

### Features:

- 22A / 33A Contact Switching Capability.
- It is most suitable for inverters and UPS for solar photovoltaic power generation.
- Contact clearance: 1.5mm (in accordance with IEC 62109-2-2011).

### Typical applications:

- It is most suitable for inverters and UPS for solar photovoltaic power generation.
- Suitable for UPS.

### Approvals

UL、c-UL (File No.): E190598

TUV (File No.): R50138321

CQC (File No.): CQC02001002131, CQC09002030584

VDE (File No.): 40007481

### Contact Data

Contact arrangement	1form A( NO)
Rated voltage	250VAC
Max. switching voltage	250VAC
Rated current	22A/33A
Min. recommended contact load	1A, 6VDC
Breaking capacity max.	8250VA
Contact material	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>IEC 61810</b>			
SFK-H	A(NO)	22A,250VAC,cos φ=1,85°C	3X10 <sup>4</sup>
<b>UL 60947-4-1</b>			
SFK-H	A(NO)	22A,250VAC,cos φ=1,80°C	3X10 <sup>4</sup>
SFK-H	A(NO)	33A,250VAC,cos φ=1,85°C	3X10 <sup>4</sup>
<b>GB/T 21711.1-2023</b>			
SFK-H	A(NO)	22A,250VAC,85°C	3X10 <sup>4</sup>
SFK-H	A(NO)	23A,250VAC,85°C	3X10 <sup>4</sup>
<b>EN 60730-1</b>			
SFK-H	A(NO)	22A,250VAC,85°C	3X10 <sup>4</sup>
SFK-H	A(NO)	33A,250VAC,85°C	3X10 <sup>4</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	ClassB, F



### Coil Data (continued)

Coil versions, DC coil

Rated voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance Ω (±10%)	Rated coil powers mW
5	≤3.75	≥0.25	18	1400
6	≤4.5	≥0.3	26	1400
9	≤6.75	≥0.45	58	1400
12	≤9	≥0.6	103	1400
18	≤13.5	≥0.9	231	1400
24	≤18	≥1.2	411	1400

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

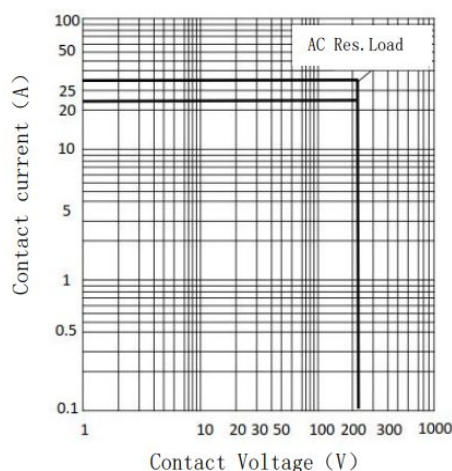
### Insulation Data

Initial dielectric strength	
between open contacts	2000VAC
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	
Tracking index of relay base	
PTI 175V/PTI 250V	

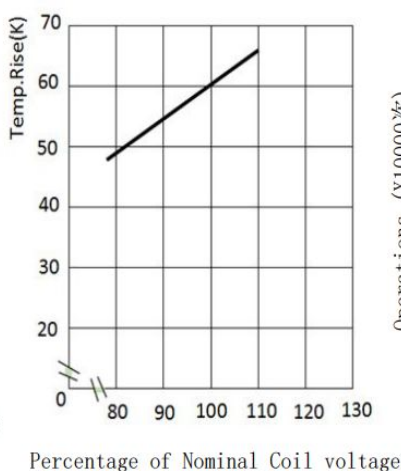
### Other Data

Material compliance: EU RoHS/ELV, China RoHS, REACH	
Ambient temperature	-40°C to +85°C
Category of environmental protection	
IEC 61810	
RTII - flux proof	
RTIII - Sealed type washable	
Weight	Approx. 22.0g
Resistance to soldering heat THT (IEC 60068-2-20)	260°C/5s
Packaging/unit	tube, tray

