

### Features:

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

### Typical applications:

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

### Approvals

UL、c-UL (File No.): E179745  
TUV (File No.): R50557700  
CQC (File No.): CQC22002353181

### Contact Data

Contact arrangement	1form A( NO)
Rated voltage	250VAC
Max.switching voltage	277VAC
Rated current	25A
Min. recommended contact load	1A, 6VDC
Breaking capacity max.	6925VA
Contact material	AgNi,AgSnO <sub>2</sub>
Frequency of operation	360 ops./h
Operate/release time max.	20ms/10ms
Electrical endurance	See electrical endurance graph

### Contact ratings

Type	Contact	Load	Cycles
<b>UL 60947-4-1</b>			
SFKG	A(NO)	25A,250VAC,cos φ=1,85℃	1X10 <sup>5</sup>
SFKG	A(NO)	20A,250VAC,cos φ=1,85℃	1X10 <sup>5</sup>
SFKG	A(NO)	2HP,240VAC,85℃	1X10 <sup>5</sup>
<b>GB/T 21711.1-2023</b>			
SFKG	A(NO)	25A,277VAC,85℃	1X10 <sup>5</sup>
SFKG	A(NO)	20A,277VAC,85℃	1X10 <sup>5</sup>
<b>IEC 61810</b>			
SFKG	A(NO)	25A,250VAC,85℃	1X10 <sup>5</sup>
SFKG	A(NO)	20A,250VAC,85℃	1X10 <sup>5</sup>
SFKG	A(NO)	Making:80A for 300ms,85℃	2X10 <sup>5</sup>
Mechanical endurance			≥2x10 <sup>6</sup>

### Coil Data

Coil voltage range:	5 to 24VDC
Operative range, IEC 61810	2
Coil insulation system according UL	Class F



### Coil Data ( continued )

Coil versions, DC coil				
Rated voltage	Operate voltage	Release voltage	Coil resistance	Rated coil powers
VDC	VDC	VDC	Ω ( 1±10% )	mW
5	≤3.75	≥0.25	27.8	900
6	≤4.5	≥0.3	40	900
9	≤6.75	≥0.45	90	900
12	≤9	≥0.6	160	900
18	≤13.5	≥0.9	360	900
24	≤18	≥1.2	640	900

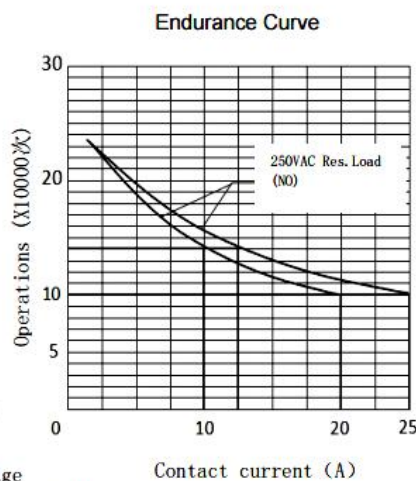
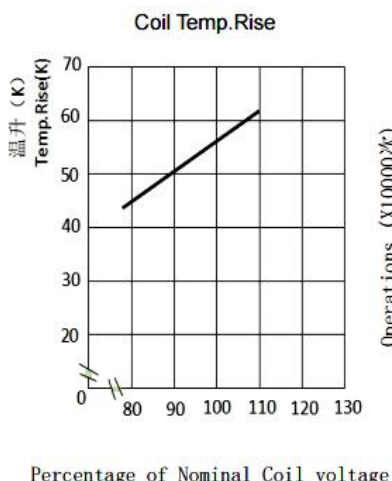
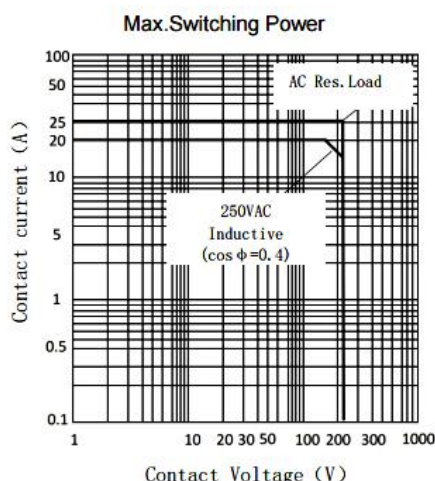
All figures are given for coil without pre-energization, at ambient temperature 20℃

