

继电器产品承认书

SPECIFICATION FOR APPROVAL

客户名称 Customer name: _____

产品名称 Product Description: _____ 继电器 Relay _____

供方型号 Supplier Part No.: _____ YAF-112D _____

客户料号 Customer Material Code: _____

客户型号 Customer Part No.: _____

版 本 REV: _____ A1.0 _____

日 期 Date: _____ 2021-01-27 _____

供应厂商 (Supplier)	制定 (Draw up)	审核(Audit)	批准(approve)
	杨东	方君发	龙静恒
客户确认 (client confirm)	开发/工程 审核 (audit by R&D)	品质部 审核 (Audit by quality DEPT)	批准 (approve)

一、基本特性 Basic characteristics

1、线圈参数 Coil specification

- | | |
|--------------------------------|--|
| (1) 额定电压 Nominal voltage | DC12V |
| (2) 线圈阻抗 Coil resistance | 90 Ω \pm 10% (at 23 \pm 5 $^{\circ}$ C) |
| (3) 额定电流 Rated current | DC 150mA \pm 10% (at 23 \pm 5 $^{\circ}$ C) |
| (4) 动作电压 Operate voltage | DC 8.4V Max ((at 23 \pm 5 $^{\circ}$ C) |
| (5) 释放电压 Release voltage | DC 1.2V Min ((at 23 \pm 5 $^{\circ}$ C) |
| (6) 最大电压 Maximum voltage | DC 15.6V(130% of nominal voltage) |
| (7) 线圈温升 Coil temperature rise | 50K Max |

2、触点参数 Contact Specification

- | | |
|--|--|
| (1) 触点型式 Contact configuration | SPDT (1 Form C)--单刀双掷 (一组转换) |
| (2) 触点额定负载 Contact rating | 40A 14VDC |
| (3) 接触电阻 Contact resistance | Initial (初始值) 100 m Ω Max (At DC6V 1A) |
| (4) 动作时间 Operate time | 10ms Max |
| (5) 释放时间 Release time | 5ms Max |
| (6) 最大动作频率 Maximum operating frequency | Mechanically 18000 cycle/h (机械)
Electrically 600 cycle/h (电气) |
| (7) 触点温升 Contact temperature rise | 50K Max |

3、通用参数 General Specification

- | | |
|----------------------------------|--|
| (1) 绝缘阻抗 Insulation resistance | 100M Ω Min (at DC500V) |
| (2) 电气强度 Dielectric strength | |
| 开路触点间 between open contacts | 500VAC,50/60 HZ for 1Minute |
| 线圈与触点间 between contacts and coil | 500VAC,50/60 HZ for 1 Minute |
| (3) 环境温度 Ambient temperature | -40 $^{\circ}$ C \sim +85 $^{\circ}$ C
(Not freezing and condensing at low temperature) |
| (4) 相对湿度 Relative Humidity | 45% to 85% RH |
| (5) 电气寿命 Electrical life | 100,000 Operations Min (at 40A 14VDC) |
| (6) 机械寿命 Mechanical life | 10,000,000 operations Min |

4、体系、安规认证和环保 Quality System、 Safety Certification and RoHS(REACH)

- | | |
|---|-------------------------|
| (1) GB/T 19001-2016/ISO9001:2015 certified File | No. 00120Q39207R3M/4403 |
| (2) RoHS and REACH Compliant | |

二、环境参数 Environmental Characteristics

1、抗振动性 Vibration resistance

1.1 误动作 Error operation

在 X、Y、Z 轴三个方向施加双振幅为 1.5mm，频率为 10-55HZ 的振动，时间 5 分钟，误动作时间不超过 1ms。

At constant vibration of double amplitude 1.5mm, 10 ~ 55 HZ , in each direction of X,Y,Z for 5 minutes. No error operation more than 1 ms.

1.2 耐久性 Endurance

在三个方向施加振动 2 小时，无结构损坏。

No construction trouble when vibrate it from 3 directions for 2 hours.(Amplitude 1.5mm, 10~55 HZ)

2、抗冲击性 Shock resistance

2.1 误动作 Error operation

在三个方向施加三次加速度为 100m/s² 持续时间 11ms，误动作不超过 1ms。

At peak acceleration 100m/s² duration 11ms, 3 shocks is given in each direction of X, Y, Z. No error operation more than 1 ms.

