三友继电器
® SANYOU RELAYS
Relays for advanced technology

Miniature Power Relay SMIA -G-2P-Series

Features:

- 16A high switching capability
- 2mm contact gap
- boundary dimension:29mmx12.8mmx26.2mm

Safety Approval

UL/C-UL File No： E179745-1-30

TUV File No： R50540860

CQC File No：CQC22002336811

Contact Capacity

Model	SMIA
Nominal switching capacity (res. load)	16A 250VAC
Max. switching current	16A
Max. switching voltage	277VAC
Max. switching power	4432 VA
Min.switching load	6V 1A

Characteristic Data

Contact arrangement	Silver alloy	
contact resistance	100mΩ Max.(at 1A 6VDC)	
Operate time (at nominal volt.)	15msec. Max. (No diode)	
Release time (at nominal volt.)	5msec. Max. (No diode)	
insulation resistance	1,000MΩ Min.(DC500V)	
Initial dielectric strength	Disconnect Between contact grops: AC2500V，50/60Hz 1min. Contact Between groups: AC3000V，50/60Hz 1min.	
	Between coil and contact：AC5,000V，50/60Hz 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	100G Min.
	Destructive	10G Min.
Endurance	Mechanical (at 9000 ops./h)	300,000 cycles
	electrical endurance (at 360 ops./h)	30000 cycles（NC:10000cycles）
Ambient temperature	-40℃～+85℃ (no condensation)	
ambient humidity	5%～85%RH	
Unit weight	Approx 19g	

(1)The above values are initial values

(2)Only the typical load of the product certification is listed above,the electrical life and durability of each load are different due to different detailed test conditions.For further information,please contact our technical department.

(3)The above durability electrical life test conditions are open hole product state

Coil Data (at 20℃)

Nominal voltage (VDC)	Nominal operating current ±10% (A)	Coil resistabce ±10% (Ω)	Mmximum applied voltage (VDC)	Pick-up voltage (Max.)	Drop-out voltage (Min.)	Nominal operating power
5	0.28	18	Nominal voltage 110%	Nominal voltage 75%	Nominal voltage 5%	Approx 1.4W
6	0.23	26				
9	0.16	58				
12	0.12	102				
24	0.06	410				
48	0.03	1650				

(1)The above value is the initial value.Do not apply the maximum voltage on the product continuously for more than 10min to avoid coil heating

(2) Operation voltage of conversion product ≤85% rated voltage, coil tolerance of (1±15%)

(3)Coil holding voltage is the coil excitation voltage maintained after 200ms, down to 50~100% of the rated coil voltage (23℃), down to 50~100% of the rated coil voltage (85℃)

Safety certification load(Note:For more detailed certification load,refer to safety certificate)

certification type	CQC	TUV	UL/CUL
File No.	CQC22002336811	R50540860	E179745
Approved ratings	16A 125/250/277VAC	16A 125/250/277VAC	16A 125/250/277VAC

(1)The load without temperature indicated above refers to ambient temperature of room temperature

(2)The above is only a partial list of the loads for which the product is certified .The detailed test conditions for each load are different , so the number of electrical lives varies.For further information,please contact sanyou

(3)When testing seal type&waterproof type products,should open up the heat emission hole of the case.

Ordering Information

SMIA -□ -□ □ □ □ □ □ -□ □ Special parameters: None-Standard type, letters or digits-Special requirement

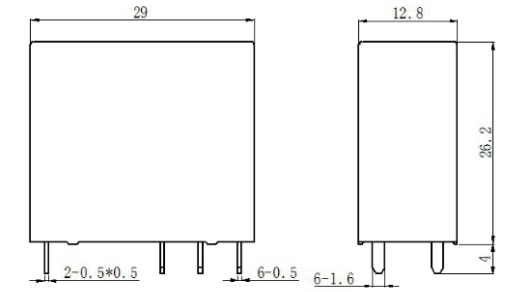
- insulation grade:Nil-class F
- Nominal Load: G-16A
- Contact material:AgSnO2
- Contact form: Nil-FormC, M-formA
- The power consumption of the coil:D-1.4W
- Coil specification
- Number of contact groups: 2-2 groups
- Package type: S- Flux type
- Basic model: SMIA

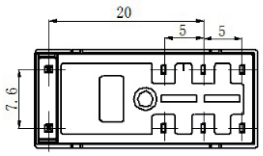
(1)Plastic sealing type can not be used in polluted environment (containing H2S, S02, N02, dust and other pollutants).

(2)The plastic seal type can not be cleaned or treated as a whole after PCB welding.

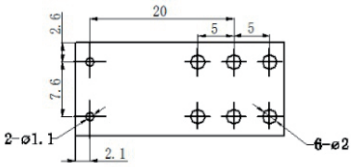
(3)Customer special requirements (XX) shall be evaluated by our company and marked by characteristic symbols.

