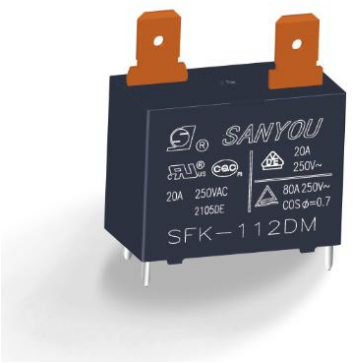
三友继电器
SANYOU RELAYS

Miniature Power Relay SFK



Features

- Miniature relay with high switching capability (25A), ideal for motor and compressor control
- Both quick terminal and PCB terminal are available
- IEC60335-1/IEC60079-15 compliant product is available

Safety certificate

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

Contact Data

Type	SFK
Rated load (Resistive load)	20A/25A 250VAC
Max. switching current	25A
Max. switching voltage	277VAC
Max. switching power	6,925VA
Min. switching load	6V 1A

Characteristic Data

Contact material	Silver alloy	
Contact resistance	100mΩ Max.(at 1A 6VDC)	
Operate time (at rated coil voltage)	20 ms Max. (No diode)	
Release time	10 ms Max. (No diode)	
Insulation resistance	Min. 1,000MΩ (at 500VDC)	
Dielectric strength	Between open contacts： 1,000VAC, 50/60Hz for 1min.	
	Between coil and contact: 4,500VAC, 50/60Hz for 1min.	
Vibration resistance	Functional	10～55Hz at double amplitude of 1.5 mm
	Destructive	10～55Hz at double amplitude of 1.5 mm
Shock resistance	Functional	10G Min.
	Destructive	100G Min.

© SanYou United Media Group Co., LTD. All rights reserved

Endurance	Mechanical endurance	10,000,000 cycles (at room temperature)
	Electrical endurance (at 360ops./h)	100,000 cycles (at room temperature)
Ambient temperature	-40℃ ~ +85℃ (no condensation)	
Unit weight	Approx. 22.0g	

Coil Data (at 20℃)

Nominal voltage (VDC)	Nominal operating current ±10%(mA)	Coil resistance ±10%(Ω)	Max. allowable voltage	Operate voltage (Max.)	Release voltage (Min.)	Nominal operating power
5	180	27.8	130% of nominal voltage	75% of nominal voltage	5% of nominal voltage	Approx.0.9W
6	150	40				
9	100	90				
12	75	160				
18	50	360				
24	37.5	640				

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

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

Certificates	CQC	TUV	VDE	UL/CUL
File No.	CQC02001002131 CQC09002030584	R50138321	40007481	E190598
Approved Ratings	25A 250VAC 22A 250VAC 20A 250VAC 16A 277VAC	Making : 80A for 300ms Breaking : 20A 250VAC 22A 250VAC	25A 250VAC 22A 250VAC 20A 250VAC	25A 277VAC,Resistive&General use 25A 250VAC,Resistive&General use 25A 120VAC,Resistive&General use 22A 250VAC,Resistive&General use 20A 250VAC,Resistive&General use 20A 120VAC,Resistive&General use 1HP 120VAC 2HP 240VAC TV-10 120VAC

(1) All values unspecified are acquired at room temperature.
(2) Only typical ratings are listed above and the endurance differ in each load. Other specific load information are available upon request.
(3) For sealed type testing, please open the ventilation hole in the case before test.

© SanYou United Media Group Co., LTD. All rights reserved

Ordering Information

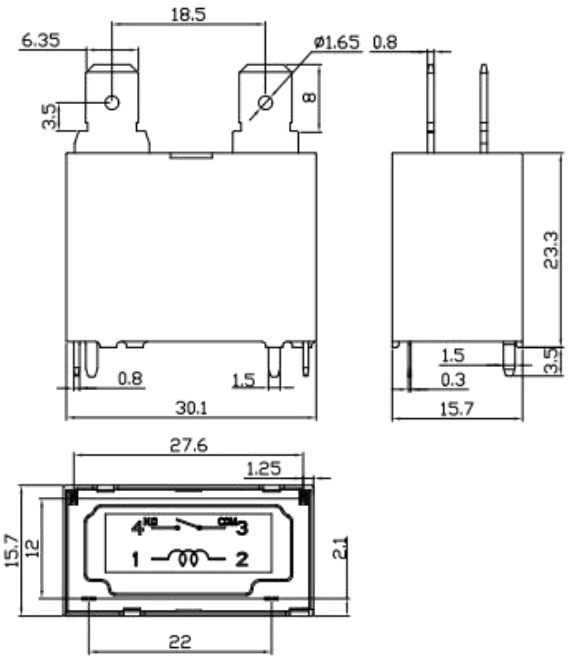
Nomenclature

SFK	-1	12	D	M	P	3	-F	-E	-XX	
										Special Parameter： Nil-Standard type， Letters or Numbers-Special requirements
										Contact Type：Nil-Standard（20A）， E-Step type contact（25A）
										Insulation System: Nil-Standard，B-Class B，F-Class F
										Contact Material: Nil-$AgSnO_2$，3-AgNi and $AgSnO_2$
										Terminal Type： Nil-Standard，P-PCB
										Contact Form: M-Form A
										Coil Power：D-0.90W
										Coil Voltage (VDC)： 05，06，09，12，18，24
										Number of Poles：1-1 Pole
										Type：SFK

