

## »» Features

- ⊖ 8A/12A miniature PCB Power Relay.
- ⊖ Large contact gap : 2mm/1.5mm.
- ⊖ High dielectric strength and comply with IEC 16950.
- ⊖ Epoxy seal type and sealed flux free are both available.
- ⊖ Design for UPS and power supply application.
- ⊖ Comply with RoHS-Directive 2002/95/EC.



## »» Type List

### ◆Standard Type

| Terminal style | Contact form  | Contact gap   | Designation (provided with) |               |                      |
|----------------|---------------|---------------|-----------------------------|---------------|----------------------|
|                |               |               | Flux tight                  | Sealed type   | Sealed type washable |
| PCB terminal   | 2A<br>(DPNO)  | 1.5mm         | 894-2AC1-F-C                | 894-2AC1-F-V  | 894-2AC1-F-S         |
|                |               |               | 894-2ACA1-F-C               | 894-2ACA1-F-V | 894-2ACA1-F-S        |
|                |               | 2.0mm         | 894-2AC2-F-C                | 894-2AC2-F-V  | 894-2AC2-F-S         |
|                |               |               | 894-2ACA2-F-C               | 894-2ACA2-F-V | 894-2ACA2-F-S        |
|                |               | 1.5mm         | 894-2AH1-F-C                | 894-2AH1-F-V  | 894-2AH1-F-S         |
|                |               |               | 894-2AHA1-F-C               | 894-2AHA1-F-V | 894-2AHA1-F-S        |
|                | 2.0mm         | 894-2AH2-F-C  | 894-2AH2-F-V                | 894-2AH2-F-S  |                      |
|                |               | 894-2AHA2-F-C | 894-2AHA2-F-V               | 894-2AHA2-F-S |                      |
|                | 2C<br>(DPDT)  | 1.5mm         | 894-2CC1-F-C                | 894-2CC1-F-V  | 894-2CC1-F-S         |
|                |               |               | 894-2CCA1-F-C               | 894-2CCA1-F-V | 894-2CCA1-F-S        |
|                |               | 2.0mm         | 894-2CC2-F-C                | 894-2CC2-F-V  | 894-2CC2-F-S         |
|                |               |               | 894-2CCA2-F-C               | 894-2CCA2-F-V | 894-2CCA2-F-S        |
|                |               | 1.5mm         | 894-2CH1-F-C                | 894-2CH1-F-V  | 894-2CH1-F-S         |
|                |               |               | 894-2CHA1-F-C               | 894-2CHA1-F-V | 894-2CHA1-F-S        |
| 2.0mm          | 894-2CH2-F-C  | 894-2CH2-F-V  | 894-2CH2-F-S                |               |                      |
|                | 894-2CHA2-F-C | 894-2CHA2-F-V | 894-2CHA2-F-S               |               |                      |

### ◆High Power Type

|              |              |       |                |                |                |
|--------------|--------------|-------|----------------|----------------|----------------|
| PCB terminal | 2A<br>(DPNO) | 1.5mm | 894H-2AC1-F-C  | 894H-2AC1-F-V  | 894H-2AC1-F-S  |
|              |              |       | 894H-2ACA1-F-C | 894H-2ACA1-F-V | 894H-2ACA1-F-S |
|              |              | 2.0mm | 894H-2AC2-F-C  | 894H-2AC2-F-V  | 894H-2AC2-F-S  |
|              |              |       | 894H-2ACA2-F-C | 894H-2ACA2-F-V | 894H-2ACA2-F-S |
|              |              | 1.5mm | 894H-2AH1-F-C  | 894H-2AH1-F-V  | 894H-2AH1-F-S  |
|              |              |       | 894H-2AHA1-F-C | 894H-2AHA1-F-V | 894H-2AHA1-F-S |

