

**Features**

- Small in size and suitable for intensive installation.
- Pressure resistance is up to 5,000V.
- IEC60335-1 compliant product is available.
- IEC60079-15 compliant product is available.

**Safety certificate**

UL , C-UL File No : E190598

TUV File No : R50143452

VDE File No : 40034054

CQC File No : CQC07001018779

**Contact Data**

Type	SMI-1Pole	SMI-2Poles
Rated load ( Resistive load )	10A 250VAC 12A 277VAC	5A 250VAC 8A 277VAC
Max. switching current	12A	8A
Max. switching voltage	277VAC	277VAC
Max. switching power	3,324VA	2,216VA
Min. switching load	6V 1A	

**Characteristic Data**

Contact material	Silver alloy	
Contact resistance	100mΩ Max.(at 1A 6VDC)	
Operate time (at rated coil voltage.)	15 ms. Max. (No diode)	
Release time	5 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 : 5,000VAC , 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.
Endurance	Mechanical endurance (10,800ops./h)	10,000,000(at room temperature)
	Electrical endurance (360ops./h)	100,000(at room temperature)
Ambient temperature	-40°C ~ +85°C ( no condensation ) For ambient temperature is 105°C, please contact Sanyou	
Weight	Approx. 14g	

## Coil Data (at 20°C)

Nominal voltage (VDC)	operating current ±10%(mA)	coil resistance ±10%(Ω)	Max. allowable voltage	Operate voltage (Max.)	Release voltage (Min.)	Nominal operating power
3	240.00	12.5	130% of nominal voltage	75% of nominal voltage	5% of nominal voltage	Approx. 0.72W
5	144.00	35				
6	120.00	50				
9	80.00	113				
12	60.00	200				
18	40.00	450				
24	30.00	800				
48	15.00	3,200				
3	180.00	17				Approx. 0.54W
5	108.00	46				
6	90.00	67				
9	60.00	150				
12	45.00	270				
18	30.00	600				
24	22.50	1,067				
48	11.25	4,267				

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.

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

Certificates	CQC	TUV	VDE	UL/CUL	
File No.	CQC07001018779	R50143452	40034054	E190598	
Approved Ratings	1 pole : 10A 250VAC 12A 277VAC 2 poles : 5A 250VAC 8A 277VAC	1 pole : 10A 250VAC 10A 30VDC 2 poles : 5A 250VAC 5A 24VDC	1 pole : 10A 250VAC 2 poles : 5A 250VAC	1 Pole : 10A 250VAC, Resistive 10A 30VDC, Resistive 10A 250VAC, General Use 5A 250VAC, General Use TV-3 250VAC Pilot duty:250VA 250VAC 5A 250VAC, General Use	2 Poles : 5A 250 VAC, Resistive 5A 24 VDC, Resistive TV-3 120VAC 8A 277VAC, Resistive/ General Use Pilot duty:125VA 250VAC

(1)All values unspecified are 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.

## Ordering Information

## Nomenclature

SMI -S -1 12 D M -F -XX

Special Parameter :  
 Nil-Standard type  
 Letter or number-Special requirement  
 01-New structure