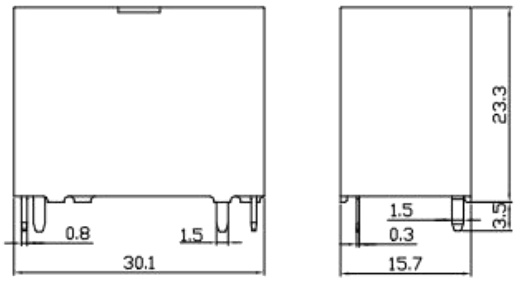
（1）Flux-proof relays can not be used in the environment with pollutants like H_2S, SO_2,NO_2, dust, etc.
（2）Water cleaning or surface process is not suggested after the flux-proof relays are assembled on PCB.
（3）Customized special suffix is available after being evaluated by Sanyou.

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

Standard type



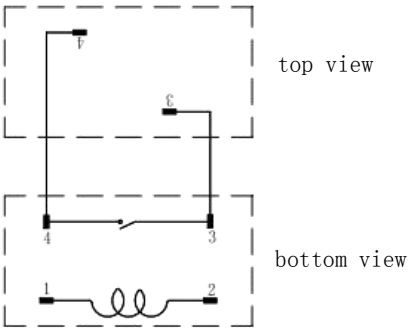
PCB



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
Note：
1.The dimension of pin is the size before tinning
2. Tolerance of PCB layout：±0.1 mm

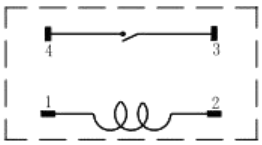
© SanYou United Media Group Co., LTD. All rights reserved

Standard type

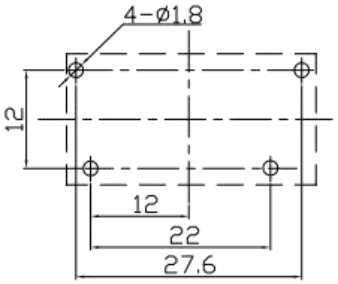


Wiring Diagram bottom view

PCB type



Wiring Diagram bottom view



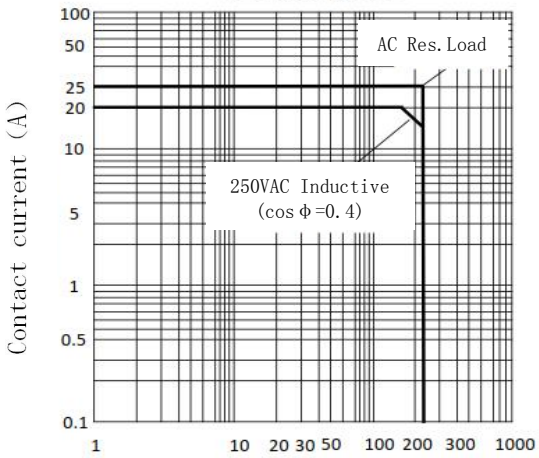
P.C.B Layout(bottom view)

Typical Applications

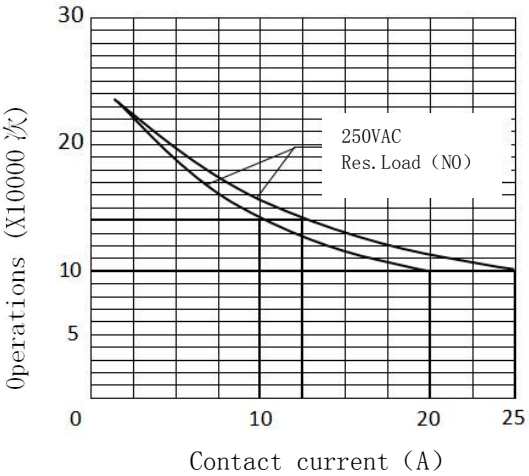
- Ideal for motor, compressor control, e.g. :air conditioner
- Home appliances and industrial electrical equipment

Characteristic Curves

Max. Switching Power



Endurance Curve



Note：

(1) Test conditions: room temperature, flux-proof product, resistive load, 1s on, 9s off.

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

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.

© SanYou United Media Group Co., LTD. All rights reserved