



## »» Features

- ☐ Heavy duty 30A general purpose Power Relays.
- ☐ UL/CUL (UL 508 & 873), VDE safety approvals.
- ☐ Optional for open frame, dust cover, sealed type and with and without quick terminal on top, etc.
- ☐ High insulation type & high dielectric strength type available.
- ☐ Contact gap to 2.0mm, high dielectric strength 4000Vrms.
- ☐ UL Insulation Class F.
- ☐ Ideal for HVAC, UPS & power supply, Home Appliances.
- ☐ Comply with RoHS-Directive 2002/95/EC

## »» Type List

### ◆832

| Terminal style | Contact form | Insulation system | Designation |             |             |                      |
|----------------|--------------|-------------------|-------------|-------------|-------------|----------------------|
|                |              |                   | Open type   | Flux tight  | Sealed type | Sealed type washable |
| PCB terminal   | 1A (SPNO)    | -----             | 832-1A      | 832-1A-C    | 832-1A-V    | 832-1A-S             |
|                |              |                   | 832-1AC     | 832-1AC-C   | 832-1AC-V   | 832-1AC-S            |
|                | 1B (SPNC)    | -----             | 832-1B      | 832-1B-C    | 832-1B-V    | 832-1B-S             |
|                |              |                   | 832-1BC     | 832-1BC-C   | 832-1BC-V   | 832-1BC-S            |
|                | 1C (SPDT)    | -----             | 832-1C      | 832-1C-C    | 832-1C-V    | 832-1C-S             |
|                |              |                   | 832-1CC     | 832-1CC-C   | 832-1CC-V   | 832-1CC-S            |
|                | 1A (SPNO)    | F                 | 832-1A-F    | 832-1A-F-C  | 832-1A-F-V  | 832-1A-F-S           |
|                |              |                   | 832-1AC-F   | 832-1AC-F-C | 832-1AC-F-V | 832-1AC-F-S          |
|                | 1B (SPNC)    | F                 | 832-1B-F    | 832-1B-F-C  | 832-1B-F-V  | 832-1B-F-S           |
|                |              |                   | 832-1BC-F   | 832-1BC-F-C | 832-1BC-F-V | 832-1BC-F-S          |
|                | 1C (SPDT)    | F                 | 832-1C-F    | 832-1C-F-C  | 832-1C-F-V  | 832-1C-F-S           |
|                |              |                   | 832-1CC-F   | 832-1CC-F-C | 832-1CC-F-V | 832-1CC-F-S          |

### ◆832A

|              |           |       |            |              |              |              |
|--------------|-----------|-------|------------|--------------|--------------|--------------|
| PCB terminal | 1A (SPNO) | ----- | 832A-1A    | 832A-1A-C    | 832A-1A-V    | 832A-1A-S    |
|              |           |       | 832A-1AC   | 832A-1AC-C   | 832A-1AC-V   | 832A-1AC-S   |
|              | 1B (SPNC) | ----- | 832A-1B    | 832A-1B-C    | 832A-1B-V    | 832A-1B-S    |
|              |           |       | 832A-1BC   | 832A-1BC-C   | 832A-1BC-V   | 832A-1BC-S   |
|              | 1C (SPDT) | ----- | 832A-1C    | 832A-1C-C    | 832A-1C-V    | 832A-1C-S    |
|              |           |       | 832A-1CC   | 832A-1CC-C   | 832A-1CC-V   | 832A-1CC-S   |
|              | 1A (SPNO) | F     | 832A-1A-F  | 832A-1A-F-C  | 832A-1A-F-V  | 832A-1A-F-S  |
|              |           |       | 832A-1AC-F | 832A-1AC-F-C | 832A-1AC-F-V | 832A-1AC-F-S |
|              | 1B (SPNC) | F     | 832A-1B-F  | 832A-1B-F-C  | 832A-1B-F-V  | 832A-1B-F-S  |
|              |           |       | 832A-1BC-F | 832A-1BC-F-C | 832A-1BC-F-V | 832A-1BC-F-S |
|              | 1C (SPDT) | F     | 832A-1C-F  | 832A-1C-F-C  | 832A-1C-F-V  | 832A-1C-F-S  |
|              |           |       | 832A-1CC-F | 832A-1CC-F-C | 832A-1CC-F-V | 832A-1CC-F-S |

