

### »» Features

- High power PCB relay with 40A rating.
- USA & European footprint are both available.
- Open frame, dust cover, flux-free type, and sealed type are available.
- Offering SPNC, SPNO, SPDT of contact configurations.
- Complies with RoHS-Directive 2011/65/EU and ELV-Directive 2000/53/EC.

### »» Type List

#### ◆ Standard type

Terminal style	Contact form	Designation (enclosure)			
		Open type	Flux tight	Sealed type	Sealed type washable
PCB terminal (Footprint for European)	1A (SPNO)	822E-1A	822E-1A-C	822E-1A-V	822E-1A-S
	1B (SPNC)	822E-1B	822E-1B-C	822E-1B-V	822E-1B-S
	1C (SPDT)	822E-1C	822E-1C-C	822E-1C-V	822E-1C-S
PCB terminal (Footprint for USA)	1A (SPNO)	822U-1A	822U-1A-C	822U-1A-V	822U-1A-S
	1B (SPNC)	822U-1B	822U-1B-C	822U-1B-V	822U-1B-S
	1C (SPDT)	822U-1C	822U-1C-C	822U-1C-V	822U-1C-S
PCB terminal (Footprint for USA different terminal)	1A (SPNO)	-----	822UA-1A-C	822UA-1A-V	822UA-1A-S
	1B (SPNC)		822UA-1B-C	822UA-1B-V	822UA-1B-S
	1C (SPDT)		822UA-1C-C	822UA-1C-V	822UA-1C-S

#### ◆ High sensitivity type

PCB terminal (Footprint for European)	1A (SPNO)	822EN-1A	822EN-1A-C	822EN-1A-V	822EN-1A-S
	1B (SPNC)	822EN-1B	822EN-1B-C	822EN-1B-V	822EN-1B-S
	1C (SPDT)	822EN-1C	822EN-1C-C	822EN-1C-V	822EN-1C-S
PCB terminal (Footprint for USA)	1A (SPNO)	822UN-1A	822UN-1A-C	822UN-1A-V	822UN-1A-S
	1B (SPNC)	822UN-1B	822UN-1B-C	822UN-1B-V	822UN-1B-S
	1C (SPDT)	822UN-1C	822UN-1C-C	822UN-1C-V	822UN-1C-S
PCB terminal (Footprint for USA different terminal)	1A (SPNO)	-----	822UAN-1A-C	822UAN-1A-V	822UAN-1A-S
	1B (SPNC)		822UAN-1B-C	822UAN-1B-V	822UAN-1B-S
	1C (SPDT)		822UAN-1C-C	822UAN-1C-V	822UAN-1C-S

### »» Ordering Information

822    E        -    1A    -          
 1        2        3                    4                    5                    6

- |   |  |
|---|--|
| 1. 822 -- Basic series designation<br>2. E -- Europe footprint<br>U -- USA footprint<br>UA -- USA different terminal<br>3. Blank -- Standard type<br>N -- High sensitivity type<br>4. 1A -- Single pole normally open<br>1B -- Single pole normally close | 1C -- Single pole double throw<br>5. Blank -- Open type<br>C -- Flux tight<br>V -- Sealed type<br>S -- Sealed type washable<br>6. <input type="checkbox"/> -- Coil voltage (please refer to the coil rating data for the availability) |
|---|--|

## »» Contact Rating

Resistive load	1A	1B	1C
	40A 14VDC	30A 14VDC	NC: 20A 14VDC ; NO: 40A 14VDC

## »» Coil Rating (DC)

## ◆Standard type

Rated voltage (V)	Rated current ±10 % at 23°C (mA)	Coil resistance ±10 % at 23°C (Ω)	Max. continuous voltage at 85°C <sup>(1)</sup>	Pick up voltage(Max.) at 23°C	Drop out voltage(Min.) at 23°C	Power consumption at rated voltage
6	315	19	133% of rated Voltage	3.3	0.6	approx. 1.6W
9	180	50		5.0	0.9	
12	133	90		6.8	1.2	
24	66	362		13.9	2.4	

Note : (1) With continuous contact current 20A.

