

STEIPU

惠州市群创电子有限公司

HuiZhou QunChuang Electronics Co.,Ltd.

产品规格承认书

Product specification acknowledgement

文件编号 File No.:

顾客 Customer:

顾客产品名称 Customer Product Name:

顾客零件号 Customer Part No.:

产品名称 Product Name: 低压干簧继电器 Low Voltage Reed Relay

产品型号 Product Part No.: STIP-1A-12

发布日期 Release Date: 2024 年 2 月 22 日

生产工厂 Production Plant: 惠州市群创电子有限公司 Huizhou QunChuang Electronics Co.,Ltd

版本 Version: a

更改单号 Number of Modification:

审批签字 Signature by Steipu			顾客确认 Customer Approval
拟制 Make	审核 Check	批准 Approved	负责人 By: 日期 Date:
周炜鑫	王明	石国伟	

特别说明:

- 此规格书请顾客在 2 周内确认, 如未在规定时间内答复, 则视为同意。
- 自提供规格书之日起 2 年内, 顾客没有下单订货, 本规格书失效。

Special version:

- This specification is expected to be checked within 2 weeks.Without feedback after 2 weeks,Hongfa will take it as granted that customer approves of this specification.
- This specification will be invalid if no order within 2 years.

产品规格书 Relay Specification

顾客 Customer: _____

1 品种 Type Model

1.1种类 Type: 低压干簧继电器 Low Voltage Reed Relay1.2型号 Part NO.: STIP-1A-121.3外形尺寸 Outline dimensions : 19.9mm × 5.4mm × 7.9mm1.4触点形式 Contact Form: 1 组常开 1 (Form) A1.5触点材料 Contact Material: 铑合金 Rhodium Alloy

2 线圈额定参数 Coil Rating (at23℃)

额定电压 Rated Voltage Vd.c	动作电压 (1) Operate Voltage Vd.c	释放电压(1) Release Voltage Vd.c	允许最大线圈电压 (2) Max Allowable Coil Voltage Vd.c.	线圈电阻 Coil Resistance (Ω) ±10 % at 23°C	Power consumption at rated 额定功耗
5	75 % of rated voltage 额定 电压 的 75%	10 % of rated voltage 额定 电压 的 10%	125 % of rated voltage 额定电压 的 125%	500	approx. 约 50mW
12				2880	
24				11520	
	<p>备注：（1）上述值为初始值。</p> <p>（2）允许最大线圈电压是指继电器线圈在短时间内能够承受的最大电压值。</p> <p>Note: （1）The data shown above are initial values</p> <p>（2）Maximun allowable coil voltage refers to the maximun voltage which relay coil could endure in a short period of time.</p>				

3 触点参数 Contact Parameters

3.1触点额定负载 Contact Rating: 10VA(W), 0.1A 100Vd.c. at 85℃; 0.5A 20Vd.c. at 85℃;3.2最大切换电流 Max Switching Current: 0.5 A3.3最大负载电流 Max Carry Current: 1A3.4最大切换电压 Max Switching Voltage: 100 Vd.c. or Peak AC

4 性能 Performance

4.1 接触电阻 Contact Resistance: 150 mΩ Max.4.2 动作时间: ≤ 1 ms 。4.3 释放时间 Release Time: ≤ 0.5 ms 。

4.4 耐久性 Endurance :

4.4.1 电耐久性 Electrical Endurance :

结构型式 Version	触点材料 Contact Material	触点负载 Contact Rating	环境温度 Ambient Temperature	通断比 Ratio ON: OFF	电耐久性 Electrical Endurance
1A	铑合金 Rhodium Alloy	阻性负载 Resistive load 0.1A 100Vd.c.	23℃	1s: 9s	5×10 ⁷ 次(ops)

4.4.2 机械耐久性 Mechanical Endurance

STEIPU产品规格书 Specification

结构型式 Version	触点负载Contact Rating	环境温度Ambient Temperature	通断比 Ratio ON: OFF	机械耐久性 Mechanical Endurance
1A	铑合金 Rhodium Alloy	23℃	0.1 s: 0.1 s	200×10 ⁶ 次(ops)

