

### Features

- Small size for density PCB mounting.
- Dielectric strength : 5000V.

### Safety Approval

UL , C-UL File No. : E190598

TUV File No. : R50143452

CQC File No. : CQC07001018779

### Contact Capacity

| Model                                  | SMI -1 Pole           | SMI -2 Poles        |
|----------------------------------------|-----------------------|---------------------|
| Nominal switching capacity (res. load) | 12A 277VAC/10A 250VAC | 8A 277VAC/5A 250VAC |
| Max. switching current                 | 12A                   | 8A                  |
| Max. switching voltage                 | 277VAC                | 277VAC              |
| Max. switching power                   | 3,324VA               | 2,216VA             |

### Characteristic Data

|                                         |                                                     |                                         |
|-----------------------------------------|-----------------------------------------------------|-----------------------------------------|
| Contact material                        | Silver alloy                                        |                                         |
| Initial contact resistance (at 6VDC 1A) | 100mΩ Max.                                          |                                         |
| Operate time (at nominal volt.)         | SMI-D : 15msec. Max.                                | SMI-L : 20msec. Max.                    |
| Release time (at nominal volt.)         | 8msec. Max.                                         |                                         |
| Initial insulation resistance           | 1,00MΩ Min.(DC500V)                                 |                                         |
| Initial dielectric strength             | Between open contacts : AC1,000V , 50/60Hz 1Min.    |                                         |
|                                         | Between coil and contact : AC5,000V , 50/60Hz 1Min. |                                         |
| Vibration resistance                    | Functional                                          | 10 ~ 55Hz at double amplitude of 1.5 mm |
|                                         | Destructive                                         | 10 ~ 55Hz at double amplitude of 1.5 mm |
| Shock resistance                        | Functional                                          | 100G Min.                               |
|                                         | Destructive                                         | 10G Min.                                |
| Endurance (operations)                  | Mechanical (at 10,800 ops./h)                       | 10,000,000                              |
|                                         | Electrical (at 1,800 ops./h)                        | 100,000                                 |
| Ambient temperature                     | -40°C ~ +105°C (no condensation)                    |                                         |
| Unit weight                             | Approx. 13.5 g                                      |                                         |

### Coil Data (at 20°C)

| Nominal voltage (VDC) | Nominal operating current ±10% (mA) | Coil resistance ±10% (Ω) | .Max allowable voltage   | Pick-up voltage (Max.)  | Drop-out voltage (Min.) | Nominal operating power |
|-----------------------|-------------------------------------|--------------------------|--------------------------|-------------------------|-------------------------|-------------------------|
| 3                     | 240.00                              | 12.5                     | 130 % of nominal voltage | 80 % of nominal voltage | 5 % of nominal voltage  | .Approx 0.72W           |
| 5                     | 144.00                              | 35                       |                          |                         |                         |                         |
| 6                     | 120.00                              | 50                       |                          |                         |                         |                         |
| 9                     | 80.00                               | 115                      |                          |                         |                         |                         |
| 12                    | 60.00                               | 200                      |                          |                         |                         |                         |
| 18                    | 40.00                               | 450                      |                          |                         |                         |                         |
| 24                    | 30.00                               | 820                      |                          |                         |                         |                         |
| 48                    | 15.00                               | 3,300                    |                          |                         |                         |                         |

## Coil Data(at 20°C)

| Nominal voltage (VDC) | Nominal operating current $\pm 10\%$ (mA) | Coil resistance $\pm 10\%$ ( $\Omega$ ) | .Max allowable voltage   | Pick-up voltage (Max.)  | Drop-out voltage (Min.) | Nominal operating power |
|-----------------------|-------------------------------------------|-----------------------------------------|--------------------------|-------------------------|-------------------------|-------------------------|
| 3                     | 180.00                                    | 17                                      | 130 % of nominal voltage | 80 % of nominal voltage | 5 % of nominal voltage  | .Approx 0.54W           |
| 5                     | 108.00                                    | 46                                      |                          |                         |                         |                         |
| 6                     | 90.00                                     | 67                                      |                          |                         |                         |                         |
| 9                     | 60.00                                     | 150                                     |                          |                         |                         |                         |
| 12                    | 45.00                                     | 267                                     |                          |                         |                         |                         |
| 18                    | 30.00                                     | 600                                     |                          |                         |                         |                         |
| 24                    | 22.50                                     | 1,067                                   |                          |                         |                         |                         |
| 48                    | 11.25                                     | 4,267                                   |                          |                         |                         |                         |