Outline dimension drawing, wiring diagram, mounting hole bitmap (unit:mm)

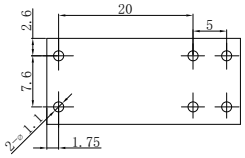




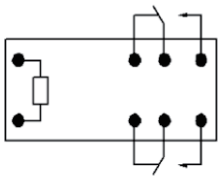
Outline dimension drawing of type C

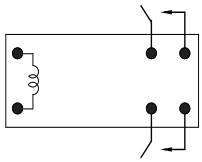


Outline dimension drawing of type A



Wiring diagram (bottom view)



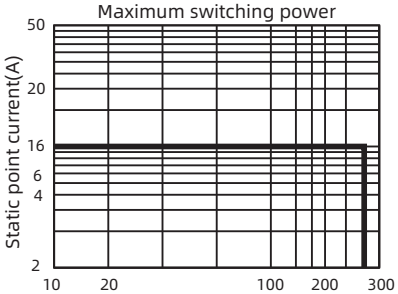


Unless otherwise specified:
If dimension ＜1mm, tolerance: ±0.2mm;
If dimension 1~5mm, tolerance: ±0.3mm;
If dimension ＞5mm, tolerance: ±0.4mm.

Note: 1. Extended terminal dimension is dimension before soldering.
2. Tolerance of P.C.B. layout: ±0.1mm.

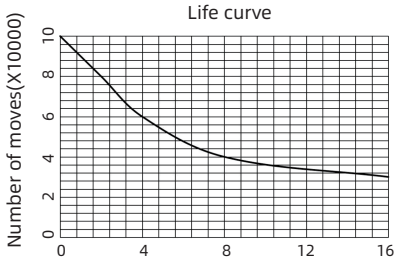
Performance curve

Maximum switching power



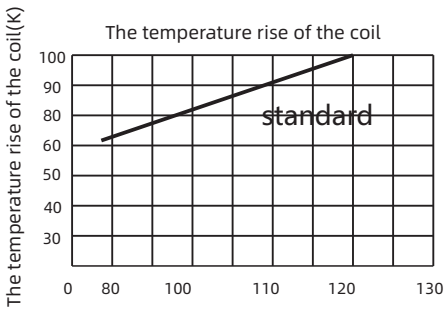
The contact voltage(V)

Life curve



Contact current(A)

The temperature rise of the coil

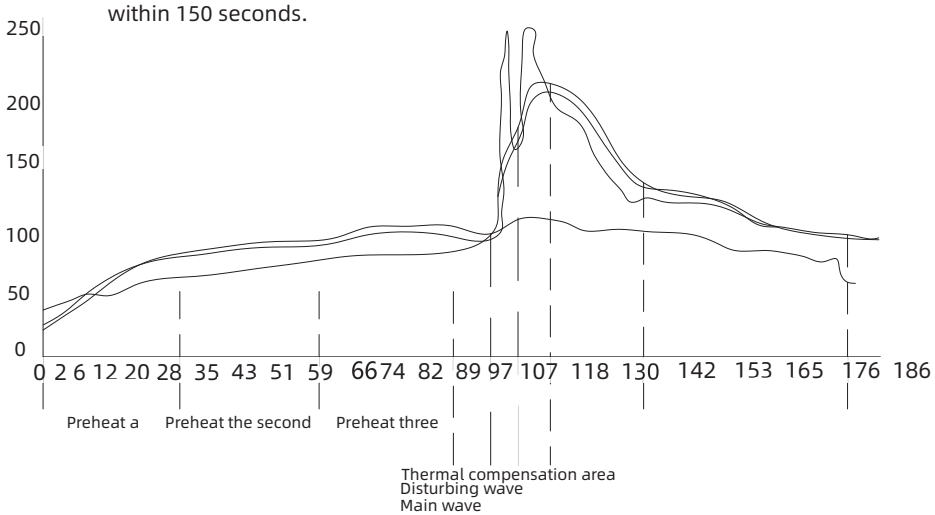


The percentage of the coil voltage rating

Matters needing attention:

(1) Wave soldering installation conditions

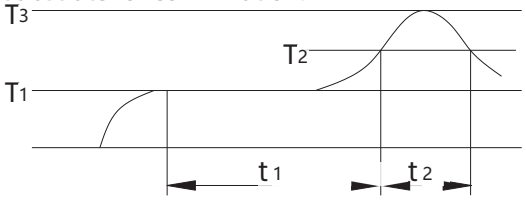
In the case of automatic welding, observe the following conditions. Pre-heating: within 150℃ (welding surface terminal) within 150 seconds.



Wave soldering temperature profile

Recommended welding temperature and time: 240℃~260℃, 3s-5s. In addition, the impact on the relay may vary according to the type of substrate actually used.

Therefore, check the actual substrate for confirmation.



T1 = 150 ℃~180℃
T2 ≥ 230 ℃
T3 ≤ 250 ℃
T1 = 60S~120S
T2 ≤ 30S

(2)Reflow welding installation conditions (PIN-in-paste process)

Under the condition of mixed parts on the same substrate, the temperature rise of the relay largely depends on the heating method of reflow welding machine, so please set the temperature condition.

Make the temperature of the relay terminal welding part and the surface of the relay shell less than the above conditions, and then confirm with the actual machine in advance.

Statement:This product specification is for reference only, subject to change without prior notice.

It is not possible for Sanyou to evaluate all the performance parameter requirements of relays in each specific application field, so the customer should choose the unsuitable ones according to the specific application conditions

Products, if you have any questions, please contact us for more technical support, but the customer is responsible for product selection.

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

(Example)