
特点 Features

- 常开型（单刀单掷）触点形式。
Normally Open (SPST) contact form.
- 高负载 30 安培小功率继电器。
Miniature power relay, high capability of 30A.
- 高冲击电流和高冲击电压-冲击电流 65 安培-冲击电压 10,000 伏。
High impulse current of 65A and high surge voltage of 10000V withstand.
- 小型结构以满足高密度安装要求。
Miniature relay for high density mounting requirement.

安规认证 Safety certificate

UL、c-UL 认证号 File No: E190598

VDE 认证号 File No: 40007793

CQC 认证号 File No: CQC02001002130、CQC12002080736

触点参数 Contact Data

型号 Type	SFD
额定负载 (阻性) Rated load (Resistive load)	30A 250VAC
最大切换电流 Max. Switching Current	30A
最大切换电压 Max. Switching voltage	277VAC
最大切换功率 Max. Switching power	8310VAC
最小切换负载 Min. Switching load	6V 1A

性能参数 Characteristic Data

触点材料 Contact material	银合金 Silver alloy	
接触电阻 Contact resistance	100mΩ Max. (at 1A 6VDC)	
吸合时间 (额定电压) Operate time (at rated coil voltage)	20ms Max. (不加二极管 No diode)	
释放时间 Release time	5ms Max. (不加二极管 No diode)	
绝缘电阻 Insulation resistance	1,000MΩ Min. (DC500V)	
介质耐压 Dielectric strength	触点与触点间: 1,200VAC, 50/60Hz for 1min. Between open contacts: 1,200VAC, 50/60Hz for 1min.	
	触点与线圈间: 4,000VAC, 50/60Hz for 1min. Between coil and contact: 4,000VAC, 50/60Hz for 1min.	
抗振动 Vibration Resistance	耐久 Destructive	10~55Hz, 双振幅 1.5 mm 10~55Hz, at double amplitude of 1.5mm
	误动作 Functional	10~55Hz, 双振幅 1.5 mm

		10~55Hz, at double amplitude of 1.5mm
抗冲击 Shock Resistance	耐久 Destructive	100G Min.
	误动作 Functional	10G Min.
寿命 Endurance	机械寿命(每小时 7,200 次) Mechanical endurance 7,200ops/h	10,000,000 次, (室温) 10,000,000 (at room temperature)
	电气寿命(每小时 360 次) Electrical endurance (360ops/h)	100,000 次 (室温) 100,000 (at room temperature)
环境温度 Ambient Temperature	-40°C ~ +85°C (不冷凝 No condensation)	
重量 Weight	约 55g Approx. 55g	

(1) 上述值为初始值。

The Data shown above are initial values.

(2) 以上仅列出该产品认证部分典型负载,而每个负载详细测试条件不同,因此电寿命耐久性不一样。如需了解详细信息,请与我司技术部门联络。
Only typical loads are listed above. Other load specifications can be available upon request.

(3) 以上耐久性电寿命测试,条件均为开孔品状态。

The electrical endurance test has been carried out on flux proofed version.

线圈参数 Coil Data (at 20°C)

额定电压 Nominal voltage (VDC)	额定电流 Nominal operating current ±10% (mA)	线圈电阻 Coil resistance ±10% (Ω)	最大外加电压 Max allowable voltage (VDC)	吸合电压 Operate voltage (Max.)	释放电压 Release voltage (Min.)	额定功率 Nominal operating power (W)
3	400.00	7.5	额定电压的 130% 130% of Nominal Voltage	额定电压的 70% 70% of Nominal Voltage	额定电压的 10% 10% of Nominal Voltage	1.2W
5	240.00	20.8				
6	200.00	30				
9	134.00	67				
12	100.00	120				
18	66.67	270				
24	50.00	480				
48	25.00	1,920				
60	20.00	3,000				

上述值为初始值;请勿在产品上连续施加最大电压 > 10min, 以免线圈过度发热。

The data shown above are initial values. Do not apply maximum allowable voltage on coil for more than 10 minutes to avoid overheating of the coil.