## ◆832AW

| Terminal style     | Contact form | Insulation system | Designation    |                                           |
|--------------------|--------------|-------------------|----------------|-------------------------------------------|
|                    |              |                   | Flanged cover  | Sealed type washable (with flanged cover) |
| W (Quick terminal) | 1A (SPNO)    | -----             | 832AW-1A-C1    | 832AW-1A-S1                               |
|                    |              |                   | 832AW-1AC-C1   | 832AW-1AC-S1                              |
|                    | 1C (SPDT)    | -----             | 832AW-1C-C1    | 832AW-1C-S1                               |
|                    |              |                   | 832AW-1CC-C1   | 832AW-1CC-S1                              |
|                    | 1A (SPNO)    | F                 | 832AW-1A-F-C1  | 832AW-1A-F-S1                             |
|                    |              |                   | 832AW-1AC-F-C1 | 832AW-1AC-F-S1                            |
|                    | 1C (SPDT)    | F                 | 832AW-1C-F-C1  | 832AW-1C-F-S1                             |
|                    |              |                   | 832AW-1CC-F-C1 | 832AW-1CC-F-S1                            |

## ◆832AWP

| Terminal style                     | Contact form | Insulation system | Designation    |                |                      |
|------------------------------------|--------------|-------------------|----------------|----------------|----------------------|
|                                    |              |                   | Flux tight     | Sealed type    | Sealed type washable |
| WP (PCB terminal & Quick terminal) | 1A (SPNO)    | -----             | 832AWP-1A-C    | 832AWP-1A-V    | 832AWP-1A-S          |
|                                    |              |                   | 832AWP-1AC-C   | 832AWP-1AC-V   | 832AWP-1AC-S         |
|                                    | 1C (SPDT)    | -----             | 832AWP-1C-C    | 832AWP-1C-V    | 832AWP-1C-S          |
|                                    |              |                   | 832AWP-1CC-C   | 832AWP-1CC-V   | 832AWP-1CC-S         |
|                                    | 1A (SPNO)    | F                 | 832AWP-1A-F-C  | 832AWP-1A-F-V  | 832AWP-1A-F-S        |
|                                    |              |                   | 832AWP-1AC-F-C | 832AWP-1AC-F-V | 832AWP-1AC-F-S       |
|                                    | 1C (SPDT)    | F                 | 832AWP-1C-F-C  | 832AWP-1C-F-V  | 832AWP-1C-F-S        |
|                                    |              |                   | 832AWP-1CC-F-C | 832AWP-1CC-F-V | 832AWP-1CC-F-S       |

## ◆832AWP (Cover with shroud)

| Terminal style                     | Contact form | Insulation system | Designation              |                                    |
|------------------------------------|--------------|-------------------|--------------------------|------------------------------------|
|                                    |              |                   | Flux tight (with shroud) | Sealed type washable (with shroud) |
| WP (PCB terminal & Quick terminal) | 1A (SPNO)    | -----             | 832AWP-1A-CF             | 832AWP-1A-SF                       |
|                                    |              |                   | 832AWP-1AC-CF            | 832AWP-1AC-SF                      |
|                                    | 1C (SPDT)    | -----             | 832AWP-1C-CF             | 832AWP-1C-SF                       |
|                                    |              |                   | 832AWP-1CC-CF            | 832AWP-1CC-SF                      |
|                                    | 1A (SPNO)    | F                 | 832AWP-1A-F-CF           | 832AWP-1A-F-SF                     |
|                                    |              |                   | 832AWP-1AC-F-CF          | 832AWP-1AC-F-SF                    |
|                                    | 1C (SPDT)    | F                 | 832AWP-1C-F-CF           | 832AWP-1C-F-SF                     |
|                                    |              |                   | 832AWP-1CC-F-CF          | 832AWP-1CC-F-SF                    |

