厚度3.0mm SSR　　Thickness 3.0mm SSR
- 过零型　　Zero-cross
- 负载电流至2A　　Load current up to 2A
- 阻断电压700V　　Peak off-state voltage 700V
- 符合RoHS　　RoHS compliant

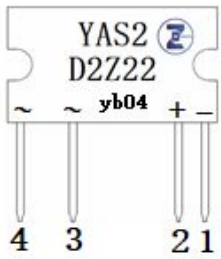
## 获得认证 Agency Approvals

- UL
- cUL
- TUV

## 应用 Applications

- 家电产品（空调、冰箱、洗衣机、微波炉等的风扇、加热、进出水开关等控制）
  Home appliances (air conditioners, microwave ovens, washing machines, personal hygiene systems, refrigerators, fan heaters, inductive heating cooker, and water heaters, etc.)
- 工业控制　Industrial equipment.




## 打印标志 Marking Information

| Part Number | Package | Marking |
|---|---|---|
| YAS2/D2Z22 | SIP4 | YAS2 D2Z22 |

## 极限值 Absolute Maximum Ratings

(Ta=25℃)

| 特性参数/Parameter | | 符号/Symbol | 测试条件/Test Condition | 最小值/Min. | 典型值/Typ. | 最大值/Max. | 单位/Unit |
|---|---|---|---|---|---|---|---|
| 输入端/Input | 反向电流/LED reverse current | $I_R$ | $V_R$=5V | | | 10 | μA |
| | 正向电流/ LED forward current | $I_F$ | | | | 50 | mA |
| 输出端/Output | 断态泄漏电流/Output off-state leakage current | $I_R$ | $V_D$=700V | | | 10 | μA |
| | 阻断电压/ Repetitive peak off-state voltage | $V_{DRM}$ | | | | 700 | V |
| | 额定电流/ On-state RMS current | I | $I_F$=10mA | | | 2 | A |
| | 浪涌电流/ Surge current | I | 50Hz, 1 cycle | | 30 | | A |

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## 电参数 Electrical Parameters

| 特性参数/Parameter | | 符号/Symbol | 测试条件/Test condition | 最小值/Min. | 典型值/Typ. | 最大值/Max. | 单位/Unit |
|---|---|---|---|---|---|---|---|
| 输入端 Input | 正向电压 /LED forward voltage | $V_F$ | $I_F$=10mA | | 1.2 | 1.3 | V |
| 输出端 Output | 额定电流 / On-state RMS current | I | $I_F$=10mA | | | 2000 | mA |
| | 负载电压/Load voltage | $V_{ac}$ | | 48 | | 264 | V |
| | 电压指数上升率/Critical rate of rise of off-state voltage | dv/dt | $V_{DRM}$=600V*1/√2 | 200 | | | V/μs |
| | 断态漏电流/Output off-state leakage current | $I_{DRM}$ | $V_D$=700V | | | 10 | μA |
| | 最小负载电流/Min. load current | I | | 100 | | | mA |
| 耦合特性 Transfer characteristics | LED 触发电流/LED trigger current * | $I_{FT}$ | | 5 | 8 | 10 | mA |
| | 推荐的工作电流/Recommend operating current | $I_{IN}$ | | 10 | | 18 | mA |
| | 关断电压/ Must release voltage | $V_{off}$ | | | | 1.2 | V |
| | 导通电压降/Output on-state voltage drop | $V_T$ | $I_F$=10mA, $I_L$=2A $V_D$=6V | | 1.2 | 1.5 | V |
| | 导通时间/Turn on time | $t_{on}$ | $I_F$=10mA, $V_D$=6V, $R_L$=100Ω | | 1+1/2 cycle | 1 | ms |
| | 过零电压/ Zero-cross voltage * | $V_{zc}$ | $I_F$=10mA, $I_L$=1200mA $V_D$=6V | | 15 | 30 | V |
| | 关断时间/Turn off time | $t_{off}$ | | | | 1+1/2cycle | ms |
| | 绝缘电阻/Insulation resistance | $R_{iso}$ | 500Vd.c | 1000 | | | MΩ |
| | 介质耐压/ I/O Dielectric strength | $V_{ISO}$ | $I_{off}$≤0.5mA | 3000 | | | $V_{rms}$ |
| | 工作温度/Operating temperature | T | | -30 | | 85 | ℃ |
| | 储存温度/Store temperature | | | -40 | | 125 | |

