



### »» 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 UPS and power supply application.
- Complies with RoHS-Directive 2011/65/EU.



### »» Type List

#### ◆ Standard Type

Terminal style	Contact form	Contact gap	Designation (provided with)		
			Flux tight	Sealed type	Sealed type washable
PCB terminal	2A (DPNO)	1.5mm	894-2AC1-F-C	894-2AC1-F-V	894-2AC1-F-S
		2.0mm	894-2AC2-F-C	894-2AC2-F-V	894-2AC2-F-S
		1.5mm	894-2AH1-F-C	894-2AH1-F-V	894-2AH1-F-S
		2.0mm	894-2AH2-F-C	894-2AH2-F-V	894-2AH2-F-S
	2C (DPDT)	1.5mm	894-2CC1-F-C	894-2CC1-F-V	894-2CC1-F-S
		2.0mm	894-2CC2-F-C	894-2CC2-F-V	894-2CC2-F-S
		1.5mm	894-2CH1-F-C	894-2CH1-F-V	894-2CH1-F-S
		2.0mm	894-2CH2-F-C	894-2CH2-F-V	894-2CH2-F-S

#### ◆ High Power Type

PCB terminal	2A (DPNO)	1.5mm	894H-2AC1-F-C	894H-2AC1-F-V	894H-2AC1-F-S
		2.0mm	894H-2AC2-F-C	894H-2AC2-F-V	894H-2AC2-F-S
		1.5mm	894H-2AH1-F-C	894H-2AH1-F-V	894H-2AH1-F-S
		2.0mm	894H-2AH2-F-C	894H-2AH2-F-V	894H-2AH2-F-S
	2C (DPDT)	1.5mm	894H-2CC1-F-C	894H-2CC1-F-V	894H-2CC1-F-S
		2.0mm	894H-2CC2-F-C	894H-2CC2-F-V	894H-2CC2-F-S
		1.5mm	894H-2CH1-F-C	894H-2CH1-F-V	894H-2CH1-F-S
		2.0mm	894H-2CH2-F-C	894H-2CH2-F-V	894H-2CH2-F-S

#### ◆ 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-2AH-F-C	894N-2AH-F-V	894N-2AH-F-S
	2C (DPDT)	894N-2CC-F-C	894N-2CC-F-V	894N-2CC-F-S
		894N-2CH-F-C	894N-2CH-F-V	894N-2CH-F-S

## »» Ordering Information

894   - 2C C  -  - C   
 1 2 3 4 5 6 7 8 9

- |          |   |                             |   |
|----------|---|-----------------------------|---|
| 1. 894   | -- Basic series designation                   | 6. Blank                    | -- Standard type  |
| 2. Blank | -- Standard type                              | 1                           | -- Contact gap $\geq 1.5\text{mm}$  |
| H        | -- High power type                            | 2                           | -- Contact gap $\geq 2.0\text{mm}$  |
| 3. Blank | -- Standard type (0.8 W; 1.4 W for 2CX2 only) | 7. Blank                    | -- Standard type  |
| N        | -- High sensitivity type (0.53 W)             | F                           | -- Class F  |
| 4. 2A    | -- Double pole normally open                  | 8. C                        | -- Flux tight   |
| 2B       | -- Double pole normally closed                | V                           | -- Sealed type  |
| 2C       | -- Double pole double throw                   | S                           | -- Sealed type washable   |
| 5. C     | -- Contact material AgNi                      | 9. <input type="checkbox"/> | -- Coil voltage (please refer to the coil rating data for the availability) |
| H        | -- Contact material AgSnO                     |                             |   |

## »» Contact Rating

Type	894	894H
Resistive load	8A 240VAC	NO : 12A 240VAC, NC : 10A 240VAC
Max. switching current	8A	NO / NC : 12A / 10A
Max. switching voltage	277VAC	277VAC
Max. switching capacity	1920VA	NO / NC : 2880VA / 2400VA

## »» Coil Rating (DC)

### ◆ Standard Type

Rated voltage (V)	Rated current $\pm 10\%$ at 23°C (mA)	Coil resistance $\pm 10\%$ at 23°C ( $\Omega$ )	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	# 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	2,880				
60	13.3	4,500				
110	7.3	15,125				

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 23°C (mA)	Coil resistance ±10% 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 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 Sensitivity Type

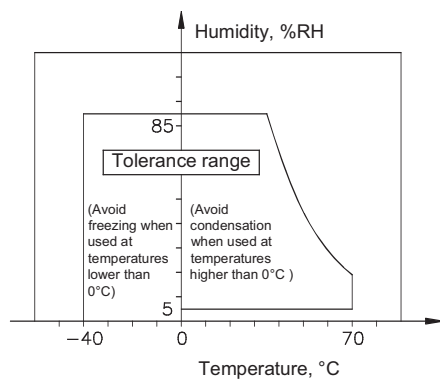
Rated voltage (V)	Rated current ±10% at 23°C (mA)	Coil resistance ±10% at 23°C (Ω)	Max. continuous voltage at 70°C	Pick up voltage(Max.) at 23°C	Drop out voltage(Min.) at 23°C	Power consumption at rated voltage
3	175	17.1	150 % of rated voltage	75 % of rated voltage	5 % of rated voltage	approx. 0.53W
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 <sup>(1)</sup>	100mΩ Max. (at 1A/6VDC by 4-wire resistance measurement)
Operate time <sup>(1)</sup>	20ms Max.
Release time <sup>(1)</sup>	15ms Max.

