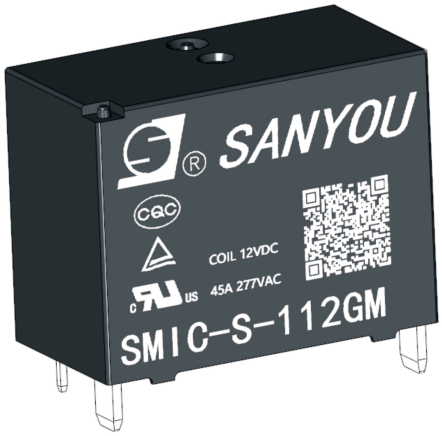
三友繼電器 SANYOU RELAYS

SMIC-G-Series Miniature Power Relay



Features

- 45A contact switching capability
- Most suitable for solar photovoltaic power inverter, UPS.
- Contact clearance 2.0mm,2.3mm (IEC62109-2-2011and VDE0126).
- Environmental protection products (RoHS compliant).

Safety Approval

- UL/CUL FileNo: E179745-1-31
- TUV FileNo：R50540861
- CQC FileNo: CQC22002336810

Contact Date

Type	SMIC	
Rated load	45A 250VAC	
Max.switching current	45A	
Max.switching voltage	277VAC	
Max.switching power	12465 VA	

Characteristic Date

Contact arrangement	Silver alloy	
Contact resistance	100mΩ Max.	
Operate time	20ms Max.	
Release time	10ms Max.	
Insulation resistance	1,000MΩ Min.(DC500V)	
Dielectric strength	Between open contacts: 2,500VAC,50/60Hz 1min.	
	Between coil and contact: 4,500VAC,50/60Hz 1min.	
Impulse withstand voltage	Between coil and contact: 10KV(1.2/50us)	
Vibration resistance	Destructive	10~55Hz, 1.5 mm DA
	Functional	10~55Hz, 1.5 mm DA
Shock resistance	Destructive	100G Min.
	Functional	10G Min.
Endurance(Operations)	Mechanical endurance(9,000ops/h)	100,000 cycles(at room temperature)
	Electrical endurance(360ops/h)	50K cycles (20A making, 45A carrying,20A breaking at 250 VAC,resistive, 85℃)
Ambient temperature	-40℃~+85℃(no condensation)	
Unit weight	Approx 20g	

◆ Coil Data (at 20℃)

Nominal voltage (VDC)	Nominal operating current (mA)	Coil resistance ± 10% (Ω)	Max. allowable voltage	Pick-up voltage (max)	Drop-out voltage (min)	Nominal operating power(w)
5	320	16	110% of nominal voltage	75% of nominal voltage	5% of nominal voltage	1.6w
6	266.67	23				
9	177.78	51				
12	133.33	90				
18	88.89	203				
24	66.67	360				

1. Coil holding voltage:After energizing rated coil voltage for 200ms, customer can use 50%-100% rated coil voltage as holding voltage(at 23℃) , or customer can use 55%-100% rated coil voltage as holding voltage (at 85℃)

2.The contact gap 2.3mm Product coil resistance ±15%

◆ Safety Approval Ratings (Note: Please refer tothe certificates for more detailed information of the ratings)

certification type	CQC	TUV	UL/CUL
File No.	CQC22002336810	R50540861	E179745-1-31
Approved ratings	45A125/250/277VAC	45A 125/250/277VAC	45A125/250/277VAC

(1)All values without indicating temperature are tested under room temperature

(2)Only typical ratings are listed above and the endurance differ in each load. Other specific load information are available upon request

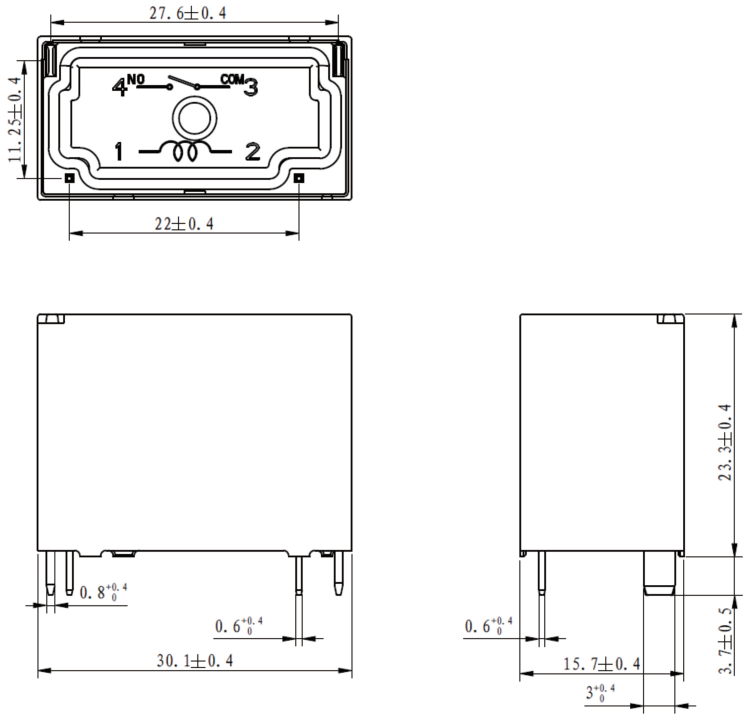
(3)For sealed type testing, please open the ventilation hole in the case befofe test

Ordering Infomation

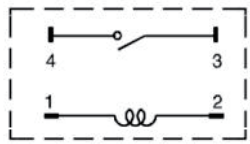
SMIC -S -1 12 G M -XX

- -XX: Special code: Nil-Standard, 1-Contact gap 2.3mm
- M: Contact material : Nil-$AgSnO_2$
- G: Contact arrangement: M-FormA
- 12: Load current: G-45A
- G: Coil voltage date(VDC): 05,06,09,12,18,24
- -1: Number ofpoles: 1-1Pole
- -S: Protective construction : S-Flux proofed
- SMIC: Type : SMIC

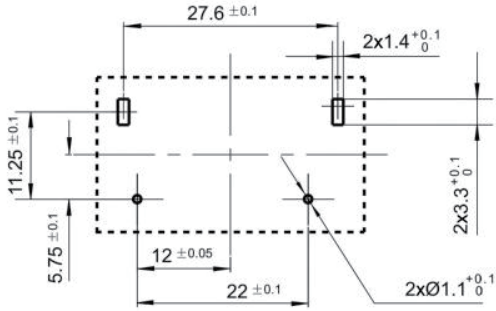
◆ Outline Dimensions,Wiring Diagram,P.C.Board Layout (unit:mm)



Outline dimension



Wiring diagram(bottom view)



PCB layout (bottom view)

◆ Typical application

Most suitable for solar photovoltaic power inverter, UPS。

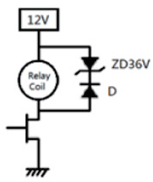
Disclaimer:

The specification is for reference only. Specifications subject to change without notice.

We could not evaluate all the performance and all the parameters for every possible application. Thus the user should be in a right position to choose the suitable product for their own application. If there is any query, please contact Sanyou for the technical service. However, it is the user's responsibility to determine which product should be used only.

varistor (ZNR) could absorb the coil surge of relay that is recommended.

(Example)



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