|              |           |       |                |                |                |
|--------------|-----------|-------|----------------|----------------|----------------|
|              |           | 2.0mm | 894H-2AH2-F-C  | 894H-2AH2-F-V  | 894H-2AH2-F-S  |
|              |           |       | 894H-2AHA2-F-C | 894H-2AHA2-F-V | 894H-2AHA2-F-S |
|              |           | 1.5mm | 894H-2CC1-F-C  | 894H-2CC1-F-V  | 894H-2CC1-F-S  |
|              |           |       | 894H-2CCA1-F-C | 894H-2CCA1-F-V | 894H-2CCA1-F-S |
| PCB terminal | 2C (DPDT) | 2.0mm | 894H-2CC2-F-C  | 894H-2CC2-F-V  | 894H-2CC2-F-S  |
|              |           |       | 894H-2CCA2-F-C | 894H-2CCA2-F-V | 894H-2CCA2-F-S |
|              |           | 1.5mm | 894H-2CH1-F-C  | 894H-2CH1-F-V  | 894H-2CH1-F-S  |
|              |           |       | 894H-2CHA1-F-C | 894H-2CHA1-F-V | 894H-2CHA1-F-S |
|              |           | 2.0mm | 894H-2CH2-F-C  | 894H-2CH2-F-V  | 894H-2CH2-F-S  |
|              |           |       | 894H-2CHA2-F-C | 894H-2CHA2-F-V | 894H-2CHA2-F-S |

#### 6 High Sensitivity Type

| Terminal style | Contact form | Designation (provided with) |               |                      |
|----------------|--------------|-----------------------------|---------------|----------------------|
|                |              | Flux tight                  | Sealed type   | Sealed type washable |
| PCB terminal   | 2A (DPNO)    | 894N-2AC-F-C                | 894N-2AC-F-V  | 894N-2AC-F-S         |
|                |              | 894N-2ACA-F-C               | 894N-2ACA-F-V | 894N-2ACA-F-S        |
|                |              | 894N-2AH-F-C                | 894N-2AH-F-V  | 894N-2AH-F-S         |
|                |              | 894N-2AHA-F-C               | 894N-2AHA-F-V | 894N-2AHA-F-S        |
|                | 2C (DPDT)    | 894N-2CC-F-C                | 894N-2CC-F-V  | 894N-2CC-F-S         |
|                |              | 894N-2CCA-F-C               | 894N-2CCA-F-V | 894N-2CCA-F-S        |
|                |              | 894N-2CH-F-C                | 894N-2CH-F-V  | 894N-2CH-F-S         |
|                |              | 894N-2CHA-F-C               | 894N-2CHA-F-V | 894N-2CHA-F-S        |

#### Ordering Information

894 H N - 2C C 1 - F - C  
 1 2 3 4 5 6 7 8

- 894 -- Basic series designation CA -- Contact material AgNi + Au H --  
 Contact material AgSnO
- Blank -- Standard type HA -- Contact material AgSnO+ Au  
 H -- High power type

6. Blank -- Standard type

»» 3. Blank -- Standard type (0.8 W; 1.4 W for 2CX2 1 -- Contact gap 1.5mm only) 2 -- Contact gap 2.0mm

N -- High sensitivity type (0.53 W)

6. Blank -- Standard type

4. 2A -- Double pole normally open F -- Class F

2B -- Double pole normally closed

2C -- Double pole double throw

8. C -- Flux tight

V -- Sealed type

5. C -- Contact material AgNi S -- Sealed type washable

### »» Contact Rating

| Type           | 894       | 894H                         |
|----------------|-----------|------------------------------|
| Resistive load | 8A 240VAC | NOK12A 240VAC NC K10A 240VAC |

### Coil Rating (DC)

#### Standard Type

| Rated voltage (V) | Rated current p10% at 23°C (mA) | Coil resistance p10% at 23°C (Ω) | Max. continuous voltage at 70°C | Pick up voltage(Max) at 23°C    | Drop out voltage(Min) at 23°C | Power consumption at rated voltage |
|-------------------|---------------------------------|----------------------------------|---------------------------------|---------------------------------|-------------------------------|------------------------------------|
| 3                 | 265                             | 11.3                             | 150 % of rated voltage          | 1/2 of rated voltage (See note) | 5 % of rated voltage          | approx. 0.8W                       |
| 5                 | 161                             | 31                               |                                 |                                 |                               |                                    |
| 6                 | 133                             | 45                               |                                 |                                 |                               |                                    |
| 9                 | 89.1                            | 101                              |                                 |                                 |                               |                                    |
| 12                | 66.6                            | 180                              |                                 |                                 |                               |                                    |
| 18                | 44.4                            | 405                              |                                 |                                 |                               |                                    |
| 24                | 32.4                            | 740                              |                                 |                                 |                               |                                    |
| 48                | 16.7                            | 2880                             |                                 |                                 |                               |                                    |
| 60                | 13.3                            | 4500                             |                                 |                                 |                               |                                    |
| 110               | 7.3                             | 15125                            |                                 |                                 |                               |                                    |