## ◆High sensitivity type

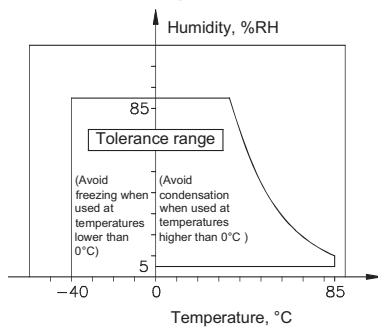
Rated voltage (V)	Rated current ±10 % at 23°C (mA)	Coil resistance ±10 % at 23°C (Ω)	Max. continuous voltage at 85°C <sup>(1)</sup>	Pick up voltage(Max.) at 23°C	Drop out voltage(Min.) at 23°C	Power consumption at rated voltage
6	200	30	133% of rated Voltage	75 % of rated Voltage	10 % of rated Voltage	approx. 1.2W
9	133	67.5				
12	100	120				
24	50	480				

Note : (1) With continuous contact current 20A.

## »» Specification

Contact material	AgSnO alloy	
Contact voltage drop <sup>(1)</sup>	Typ. 40mV at 10A	
Insulation resistance <sup>(1)</sup>	50MΩ Min. (DC 500V)	
Operate time <sup>(1)</sup>	5ms Max.	
Release time <sup>(1)</sup>	4ms Max.	
Dielectric strength <sup>(1)</sup>	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	20G , 11ms , half sine wave pulse	
Life expectancy	Mechanical	10,000,000 ops. (frequency 18,000 ops./hr)
	Electrical	100,000 ops. (frequency 1,200 ops./hr)
Operating ambient temperature	-40~+85°C (no freezing)	
Weight	Approx. 17.5g	

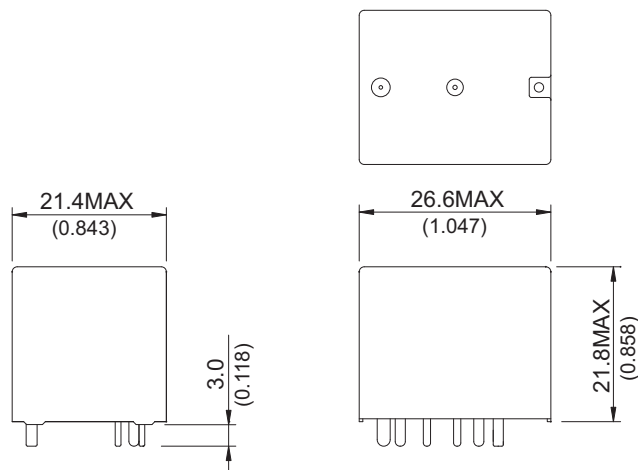
- Note :
- (1) Initial value. Operate and release time excluding contact bounce.
  - (2) Unless otherwise specified, all tests are under room temperature and humidity.
  - (3) Consider the heat of PCB is necessary, please check the actual condition of PCB.
  - (4) Applying no diode to this relay. The 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) Do not switch the contacts without any load as the contact resistance may become increased rapidly.
  - (8) Flux tight version is recommended. If there is cleaning process and sealed type is selected, the vent-hole should be removed after the process.
  - (9) Usage, transport and storage conditions
    - 1. Temperature:  $-40 \sim +85^{\circ}\text{C}$
    - 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.