备注：1、介质耐压超过 3000V 建议在油里测试，在测试前请务必确认输入端和输出端已经分别短路。
2、带“*”参数为关键参数。

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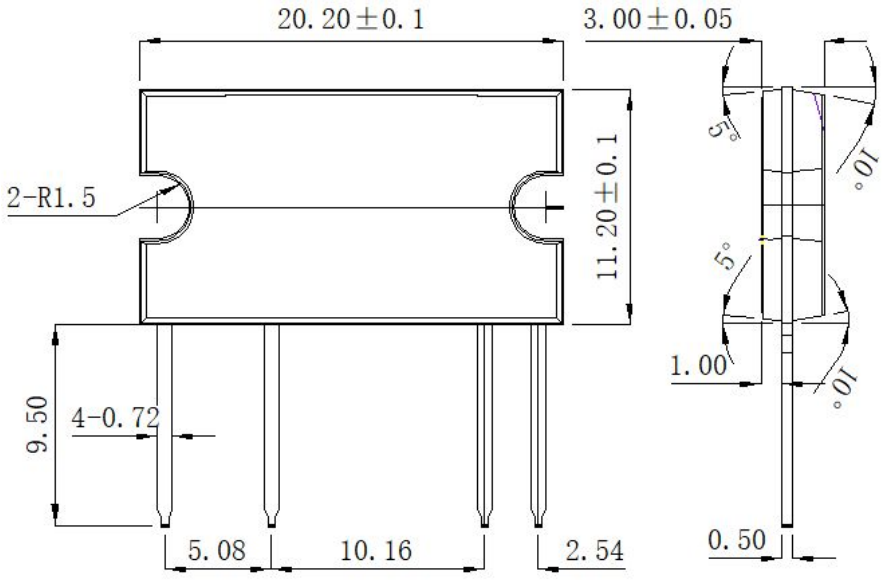
## 安规要求 Safety and Insulation Ratings：

爬电距离Creepage distance：4.3mm，CTI ≥275;
瞬时过电压 Highest allowable overvoltage 4000V;
再现峰值电压 $V_{IORM}$ 769V;
局部放电Partial discharge test voltage：方法b Method b, $V_{pd} = V_{IORM} \times 1.6$ 1230V.

## 外形尺寸 Outline dimension :mm

### 1、SIP4




## 订货信息 Ordering Information

| 订货信息/Ordering Information | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Y | AS | 2/ | D | 2 | Z | 22 |
| 公司商标代号 Company symbol | | | | | | | |
| 交流输出型 AC SSR | | | | | | | |
| 封装 Package：2：SIP4 | | | | | | | |
| 输入端电流型 Current driving：D | | | | | | | |
| 负载电流 Load current：1-1A;1.2-1.2A;2-2A | | | | | | | |
| P:调相 Non zero-cross Z:过零 Zero-cross; | | | | | | | |
| 负载电压 Load voltage：22:220Vac;38:380Vac | | | | | | | |

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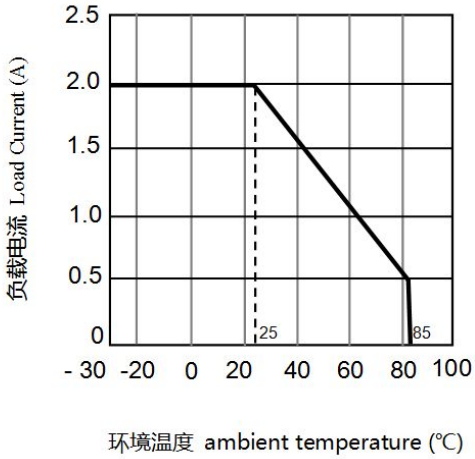
## 特性曲线 Characteristic Data