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 ops. (frequency 18,000 ops./hr)
		300,000 ops. (for contact gap 2mm type) (frequency 9,000 ops./hr)
	Electrical	30,000 ops. (frequency 360 ops./hr)
Operating ambient temperature	-40~+70°C (no freezing)	
Weight	Approx. 17 g	

- Note :
- (1) Initial value. Operate and release time excluding contact bounce.
  - (2) Unless otherwise specified, all tests are under room temperature and humidity.
  - (3) Consider the heat of PCB is necessary, please check the actual condition of PCB.
  - (4) Applying no diode to this relay. The life expectancy will be lower when a diode is used. To use a varistor (ZNR) could absorb the coil surge of relay that is recommended.
  - (5) Do not use the relay exceeding the coil rating, contact rating and life expectancy, or this may cause the risk of overheating.
  - (6) To assure optimum performance, avoid the relay from dropping, hitting, or other unnecessary shocks.
  - (7) Do not switch the contacts without any load as the contact resistance may become increased rapidly.
  - (8) Flux tight version is recommended. If there is cleaning process and sealed type is selected, the vent-hole should be removed after the process.
  - (9) Usage, transport and storage conditions
    - 1. Temperature: -40~+70°C
    - 2. Humidity: 5 to 85% R.H.
    - 3. Pressure: 86 to 106 kPa
    - Furthermore, the humidity range varies with the temperature. So, use relays within the range indicated in the graph below.



- (10) Please contact Song Chuan for the detailed information.

## »» Insulation Data

Insulation resistance <sup>(1)</sup>	1000MΩ Min. (DC 500V)
Dielectric strength <sup>(1)</sup>	Between open contact : AC 2500V , 50/60Hz 1 min. 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.
Insulation of IEC 61810-1	
Clearance / creepage distances	Between coil to contact : Reinforce, $\geq 6.0\text{mm}$ / $\geq 8.0\text{mm}$
	Between open contact : Functional Basic, $\geq 1.5\text{mm}$ / $\geq 2.5\text{mm}$ (for Large contact gap)
Rated insulation voltage	250V
Rated impulse withstand voltage	4000V
Pollution degree	3
Rated voltage	230 / 400V
Overtoltage category	II

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 1/4HP 125VAC 1/2HP 250VAC	8A 277VAC 1/4HP 125VAC 1/2HP 250VAC TV-3 (NO)	12A 277VAC 1/3HP 125VAC	12A 277VAC 1/3HP 125VAC 3/4HP 250VAC (NO) TV-5(NO)

## ◆VDE

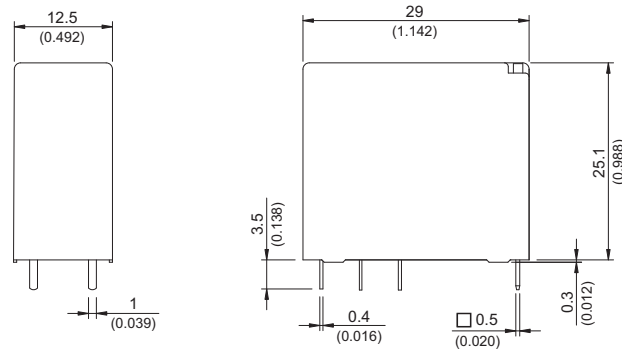
894	894N	894H	894HN
8A 250VAC T55	8A 250VAC T70	10A 250VAC T55	10A 250VAC T70

Note : Please contact Song Chuan for the rating details of contact gap 2.0mm.

## ◆TUV

894	894H
8A 277VAC	12A 250VAC

### »» Outline Dimensions



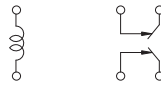
TOLERANCE:  
 LESS THAN: 1(0.039)  $\pm 0.1(0.004)$   
 5(0.197)  $\pm 0.3(0.012)$   
 20(0.787)  $\pm 0.5(0.020)$   
 MORE THAN: 20(0.787)  $\pm 1(0.039)$