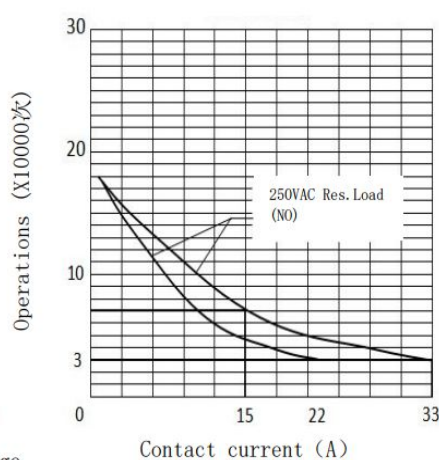
Max.Switching Power



Coil Temp.Rise



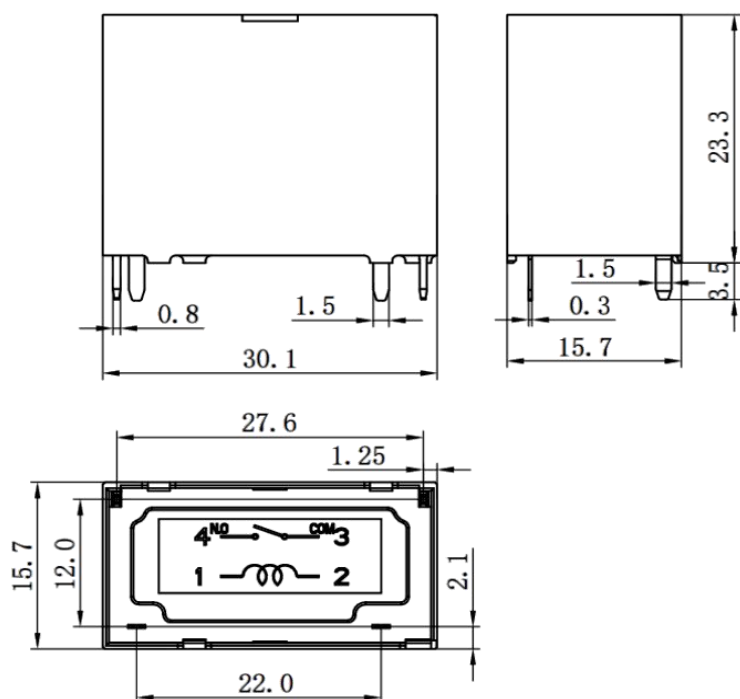
Endurance Curve



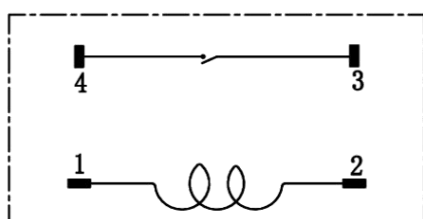
Note:

- (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.

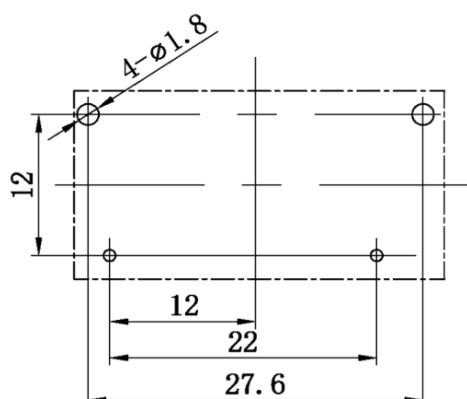
## Dimensions



## 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

SFK	-1	12	D	M	P	3	-F	-H	-XX	
										Special Parameter:
										Nil-Standard type
										Letters or Numbers-Special requirements
										H-GAP > 1.5mm、
										Coil power 1.4W、 OP/OP: 2500VAC
										Insulation System:
										Nil-Standard
										B-Class B
										F-Class F
										Contact Material:
										Nil-AgSnO <sub>2</sub>
										Terminal Type:
										P-PCB
										Contact Form:
										M-Form A
										Coil Power:
										D-See coil parameter table
										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<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 compliant with IEC60335-1&CTI250V.

### Examples of Ordering Codes

SFK-112DMP-F-H relay SFK, rated DC voltage 12V, coil power 1.40W, 1NO, 22A, 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.