

Miniature Power Relay

SMIH

**Features**

- High load capacity: 17A switching capability.
- Small in size and suitable for intensive installation.
- Pressure resistance is up to 5,000 volts.
- IEC60335-1 compliant product is available.
- IEC60079-15 compliant product is available.

Safety certificate

UL , C- UL File No : E190598
 TUV File No : R50227999
 VDE File No : 40034054
 CQC File No : CQC07001018779

Contact Data

Type	SMIH
Rated load (Resistive load)	16A 250VAC 17A 277VAC
Max. switching current	17A
Max. switching voltage	277VAC
Max. switching power	4,709VA
Min. switching load	6V 1A

Characteristics

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	Destructive	10~55Hz, at double amplitude of 1.5 mm
	Functional	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 (at 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)	Nominal operating current $\pm 10\%$ (mA)	Coil resistance $\pm 10\%$ (Ω)	Max. allowable voltage	Operate voltage (Max.)	Operate 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 details of approved ratings, please refer to the safety certificates)

Certificates	CQC	TUV	VDE	UL/CUL
File No.	CQC07001018779	R50227999	40034054	E190598
Approved Ratings	16A 250VAC 17A 277VAC	16A 277VAC 16A 30VDC	17A 277VAC	16A 250VAC, Resistive&General Use 20A 120VAC, Resistive&General Use 8A 250VAC, Resistive&General Use 17A 277VAC, Resistive&General Use 1/3HP 120VAC Pilot Duty:3A 250VAC TV-8 240VAC

(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

SMIH -S -1 12 D M 3 -F -XX

Special Parameter :

Nil-Standard type

Letter or number-Special requirement

Insulation System :

Ni-Standard , B - Class B , F - Class F

Contact Material : Nil- AgSnO₂ , 3-AgNi&AgSnO₂

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

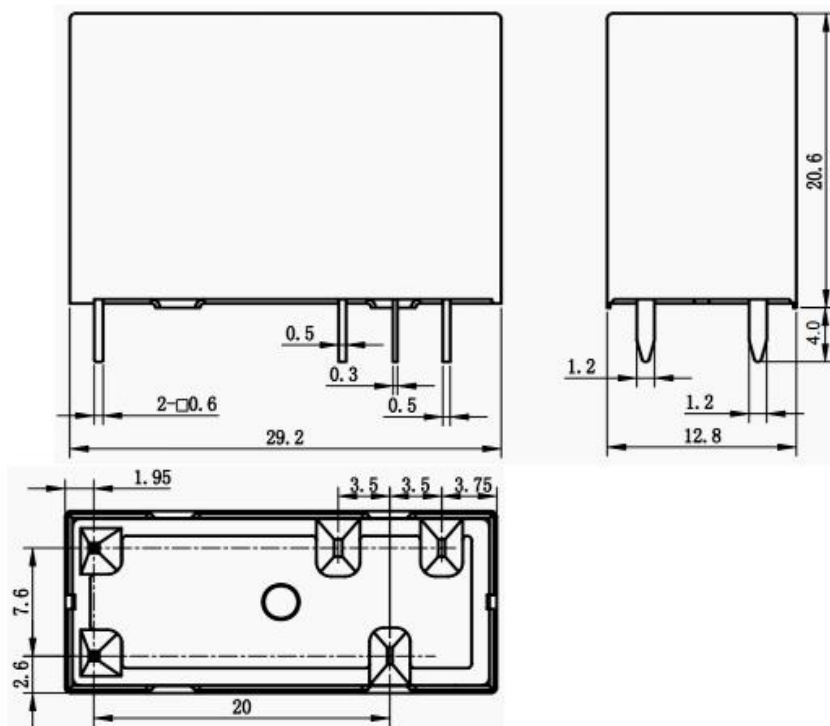
Number of Poles : 1-1 Pole

Protective Construction : S-Flux proofed ,
SH-Sealed type washable

Type : SMIH

- (1) Flux-proof relays can not be used in the environment with pollutants like H₂S, SO₂,NO₂, 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

