

**YONGNENG****东莞市永能电子有限公司**

产品规格书 Product Specification

文件号: YG506-D003-A0

产品规格书 Relay Specification Sheet**1. 品种 Type Model**1.1 种类 Kinds: 汽车继电器 Automotive relay1.2 型号 Type: YQ506-S-112D1.3 触点形式 Contact Arrangement: 转换型 Form C1.4 触点材料 Contact Material: AgSnO2**2. 安全标准 Safety Standard**

国际安全认证 Foreign Standard:

3. 线圈额定参数 Coil Rating (at 23°C)3.1 额定电压 Rated Voltage: 12VDC3.2 线圈电阻 Coil Resistance: 90±10%Ω3.3 额定功耗 Normal Operating Power: 1.6W3.4 最大允许线圈电压 Max. Allowable Coil Voltage: 18VDC**4. 触点参数 Contact Specification**4.1 触点阻性负载 Contact Rating: 40A 14VDC4.2 最大切换电流 Max. Contact Current: 40A4.3 最大切换电压 Max. Contact Voltage: 30VDC4.4 最大切换功率 Max. Allowable Capacity: 560W**5. 性能 Performance**5.1 接触电阻 Contact Resistance: Max. 50mΩ5.2 动作电压 Operate Voltage: ≤8.4VDC5.3 释放电压 Release Voltage: ≥1.2VDC5.4 动作时间 Operate Time: Max. 10ms5.5 释放时间 Release Time: Max. 5ms**5.6 寿命 Life**

(1) 电气寿命 Electrically

1×10⁵次(ops)20次/分钟(ops/minute)

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(2) 机械寿命 Mechanically

 1×10^7 次 (ops)180 次/分钟 (ops/minute)5.7 介质耐压 Dielectric Strength (漏电流 Leak Current: 1mA)(1) 断开触点间 Between Contacts: 500VAC (50/60Hz 1min)(2) 触点与线圈间 Between Coil To Contacts: 500VAC (50/60Hz 1min)

5.8 绝缘电阻 Insulation Resistance

(1) 断开触点间 Between Contacts: $\geq 100M\Omega$ (500VDC)(2) 触点与线圈间 Between Coil To Contacts: $\geq 100M\Omega$ (500VDC)5.9 线圈温升 Coil Temperature Rise: $< 60 K$

线圈以 100%额定电压激励, 触点负载 40A@14VDC

Applied voltage of coil 100% rated voltage , Carry current of contact 40A@14VDC.

5.10 振动 Vibration

强度: 1.5mm 双振幅, 10~55Hz, 3 小时。继电器外观、结构和性能不应有异常。

Durability: 1.5mm Double amplitude ,10 to 55Hz, 3 hours. It shall be no abnormalities in appearance, construction and performance.

5.11 冲击 Shock

稳定性: $98m/s^2$ (10g), 6 次 (X、Y、Z 三个方向中的每个方向), 闭合回路的断开或开路回路的闭合时间应不超过 $100 \mu s$ 。Malfunction: $98m/s^2$ (10g), 6 shocks (each direction of X,Y,Z), No opening of any closed contact circuit of no closing of any opened contact circuit shall exceed $100 \mu s$.强度: $980m/s^2$ (100g), 6 次 (X、Y、Z 三个方向中的每个方向), 继电器外观、结构和性能不应有异常。Durability: $980m/s^2$ (100g), 6 shocks (each direction of X,Y,Z), It shall be no abnormalities in appearance, construction and performance.5.12 引出脚强度 Terminal Strength: 5N 1 分钟 (minute)

引出脚在插入方向上施加 5N 的拉力, 继电器应无异常。(引出脚微弯可以接受)

At push in direction the terminal can endure 5N force for 1 minute, It Shall be no abnormalities. (a little curving of the terminals shall be Acceptable)

5.13 耐焊接热 Soldering Heat Resistance: $260 \pm 5^\circ C$, 10s.

继电器应无异常

There shall be no abnormalities.

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5.14 焊接性能 Soldering Ability: 240±5℃, 3±0.5s.

引出端被浸锡部分应有 90%以上连续覆上一层锡层。90% of the dipped portion shall be soldered.