2.2 耐久性 Endurance

三个方向三次加速度为 1000m/s² 持续时间 6ms，无结构损坏。

No construction trouble when shock it from 3 directions 3 times at peak acceleration 1000m/s² duration 6ms.

3、耐寒性 Cold resistance

3.1 耐寒性 Cold resistance

放置于-40℃±2℃环境温度下 240 小时，然后在标准条件下放置 2 小时，结构和性能无异常。

No any trouble on construction or characteristic when leave relay in -40℃±2℃ for 240h. After that, leave it in standard condition for 2 hours.

4、耐热性 Heat resistance

4.1 耐热性 Heat resistance

放置于+85℃±2℃环境温度下 240 小时，然后在标准条件下放置 2 小时，结构和性能无异常。

No any trouble on construction or characteristic when leave relay in +85℃±2℃ for 240h. After that, leave it in standard condition for 2 hours.

5、耐湿性 Moisture resistance

5.1 放置于 40℃，湿度 90%环境下 240 小时，然后在标准条件下放置 2 小时，绝缘电阻最小 10MΩ，结构和性能无异常。

After keeping relay for 240h in 40℃, 90%, then leave it in standard condition for 2 hours. Insulation resistance 10MΩ Min. No any trouble on construction or characteristic.

三、端子性能 Terminal characteristics

1、端子强度 Terminal strength

在端子上施加 10N 压力 10 秒钟，无变形现象。

10N pushed into any terminals for 10 s. There shall be no abnormalities.

(The curving of the terminals shall be acceptable)

2、端子可焊性 Terminal solderability

端子浸入 $260 \pm 5^\circ\text{C}$ 焊锡槽中，时间 $5 \pm 0.5 \text{ s}$ ，90% 部位应该上锡。

In case of lead free solder $260 \pm 5^\circ\text{C}$, $5 \pm 0.5 \text{ s}$, 90% of the dipped portion shall be soldered.

3、耐焊接热 Soldering thermal

端子浸入 $260 \pm 5^\circ\text{C}$ 焊锡槽中，时间 $10 \pm 1 \text{ s}$ ，结构和性能无异常。

No any trouble on construction or characteristic. When dipped into solder bath $260 \pm 5^\circ\text{C}$, $10 \pm 1 \text{ s}$.

四、标准测试条件 Standard test condition

1、环境温度 Ambient temperature

$23 \pm 5^\circ\text{C}$

2、相对湿度 Relative humidity

25%~75%

3、气压 Air pressure

86kPa~106kPa

4、测试位置 Direction of Test

端子朝下位置 Terminals down position

五、储存条件 Storage condition

1、环境温度 Ambient temperature

$+15^\circ\text{C} \sim +35^\circ\text{C}$

2、相对湿度 Relative humidity

25%~85%

3、环境 Environment

3.1、不要储存在诸如硫化氢和盐雾气体等有腐蚀性的环境中。

Store in locations where the product or container is not expose to corrosive gas such as hydrogen sulfide or salty air.

3.2、储存在没有可视尘埃的环境中。

Store in locations where no visible dust exists.

3.3、储存在没有直射阳光的环境中。

Store in locations not subject to direct sunlight.

六、外型图、线路板孔位图和线路图 Outline、PCB Layout and Wiring diagram(unit:mm)

外形图
OUTLINE
DIMENSIONS

常规型

PCB 型

塑料安装板型

金属安装板型

产品外形尺寸未注尺寸公差	
外形尺寸	公差
Outline Dimensions	Tolerance
≤1mm	±0.2mm
1~5mm	±0.3mm
>5mm	±0.4mm

安装孔尺寸
(底视图)
PCB layout
(Bottom View)