4.5 介质耐压 Dielectric Strength (漏电流 Leakage Current: ≤1 mA)

4.5.1 断开触点电路的各引出端之间 Between terminals of each opened contact circuit: ≥175Va.c. (50/60 Hz 1 min)

4.5.2 所有线圈引出端与所有触点电路引出端之间 Between all coil terminals and all contact circuit terminals: ≥1000Va.c. (50/60 Hz 1 min)

4.6 绝缘电阻 Insulation Resistance

4.6.1 断开触点电路的各引出端之间 Between terminals of each opened contact circuit: ≥10000 MΩ

4.6.2 所有线圈引出端与所有触点电路引出端之间 Between all coil terminals and all contact circuit terminals: ≥10000 MΩ。

4.7 振 动 Vibration

稳定性: 双振幅1.5mm, 频率10Hz~55Hz, 每个方向各1小时, 闭合回路的断开或断开回路的闭合时间不超过100μs

Functional: 10 Hz~55Hz, 1.5 mm double amplitude, 1 hour for each axe.No opening or closing of any closed or opened contact circuit respectively shall exceed 100μs.

4.8 冲击 Shock

稳定性: 196 m/s² (脉冲持续时间 6 ms), 6 次(三个相互垂直轴线的每一个方向 6 次, 总共 36 次), 闭合回路的断开或开路回路的闭合时间应不超过 100μs。

Functional: 196 m/s²(Duration 11ms), 6 shocks (six ops in both directions of each of the three mutually perpendicular axes, totally 36 ops), No opening or closing of any closed or opened contact circuit respectively shall exceed 100 μs.

强度: 980m/s² (脉冲持续时间 6 ms), 6 次(三个相互垂直轴线的每一个方向 6 次, 总 共 36 次) 继电器外观、结构和性能不应有异常。

Destructive: 980 m/s²(Duration 6 ms), 6 shocks (six ops in both directions of each of the three mutually perpendicular axes, totally 36 ops) There should be no abnormalities in appearance, construction and performance.

4.9 引出脚强度 Terminal Strength

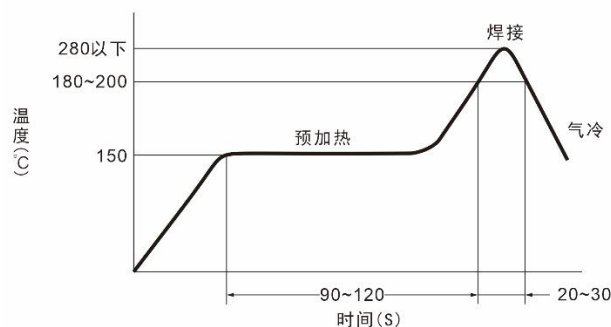
PCB 引出脚: 在 PCB 引出脚轴线方向上施加 5 N 拉力或压力, 持续时间 10 s, 继电器应 无异常。

PCB Terminals: No damage on the relay when applying 5 N tension or pressure for 10 s on the axis direction of terminals.

4.10耐焊接热 Soldering Heat Resistance

4.10.1 焊接温度 Soldering Temperature: (280±10) °C

4.10.2 焊接时间 Soldering Time: (5±0.5) s



4.11 焊接性能 Solderability

继电器引出端在焊锡温度 $(240 \pm 5)^\circ\text{C}$ 下, 浸锡时间 $(3 \pm 0.3)\text{s}$ 之后, 被浸锡部分应有 95% 以上连续覆盖一层锡层。

Terminals dipped into the soldering bath should be 95% tin plated at $(240 \pm 5)^\circ\text{C}$ for $(3 \pm 0.3)\text{s}$.

4.12 耐温性 Temperature Resistance

4.12.1 耐热 Heat Resistance

$(85 \pm 2)^\circ\text{C}$ 温度中放置 24 h, 恢复常温 2 h 后, 继电器的结构及性能应无异常。

At $(85 \pm 2)^\circ\text{C}$ for 24h storage follow by 2 hours at room temperature, no damage on internal structure, all parameters conform.

