



»» 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 SPNC, SPNO, SPDT of contact configurations.

»» 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 N - 1C - C
 1 2 3 4 5

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

»» 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 $\pm 10\%$ at 23 °C (mA)	Coil resistance $\pm 10\%$ 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	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.

◆ High sensitivity type

Rated voltage (V)	Rated current $\pm 10\%$ at 23 °C (mA)	Coil resistance $\pm 10\%$ 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	200	30	130 % 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)Continuous contact current at 20A.

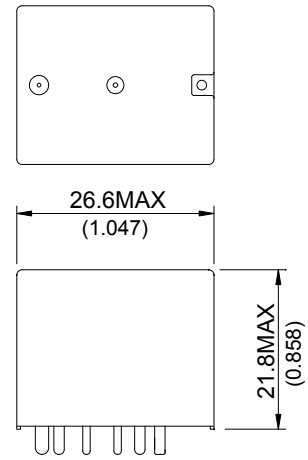
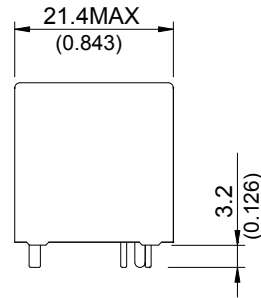
»» Specification

Contact material	AgSnO alloy	
Contact voltage drop ⁽¹⁾	Typ. 40mV at 10A	
Insulation resistance ⁽¹⁾	50M Ω Min. (DC 500V)	
Operate time ⁽¹⁾	5ms Max.	
Release time ⁽¹⁾	4ms Max.	
Dielectric strength ⁽¹⁾	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	

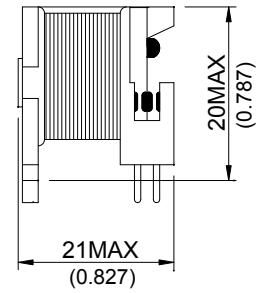
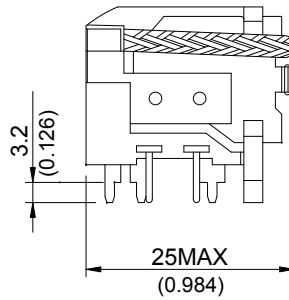
Note : (1) initial value

»» Outline Dimensions

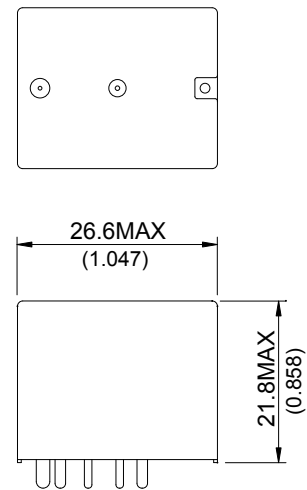
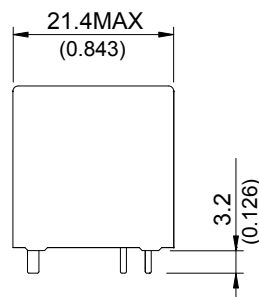
◆ 822E,UA



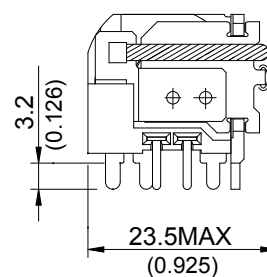
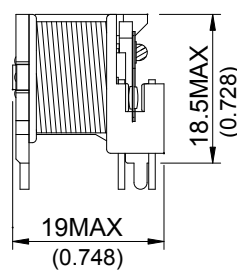
◆ 822E OPEN



◆ 822U



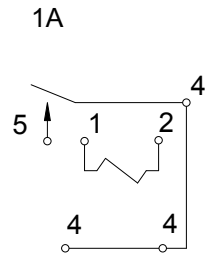
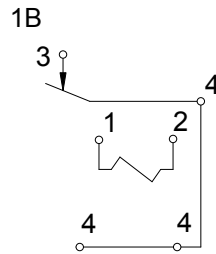
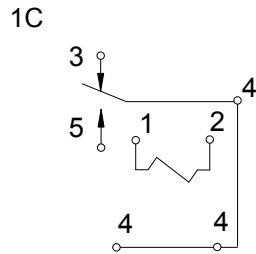
◆ 822U OPEN



