



### »» Features

- High power 40A automotive relay.
- USA & European footprint are both available.
- Open frame, dust cover, flux-free type, and sealed washable type are available.
- Offering SPNO, SPNO, SPDT of contact configurations.

### »» Type List

Terminal style	Contact form	Enclosure	Footprint	Designation	
				standard	high sensitivity
PCB terminal	SPNO	Open type	European	822E-1A	822EN-1A
			USA	822U-1A	822UN-1A
	SPDT	Open type	European	822E-1C	822EN-1C
			USA	822U-1C	822UN-1C
	SPNO	Flux tight	European	822E-1A-C	822EN-1A-C
			USA	822U-1A-C	822UN-1A-C
			USA different terminal	822UA-1A-C	822UAN-1A-C
	SPDT	Flux tight	European	822E-1C-C	822EN-1C-C
			USA	822U-1C-C	822UN-1C-C
			USA different terminal	822UA-1C-C	822UAN-1C-C

### »» Ordering Information

822      E      N      -      1C      -      C  
 1          2          3          4          5

- |                                    |                                    |
|------------------------------------|------------------------------------|
| 1. 822 -- Basic series designation | 4. 1A -- Single pole normally open |
| 2. E -- Europe footprint           | 1B -- Single pole normally close   |
| U -- USA footprint                 | 1C -- Single pole double throw     |
| UA -- USA different terminal       |                                    |
| 3. Blank -- standard type          | 5. Blank -- Open type              |
| N -- High sensitivity type         | C -- Flux tight                    |
|                                    | V -- Sealed type                   |
|                                    | S -- Sealed type washable          |

### »» Contact Rating

Resistive load	SPNO	SPNC	SPDT
	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	130 % 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)Continuous contact current at 20A.

### »» Coil Rating (DC) (High Sensitivity Type)

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

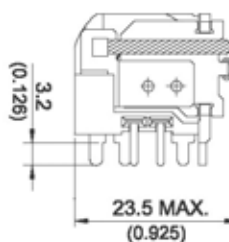
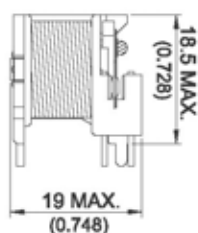
### »» Specification

Contact material	AgSnO alloy	
Contact resistance <sup>(1)</sup>	50 m $\Omega$ Max.	
Insulation resistance <sup>(1)</sup>	50 M $\Omega$ Min. (DC 500V)	
Operate time <sup>(1)</sup>	5 ms Max.	
Release time <sup>(1)</sup>	4 ms 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	10 ~ 55Hz , amplitude 1.5 mm	
Shock resistance	20G , 11ms , half sine wave pulse	
Life expectancy	Mechanical	10,000,000 operations (frequency 18,000 operations/hr)
	Electrical	100,000 operations (frequency 1,200 operations/hr)
Operating ambient temperature	-40 ~ +85° C (no freezing)	
Storage temperature	-40 ~ +130° C	
Weight	Approx. 17.5g	

Note:(1) initial value

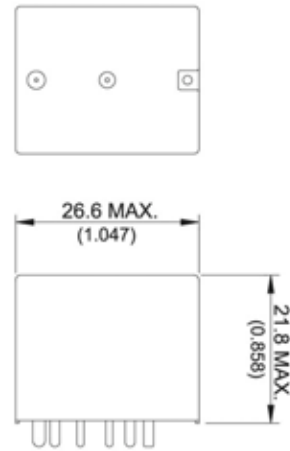
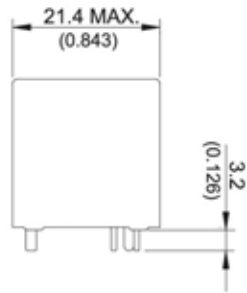
### »» Outline Dimensions

U (OPEN)

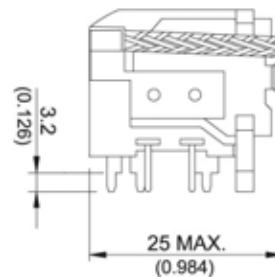
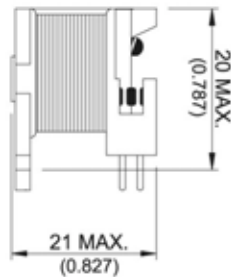