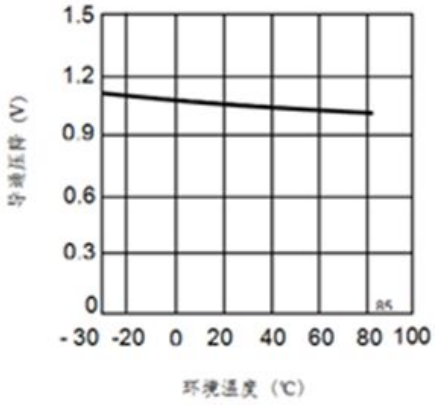
### 1.负载电流与环境温度关系曲线

Load current VS. Ambient temperature



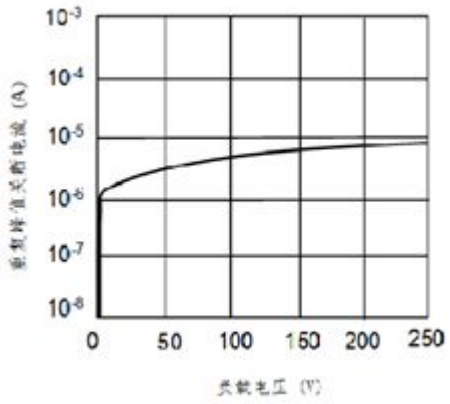

### 2.导通压降—环境温度特性

On-state voltage drop VS. Ambient temperature



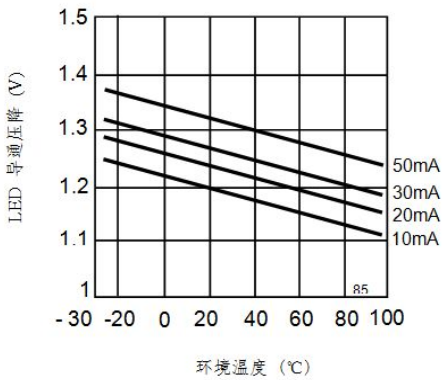

### 3.重复峰值关断电流—负载电压

Repetitive peak turn off current—Load voltage



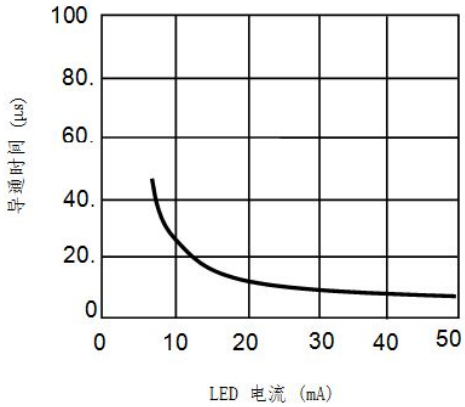

### 4.LED 导通压降—环境温度特性

LED dropout voltage vs. Ambient temperature
LED current: 10 to 50 mA




### 5.导通时间—LED 电流特性

Turn on time vs. LED current

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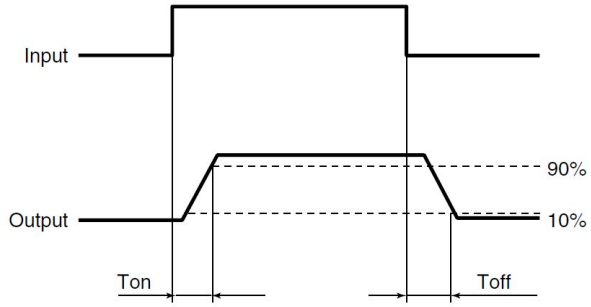
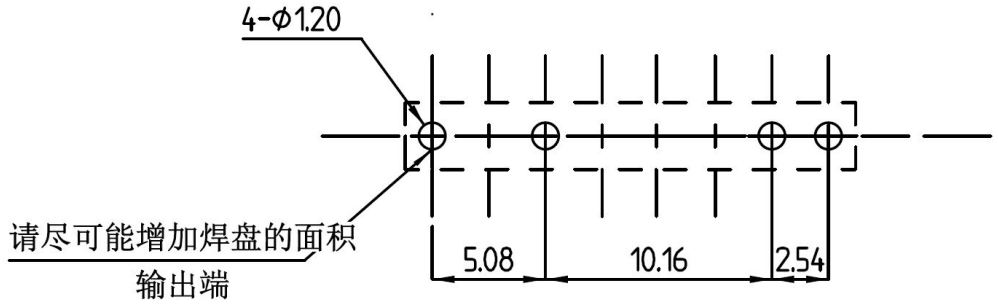
## 接通和关断时间关系 Turn on and Turn off time




## 安装孔尺寸图 Fixing layout Unit:mm

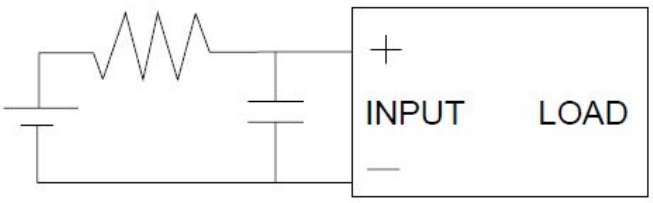



## 注意事项 Notes

a) 工作环境温度超过 25℃时请降额使用，降额曲线参考附件。
When ambient temperature is above 25℃, the load current must be reduced. （see Characteristic Data 1）

b) 继电器接线时，务必保证输入端极性的正确，以免损坏继电器。
Ensuring the polarity is correct when connecting the input lines, otherwise the wrong connection will damage the relay.