4.12.2 耐寒 Cold Resistance

$(-40 \pm 2)^\circ\text{C}$ 温度中放置 24 h, 恢复常温 2 h 后, 继电器的结构及性能应无异常。

At $(-40 \pm 2)^\circ\text{C}$ for 24 h storage follow by 2 hours at room temperature, no damage on internal structure, all parameters conform.

4.13 耐湿性 Moisture Resistance

在温度 $(40 \pm 2)^\circ\text{C}$ 湿度 35%~80%RH 中放置 24 h, 恢复常温 2 h 后, 继电器的结构及性能应无异常。且绝缘电阻应不小于 $10\text{ M}\Omega(500\text{ Vd.c.})$ 。

The humidity was 35%~80% RH at $(40 \pm 2)^\circ\text{C}$ for 24h storage follow by 2 hours at room temperature, no damage on internal structure, all parameters conform. Insulation resistance should be not less than $10\text{ M}\Omega(500\text{ Vd.c.})$.

5 产品标识 Marking

5.1 外壳颜色 Case Color: 黑色 Black

5.2 印字位置 Marking Position: 侧面 Side

5.3 激光打标 Laser Marking



6 标准测试条件 Standards Test Condition

6.1 温度 Temperature: $23^\circ\text{C} \pm 5^\circ\text{C}$

6.2 湿度 Humidity: $60\% \pm 10\% \text{ RH}$

6.3 方向 Direction of Measurement: 引线脚向下 (Terminal down position is standard position)

7 使用环境条件 Operating Ambient Condition

7.1环境温度 Ambient Temperature: 一般环境下, -40 °C ~ 85°C。

7.2环境湿度 Ambient Humidity: 10%~95% RH

7.3安装方向 Mounting Direction: 引线脚向下(Terminal down position is standard position)

注：使用环境条件不能导致继电器内部产生结露、结冰，否则会导致继电器失效。另外，湿度范围会随温度而有所不同，因此请控制在下图所示的范围。

Note:The ambient environment of application shall not cause any dewing or icing inside the relay. Otherwise, the relay may fail to work properly. The humidity range varies with the temperature. Use within the range indicated in the graph below.

8 贮存条件 Storage Condition

8.1 温度 Temperature: -20 °C ~ 70 °C

8.2 湿度 Humidity: 10%~95% RH

8.3 环境 Environment

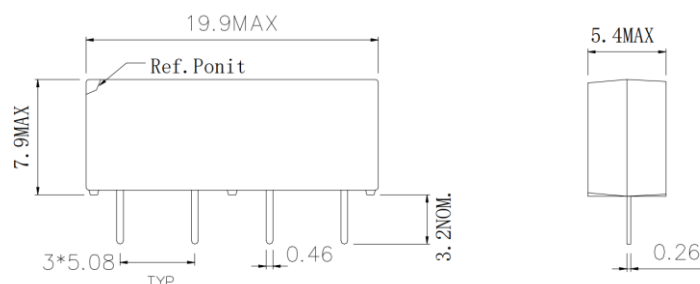
8.3.1 产品贮存场地不能有腐蚀性气体 Store in locations where the product is not exposed to corrosive gas.

8.3.2 贮存中应避免阳光直照产品 Avoid sunshine during storage

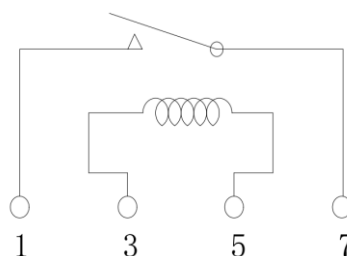
8.3.3 堆码高度 Stacking Height : ≤ 5 层 layers.

9 产品结构 Configuration

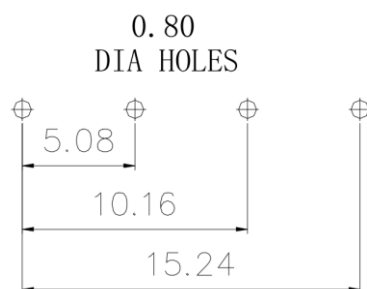
9.1 外形图 Outline dimension



9.2 接线图（底视图） Wiring diagram (Bottom View)



9.3 安装孔尺寸图（底视图） PCB layout (Bottom View)



注：产品外形尺寸未注尺寸公差及 PC 板未注尺寸公差按下表执行。

Note : All unspecified tolerance(including outline dimension and PC board dimension) according to following table.