快插端子型

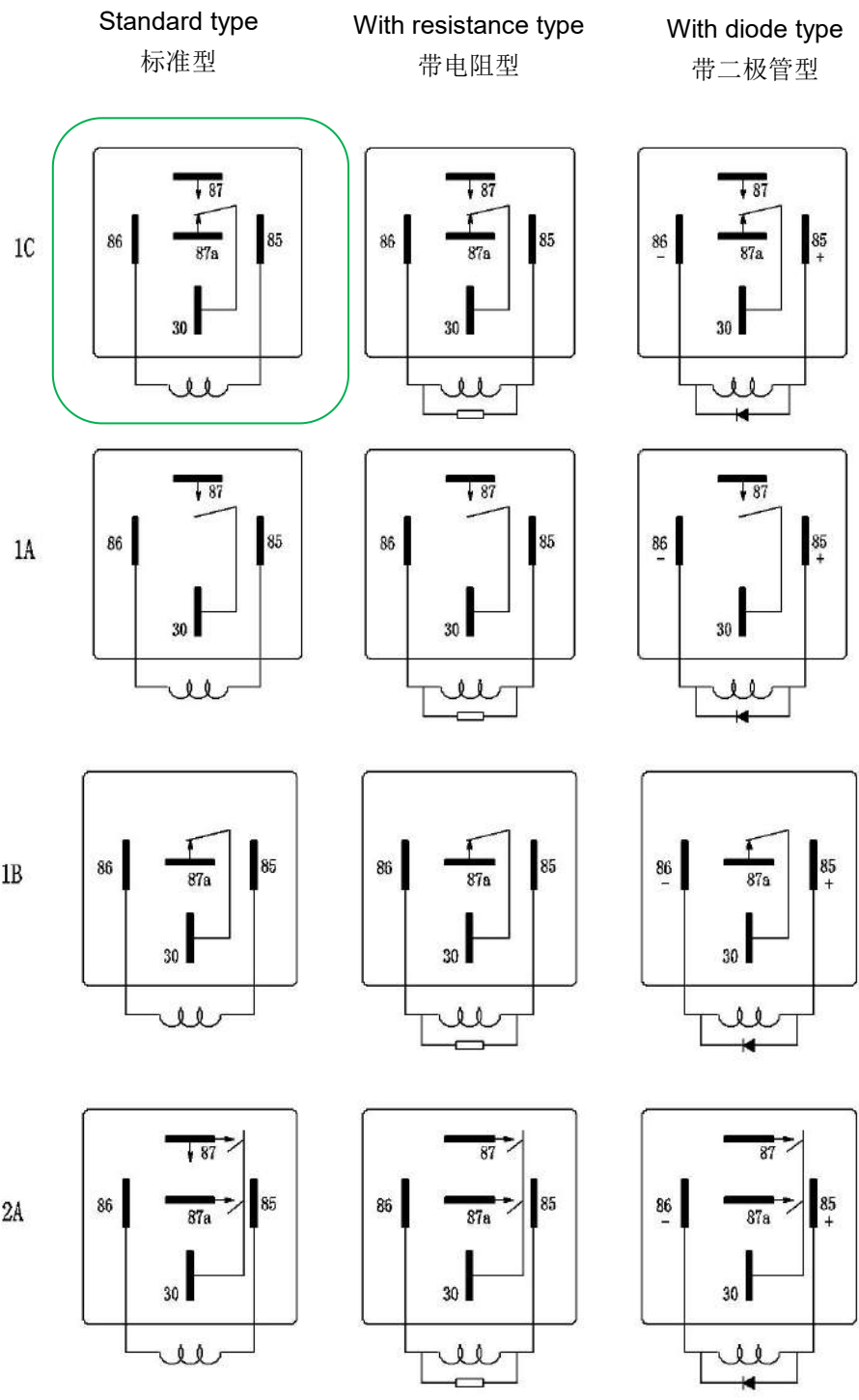
1A

1B

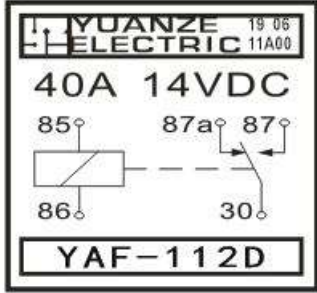
PCB 型

TOLERANCE: ±0.1

接线图
(底视图)
WIRING DIAGRAM
(Bottom View)