## »» Outline Dimensions

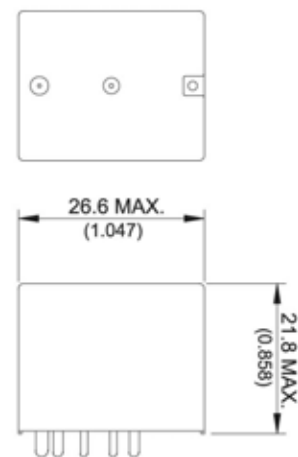
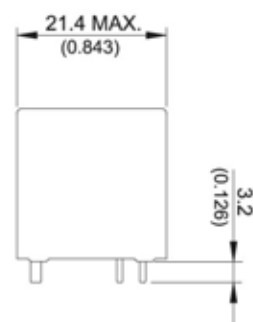
### ◆ E \ UA (-C, -V, -S)



### ◆ E (OPEN)



### ◆ U (-C, -V, -S)



## »» Wiring Diagram

BOTTOM VIEW

E (-C, -V, -S, OPEN)

U (OPEN)

UA (-C, -V, -S)

U

1C

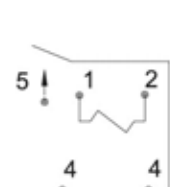
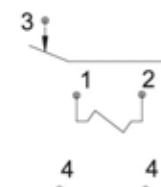
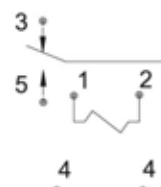
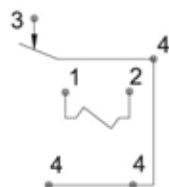
1B

1A

1C

1B

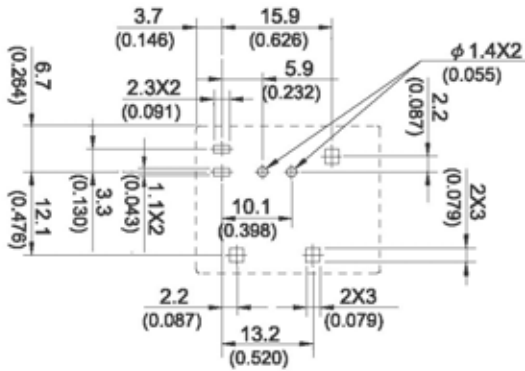
1A



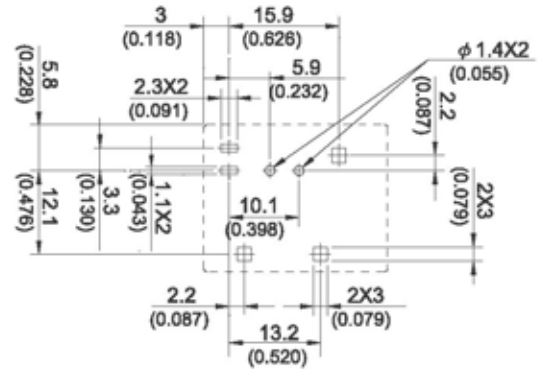
## PC Board Layout

BOTTOM VIEW

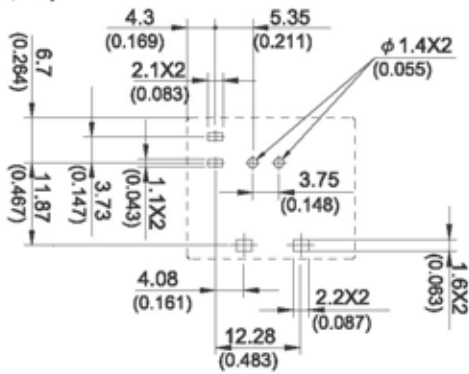
◆E (-C, -V, -S)



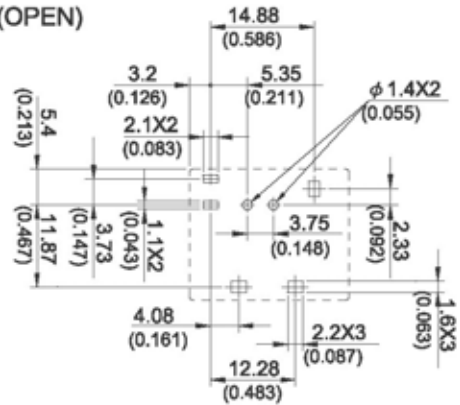
◆E (OPEN)



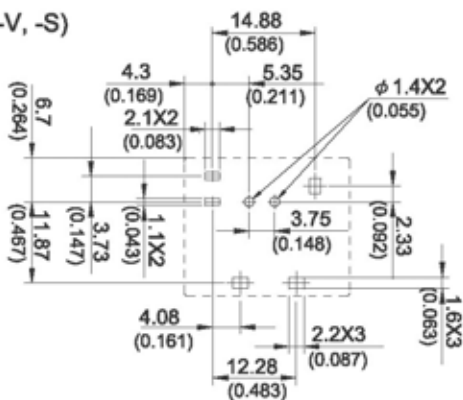
◆U (-C, -V, -S)



◆U (OPEN)



◆UA (-C, -V, -S)



## »» Engineering Data