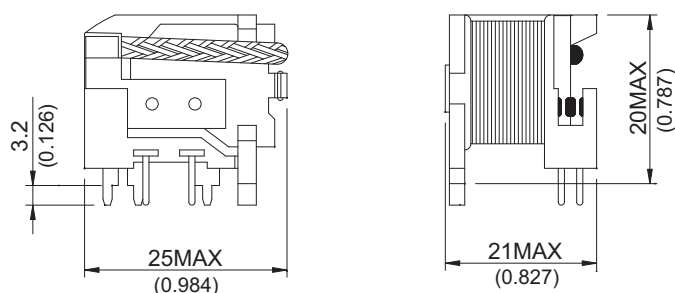
- (10) Please contact Song Chuan for the detailed information.

## »» Outline Dimensions

### ◆ 822E,UA

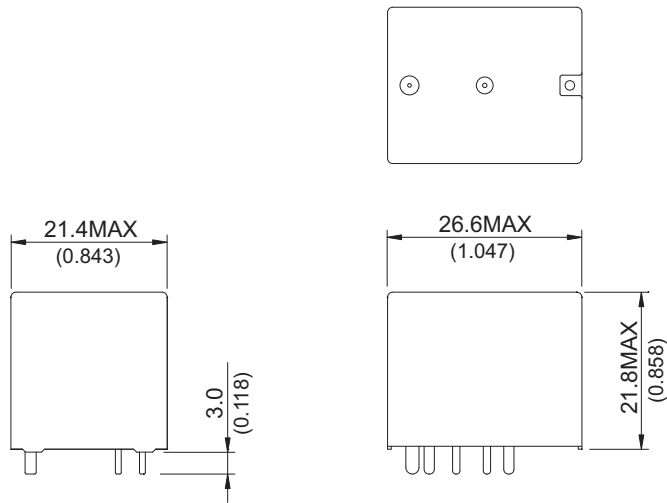


### ◆ 822E OPEN

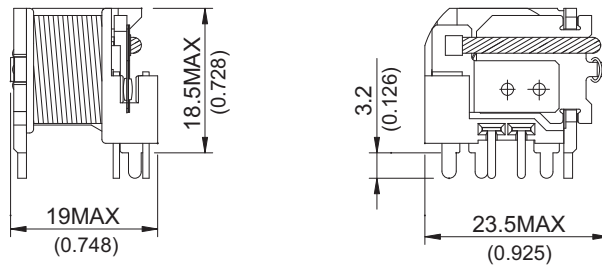


# 822

◆822U



◆822U OPEN

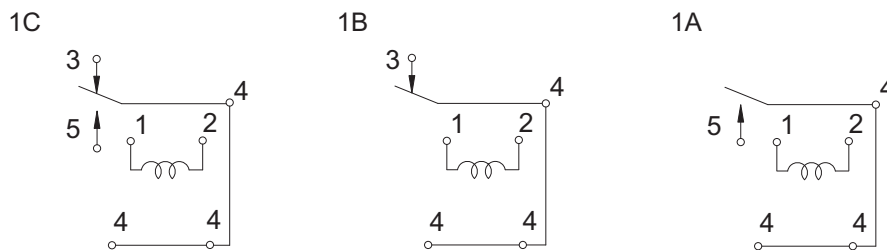


TOLERANCE:  
 LESS THAN: 1(0.039) ±0.1(0.004)  
 5(0.197) ±0.3(0.012)  
 20(0.787) ±0.5(0.020)  
 MORE THAN: 20(0.787) ±1(0.039)

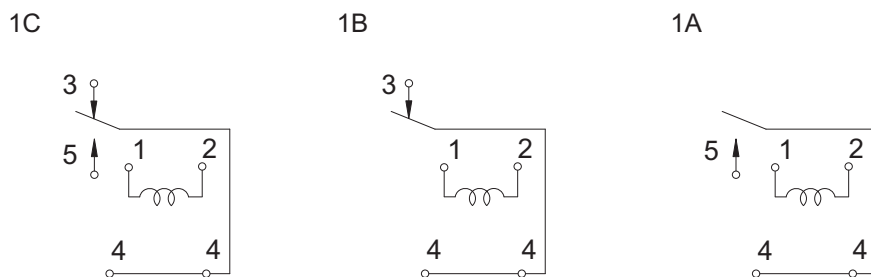
»» Wiring Diagram

BOTTOM VIEW

◆822E,822UA,822U(OPEN)



