



## Features

- Small size with 16A switching capability.
- Low coil power consumption : 200mW available.

## Safety Approval

UL , C-UL File No. : E179745

TUV File No.R50139459

CQC File No. : CQC02001002127

## Contact Capacity

|                                        |            |
|----------------------------------------|------------|
| Model                                  | SPA        |
| Nominal switching capacity (res. load) | 10A 250VAC |
| Max. switching current                 | 16A        |
| Max. switching voltage                 | 277VAC     |
| Max. switching power                   | 4,432VA    |

## Characteristic Data

|                                         |                                                    |                                         |
|-----------------------------------------|----------------------------------------------------|-----------------------------------------|
| Contact material                        | Silver alloy                                       |                                         |
| Initial contact resistance (at 6VDC 1A) | 50mΩ Max.(1A 6VDC)                                 |                                         |
| Operate time (at nominal volt.)         | 15msec. Max.(no diode)                             |                                         |
| Release time (at nominal volt.)         | 8msec. Max.(no diode)                              |                                         |
| Initial insulation resistance           | 1,000MΩ Min.(DC500V)                               |                                         |
| Initial dielectric strength             | Between open contacts : AC1,000V , 50/60Hz 1min.   |                                         |
|                                         | Between coil and contact :AC2,500V , 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                                         | 10G Min.                                |
|                                         | Destructive                                        | 100G Min.                               |
| Endurance (operations)                  | Mechanical (at 10,800 ops./h)                      | 10,000,000(at room temperature)         |
|                                         | Electrical (at 360 ops./h)                         | 100,000(at room temperature)            |
| Ambient temperature                     | -40°C ~ +105°C (no condensation)                   |                                         |
| Unit weight                             | Approx. 8.6 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                     | 66.67                              | 45                      | 150 % of nominal voltage | 75 % of nominal voltage | 5 % of nominal voltage  | .Approx 0.20W           |
| 5                     | 40.00                              | 125                     |                          |                         |                         |                         |
| 6                     | 33.33                              | 180                     |                          |                         |                         |                         |
| 9                     | 22.22                              | 405                     |                          |                         |                         |                         |
| 12                    | 16.67                              | 720                     |                          |                         |                         |                         |
| 18                    | 11.11                              | 1,620                   |                          |                         |                         |                         |
| 24                    | 8.57                               | 2,880                   |                          |                         |                         |                         |
| 48                    | 7.09                               | 6,770                   |                          |                         |                         | Approx.0.34W            |

## Safety Approval Ratings (Note: More detail of approval ratings, please refer to the safety certification.)

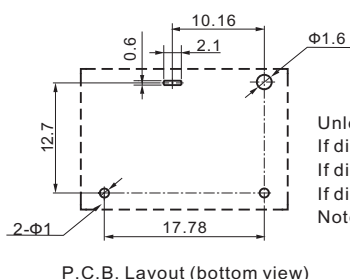
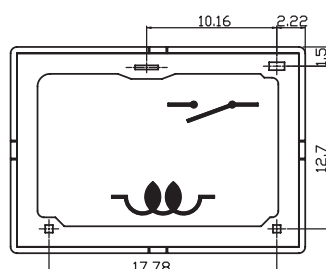
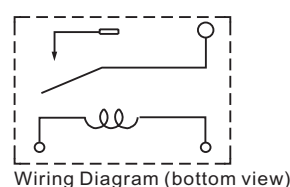
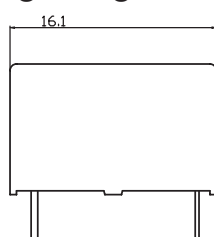
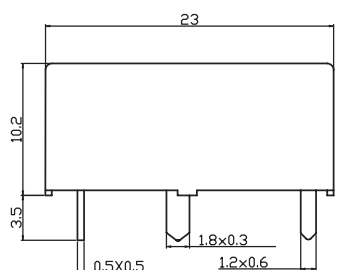
| Approval         | CQC                              | TUV                                           | UL/CUL                                                                                                                                 |
|------------------|----------------------------------|-----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| File No.         | CQC02001002127                   | R50139459                                     | E179745                                                                                                                                |
| Approved ratings | 10A 250VAC<br>16A 125/250/277VAC | 10A 250VAC<br>10A 30VDC<br>16A 125/250/277VAC | 15A 125VAC , Resistive<br>10A 250VAC , Resistive<br>10A 24VDC , Resistive<br>5A 125VAC , General Use<br>16A 125/250/277VAC , Resistive |

- (1) The above-mentioned unspecified temperature ratings, means that the ambient temperature is room temperature.  
 (2) Only some typical ratings are listed above. Each rating's test condition is different, so the electrical endurance will be different.  
 If more details are required, please contact us.  
 (3) For sealed type testing, please open the ventilation hole of case before test.  
 (4) Composite contact product safety certification is executing.

## Ordering Information

| Nomenclature           |    |    |    |   |   |   |                                                                                                                  |     |  |
|------------------------|----|----|----|---|---|---|------------------------------------------------------------------------------------------------------------------|-----|--|
| SPA                    | -S | -1 | 12 | D | M | 1 | -F                                                                                                               | -XX |  |
|                        |    |    |    |   |   |   | Special Parameter : Nil-Standard type,<br>01-compound contact                                                    |     |  |
|                        |    |    |    |   |   |   | Insulation System : Nil-Standard, B-Class B, F-Class F                                                           |     |  |
|                        |    |    |    |   |   |   | Contact Material : Nil-AgSnO <sub>2</sub> , 1-AgCdO,<br>2-φ4.0AgSnO <sub>2</sub> , 3-φ4.0AgNi+AgSnO <sub>2</sub> |     |  |
|                        |    |    |    |   |   |   | Contact Form : M-Form A                                                                                          |     |  |
|                        |    |    |    |   |   |   | Coil Power : D-0.20W/0.34W (48V)                                                                                 |     |  |
|                        |    |    |    |   |   |   | Coil Voltage (VDC) : 03, 05, 06, 09, 12, 18, 24, 48                                                              |     |  |
|                        |    |    |    |   |   |   | Number of Poles : 1-1 Pole                                                                                       |     |  |
|                        |    |    |    |   |   |   | Protective Construction : S-Flux proofed,<br>SH-Sealed type washable                                             |     |  |
| Type Designation : SPA |    |    |    |   |   |   |                                                                                                                  |     |  |

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



Unless otherwise specified :  
 If dimension < 1mm, tolerance : 0.2mm;  
 If dimension 1~5mm, tolerance : 0.3mm;  
 If dimension > 5mm, tolerance : 0.4mm.  
 Note : 1. Extended terminal dimension is dimension before soldering.  
 2. Tolerance of P.C.B. layout : 0.1mm.

## Typical Applications

- Home appliances, office equipment, instrument

### 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. For sealed relays after installation and cleaning, please open the vent hole on the case before use. 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.