# ◆832A enlarge contact gap type

| Terminal style | Contact form | Special feature               | Designation  |              |                      |
|----------------|--------------|-------------------------------|--------------|--------------|----------------------|
|                |              |                               | Flux tight   | Sealed type  | Sealed type washable |
| PCB terminal   | 1A (SPNO)    | -----                         | 832A-1A-C-H  | 832A-1A-V-H  | 832A-1A-S-H          |
|                | 1A (SPNO)    | High dielectric strength type | 832A-1A-C-BH | 832A-1A-V-BH | 832A-1A-S-BH         |

## »» Ordering Information

832    ☐    ☐    -    1A    -    ☐    -    ☐    -    ☐  
1        2        3                    4                    5                    6                    7

1. 832    -- Basic series designation

2. Blank    -- General type (provided with 2 common terminals)

A        -- Different type (provided with 1 common terminal)

3. Blank    -- PCB terminal

W        -- Quick terminal

WP       -- PCB terminal & quick terminal

4.1A       -- Single pole normally open, contact material AgSnO

1B        -- Single pole normally closed, contact material AgSnO

1C        -- Single pole double throw, contact material AgSnO

1AC       -- Single pole normally open, contact material AgNi

1BC       -- Single pole normally closed, contact material AgNi

1CC       -- Single pole double throw, contact material AgNi

5. Blank    -- Standard type

F        -- Class F

6. Blank    -- Open type

C        -- Flux tight

D        -- Dust cover

V        -- Sealed type

S        -- Sealed type washable

C1       -- With flanged cover

S1       -- Sealed type washable with flanged cover

CF       -- Flux tight with shroud

SF       -- Sealed type washable with shroud

7. Blank    -- Standard type

B        -- With Insulation barrier

BH       -- With Insulation barrier and 1.9 mm Contact gap (for SPNO type only)

H        -- 1.9 mm contact gap (for SPNO type only)

## »» Contact Rating

## ◆ 832 series

| Load type      | 1A                      | 1B         | 1C                      |                         |
|----------------|-------------------------|------------|-------------------------|-------------------------|
|                |                         |            | NO                      | NC                      |
| Resistive load | 30A 240VAC<br>20A 30VDC | 15A 240VAC | 20A 240VAC<br>20A 30VDC | 10A 240VAC<br>10A 30VDC |

## ◆ 832A H/BH

|                |            |
|----------------|------------|
| Resistive load | 20A 250VAC |
|----------------|------------|

## »» Coil Rating (DC)

## ◆ 832 series

| Rated voltage<br>(V) | Rated current<br>±10 % at 23°C<br>(mA) | Coil resistance<br>±10 % at 23°C<br>(Ω) | Max. continuous<br>voltage<br>at 85°C | Pick up<br>voltage(Max)<br>at 23°C | Drop out<br>voltage(Min)<br>at 23°C | Power consumption<br>at rated<br>voltage |
|----------------------|----------------------------------------|-----------------------------------------|---------------------------------------|------------------------------------|-------------------------------------|------------------------------------------|
| 5                    | 185                                    | 27                                      | 100 % of<br>rated<br>voltage          | 75 % of<br>rated<br>voltage        | 10 % of<br>rated<br>voltage         | approx. 0.93W                            |
| 6                    | 150                                    | 40                                      |                                       |                                    |                                     |                                          |
| 9                    | 93                                     | 97                                      |                                       |                                    |                                     |                                          |
| 12                   | 77                                     | 155                                     |                                       |                                    |                                     |                                          |
| 24                   | 36                                     | 660                                     |                                       |                                    |                                     |                                          |
| 48                   | 18                                     | 2560                                    |                                       |                                    |                                     |                                          |
| 110                  | 8                                      | 13450                                   |                                       |                                    |                                     |                                          |