安规认证负载 (注: 更多详细的认证负载, 参考安规证书)

Safety Certificate Ratings (Note: More details of approved ratings, please refer to the safety certificates)

认证类型 Certificates	CQC	VDE	UL/c-UL
证书号 File No.	CQC02001002130 CQC12002080736	40007793	E190598
认证负载 Approved Ratings	30A 250VAC	27A 250VAC 30A 250VAC (T 型)	30A 120/250/277VAC, Resistive/G.P. 3HP 240VAC 2HP 125/240/250VAC TV-5 120VAC

(1) 上述未注明温度的负载, 均指环境温度为室温。

All values unspecified are at room temperature.

(2) 以上仅列出了该产品认证的部分负载, 每个负载的详细测试条件不同, 因此电寿命次数不一样。如需了解详细情况, 请联系三友。

Only typical ratings are listed above and the endurance differ in each load. Other specific load information are available upon request.

(3) 对于塑封式、防水式产品试验时, 应打开外壳的透气孔。

For sealed type testing, please open the ventilation hole in the case before test.

订货标记 Ordering Information

型号命名规则 Nomenclature

SFD -1 12 D M P -F -XX

特殊参数: 无-标准型, XX-客户要求类型

Special Parameter: Nil-Standard, Letter or number-Special requirement

绝缘等级: 无-普通型, B-Class B, F- Class F

Insulation System: Nil-Standard type, B-Class B, F-Class

端子形式: 无-普通型, P-PCB 型, T-特殊型

Terminal Type: Nil-Standard, P-PCB, T-Special type

触点形式: M-Form A

Contact Arrangement: M-Form A

线圈功耗: D-1.2W

Coil Power: D-1.2W

线圈电压: 03,05,06,09,12,18,24,48,60 (VDC)

Rated coil voltage(VDC):03,05,06,09,12,18,24,48,60

触点组数: 1-1 组

Number of poles : 1-1Pole

基本型号 Type: SFD

(1) 塑封式不能在污染环境 (含有 H₂S、SO₂、NO₂、粉尘等污染物) 中使用。Flux-proofed relays can not be used in the environment with pollutants like H₂S, SO₂, NO₂, dust, etc.

