
特点 Features

- 22A/33A 触点切换能力
22A/33A switching capability
- 最适应于太阳能光伏发电用逆变器、UPS
Ideal for photovoltaic inverter, UPS
- 触点间隙：1.5mm (符合 IEC 62109-2-2011)
Contact gap \geq 1.5mm (Compliant with IEC 62109-2-2011)
- 环保产品 (符合 RoHS)
Environmental friendly product (Compliant with RoHS)

安规认证 Safety certificate

UL, c-UL 认证号 (File No.): E190598
 TUV 认证号 (File No.): R50138321
 VDE 认证号 (File No.): 40007481
 CQC 认证号 (File No.): CQC02001002131、CQC09002030584

触点参数 Contact Data

型号 Type	SFK
额定负载 (阻性负载) Rated load (Resistive load)	22A/33A 250VAC
最大切换电流 Max. switching current	33A
最大切换电压 Max. switching voltage	250VAC
最大切换功率 Max. switching power	8250VA
最小切换负载 Min. switching load	6V 1A

性能参数 Characteristic Data

接触电阻 Contact resistance	100m Ω Max.(at 1A 6VDC)	
吸合时间 (额定电压) Operate time(at rated coil voltage)	20 ms Max. (不加二极管 No diode)	
释放时间 Release time	10 ms Max. (不加二极管 No diode)	
绝缘电阻 Insulation resistance	Min. 1,000M Ω (at 500VDC)	
介质耐压 Dielectric strength	触点与触点间 Between open contacts: 2,500VAC, 50/60Hz for 1min.	
	触点与线圈间 Between coil and contact: 4,500VAC, 50/60Hz for 1min.	
浪涌电压 Surge voltage	10kV (1.2/50 μ s)	
抗振动	误动作	10 ~ 55Hz, 双振幅 1.5 mm

Vibration resistance	Functional	10~55Hz at double amplitude of 1.5 mm
	耐久 Destructive	10~55Hz, 双振幅 1.5 mm 10~55Hz at double amplitude of 1.5 mm
抗冲击 Shock resistance	误动作 Functional	10G Min.
	耐久 Destructive	100G Min.
线圈温升 Coil temperature rise	≤95K (触点负载电流 22A/33A, 80%额定电压激励, 环境温度 85°C Carry currents of 22A/33A on contacts, apply coil voltage of 80% nominal voltage, and ambient temperature is 85°C.)	
寿命 Endurance	机械寿命(每小时 10,800 次, 室温) Mechanical endurance (at 10,800ops./h)	10,000,000 次 10,000,000 cycles (at room temperature)
	电气寿命(每小时 360 次, 室温) Electrical endurance (at 360ops./h)	30,000 次 30,000 cycles (at room temperature)
环境温度 Ambient temperature	-40°C ~ +85°C (不冷凝 no condensation)	
重量 Unit weight	约 22.0g Approx. 22.0g	

线圈参数 Coil Data (at 20°C)

额定电压 (VDC) Nominal voltage (VDC)	额定电流 ±10%(mA) Nominal operating current ± 10%(mA)	线圈电阻 ±10% (Ω) coil resistance ±10%(Ω)	最大连续外加电压 Max. allowable voltage	吸合电压 (Max.) Operate voltage (Max.)	释放电压 (Min.) Release voltage (Min.)	额定功率 Nominal operating power
5	280	18	额定电压的 130% 130% of nominal voltage	额定电压的 75% 75% of nominal voltage	额定电压的 5% 5% of nominal voltage	约 1.4W Approx.1.4W
6	233.33	26				
9	155.56	58				
12	116.67	103				
18	77.78	231				
24	58.33	411				

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 (更多详细的认证负载, 参考安规证书)

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

认证类型 Certificates	CQC	TUV	VDE	UL/CUL
认证号码 File No.	CQC02001002131 CQC09002030584	R50138321	40007481	E190598
认证负载 Approved Ratings	22A 250VAC 33A 250VAC	22A 250VAC	22A 250VAC 33A 250VAC	22A 250VAC,Resistive&General use 33A 250VAC,Resistive&General use

(1) 上述未注明温度的负载, 均指环境温度为室温。

All values unspecified are acquired 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

SFK -1 12 D M P 3 -F -H -XX

特殊参数 Special Parameter : 无 Nil-标准型 Standard type,
字母或数字 Letters or Numbers-特殊要求-Special requirements

参数标记 : H-GAP > 1.5mm、
线圈功耗 Coil Power 1.4W、OP/OP : 2500VAC

绝缘等级 Insulation System: 无 Nil-普通型 Standard ,
B-Class B , F-Class F

触点材质 Contact Material: 无 Nil-AgSnO₂ ,

端子形式 Terminal Type : P-PCB

触点形式 Contact Form: M-Form A

线圈功耗 Coil Power : D-见线圈参数表(refer to coil data)

