

# RELAY SPECIFICATION

## 继电器规格书

(File No.: 001000 / Version: 00 / Issued Date: Oct. 21st, 2020)

Product Description (品名)           **A2-S-112DA2**  
Part Number (编码)  
Customer (客户)

### Customer Approval (客户批准)

STAMPING AREA (盖章处)

Issued (发行)	Checked (审核)	Approved (承认)
<b>Helena.Gong</b>	<b>Hefei.Chen</b>	<b>Andy.Tang</b>

<b>SAFETY STANDARD 安全标准</b>	
UL certificate UL 证书	E341422
TUV certificate TUV 证书	R50191466
CQC certificate CQC 证书	CQC10002051602

### **COIL CHARACTERISTICS 线圈特性**

Coil resistance 线圈电阻	360±10% Ω
Rated voltage 额定电压	12VDC
Max. allowable voltage 最大允许电压	130% of rated coil voltage
Rated power 额定功率	400mW
Operate voltage 吸合电压	≤9.0 VDC
Release voltage 释放电压	≥0.6VDC

### **CONTACT RATINGS 触点规格**

Contact configuration 触点结构	1 Form A (SPST)
Contact material 触点材料	Ag Alloy
Initial contact resistance 初始接触电阻	≤100mΩ at 6VDC/1A
Rated switching voltage (Normally Open) 额定切换电压 (常开触点)	277VAC
Rated switching voltage (Normally Close) 额定切换电压 (常闭触点)	-
Rated current (Normally Open) 额定电流 (常开触点)	5A
Rated current (Normally Close) 额定电流 (常闭触点)	-
Rated switching power (Normally Open) 额定切换功率 (常开触点)	1,385VA
Rated switching power (Normally Close) 额定切换功率 (常闭触点)	-

Minimum applicable load (Normally Open) 最小使用负载（常开触点）	5VDC 100mA
Minimum applicable load (Normally Close) 最小使用负载（常闭触点）	-
Operate time 吸合时间	≤10ms, excluding bounce time ≤10ms, 不含触点抖动时间
Release time 释放时间	≤5ms, excluding bounce time ≤5ms, 不含触点抖动时间
Mechanical endurance 机械寿命	1 Million cycles, 300 cycles/minute
Electrical endurance (Resistive Load) 电气寿命（阻性负载）	5A 277VAC, 100k cycles, 6 cycles/minute
<b>INSULATION PERFORMANCE 绝缘性能</b>	
Dielectric strength 介电强度	1000VAC 1minute, between open contacts 1000VAC 1 分钟（断开触点间） 4000VAC 1minute, between coil to contacts 4000VAC 1 分钟（线圈与触点间）
Impulse withstand voltage 耐浪涌电压	8KV (1.2/50 μs), between coil to contacts 8KV（线圈与触点间）
Insulation resistance 绝缘电阻	1,000MΩ at 500VDC, between open contacts and coil to contacts 1,000MΩ（断开触点间及线圈与触点间）
Insulation systems (UL) 绝缘系统	155 (F)
Insulation type 绝缘类型	Reinforced insulation 加强绝缘
<b>ENVIRONMENT PERFORMANCE 环境性能</b>	
Category of protection (IEC61810-1) 密封类型	RT III (Wash tight) 防水密封型
Operating temperature 工作温度	-40~85℃
Operating humidity 工作湿度	20~85%RH
Storage temperature 储藏温度	-40~85℃
Storage humidity 储藏湿度	20~85%RH
Vibration resistance 耐振动	(1) Capability to function during vibration No opening or closing of any closed or opened contact circuit respectively exceed 10μs when the

Shock resistance  
耐冲击

relay is subjected to vibration of 10~55Hz and 1.5mm dual amplitude in each of three mutually perpendicular axes for 10 minutes respectively, while it is in operate condition and in release condition.

抗误动作能力

动作/释放状态下，继电器在三个轴向耐受频率10~55Hz及振幅1.5mm的振动各10分钟，触点误动作不超过10微秒。

(2) Capability to function after vibration

No trouble on structure and characteristics after the relay is subjected to vibration of 10~55Hz and 1.5mm dual amplitude in each of three mutually perpendicular axes for 2 hours respectively.

振动耐久能力

继电器在三个轴向耐受振幅1.5mm及频率10~55Hz的振动各2小时，产品构造和性能无异常发生。

(1) Capability to function during shock

No opening or closing of any closed or opened contact circuit respectively exceed 10 $\mu$ s when the relay is subjected to shock of 98.1m/s<sup>2</sup> for 11ms in both directions of each of three mutually perpendicular axes for 3 times respectively, while it is in operate condition and in release condition.

抗误动作能力

动作/释放状态下，继电器在三轴六方向耐受加速度98.1m/s<sup>2</sup>及作用时间11毫秒的冲击各3次，触点误动作不超过10微秒。

(2) Capability to function after shock

No trouble on structure and characteristics after the relay is subjected to shock of 98.1m/s<sup>2</sup> for 6ms in both directions of each of three mutually perpendicular axes for 3 times respectively.

冲击耐久能力

继电器在三轴六方向耐受加速度98.1m/s<sup>2</sup>及作用时间6毫秒的冲击各3次，产品构造和性能无异常发生。

Cold resistance  
耐低温

No trouble on structure and characteristics after placed at -40 $^{\circ}$ C for 240 hours and 2 hours recovery in standard atmospheric conditions.