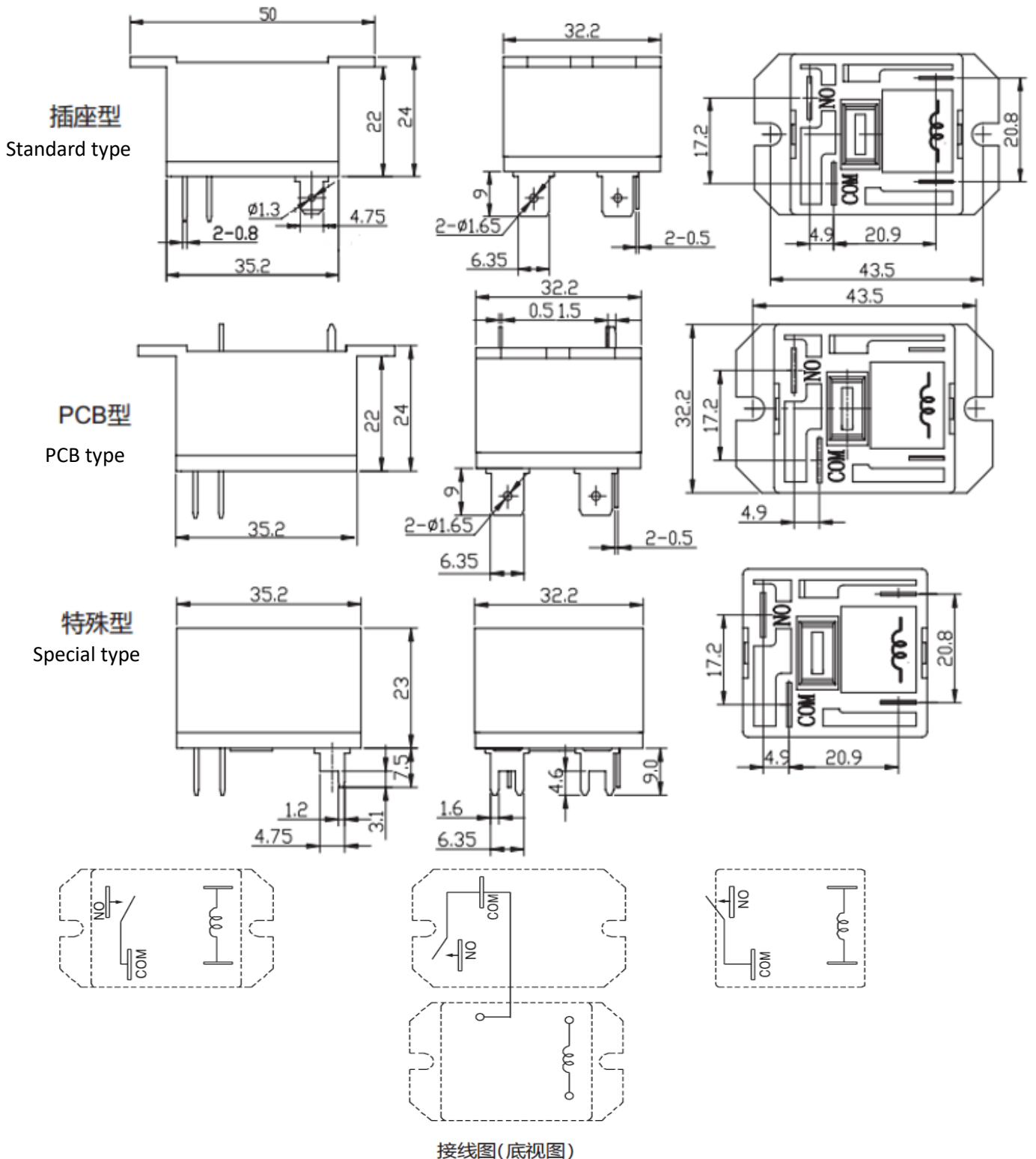
(2) 塑封式装入 PCB 焊接后, 不能进行整体清洗或表面处理。

Water cleaning or surface process is not suggested after the flux-proofed relays are assembled on PCB.

(3) 客户特殊要求 (XX), 由我司评估后, 按特性符号标识。

Special requirements of customers (XX) shall be evaluated by our company and marked by characteristic symbols.

外形尺寸图、接线图、安装孔位图 (单位: mm)
Outline dimension, wiring diagram, PCB layout (Unit: mm)

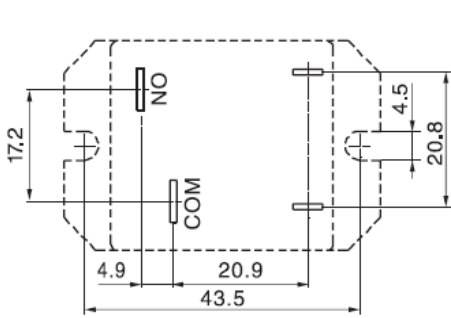


Wiring Diagram (bottom view)

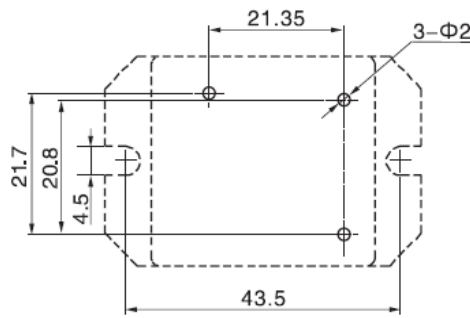
未标注尺寸公差 In case of no tolerance shown on outline dimension:
< 1mm: ±0.2mm 1~5mm: ±0.3mm > 5mm: ±0.4mm