### »» Wiring Diagram BOTTOM VIEW

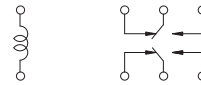
2A



2B

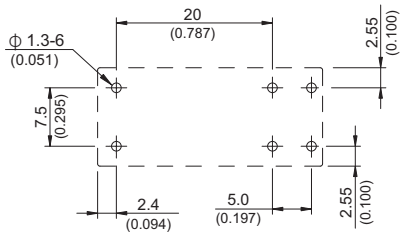


2C

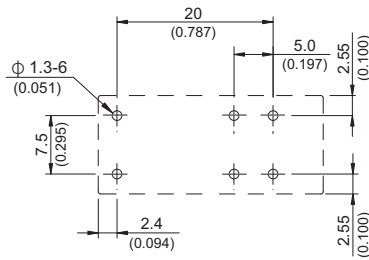


### »» PC Board Layout BOTTOM VIEW

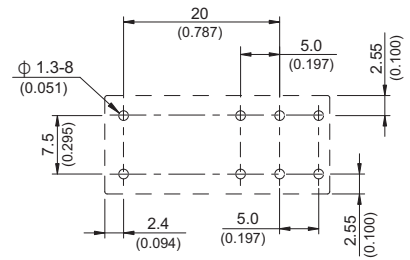
2A



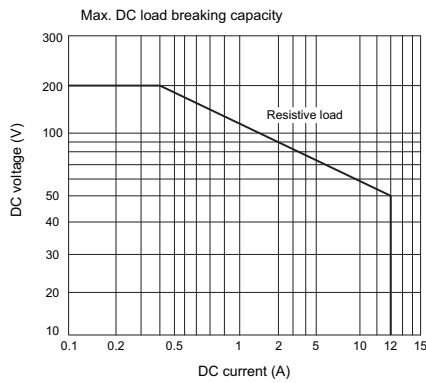
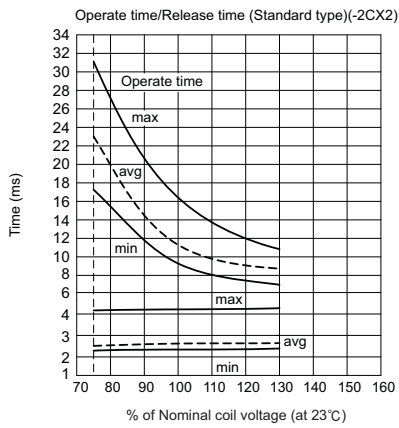
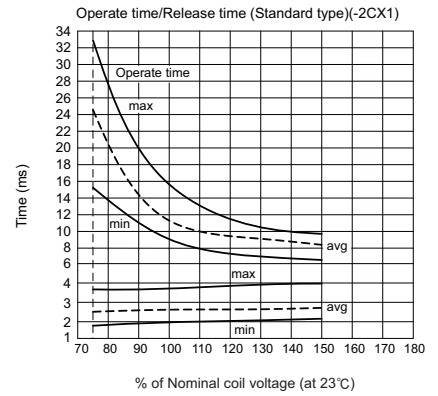
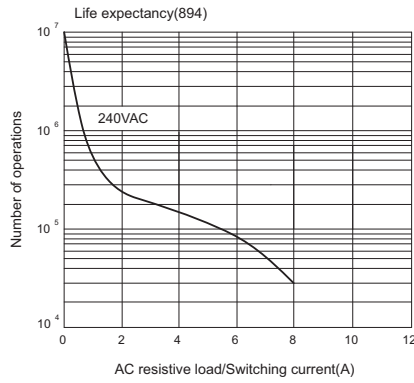
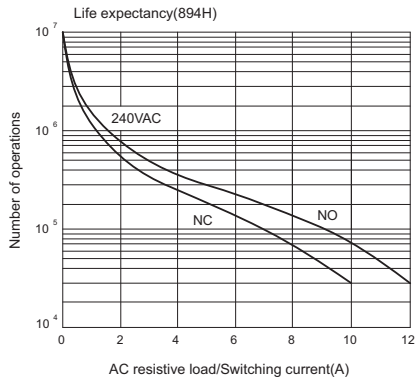
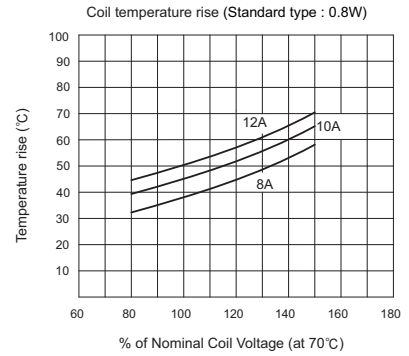
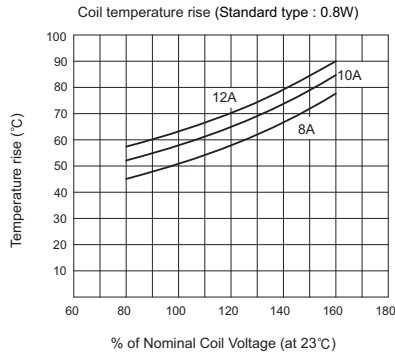
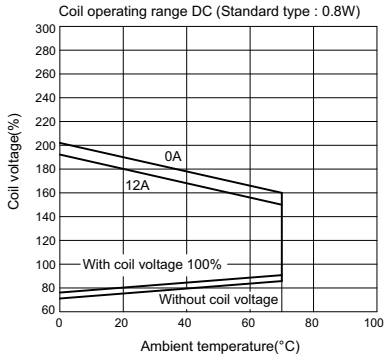
2B



2C



## »» Engineering Data



# Mouser Electronics

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