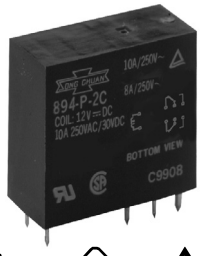
# 894




## Features

- 8A/12A miniature PCB Power Relay.
- Large contact gap : 2mm/1.5mm.
- High dielectric strength.
- Epoxy seal type and sealed flux free are both available.
- Design for PV inverter, UPS and power supply applications.
- Comply with RoHS-Directive 2011/65/EU.

## Type List

◆ Standard Type

| Terminal style | Contact form | Contact gap | Designation (provided with) | |
|---|---|---|---|---|
| | | | Flux tight | Sealed type washable |
| PCB terminal | 2A (DPNO) | 1.5mm | 894-2AC1-F-C | 894-2AC1-F-S |
| | | | 894-2ACA1-F-C | 894-2ACA1-F-S |
| | | 2.0mm | 894-2AC2-F-C | 894-2AC2-F-S |
| | | | 894-2ACA2F-C | 894-2ACA2-F-S |
| | | 1.5mm | 894-2AH1-F-C | 894-2AH1-F-S |
| | | | 894-2AHA1-F-C | 894-2AHA1-F-S |
| | | 2.0mm | 894-2AH2-F-C | 894-2AH2-F-S |
| | | | 894-2AHA2-F-C | 894-2AHA2-F-S |
| | 2C (DPDT) | 1.5mm | 894-2CC1-F-C | 894-2CC1-F-S |
| | | | 894-2CCA1-F-C | 894-2CCA1-F-S |
| | | 2.0mm | 894-2CC2-F-C | 894-2CC2-F-S |
| | | | 894-2CCA2-F-C | 894-2CCA2-F-S |
| | | 1.5mm | 894-2CH1-F-C | 894-2CH1-F-S |
| | | | 894-2CHA1-F-C | 894-2CHA1-F-S |
| | | 2.0mm | 894-2CH2-F-C | 894-2CH2-F-S |
| | | | 894-2CHA2-F-C | 894-2CHA2-F-S |

◆ High Power Type

| | | | | |
|---|---|---|---|---|
| PCB terminal | 2A (DPNO) | 1.5mm | 894H-2AC1-F-C | 894H-2AC1-F-S |
| | | | 894H-2ACA1-F-C | 894H-2ACA1-F-S |
| | | 2.0mm | 894H-2AC2-F-C | 894H-2AC2-F-S |
| | | | 894H-2ACA2-F-C | 894H-2ACA2-F-S |
| | | 1.5mm | 894H-2AH1-F-C | 894H-2AH1-F-S |
| | | | 894H-2AHA1-F-C | 894H-2AHA1-F-S |
| | | 2.0mm | 894H2AH2-F-C | 894H2AH2-F-S |
| | | | 894H-2AHA2-F-C | 894H-2AHA2-F-S |
| | 2C (DPDT) | 1.5mm | 894H-2CC1-F-C | 894H-2CC1-F-S |
| | | | 894H-2CCA1-F-C | 894H-2CCA1-F-S |

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

◆ High Sensitive Type

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

## Ordering Information

| 894 | H | N | - | 2C | C | 1 | - | F | - | C | XXVDC |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | | 4 | 5 | 6 | | 7 | | 8 | 9 |

1. 894 -- Basic series designation

2. Blank -- Standard type
   H -- High power type

3. Blank -- Standard type(0.8 W; 1.4 W for 2CX2 only)
   N -- High sensitive type (0.53W)

4. 2A -- Double pole normally open
   2B -- Double pole normally closed
   2C -- Double pole double throw

5. C -- Contact material AgNi
   CA -- Contact material AgNi + Au
   H -- Contact material AgSnO
   HA -- Contact material AgSnO + Au

6. Blank -- Standard type
   1 -- Contact gap ≧1.5mm
   2 -- Contact gap ≧2.0mm

7. Blank -- Standard type
   F -- Class F

8. C -- Flux tight
   S -- Sealed type washable

9. XXVDC -- Coil voltage (please refer to the coil rating data for the availability).

## Contact Rating

| Type | 894 | 894H |
|---|---|---|
| Resistive load | 8A240VAC | NO：12A 240VAC NC：10A 240VAC |

## Coil Rating (DC)

◆ Standard Type

| Rated voltage (V) | Rated current ±10% at 23ºC (mA) | Coil resistance ±10% at 23ºC (Ω) | Max. continuous voltage at 70ºC | Pick up voltage(Max) at 23ºC | Drop out voltage(Min) at 23ºC | Power consumption at rated voltage |
|---|---|---|---|---|---|---|
| 3 | 265 | 11.3 | 150 % of rated voltage | # 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: # = 75% Contact form 2A / Contact gap 1.5mm only
# = 85% Contact form 2C / Contact gap 1.5mm only
# = 85% Contact form 2A / Contact gap 2.0mm only