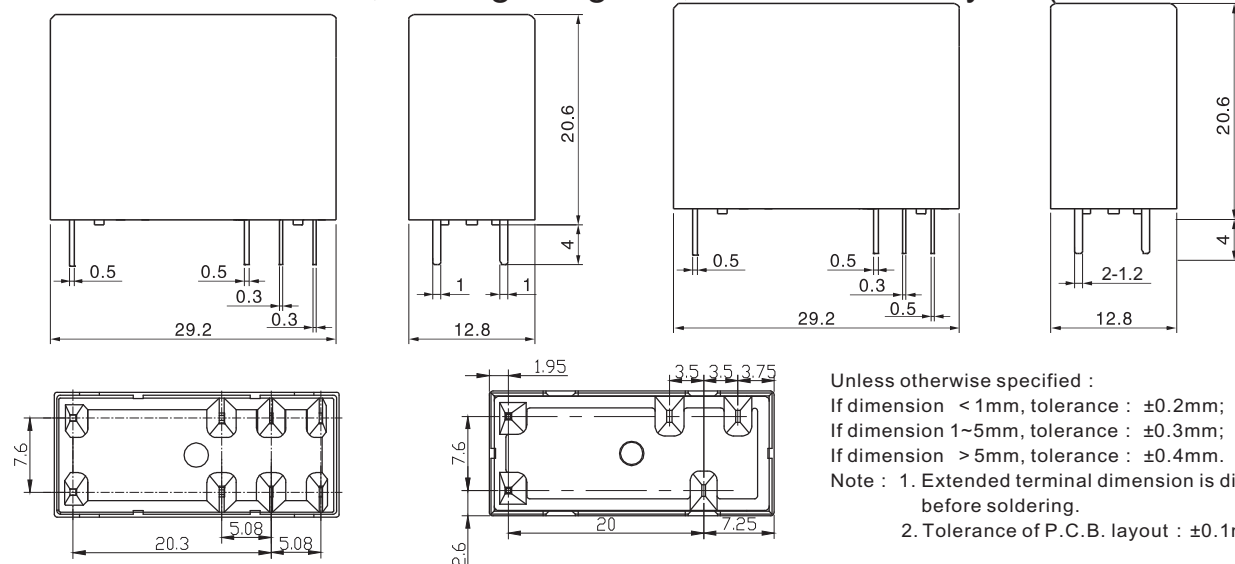
## Safety Approval Ratings

| Approval         | CQC                                                        | TUV                                 | UL/CUL                                                                                                                                   |                                                                                                                                                                                             |
|------------------|------------------------------------------------------------|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| File No.         | CQC07001018779                                             | R50143452                           | E190598                                                                                                                                  |                                                                                                                                                                                             |
| Approved ratings | 1 pole :<br>10A 250VAC<br>12A 277VAC N.O<br>8 A 277VAC N.C | 1 pole :<br>10A 250VAC<br>10A 30VDC | 1 Pole :<br>10A 250VAC , Resistive<br>10A 250VAC , General Use<br>5A 250VAC , General Use<br>10A 30VDC , Resistive<br>TV-3 250VAC , N.O. | 2 Poles :<br>5A 250VAC , Resistive<br>5A 250VAC , General Use<br>2A 120VAC , General Use<br>2A 240VAC , General Use<br>5A 24VDC , Resistive<br>Pilot duty: 125VA 250VAC<br>TV-3 120VAC N.O. |
|                  | 2 poles :<br>5A 250VAC<br>5A 277VAC N.C<br>8A 277VAC N.O   | 2 poles :<br>5A 250VAC<br>5A 24VDC  | TV-2 250VAC , N.O.<br>Pilot duty: 250VA 250VAC<br>12A 277VAC.General Use<br>&Resistive N.O.<br>8A 277VAC.General Use<br>&Resistive N.C.  | 8A 277VAC.General Use<br>&Resistive N.O.<br>5A 277VAC.General Use<br>&Resistive N.C.                                                                                                        |

