

Features

- ☐ Compact size miniature PCB relays.
- ☐ Special design of high performance for motor control of wiper and sunroof, and window lift control.
- ☐ High rating 20A with maximum switching current up to 30A.
- ☐ High temperature endurance up to 125C℃.
- ☐ IR-Reflow process compatible (special version).
- ☐ RoHS Compliant ; ELV Compliant.

Type List

Terminal style	Contact form	Designation (provided with)		
		Flux tight	Sealed type	Sealed type washable
PCB terminal	1A (SPNO)	102-1AH-C	102-1AH-V	102-1AH-S
	1C (SPDT)	102-1CH-C	102-1CH-V	102-1CH-S

Ordering Information

102	-	1A	H	-	C	☐
1		2	3		4	5

1. 102 -- Basic series designation
2. 1A -- Single pole normally open
   1C -- Single pole double throw
3. H -- Contact material AgSnO
4. C -- Flux tight
   V -- Sealed type
   S -- Sealed type washable
5. ☐ -- Coil voltage (please refer to the coil rating data for the availability)

Contact Rating

Resistive load	NO/NC : 20A/10A 14VDC
Motor load	Inrush 30A, steady state 10A 14VDC, 750K ops.
	Motor Lock : 20A 14VDC, 200K ops.

Coil Rating (DC)

Rated voltage (V)	Rated current ±10 % at 23°C (mA)	Coil resistance ±10 % at 23°C (Ω)	Max. continuous voltage at 85°C (1)	Pick up voltage(Max.) at 23°C	Drop out voltage(Min.) at 23°C	Power consumption at rated voltage
6	107	56	133 % of rated voltage	60 % of rated voltage	5 % of rated voltage	approx. 0.64W
9	70.8	127				
12	53.3	225				
24	26.7	900				

Note : (1) Without continuous contact current.

Specification

Contact material	AgSnO alloy	
Contact voltage drop (1)	Typ. 50mV at 10A	
Operate time(1)	10 ms Max.	
Release time(1)	5 ms Max.	
Insulation resistance (1)	100MΩMin. (DC 500V)	
Dielectric strength (1)	Between open contact : AC 500V , 50/60Hz 1 min.	
	Between contact and coil : AC 500V , 50/60Hz 1 min.	
Vibration resistance	Operating extremes	10～500Hz , 4.4G
	Damage limits	10～500Hz , 4.4G
Shock resistance	Operating extremes	10G
	Damage limits	100G
Life expectancy	Mechanical	10,000,000 ops. (frequency 18,000 ops./hr)
	Electrical	100,000 ops. (frequency 360 ops./hr)
Operating ambient temperature	-40～+125°C (no freezing)	
Weight	Approx. 4 g	

Note : (1) Initial value. Operate and release time excluding contact bounce.

(2) Unless otherwise specified, all tests are under room temperature and humidity.

(3) Consider the heat of PCB is necessary, please check the actual condition of PCB.

(4) Applying no diode to this relay. The life expectancy will be lower when a diode is used. To use a varistor (ZNR) could absorb the coil surge of relay that is recommended.

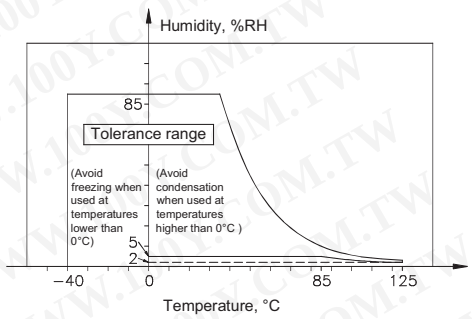
(5) Do not use the relay exceeding the coil rating, contact rating and life expectancy, or this may cause the risk of overheating.

(6) To assure optimum performance, avoid the relay from dropping, hitting, or other unnecessary shocks.

(7) Flux tight version is recommended. If there is cleaning process and sealed type is selected, the vent-hole should be removed after the process.

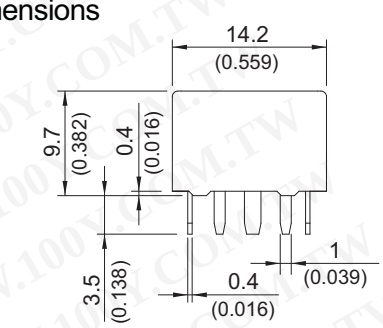
(8) Usage, transport and storage conditions

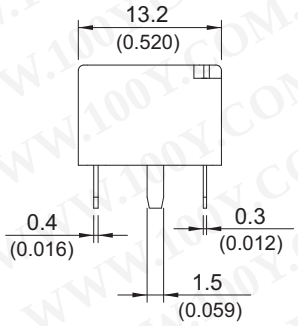
- 1. Temperature: -40~+125°C
- 2. Humidity: 5 to 85% R.H.
- 3. Pressure: 86 to 106 kPa
- Furthermore, the humidity range varies with the temperature. So, use relays within the range indicated in the graph below.