Notes: 1/ 75% Contact form 2A / Contact gap 1.5mm only

2/ 85% Contact form 2C / Contact gap 1.5mm only

3/ 85% Contact form 2A / Contact gap 2.0mm only

#### Standard Type (for C-2CX2 only)

| Rated voltage (V) | Rated current p10% at 23°C (mA) | Coil resistance p10% at 23°C (Ω) | Max. continuous voltage at 70°C | Pick up voltage(Max) at 23°C | Drop out voltage(Min) at 23°C | Power consumption at rated voltage |
|-------------------|---------------------------------|----------------------------------|---------------------------------|------------------------------|-------------------------------|------------------------------------|
|-------------------|---------------------------------|----------------------------------|---------------------------------|------------------------------|-------------------------------|------------------------------------|

|     |     |      |                              |                             |                            |              |
|-----|-----|------|------------------------------|-----------------------------|----------------------------|--------------|
| 3   | 468 | 6.4  | 130 % of<br>rated<br>voltage | 85 % of<br>rated<br>voltage | 5 % of<br>rated<br>voltage | approx. 1.4W |
| 5   | 277 | 18   |                              |                             |                            |              |
| 6   | 230 | 26   |                              |                             |                            |              |
| 9   | 155 | 58   |                              |                             |                            |              |
| 12  | 117 | 102  |                              |                             |                            |              |
| 18  | 78  | 230  |                              |                             |                            |              |
| 24  | 58  | 410  |                              |                             |                            |              |
| 48  | 29  | 1650 |                              |                             |                            |              |
| 60  | 23  | 2570 |                              |                             |                            |              |
| 110 | 13  | 8640 |                              |                             |                            |              |

### ⊖ High Sensitivity Type

| Rated<br>voltage<br>(V) | Rated current<br>p10% at 23°C<br>(mA) | Coil resistance<br>p10% at 23°C<br>( $\Omega$ ) | Max. continuous<br>voltage<br>at 70°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 |
|-------------------------|---------------------------------------|---|---------------------------------------|------------------------------------|-------------------------------------|--|
| 3                       | 175                                   | 17.1  | 150 % of<br>rated<br>voltage          | 75 % of<br>rated<br>voltage        | 5 % of<br>rated<br>voltage          | approx. 0.53W                            |
| 5                       | 107                                   | 46.7  |                                       |                                    |                                     |  |
| 6                       | 87                                    | 68.7  |                                       |                                    |                                     |  |
| 9                       | 59                                    | 153.2   |                                       |                                    |                                     |  |
| 12                      | 44                                    | 272   |                                       |                                    |                                     |  |
| 18                      | 30                                    | 610   |                                       |                                    |                                     |  |
| 24                      | 22                                    | 1,081   |                                       |                                    |                                     |  |
| 48                      | 11                                    | 4,350   |                                       |                                    |                                     |  |
| 60                      | 8.8                                   | 6,790   |                                       |                                    |                                     |  |
| 110                     | 4.8                                   | 22,800  |                                       |                                    |                                     |  |