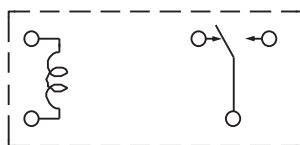
## Ordering Information

| Nomenclature                                                                                    |     |        |                |
|-------------------------------------------------------------------------------------------------|-----|--------|----------------|
| SMI                                                                                             | - S | - 1 12 | D M 1 - F - XX |
| Special Parameter : Nil-Standard type,<br>Letter or number-Special requirement 01-new structure |     |        |                |
| Insulation System : Nil-Standard, B-Class B, F-Class F                                          |     |        |                |
| Contact Material : Nil-AgSnO <sub>2</sub> , 1-AgCdO                                             |     |        |                |
| Contact Form : Nil-Form C, M-Form A                                                             |     |        |                |
| Coil Power : D-0.72W, L-0.54W                                                                   |     |        |                |
| Coil Voltage (VDC) : 03, 05, 06, 09, 12, 18, 24, 48                                             |     |        |                |
| Number of Poles : 1-1 Pole, 2-2 Poles                                                           |     |        |                |
| Protective Construction : S-Flux proofed,<br>SH-Sealed type washable                            |     |        |                |
| Type Designation : SMI                                                                          |     |        |                |

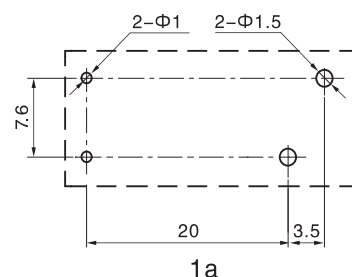
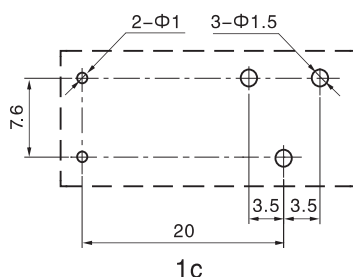
## Outline Dimensions, Wiring Diagram, P.C. Board Layout(unit : mm)



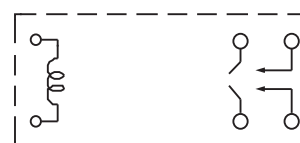
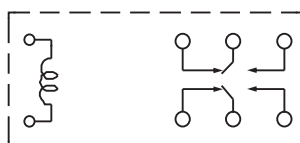
Wiring Diagram (bottom view)



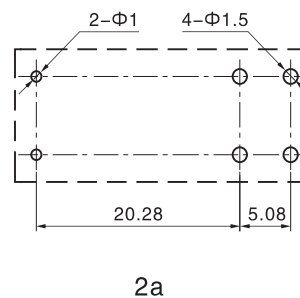
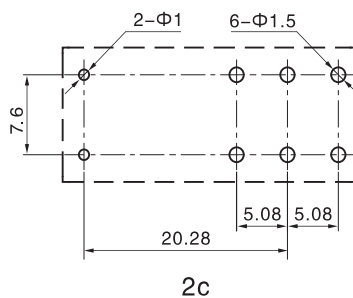
P.C.B. Layout (bottom view)



Wiring Diagram (bottom view)



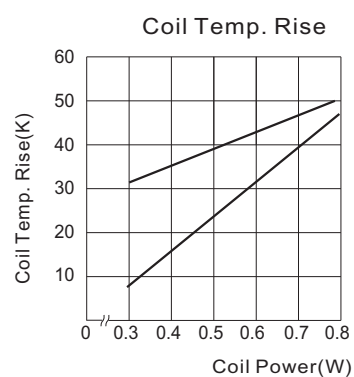
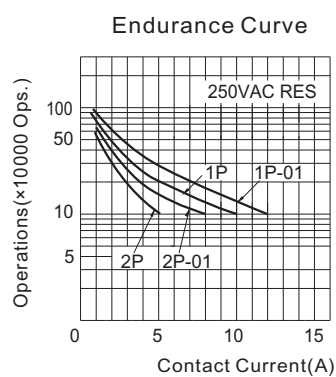
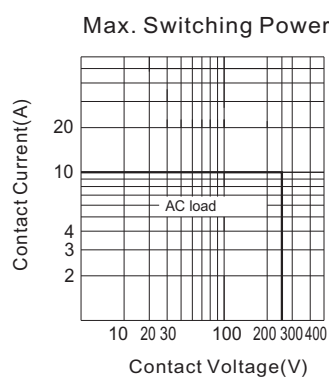
P.C.B. Layout (bottom view)



## Typical Applications

- Home appliances, air conditioner, microwave oven, audio equipment, monitor, industrial control equipment, instrument, etc.

## Characteristic Curves



### Disclaimer:

This datasheet is the customers' reference. All the specification are subject to change without notice.

We could not evaluate all the performance and all the parameters for every possible application. Thus the user should in a right position to choose the suitable product for their own application. If there is any query, please contact Sanyou for the technical service. However it is the user's responsibility to determine which product should be used only.