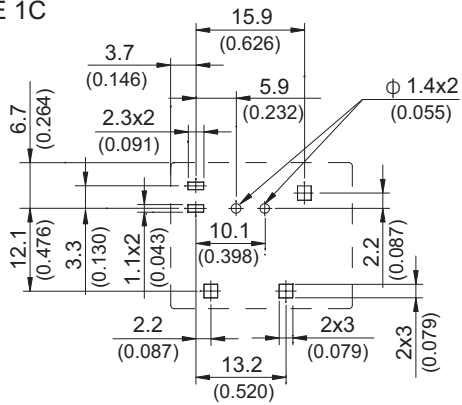
◆822U



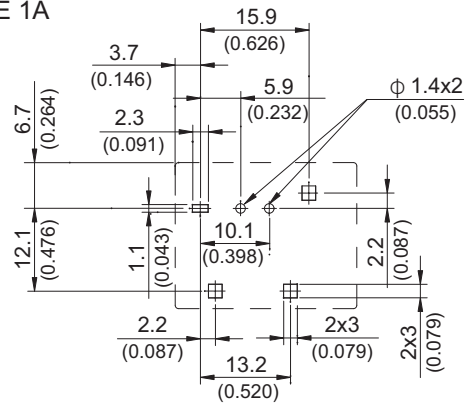
## PC Board Layout

BOTTOM VIEW

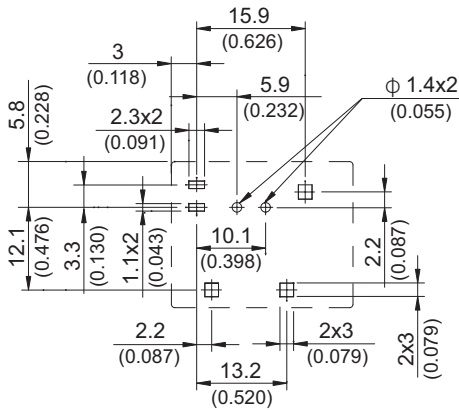
◆822E 1C



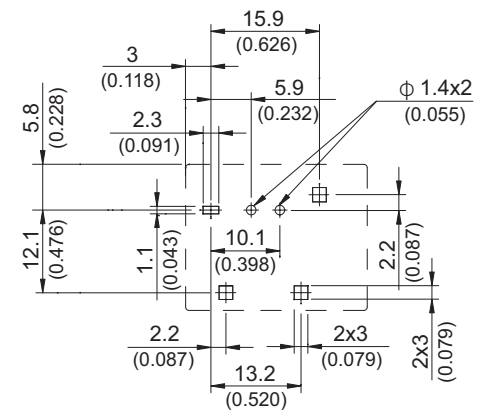
◆822E 1A



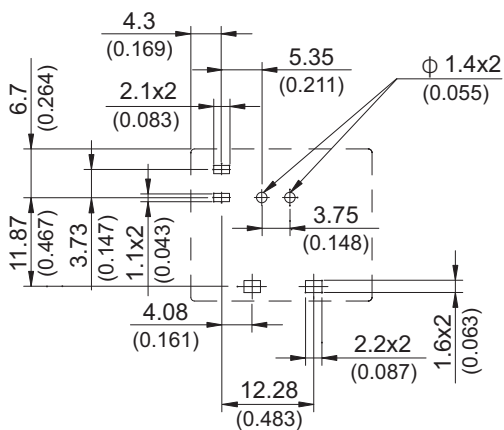
◆822E(OPEN) 1C



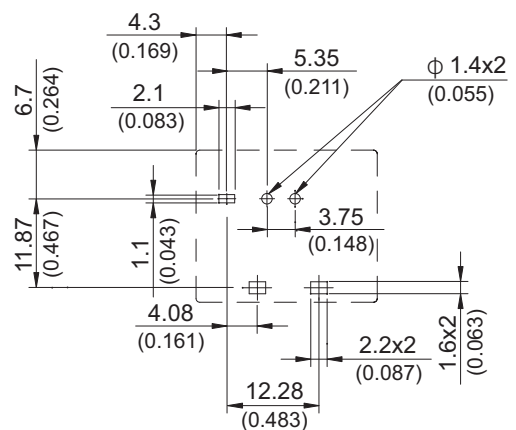