◆ Standard Type (for 〝-2CX2〞 only)

| Rated voltage (V) | Rated current ±10% at 23ºC (mA) | Coil resistance ±10% at 23ºC (Ω) | Max. continuous voltage at 70ºC | Pick up voltage(Max) at 23ºC | Drop out voltage(Min) at 23ºC | Power consumption at rated voltage |
|---|---|---|---|---|---|---|
| 3 | 468 | 6.4 | 130 % of rated voltage | 85 % of rated voltage | 5 % of rated 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 SensitiveType

| Rated voltage (V) | Rated current ±10% at 23ºC (mA) | Coil resistance ±10% at 23ºC (Ω) | Max. continuous voltage at 70ºC | Pick up voltage(Max) at 23ºC | Drop out voltage(Min) at 23ºC | Power consumption at rated voltage |
|---|---|---|---|---|---|---|
| 3 | 175 | 17.1 | 150 % of rated voltage | 75 % of rated voltage | 5 % of rated 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(1) | 100mΩ Max. | |
| Operate time(1) | 20ms Max. | |
| Release time(1) | 15ms Max. | |
| Insulation resistance(1) | 1000MΩ Min. (DC 500V) | |
| Dielectric strength(1) | Between open contact : AC 2500V , 50/60Hz 1 min.<br>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 | 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 | 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 | -40~+70ºC (no freezing) | |
| Weight | Approx. 17 g | |

Note : (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 | |
|---|---|---|---|
| C 、CA | H 、HA | C 、CA | H 、HA |
| 8A 277VAC<br>1/4HP 125VAC<br>1/2HP 250VAC | 8A 277VAC<br>1/4HP 125VAC<br>1/2HP 250VAC<br>TV-3 (NO) | 12A 277VAC<br>1/3HP 125VAC | 12A 277VAC<br>1/3HP 125VAC<br>3/4HP 250VAC (NO)<br>TV-5(NO) |

◆ VDE

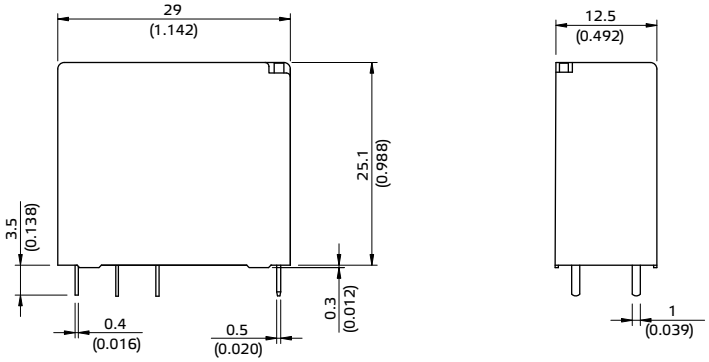
| 894 | 894N | 894H | 894HN |
|---|---|---|---|
| 8A 250VAC T55 | 8A 250VAC T70 | 10A 250VAC T55 | 10A 250VAC T70 |