注: 1、引出脚尺寸为预焊前尺 The dimension of pin is the size before tinning

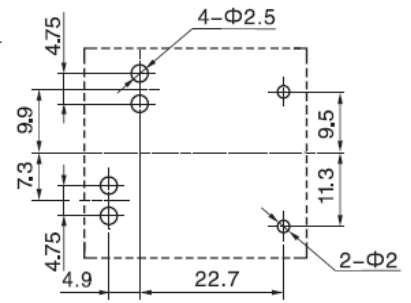
2、安装孔尺寸公差 Tolerance of PCB layout: ±0.1 mm



插座型
Standard type



PCB型
PCB type

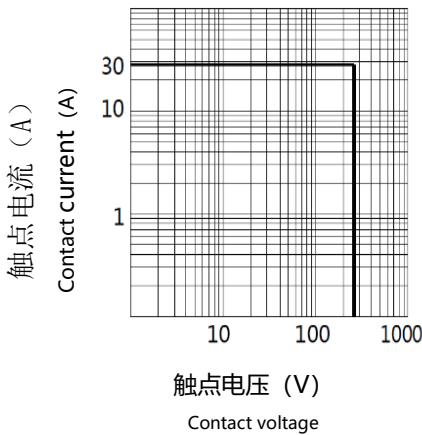


特殊型
Special type

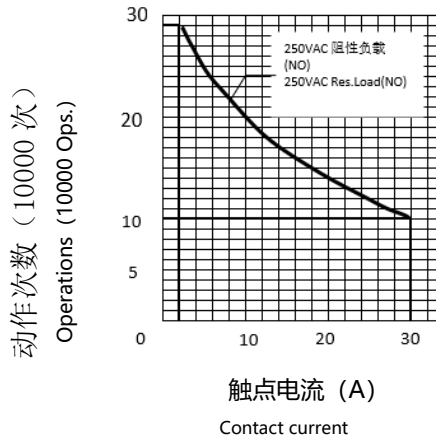
安装孔位图 (底视图)
PCB Layout (bottom view)

性能曲线图 Characteristic Curves

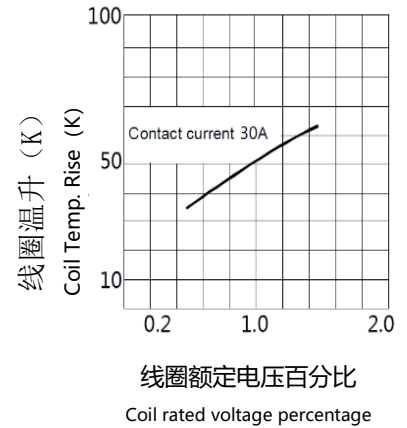
最大切换功率
Max. Switching Power



寿命曲线
Endurance Curve



线圈温升
Coil Temp. Rise



备注 Note:

(1)测试条件: 常温环境, 开孔品, 阻性负载, 1s 通 9s 断
Test conditions: room temperature, flux-proof product, resistive load, 1s on, 9s off.

(2)以上曲线图仅供参考, 最终结果以实验测试为准

The above curves are for reference only, and the final result is subject to the experiment.

声明: 本产品规格书仅供客户使用时参考, 若有更改, 恕不另行通知。

对三友而言, 不可能评定继电器在每个具体应用领域的所有性能参数要求, 因而客户应该根据具体的使用条件选择与之相匹配的产品。对于密封继电器在安装清洗后, 使用前请打开外壳上的透气孔。若有疑问, 请与三友联系获取更多的技术支持。但产品选型责任仅由客户负责。

Disclaimer: The specification is for reference only. Specifications are subject to change without prior notice. We could not evaluate all the performance and all the parameters for every possible applications. Thus the users should in a right position to choose suitable product for their own application. For sealed relays, after installation and cleaning, please open the ventilation hole in the case before use. If there is any query, please contact Sanyou for technical services. However it is the user's responsibility to determine which product should be used.