七、印字图 Marking

标识 Logo		Eng. Change 工程变更 Initial Issued 首次发行日期 2020-09-10																														
<p>NOTE (注):</p> <ol style="list-style-type: none"> Marking "190611A00" is the production date and batch number; "190611A00" 标识, 是生产批次信息 The meaning of the marking according to below; 标识的内容/意义如下: <table border="1" data-bbox="145 898 1086 1106"> <tr> <td>19</td> <td>06</td> <td>11</td> <td>A</td> <td>00</td> </tr> <tr> <td colspan="5">内部标识 Internal marking: 00-99</td> </tr> <tr> <td colspan="5">线别标识 production line marking: A-Z A: 白班 (day shift) B: 夜班 (night shift)</td> </tr> <tr> <td colspan="5">日期标识 date marking: 01-31 表示生产当天日期 (represent the production date)</td> </tr> <tr> <td colspan="5">月份标识: Monthly marking: 01-12 代表生产的月份 (represent the production month)</td> </tr> <tr> <td colspan="5">年份标识: Yearly Marking: 0-99 所处年份后两位 (year mark for example: 2019 will be marked 19)</td> </tr> </table> <ol style="list-style-type: none"> May have no the marking if customer have no demand; or other marks. 如果没有标识的, 就是客户没要求标识; 或是其他标识意义。 		19	06	11	A	00	内部标识 Internal marking: 00-99					线别标识 production line marking: A-Z A: 白班 (day shift) B: 夜班 (night shift)					日期标识 date marking: 01-31 表示生产当天日期 (represent the production date)					月份标识: Monthly marking: 01-12 代表生产的月份 (represent the production month)					年份标识: Yearly Marking: 0-99 所处年份后两位 (year mark for example: 2019 will be marked 19)					Add the batch number according the demand of customer. 根据客户需求添加批号。
19	06	11	A	00																												
内部标识 Internal marking: 00-99																																
线别标识 production line marking: A-Z A: 白班 (day shift) B: 夜班 (night shift)																																
日期标识 date marking: 01-31 表示生产当天日期 (represent the production date)																																
月份标识: Monthly marking: 01-12 代表生产的月份 (represent the production month)																																
年份标识: Yearly Marking: 0-99 所处年份后两位 (year mark for example: 2019 will be marked 19)																																

八、包装信息 Packing Information

P/N 品名	Inner packing 内箱包装	Carton Dimensions L×W×H (cm) 外箱尺寸	QTY (PCS) /carton 数量/ 箱	Net weight (Kg) 净重	Gross weight (Kg) 毛重
YAF	50pcs/box	/	/	/	/

九、命名规则 Encoding Information

YAF — X — X X X X X X X

1 2 3 4 5 6 7 8 9

1. 产品型号 Product type: YAF
2. 封装方式 Enclosure
Blank---Flux-tight 防焊剂型 SH---Sealed case(Washable)完全密封型
3. 触点组数 Contact Pole
1—1 pole
4. 线圈额定电压 Coil Nominal Voltage
12—12VDC 24—24VDC
5. 线圈额定功率 Coil Nominal Power
D—标准功率
6. 触点型式 Contact form
Blank—1 Form C Blank—1 Form B M—1 Form A
7. 外壳型式 Terminal type
Blank—common type F—外壳带靠背 shell with backrest
8. 端子型式
Blank—快连接引出端 P—PCB 型
9. 配件形式 component type
R:并联瞬态抑制电阻(680 Ω , 12V) (2700 Ω , 24V)
R1:并联瞬态抑制电阻(560 Ω , 12V) (1200 Ω , 24V)
R2:并联瞬态抑制电阻(470 Ω , 12V) (1000 Ω , 24V)
D:并联瞬态抑制二极管, 二极管正极接 85 脚
D1:并联瞬态抑制二极管, 二极管正极接 86 脚
Blank—普通型 common type
10. 特殊代码 Special code(not necessary to be shown on product)
Numbers or letters, do not represent electrical changes, these codes denote customer's requirements.

十、特别提醒 Reminds

- 1、如有任何特殊要求, 请联系元则电器公司。Any special requirements, please contact us.
- 2、在诸如 H2S、SO2 或 NO2 有害气体的环境中, 推荐选用完全密封型产品。Under the Environment with dangerous gas such as H2S, SO2 or NO2, fully sealed type is recommended.
- 3、如果环境允许, 优先选用防焊剂型产品。If the ambience allows, flux proof type is preferentially recommended.
- 4、如果客户需要用超声波设备清洗 PCB 和继电器, 则必须选用完全密封型产品。If the user washes the PCB and relay in the ultrasonic cleaner, fully sealed type must be selected.