## ◆ 832A H/BH

| Rated voltage<br>(V) | Rated current<br>±10 % at 23°C<br>(mA) | Coil resistance<br>±10 % at 23°C<br>(Ω) | Max. continuous<br>voltage<br>at 60°C | Pick up<br>voltage (Max)<br>at 23°C | Drop out<br>voltage(Min)<br>at 23°C | Power consumption<br>at rated<br>voltage |
|----------------------|----------------------------------------|-----------------------------------------|---------------------------------------|-------------------------------------|-------------------------------------|------------------------------------------|
| 6                    | 183                                    | 32.7                                    | 100 % of<br>rated<br>voltage          | 80 % of<br>rated<br>voltage         | 10 %<br>rated<br>voltage            | approx. 1.1W                             |
| 12                   | 92.3                                   | 130                                     |                                       |                                     |                                     |                                          |
| 24                   | 46                                     | 524                                     |                                       |                                     |                                     |                                          |
| 48                   | 22.9                                   | 2094                                    |                                       |                                     |                                     |                                          |

## »» Specification

|                                      |                                                     |
|--------------------------------------|-----------------------------------------------------|
| Contact material                     | AgSnO / AgNi alloy                                  |
| Contact gap                          | 1.9 mm Min. (for 832A H/BH)                         |
| Contact resistance <sup>(1)</sup>    | 50mΩ Max. (1A/6VDC by 4 pipes mΩ meter)             |
| Operate time <sup>(1)</sup>          | 15 ms Max.                                          |
|                                      | 20 ms Max. (for 832A H/BH)                          |
| Release time <sup>(1)</sup>          | 10 ms Max.                                          |
|                                      | 5 ms Max. (for 832A H/BH)                           |
| Insulation resistance <sup>(1)</sup> | 1000 MΩ Min. (DC 500V)                              |
|                                      | 100 MΩ Min. (DC 500V) (for 832A H/BH)               |
| Surge voltage withstand              | Between contact and coil : 6KV 1.2X50 μS (for 832A) |

|                                    |                                                                      |                                                                                                                                                                                              |
|------------------------------------|----------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Dielectric strength <sup>(1)</sup> | Between open contact                                                 | : AC 1500V , 50/60Hz 1min.                                                                                                                                                                   |
|                                    | Between contact and coil                                             | : AC 1500V , 50/60Hz 1min.<br>: AC 2500V , 50/60Hz 1min (for 832A)<br>High dielectric strength type :<br>AC 4000V , 50/60Hz 1min.                                                            |
| Vibration resistance               | Operating extremes                                                   | 10~55Hz , amplitude 1.5 mm                                                                                                                                                                   |
|                                    | Damage limits                                                        | 10~55Hz , amplitude 1.5 mm                                                                                                                                                                   |
| Shock resistance                   | Operating extremes                                                   | 10G                                                                                                                                                                                          |
|                                    | Damage limits                                                        | 100G                                                                                                                                                                                         |
| Life expectancy                    | Mechanical                                                           | 10,000,000 operations<br>5,000,000 operations (for 832A H/BH)<br>(frequency 18,000 operations/hr)                                                                                            |
|                                    | Electrical                                                           | 100,000 operations (frequency 1,200 operations/hr)<br>20,000 operations for 20A/250VAC (for 832A H/BH)<br>100,000 operations for 10A/250VAC (for 832A H/BH)<br>(frequency 900 operations/hr) |
| Operating ambient temperature      | -55~+85°C (no freezing)                                              |                                                                                                                                                                                              |
| Weight                             | Approx. 22 g (open type) · 27g (832A)<br>36 g (832AWP) · 38g (832AW) |                                                                                                                                                                                              |

Note : (1) initial value

## »» Safety Approval

| Certified | UL / CUL | CSA / CUS | VDE  |
|-----------|----------|-----------|------|
| File No.  | E88991   | 1429333   | 6615 |