Thermal resistance  
耐高温

-40℃中放置240小时并在标准大气条件中恢复2小时后继电器构造和特性无异常。

No trouble on structure and characteristics after placed at 85℃ for 240 hours and 2 hours recovery in standard atmospheric conditions.

85℃中放置 240 小时并在标准大气条件中恢复 2 小时后继电器构造和特性无异常。

Humidity resistance  
耐湿度

No trouble on structure and characteristics after placed at 40℃&95%RH for 240 hours and 2 hours recovery in standard atmospheric conditions.

40℃及95%相对湿度中放置240小时并在标准大气条件中恢复2小时后继电器构造和特性无异常。

Thermal shock resistance  
耐冷热冲击

No trouble on structure and characteristics after endure 100 cycles of cyclic temperature and 2 hours recovery in standard atmospheric conditions, which the temperature cycle consists of -40℃ for 0.5 hour and 85℃ for 0.5 hour.

-40℃和85℃中各放置0.5小时为一个温度周期，循环100次，在标准大气条件中恢复2小时后继电器构造和特性无异常。

Terminal robustness  
引出端强度

No trouble on structure and characteristics after endure axial pushing/pulling force of 10N for 10 seconds.

继电器引出端承受 10 牛顿的轴向压入、拨出力，延时 10 秒，构造和性能无异常。

## **MARKING** 产品标识

Position of marking  
标识位置

Side of relay cover  
外壳侧面

Cover color  
外壳颜色

Black  
黑色

Marking type  
标记类型

Laser  
激光

Trade mark  
商标



**MOUNTING INFORMANTION 安装信息**

Solderability 可焊性	260±5℃ for 5±0.5 seconds
Resistance to soldering heat 耐焊接热	260±5℃ for 10±1 seconds 350±10℃ for 3.5±0.5 seconds
Standard direction 标准方向	Installation in any direction 任意方向安装
Terminals assignment and outline dimensions 引出端脚位和外形尺寸	Refer to APPENDIX 请参考附件

**ENGINEERING NOTES 注意事项**

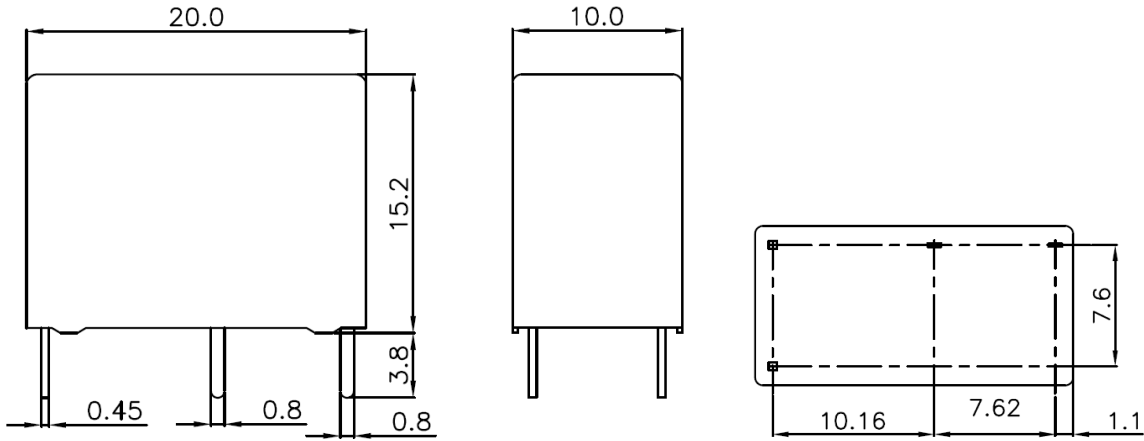
# Unless otherwise explicitly stated, the standard environment conditions for measurement or testing are listed as followings:

# 除非特别申明，测量或试验的标准环境条件如下：

- (1) Ambient temperature is 23±5℃;  
环境温度为 23±5℃;
- (2) Atmospheric pressure is 96±10% kPa;  
大气压力为 96±10% kPa;
- (3) Relative humidity is 50%±25% RH.  
相对湿度为 50%±25% RH.

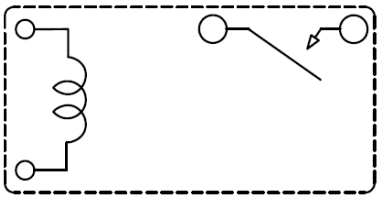
Outline dimension

外形尺寸图



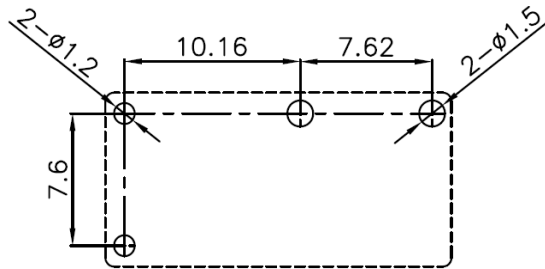
Wiring diagram (Bottom View)

接线图（底视图）



Mounting dimensions (Bottom View)

安装孔尺寸图（底视图）



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

备注：产品外形尺寸未标注尺寸公差及 PC 板未注尺寸公差按下表执行。

产品外形尺寸未注尺寸公差		PC 板未注尺寸公差
Outline dimensions hadn't specified tolerance		PC board dimensions hadn't specified tolerance
外形尺寸	公差	±0.1
Outline dimensions	Tolerance	
≤0.3	±0.1	
≤1	±0.2	
≤5	±0.3	
>5	±0.5	

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