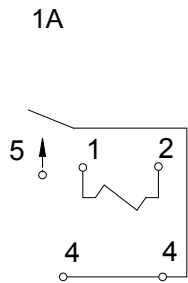
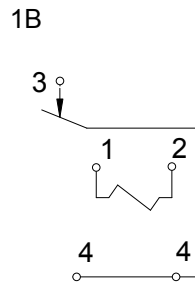
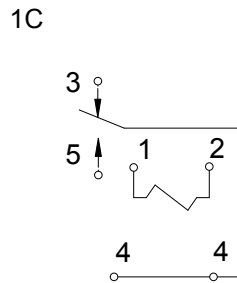
»» Wiring Diagram

BOTTOM VIEW

◆ 822E, 822UA, 822U (OPEN)



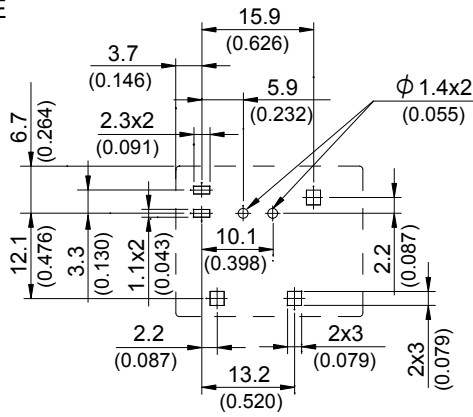
◆ 822U



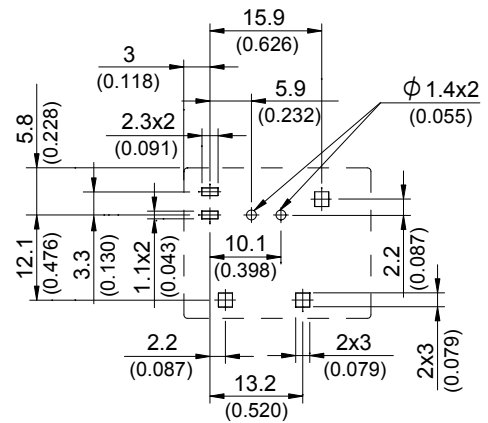
»» PC Board Layout

BOTTOM VIEW

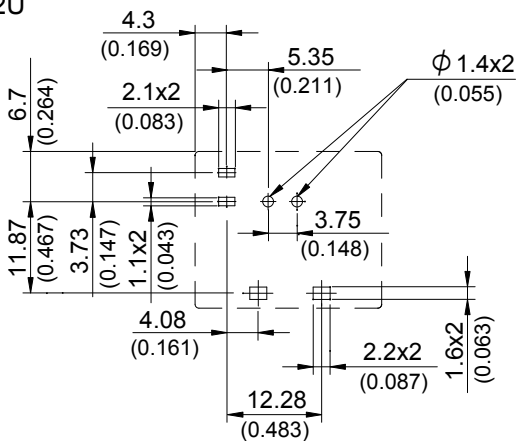
◆ 822E



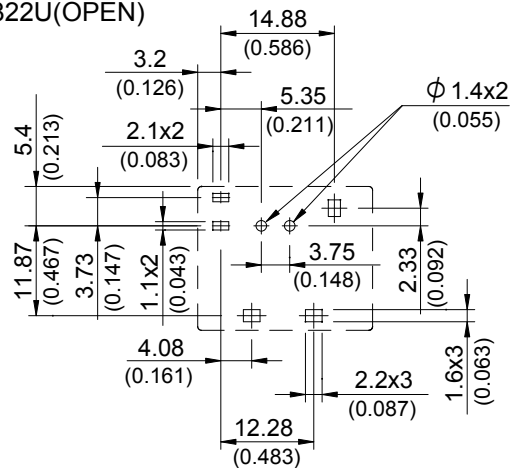
◆ 822E (OPEN)