5.15 耐温性 Temperature Resistance**(1) 耐热 Heat Resistance**

125℃±2℃ 温度中放置 2 小时, 恢复常温 2 小时后, 继电器的结构及性能应无异常。Must be free from any abnormality in both the construction and characteristics after the relay is lift in a temperature of 125±2℃ for 2h and then in room temperature and humidity for 2h.

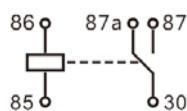
(2) 耐寒 Cold Resistance

-40℃±2℃温度中放置 2 小时, 恢复常温 2 小时后, 继电器的结构及性能应无异常。Must be free from any abnormality in both the construction and characteristics after the relay is lift in a temperature of -40±2℃ for 2h and then in room temperature and humidity for 2h.

5.16 耐湿性 Moisture Resistance

在温度 40±2℃ 相对湿度 90~95%RH 中放置 48 小时, 恢复常温常湿 2 小时后, 继电器的结构及性能应无异常。且绝缘电阻应不小于 50MΩ min。(500VDC)

Must be free from any abnormality in both the construction and characteristics after the relay is lift in a temperature of 40±2℃, and humidity of 90% to 95% RH for 48h and then in room temperature and humidity for 2h. Insulation resistance however must be no less than 50MΩ min.(500VDC)

6. 产品标识 Marking**6.1 外壳颜色 Case Color:** 黑色 Black**6.2 激光打标位置 Laser Marking Position:** 顶面 Top**YONGNENG****YQ506-S-112D****40A 14VDC****D1MI011**

生产编码 production code

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订货标记示例 ORDERING INFORMATION									
YQ506	-S	-1	12	D	M	F	R	2	
								特殊方式 Special mode :	
								2-常开型中带87a端子; 2-With terminal 87a for Form A	
								无-常开型中无此端子; Nil-Without this terminal for Form A	
								附加电路 Accessory Form :	
								无-标准型, D-带二极管, R-带电阻	
								Nil-Without accessory, D-With diode, R-With resistor	
								结构形式 Version :	
								无-QC引出端+无靠背; Nil- QC Terminal & Without Bracket	
								F-QC引出端+塑靠背; F- QC Terminal & Plastic Bracket	
								F1-QC引出端子+铁靠背; F1- QC Terminal & Iron Bracket	
								P-PCB引出端+无靠背; P- PCB Terminal & Without Bracket	
								触点形式 Contact form :	
								无-转换, M-常开, B-常闭	
								Nil-Form C, M-Form A, B-Form B	
								线圈功耗 Coil power :	
								D-1.6/1.8W	
								线圈规格 Coil voltage :	
								12,24 (VDC)	
								触点组数 Number of poles :	
								1-1组 1-1 Group	
								封装形式 Protective construction :	
								S-塑封式 S-Flux proofed	
								基本型号 Type designation :	
								YQ506	

7. 标准测试条件 Standards Test Condition

7.1 温度 Temperature: 23±5℃7.2 湿度 Humidity: 60 ± 10% RH7.3 方向 Direction of Measurement: 引出脚向下为标准方向Terminals down position is standard position

8. 使用条件 Operating Condition

8.1 温度 Temperature: -40 ~ +125 ℃8.2 湿度 Humidity: 5% ~ 85% RH8.3 安装方向 Mounting Direction: 引出脚向下为标准方向Terminals down position is standard position