## »» Safety Approval Rating

### ◆832 series (UL/CUL · CSA/CUS)

| Contact material (AgSnO)                                                                                    |                                                                                                               | Contact material (AgNi)  |                          |
|-------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|--------------------------|--------------------------|
| NO                                                                                                          | NC                                                                                                            | NO                       | NC                       |
| 30A 277VAC<br>20A 30VDC<br>2HP 250VAC<br>1HP 125VAC<br>30 FLA, 80LRA 240VAC<br>16 FLA, 96LRA 250VAC<br>TV-5 | 30A 250VAC<br>15A 277VAC<br>15A 30VDC<br>1/2HP, 4.9FLA 250VAC<br>1/4HP, 5.8FLA 125VAC<br>12 FLA, 33LRA 250VAC | 30A 277VAC<br>24A 240VAC | 30A 277VAC<br>24A 240VAC |

### ◆832 series (VDE)

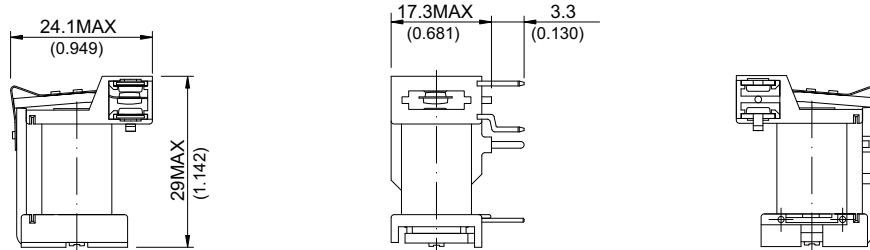
| 1A         | 1B         | 1C         |
|------------|------------|------------|
| 30A 250VAC | 20A 250VAC | 20A 250VAC |

### ◆832A H/BH

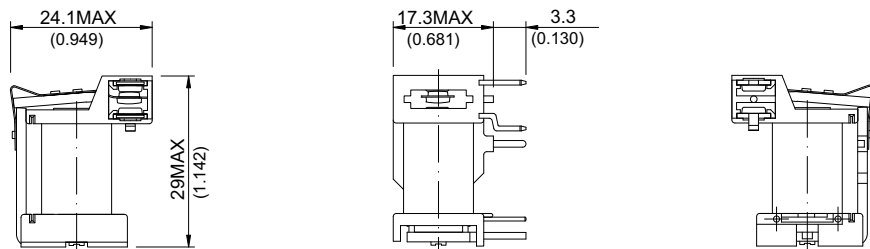
| UL / CUL · CSA / CUS                         | VDE            |
|----------------------------------------------|----------------|
| 30A 277VAC<br>30A 30VDC<br>1HP , 8FLA 250VAC | 20A 250VAC T85 |

## »» Outline Dimensions

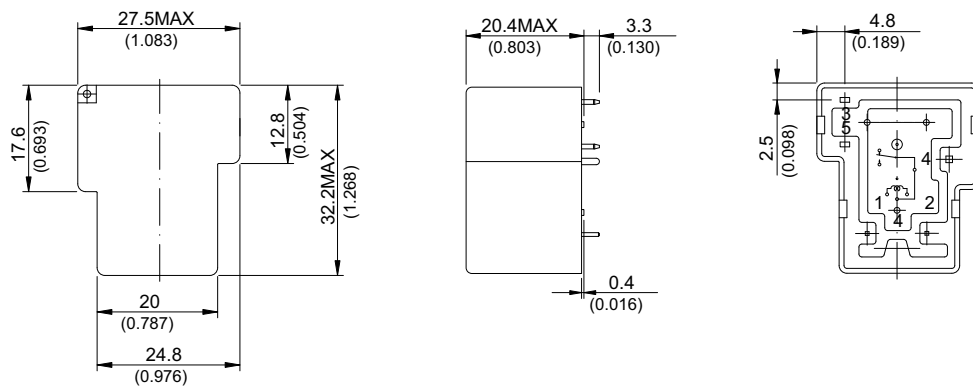
## ◆ 832A(OPEN)