线圈规格 Coil Voltage (VDC) : 05 , 06 , 09 , 12 , 18 , 24

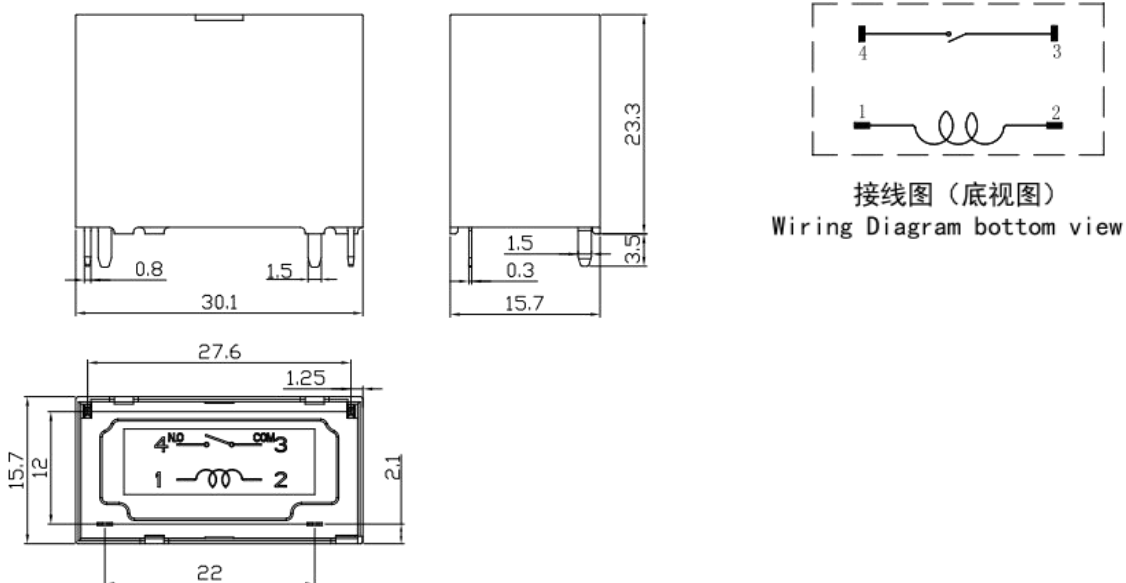
触点组数 Number of Poles : 1-1 Pole

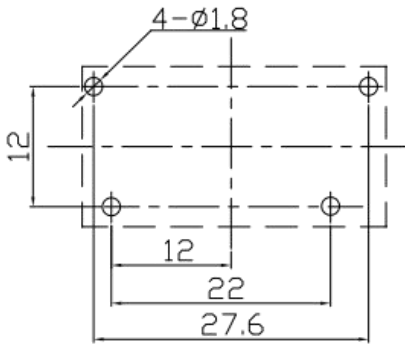
基本型号 Type : SFK

- (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-proof 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-proof 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。
Customized special suffix is available after being evaluated by Sanyou.

外形尺寸图、接线图、安装孔位图 (单位 : mm)

Outline dimension, wiring diagram, PCB layout (Unit: mm)





安装孔尺寸图 (底视图)
P. C. B. Layout (bottom view)

未标注尺寸公差

In case of no tolerance shown on outline dimension

If dimension < 1 mm, tolerance : ±0.2mm

If dimension 1~5mm, tolerance : ±0.3mm

If dimension > 5mm, tolerance : ±0.4mm

注 Note :

1.引出脚尺寸为预焊前尺寸

The dimension of pin is the size before tinning

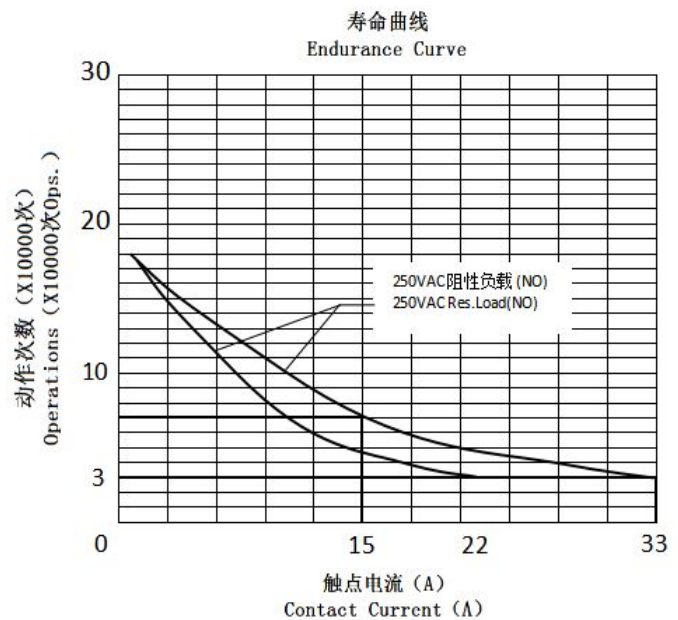
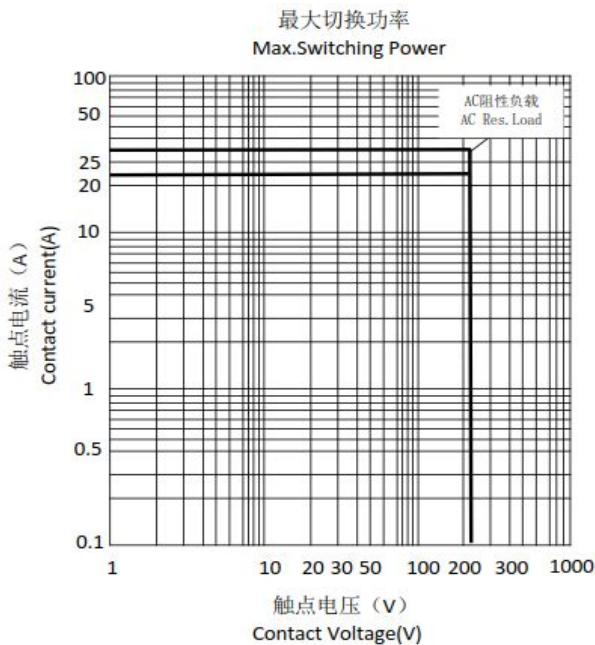
2.安装孔尺寸公差 : ±0.1mm

Tolerance of PCB layout : ±0.1 mm

典型用途 Typical Applications

- 最适用于太阳能光伏发电用逆变器、UPS Ideal for photovoltaic inverter, UPS etc

性能曲线图 Characteristic Curves



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。如有疑问, 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.