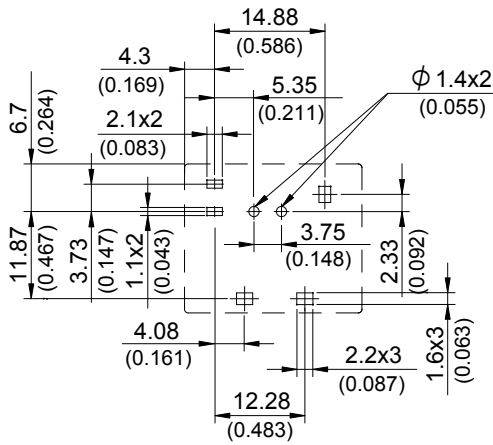
◆ 822U



◆ 822U (OPEN)

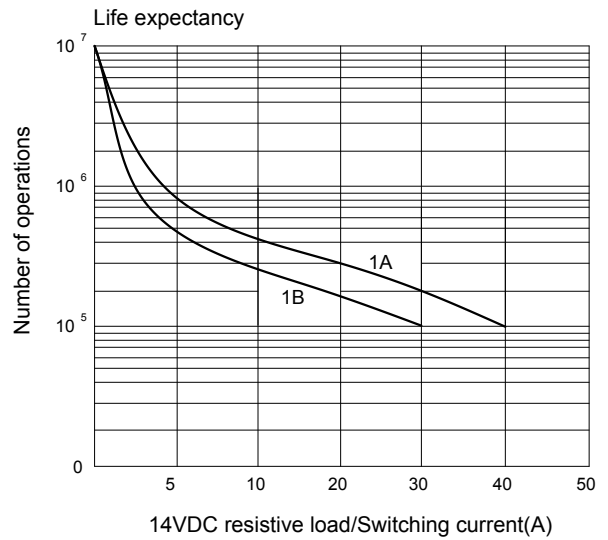
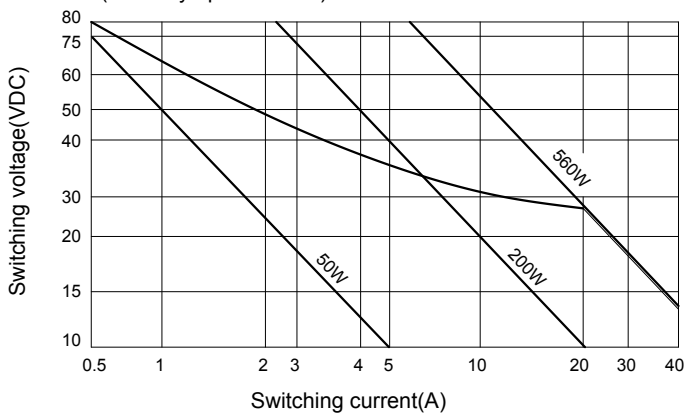


◆ 822UA

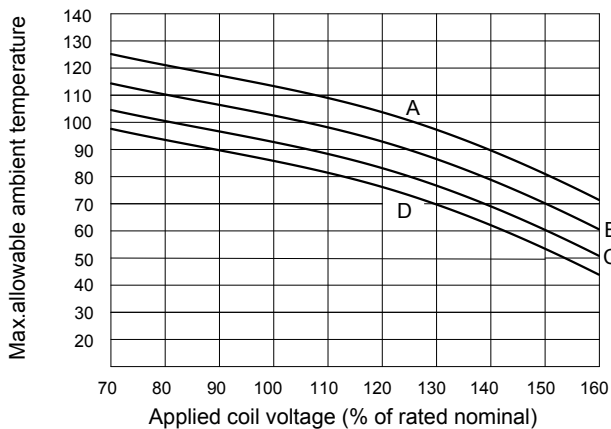


»» Engineering Data

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



Ambient temperature vs coil voltage for continuous duty



A:10A B:20A C:30A D:40A Contact load(resistive)

Maximum mean coil temperature=155°C

Operate time/Release time