c) 由于 SSR 动作时间很短，输入端的噪声可能会引起 SSR 误动作，所以在输入端环境噪声较大时，应在输入端接 R/C 回路吸收噪声。
Since the operate time of the relay is extremely short, any noise to input terminal will cause malfunction of the SSR, So a RC circuit should be connected to input terminal to absorb the noise in the noisy condition.




d) 推荐的使用电路，输出端的尖峰电压可能会引起 SSR 误动作，所以请在输出端应加 R/C 回路或压敏电子吸收尖峰电压，具体见下图：

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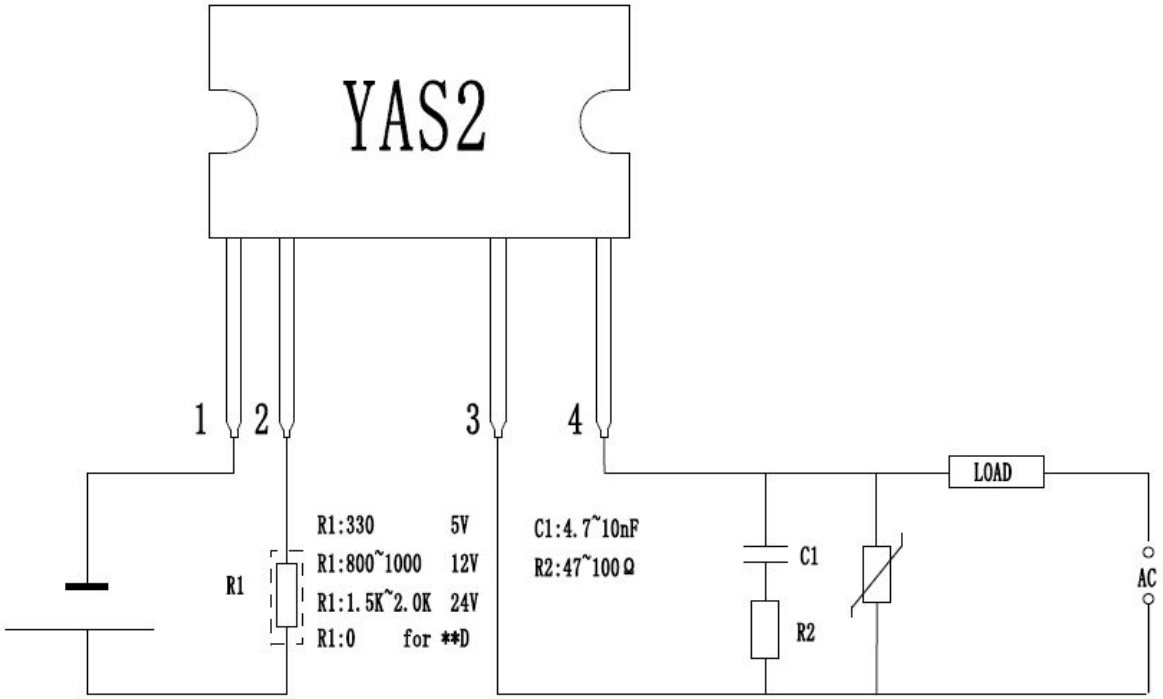
Below shows a recommend circuit: Please add a RC circuit or varistor on the load side, as noise/surge could damage the unit or cause malfunctions.




## 关于防静电对策 Cautions for Static Electricity

a. 使用电烙铁时，对电烙铁前端进行接地。(建议使用低电压用的电烙铁。) When using soldering irons, either use irons with low leakage current, or ground the tip of the soldering iron. (Use of low-voltage soldering irons is also recommended.)
b. 组装时使用的设备等也应正确地接地。Devices and equipment used in assembly should also be grounded.

## 关于焊接 Soldering

继电器焊接，260 度情况下焊接时间不能超过 10 秒钟，350 度情况下焊接时间不能超过 5 秒钟。
Soldering must be completed within 10 seconds at 260℃ or within 5 seconds at 350℃.

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