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

Contact Material : Nil-AgSnO<sub>2</sub>

Contact Arrangement : Nil-Form C , M-Form A

Coil Power : D-0.72W , L-0.54W

Rated Coil Voltage (VDC) : 03 , 05 , 06 , 09 , 12 , 18 , 24 , 48

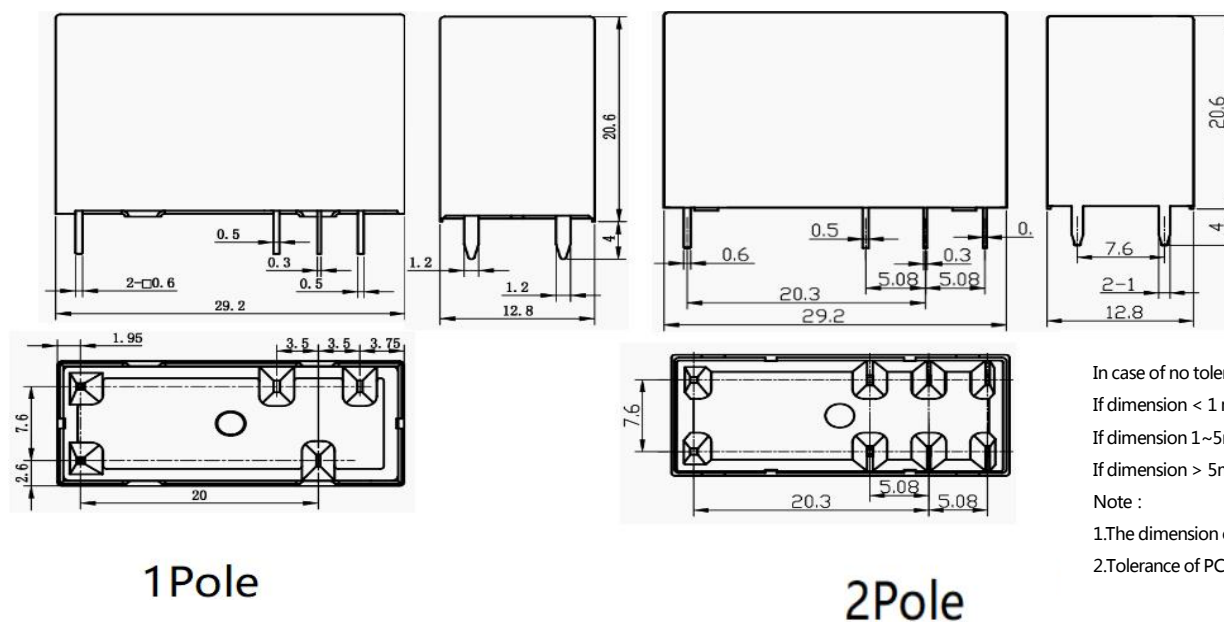
Number of Poles : 1-1 Pole 2-2 Pole

Protective Construction :  
 Flux-proof, Sealed type washable

Type : SMI

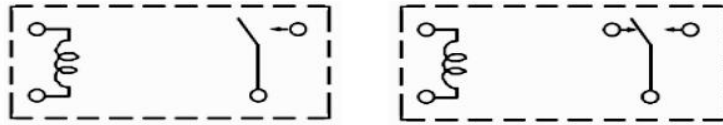
- ( 1 ) Flux-proof relays can not be used in the environment with pollutants like H<sub>2</sub>S, SO<sub>2</sub>, NO<sub>2</sub>, dust, etc.
- ( 2 ) Water cleaning or surface process is not suggested after the flux-proof relays are assembled on PCB.
- ( 3 ) Customized special suffix is available after being evaluated by Sanyou.

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

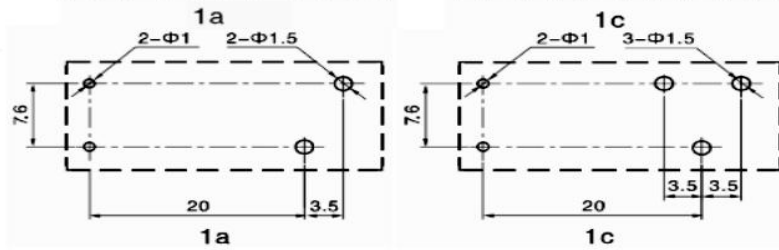


In case of no tolerance shown on outline dimension  
 If dimension < 1 mm, tolerance : ±0.2mm  
 If dimension 1~5mm, tolerance : ±0.3mm  
 If dimension > 5mm, tolerance : ±0.4mm  
 Note :  
 1.The dimension of pin is the size before tinning  
 2.Tolerance of PCB layout : ±0.1 mm.

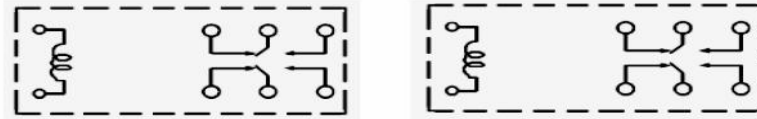
Wiring Diagram(bottom view)



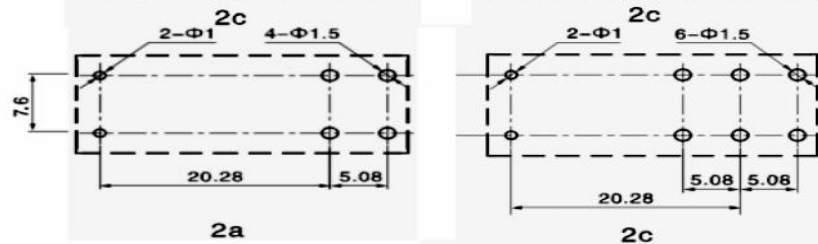
P.C.B Layout(bottom view)



Wiring Diagram(bottom view)



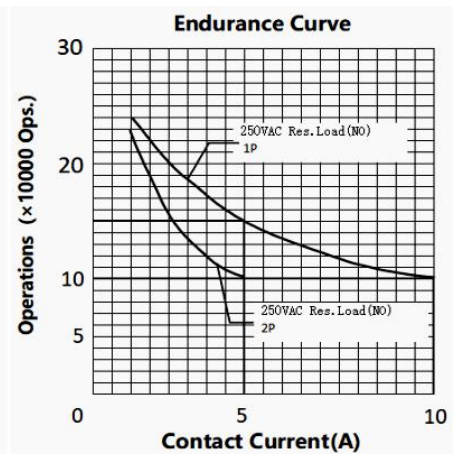
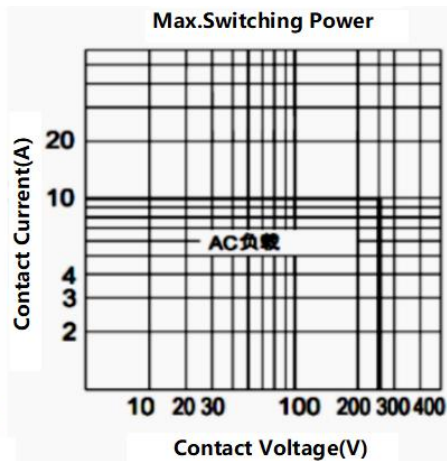
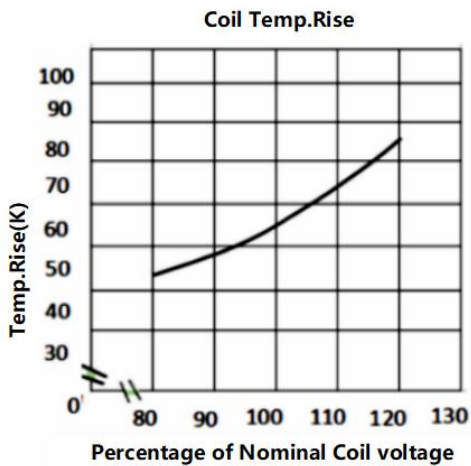
P.C.B Layout(bottom view)



## Typical Applications

- Telecommunication equipment
- Safety equipment
- Office equipment
- Home appliances: air conditioner, microwave oven, etc.

## Characteristic Curves



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.