产品外形尺寸未注尺寸公差 Outline dimensions hadn't specified tolerance		PC 板未注尺寸公差 PC board dimensions hadn't specified tolerance
外形尺寸 Outline Dimensions	公差 Tolerance	±0.1
≤1	±0.2	
>1~5	±0.3	
>5	±0.4	

10 订货标记 Ordering Information

ST IP-1A-12-XXX

① ② ③ ④ ⑤

① 品牌 Make

ST: 斯泰普 STEIPU

② 设计代码 Design code

IP: 低压干簧继电器 Low Voltage Reed Relay

③ 触点形式 Contact arrangement

1A: 一组常开 1 (Form) A

④ 线圈电压 Coil voltage

12: 12Vd. c.

⑤ 特殊特性 Special characteristic

XXX: 客户特殊特性号 Customer special feature number

11 其他说明 Others

11.1 非塑封继电器需要防止助焊剂或污染物进入继电器。Non-plastic sealed relays should prevent flux or contamination into the relay.

11.2 避免在强磁场条件下使用继电器，外界强磁场会造成继电器动作和释放等参数发生变化。Avoid using relays in strong magnetic field because it will change the parameters of relay such as operate and release voltage.

11.3 对群创而言，不可能评定继电器在每个应用领域、应用环境的所有性能参数要求，因而，客户应根据具体的使用条件选择与之相匹配的产品，若有疑问，请与群创联系获得更多的技术支持。但产品的选型责任仅由客户负责。We could not evaluate all the performance and all the parameters for every possible application field and environment. Thus the user should be in a right position to choose the suitable produce for their own application. If there is any query, please contact Qunchuang for the technical service. However, it is the user's responsibility to determine which product should be used only.

11.4 本产品规格书中标称的使用环境温度范围指的是产品在特定负载条件下的最大耐受温度范围。对于防爆规格产品的使用环境温度按相应防爆认证证书的规定。Operate temperature range in this specification refers to the maximum tolerable temperature range under specific load conditions. To explosion-proof product, the ambient temperature should conform to regulations in related explosion-proof certification.

11.5 继电器的电耐久性次数可能会因使用环境条件的不同而有差异。对于部分产品，为获得更好的电耐久性能，需打开外壳的透气孔。产品的电耐久性详细情况见认证证书。本产品规格书中电耐久性所列的试验条件、触点负载可能未包含在认证证书中，当使用环境条件与认证条件不同时，电耐久性能需要由具体试验确认。Differences in relay electrical endurance cycles would exist due to difference in operating ambient conditions. To some products, in order to better perform in electrical endurance, vent hole is required to be opened. The electrical endurance of the products detailed in the safety certificates. The test condition and contact rating for electrical endurance in this specification may not be included in the safety certificates, in case that the condition in real applications is different from safety certificates, the electrical endurance of the relay must be confirmed by tests.

11.6 为了保持继电器的性能，请注意不要使继电器掉落或受到强冲击。建议掉落后的继电器报废。To maintain the performances of relays, please do not make the relay drop or be shocked strongly. Suggest that the relays dropped be scrapped.

11.7 规格书内的各项性能参数是基于标准测试条件下测得的初始值。All the performance data listed in the datasheet are the initial values tested under standard testing condition.

11.8 环保措施 Environmental Protection

群创产品均符合RoHS 要求。Qunchuang products are all RoHS compliant.

11.9 群创保留对产品更改的权利，客户在首次下单之前应确认此规格书内容，必要时可要求我司提供新的规格书。Qunchuang reserves the right to make changes. Customers should reconfirm the contents of the specification before first orders and ask for us to supply a new specification if necessary.

11.10 事前协议事项 Priority Consultation

无