### » Specification

|                                      |  |
|--------------------------------------|--|
| Contact material                     | AgNi / AgSnO alloy                               |
| Contact resistance <sup>(1)</sup>    | 100m $\Omega$ Max.                               |
| Operate time <sup>(1)</sup>          | 20ms Max.  |
| Release time <sup>(1)</sup>          | 15ms Max.  |
| Insulation resistance <sup>(1)</sup> | 1000M $\Omega$ Min. (DC 500V)                    |
|                                      | Between open contact : AC 2500V , 50/60Hz 1 min. |

|                                    |  |  |
|------------------------------------|--|--|
| Dielectric strength <sup>(1)</sup> | AC 1000V , 50/60Hz 1 min. (for 894N/894HN)           |  |
|                                    | Between contact circuits : AC 2500V , 50/60Hz 1 min. |  |
|                                    | Between contact and coil : AC 5000V , 50/60Hz 1 min. |  |
| Vibration resistance               | Operating extremes                                   | 10Δ55Hz , amplitude 1.5 mm   |
|                                    | Damage limits  | 10Δ55Hz , amplitude 1.5 mm   |
| Shock resistance                   | Operating extremes                                   | 10G  |
|                                    | Damage limits  | 100G   |
| Life expectancy                    | Mechanical   | 3,000,000 operations<br>(frequency 18,000 operations/hr)                         |
|                                    |  | 300,000 operations (for contact gap 2mm type)<br>(frequency 9,000 operations/hr) |
|                                    | Electrical   | 30,000 operations<br>(frequency 360 operations/hr)                               |
| Operating ambient temperature      | -40Δ+70 °C (no freezing)                             |  |
| Weight                             | Approx. 17 g   |  |

NoteK(1) initial value

### Safety Approval

| Certified | TUV        | CSA / CUS | UL / CUL | VDE      |
|-----------|------------|-----------|----------|----------|
| File No.  | R 50008226 | 1223057   | E88991   | 40007827 |

### Safety Approval Rating

#### UL/CUL/CSA/CUS

| 894          |              | 894H         |                   |
|--------------|--------------|--------------|-------------------|
| CECA         | HEHA         | CECA         | HEHA              |
| 8A 277VAC    | 8A 277VAC    | 12A 277VAC   | 12A 277VAC        |
| 1/4HP 125VAC | 1/4HP 125VAC | 1/3HP 125VAC | 1/3HP 125VAC      |
| 1/2HP 250VAC | 1/2HP 250VAC |              | 3/4HP 250VAC (NO) |
|              | TV-3 (NO)    |              | TV-5(NO)          |

#### 6VDE

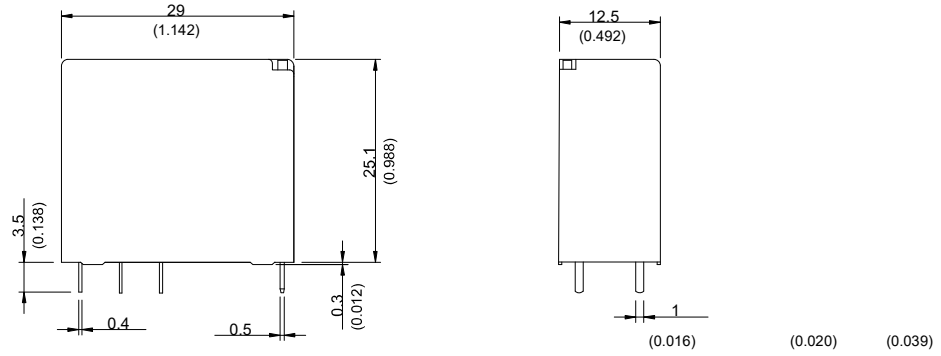
| 894           | 894N          | 894H           | 894HN          |
|---------------|---------------|----------------|----------------|
| 8A 250VAC T55 | 8A 250VAC T70 | 10A 250VAC T55 | 10A 250VAC T70 |