### Insulation Data

Initial dielectric strength	
between open contacts	1000VAC
between contact and coil	4500VAC
Clearance/Creepage	
between contact and coil ( Clearance )	≥4.0mm(actual)
between contact and coil ( Creepage )	≥5.0mm(actual)
Material group of insulation parts	
IIIa	
Tracking index of relay	
PTI 175V/PTI 250V	

### Other Data

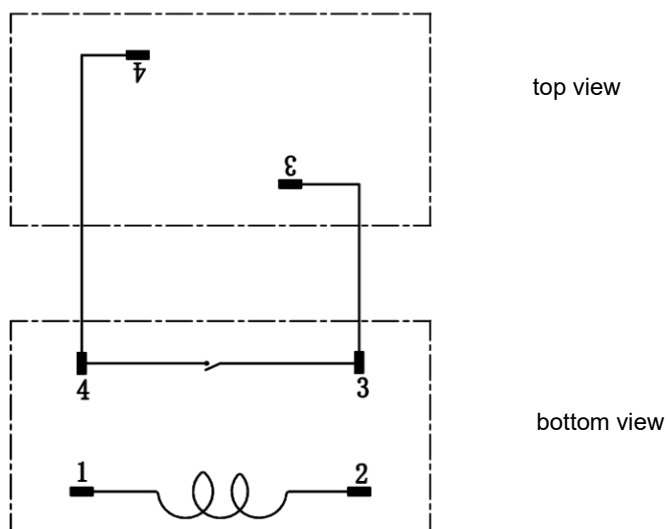
Material compliance: EU RoHS/ELV, China RoHS, REACH	
Ambient temperature	-40℃ to +85℃
Category of environmental protection	
IEC 61810	RTII - flux proof
	RTIII - Sealed type washable
Weight	Approx. 23.0g
Resistance to soldering heat THT (IEC 60068-2-20)	260℃/5s
Packaging/unit	tube, tray



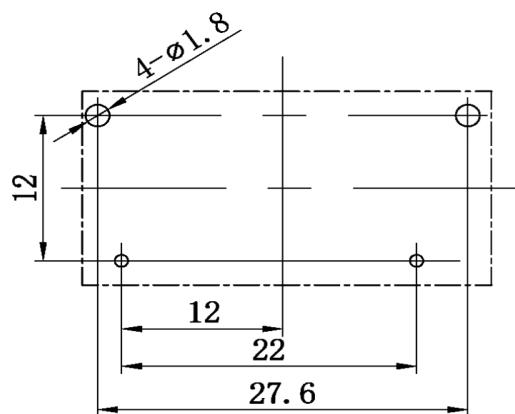
Note:  
(1) Test conditions: room temperature, flux-proof product, resistive load, 1s on, 9s off.  
(2) The above curves are for reference only, and the final result is subject to the experiment.



**Wiring Diagrams (bottom view)**



**PCB Layouts (bottom view)**



In case of no tolerance shown on outline dimension  
 If dimension < 1 mm, tolerance:  $\pm 0.2\text{mm}$   
 If dimension 1~5mm, tolerance:  $\pm 0.3\text{mm}$   
 If dimension > 5mm, tolerance:  $\pm 0.4\text{mm}$

**Notes:**

- 1.The dimension of pin is the size before tinning
- 2.Tolerance of PCB layout:  $\pm 0.1\text{ mm}$ .

**Product Code Structure**

SFKG	-S	-1	12	D	M	1	-F	-XX	Special Parameter: Nil-Standard type Letters or Numbers-Special requirements C-Fit connector type  Insulation System: Nil-Standard type B-Class B F-Class F  Contact Material: Nil-AgNi and AgSnO <sub>2</sub>  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  Protective Construction: S -Flux-proof SS-waterproof splash SH-Sealed type washable  Type: SFKG
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- (1) Flux-proof relays can not be used in the environment with pollutants like H<sub>2</sub>S, SO<sub>2</sub>, NO<sub>2</sub>, 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.
- (4) C1 suffix stands for product in accordance to IEC60335-1(GWT) & CTI250V.
- (5) Ex suffix stands for product compliant with IEC60079-15.

**Examples of Ordering Codes**

SFKG-S-112DM relay SFKG, Flux-proof, rated DC voltage 12V, coil power 0.90W, 1NO, 25A, and contact material AgSnO<sub>2</sub>.  
SFKG-S-112DM-C relay SFKG, Flux-proof, rated DC voltage 12V, coil power 0.90W, 1NO, 25A, and contact material AgSnO<sub>2</sub>.

**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.