◆822E(OPEN) 1A



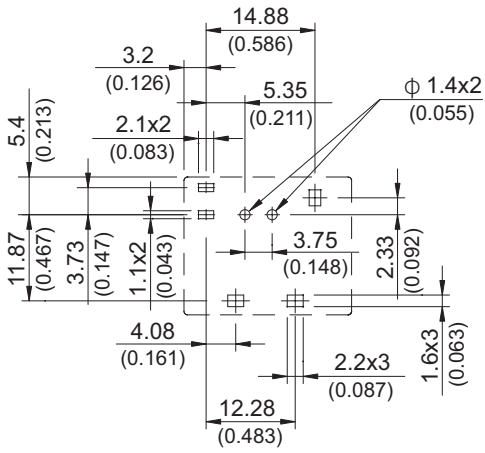
◆822U 1C



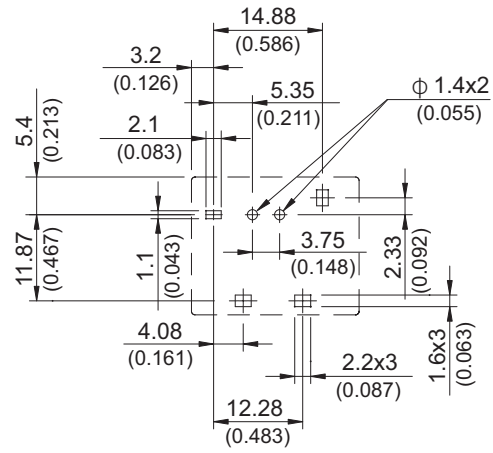
◆822U 1A



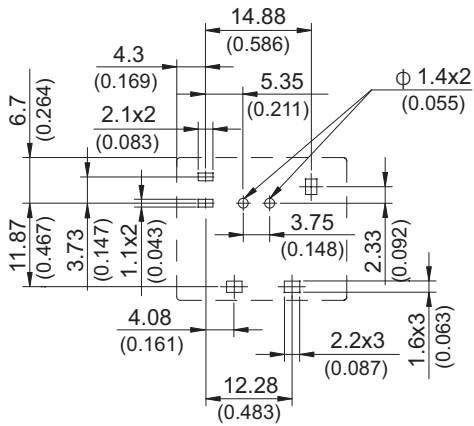
◆822U(OPEN) 1C



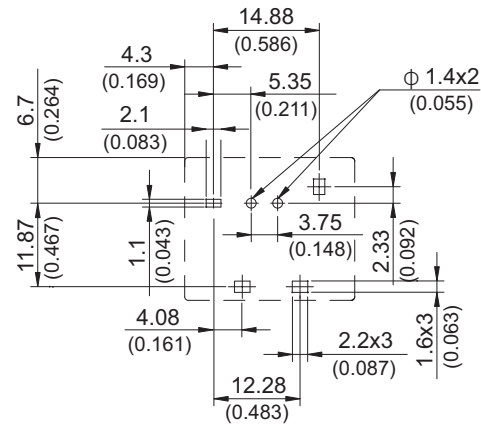
◆822U(OPEN) 1A



◆822UA 1C



◆822UA 1A



### Engineering Data