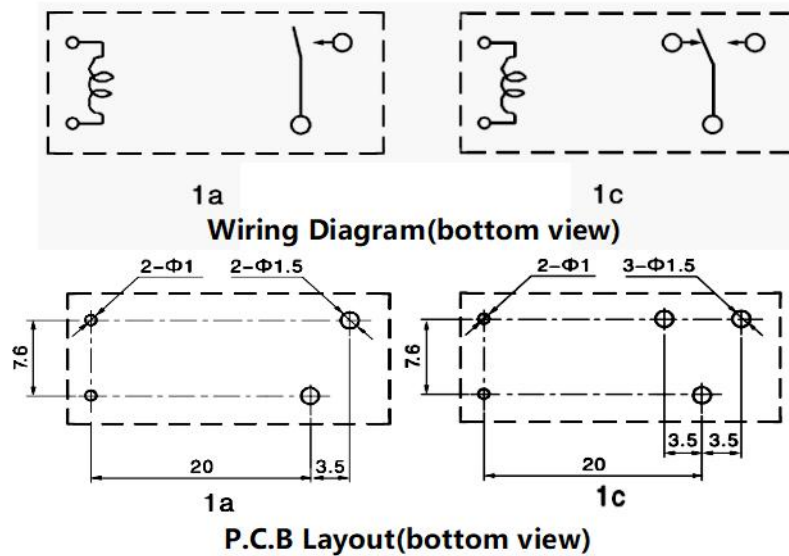
If dimension 1~5mm, tolerance : ±0.3mm

If dimension > 5mm, tolerance : ±0.4mm

Note :

1.The dimension of pin is the size before tinning

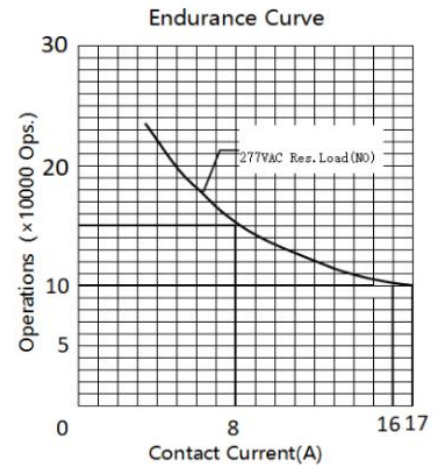
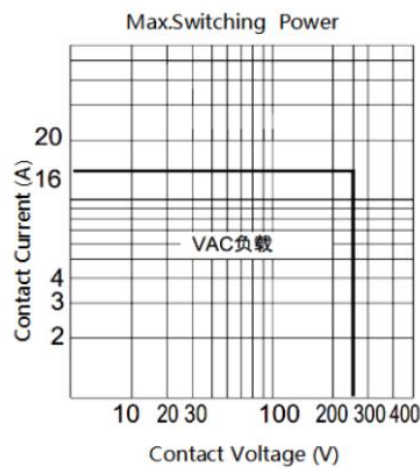
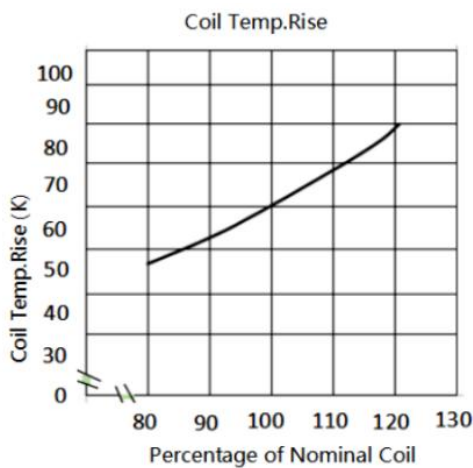
2.Tolerance of PCB layout : ±0.1 mm



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.