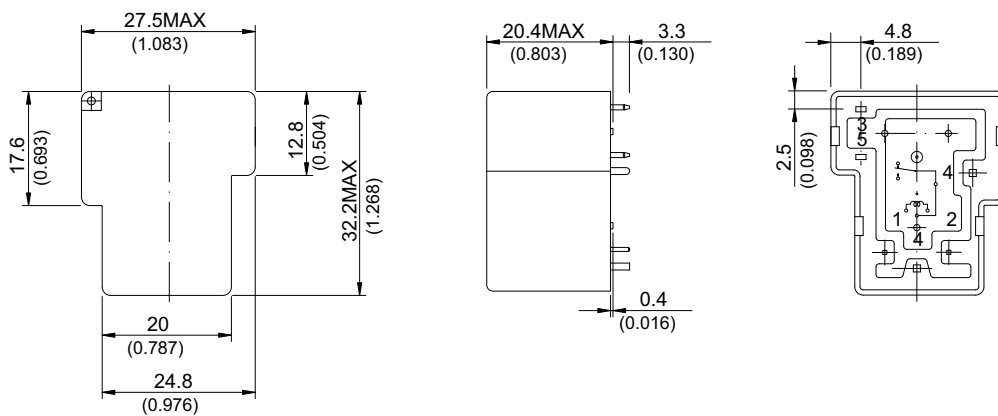
## ◆ 832(OPEN)