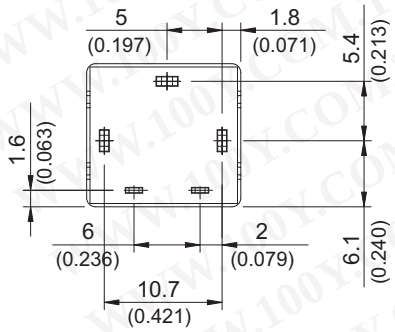


(9) Please contact Song Chuan for the detailed information.

Outline Dimensions





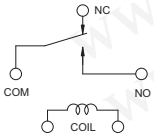


TOLERANCE:
LESS THAN: 1(0.039) ±0.1(0.004)
5(0.197) ±0.3(0.012)
20(0.787) ±0.5(0.020)
MORE THAN: 20(0.787) ±1(0.039)

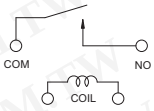
Wiring Diagram

BOTTOM VIEW

1C



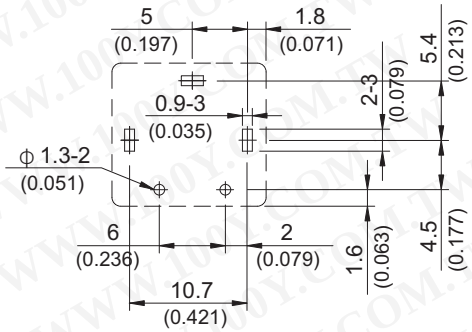
1A



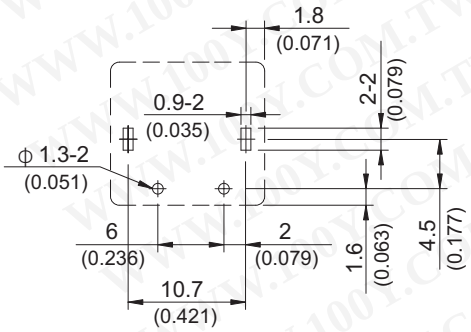
PC Board Layout

BOTTOM VIEW

1C

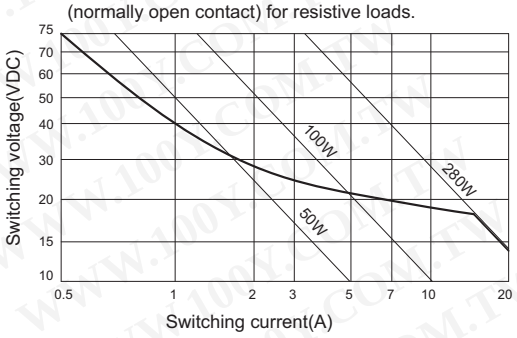


1A

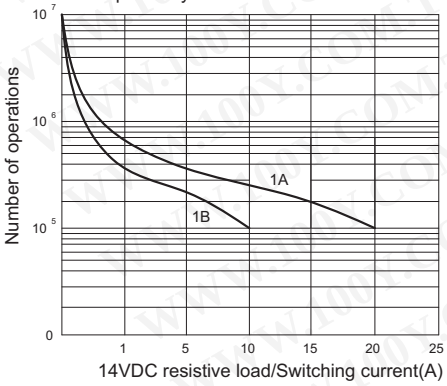


Engineering Data

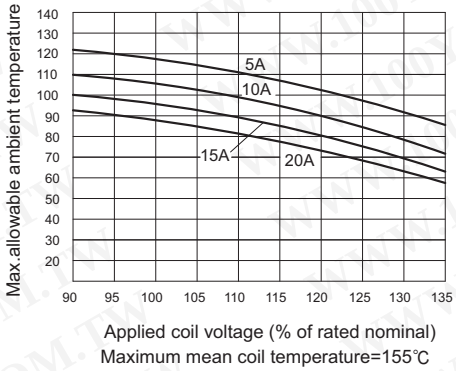
Safe breaking,arc extinguished
(normally open contact) for resistive loads.



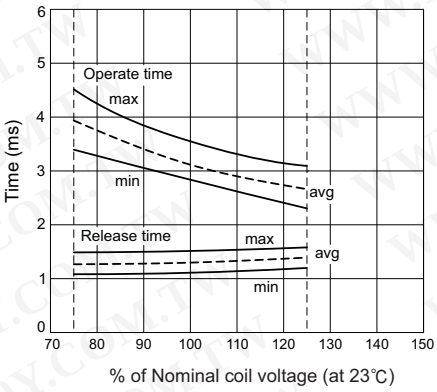
Life expectancy



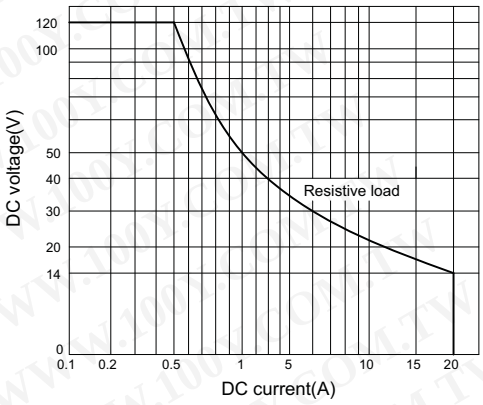
Ambient temperature vs coil voltage
for continuous contact load



Operate time/Release time



Max. DC load breaking capacity



All specifications subject to change. Please contact Song Chuan for update.