◆ TUV

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

# 894

## Outline Dimensions

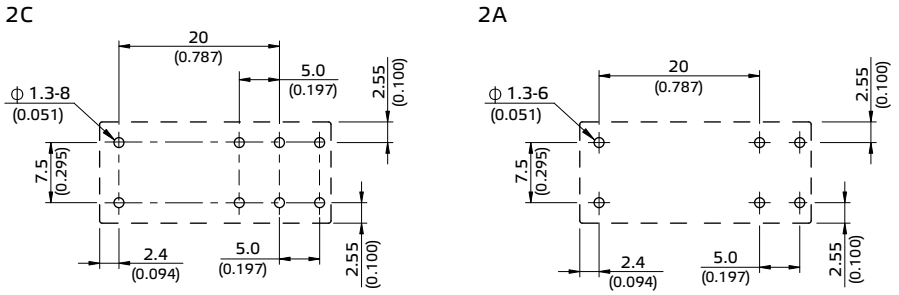



## Wiring Diagram

BOTTOM VIEW

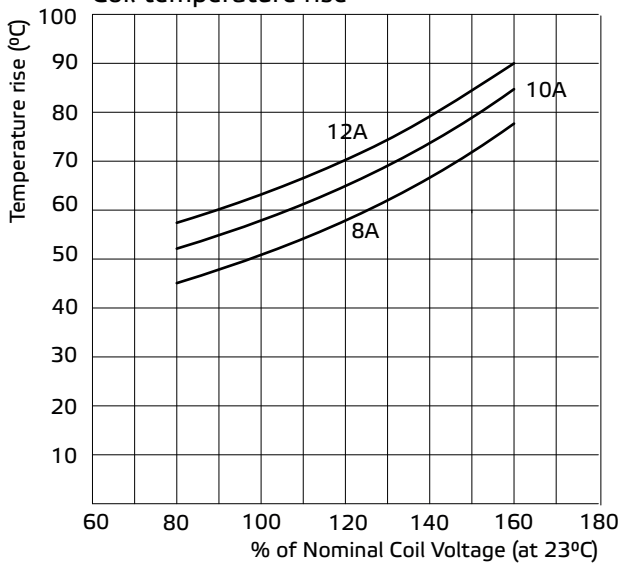

## PC Board Layout

BOTTOM VIEW

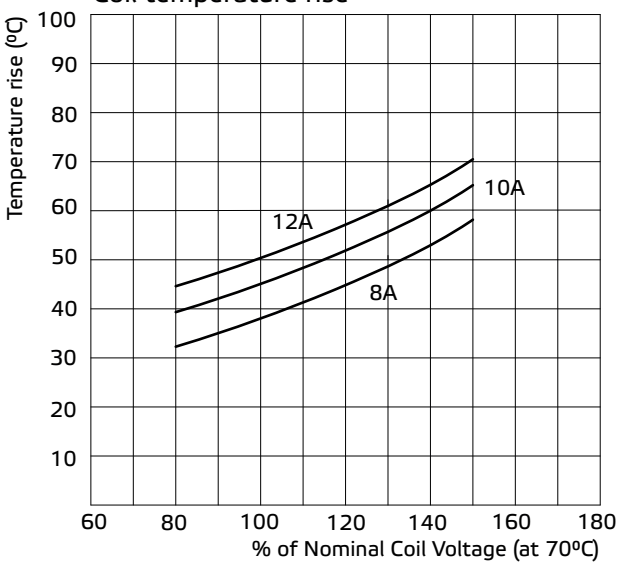


## Engineering Data

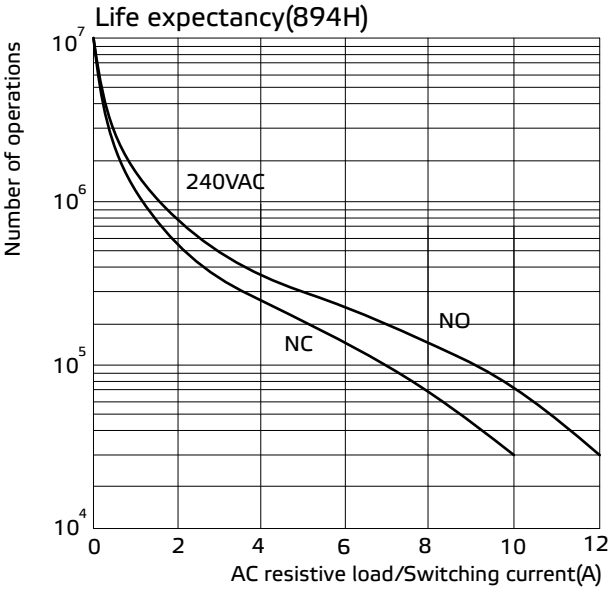
Coil temperature rise



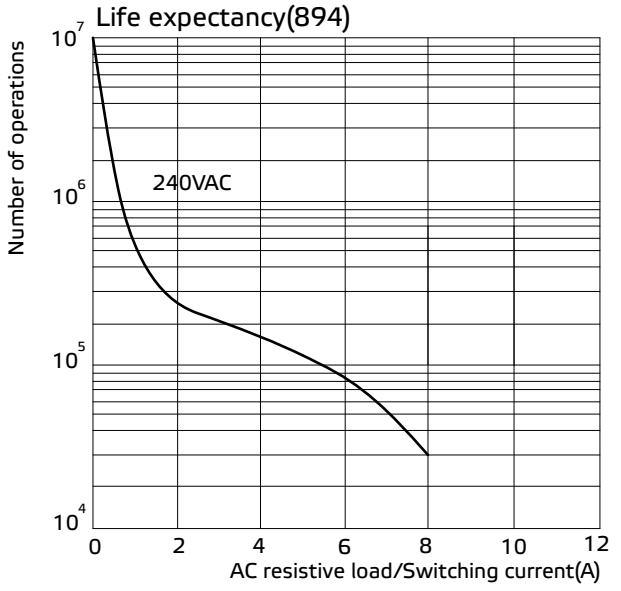

Coil temperature rise



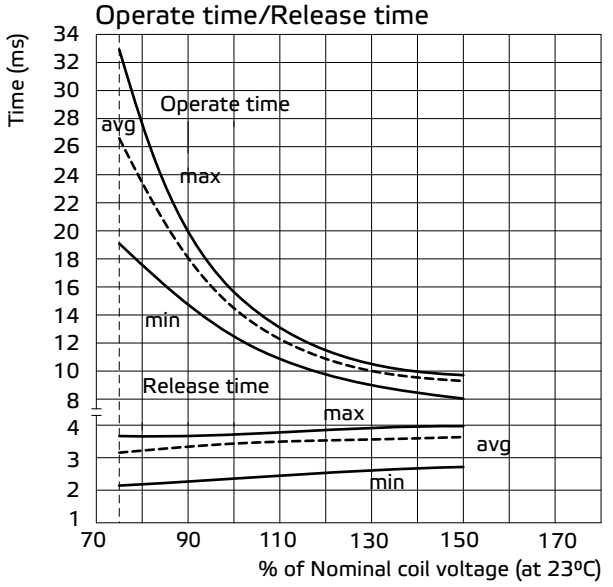

Life expectancy(894H)




Life expectancy(894)




Operate time/Release time




Max. DC load breaking capacity