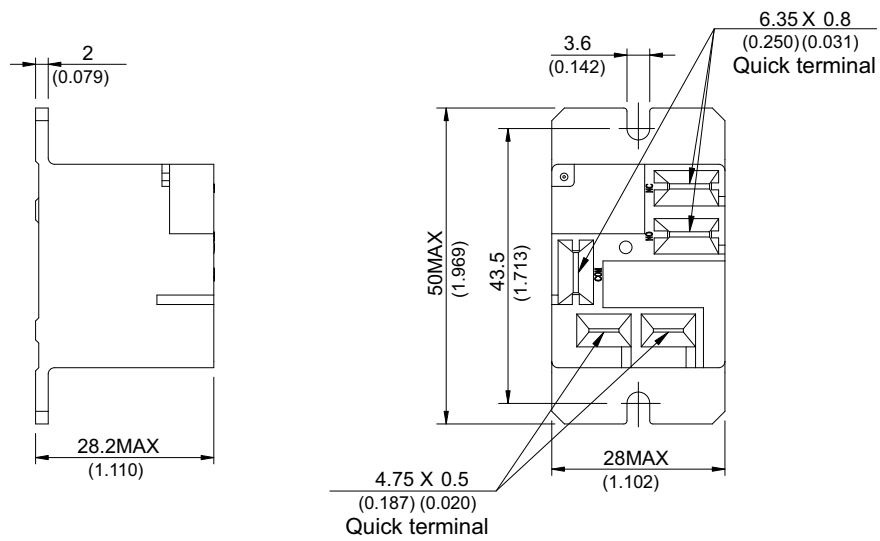
## ◆ 832A



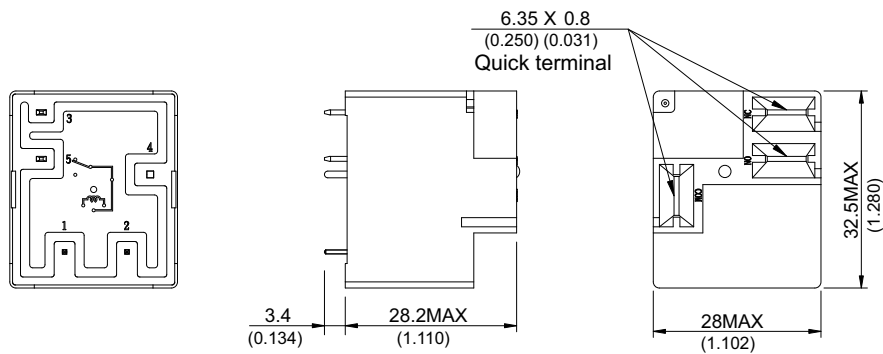
## ◆ 832



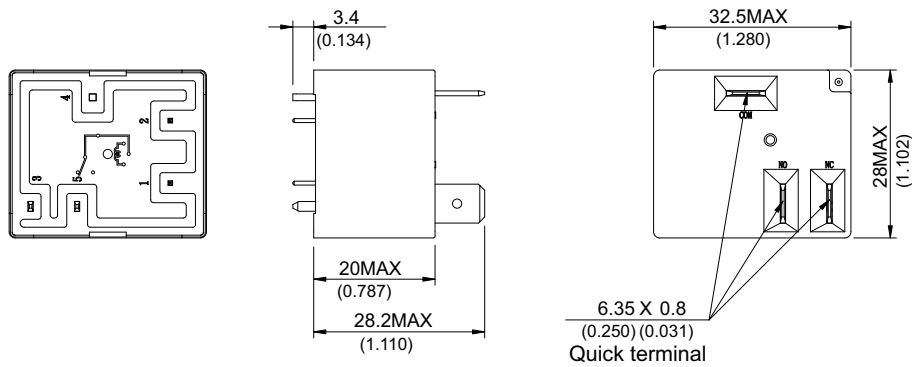
◆832AW



◆832AWP(Cover with shroud)



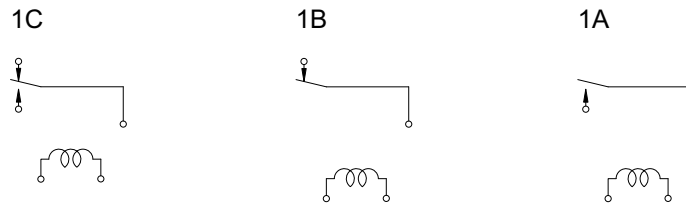
◆832AWP



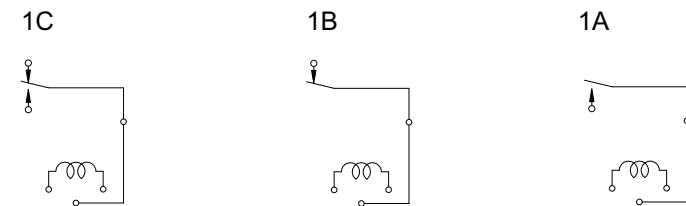
## Wiring Diagram

### BOTTOM VIEW

## ◆832A



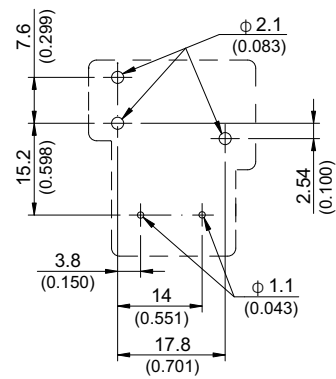
## ◆832



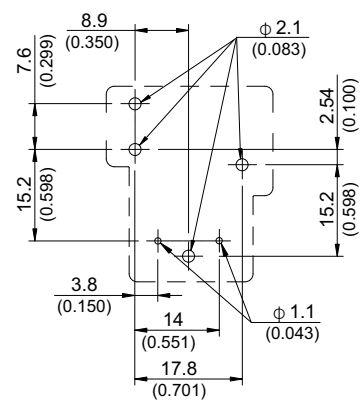
## PC Board Layout

### BOTTOM VIEW

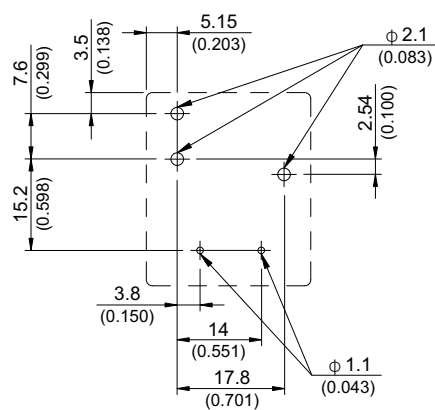
## ◆832A



## ◆832



## ◆832AWP



# Engineering Data