9. 贮存条件 Storage Condition

9.1 温度 Temperature: 0~+40℃9.2 湿度 Humidity: < 80% RH

9.3 环境 Environment

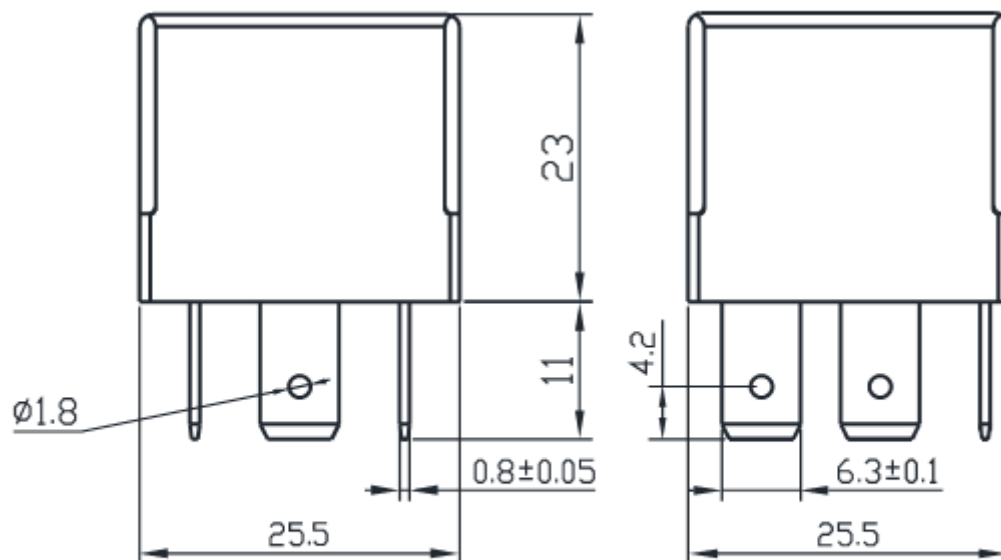
(1) 产品贮存场地不能有腐蚀性气体 Store in locations where the product is not exposed to corrosive gas.(2) 贮存中应避免阳光直照产品 Keep product is not exposed to the direct ray of the sun.



10. 产品结构 Configuration

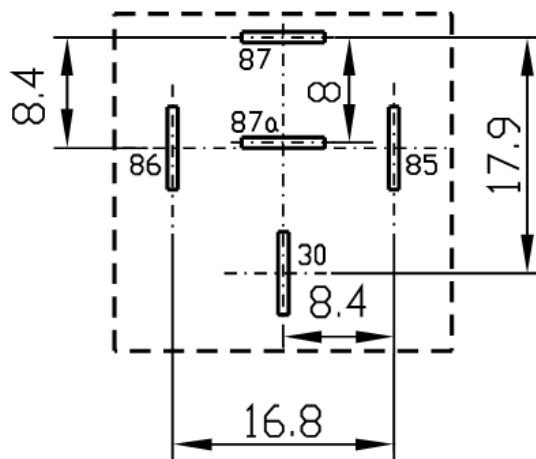
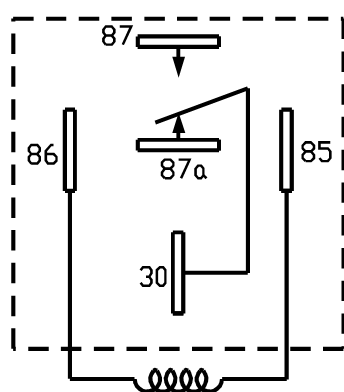
外形及结构简图

Outline And Construction Schematic

普通型
Without bracket

RING DIAGRAM 接线图(底视图)

PCB LAYOUT 安装孔位图 (底视图)



注 Remark :

1. 未标注尺寸公差 Unmarked dimensional tolerance
 $\leq 1\text{mm}$: $\pm 0.2\text{mm}$; $(1\sim 5)\text{mm}$: $\pm 0.3\text{mm}$; $\geq 5\text{mm}$: $\pm 0.4\text{mm}$.

2. 安装孔尺寸公差: $\pm 0.1\text{mm}$.
 The tolerance of PCB layout is always: $\pm 0.1\text{mm}$.

3. 引出脚尺寸为预焊前尺寸.
 Extended terminal dimension is dimension before soldering.

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11. 主要零部件 Important Part And Components

序号 Serial No.	零部件名称 Part And Components Name	材料名称 Material Name
1	线圈骨架 Bobbin	PBT
2	外壳 Case	PBT
3	铁心 Core	DT4C
4	衔铁 Armature	DT4E
5	动簧片 Movable spring	铜合金 Copper alloy
6	铁架 Yoke	DT4E
7	动触点 Movable contact	AgSn02
8	静触点 Stationary contact	AgSn02
9	A 脚 A terminal	铜合金 Copper alloy
10	B 脚 B terminal	铜合金 Copper alloy
11	C 脚 C terminal	铜合金 Copper alloy
12	漆包线 Copper wire	3UEW
13	密封胶 sealant	EPOXY