» 6TUV

|           |            |
|-----------|------------|
| 894       | 894H       |
| 8A 277VAC | 12A 250VAC |

Outline Dimensions

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Wiring Diagram

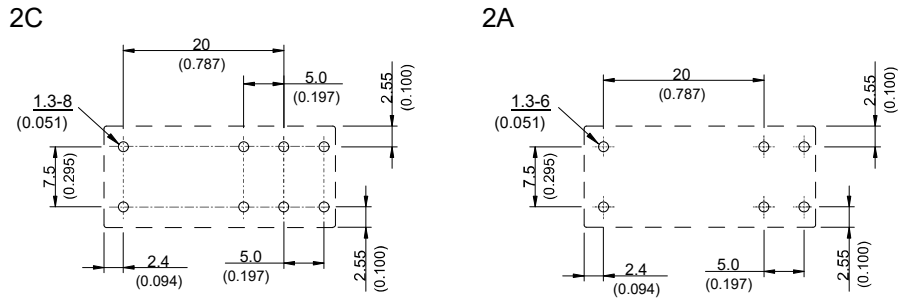
BOTTOM VIEW



» PC Board Layout

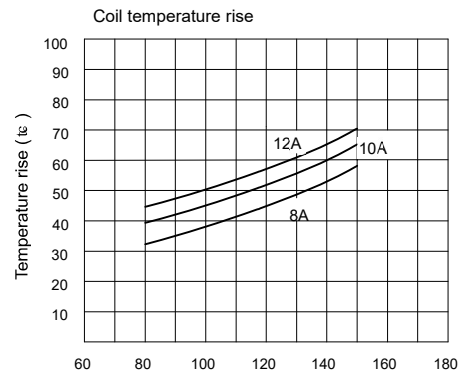
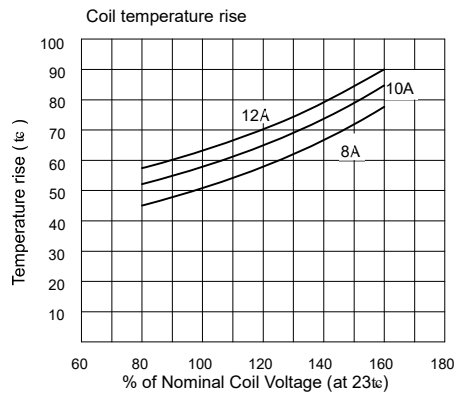
BOTTOM VIEW

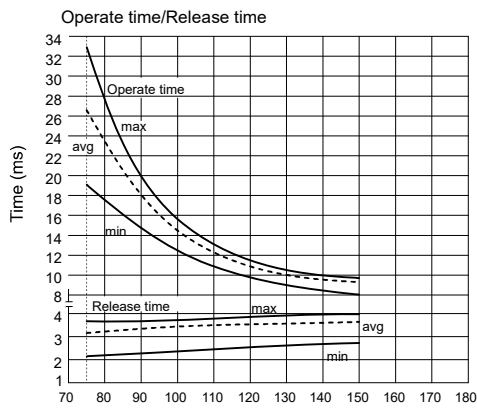
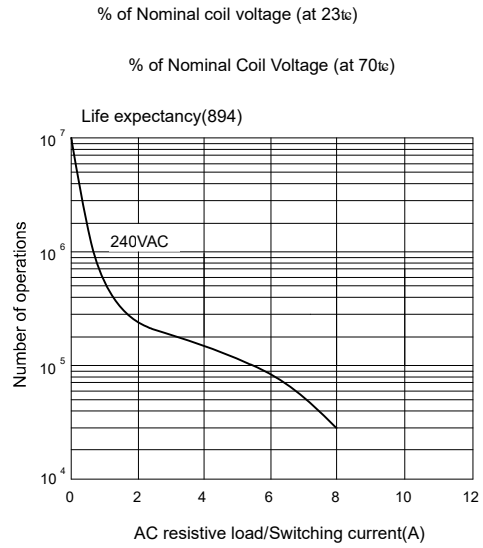
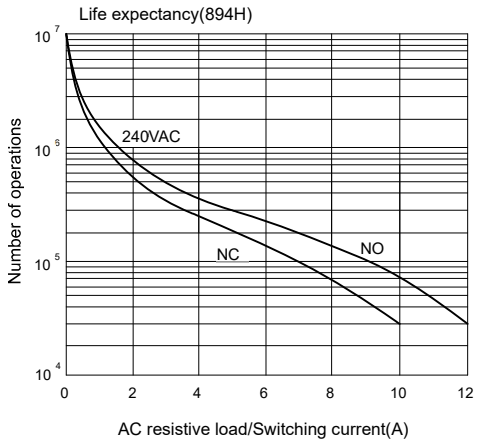
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» Engineering Data

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

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