

# SONGLE RELAY



RELAY ISO9002

**SMI**



## 1. MAIN FEATURES

- Slim type and small occupying space can offer high density P.C.B. technique.
- Low coil power consumption type and general coil power consumption are prepared to comply with user's wide selections.
- Employment of suitable plastic materials to be applied to high temperature and various chemical solutions.
- Complete protective construction from dust and soldering flux. If required,

## 2. APPLICATIONS

- Cooking appliances, air conditioners, audio equipment, domestic appliances, etc.

## 3. ORDERING INFORMATION

| SMI-2P         | XX VDC                    | S                 | L                | C                          |
|----------------|---------------------------|-------------------|------------------|----------------------------|
| Model of relay | Nominal coil voltage      | Structure         | Coil sensitivity | Contact form               |
| SMI -1P        | 05, 06, 09, 12, 24, 48VDC | S: Sealed type    | L: 0.54W         | A: 1 form A                |
|                |                           | F: Flux free type | D: 0.72W         | B: 1 form B<br>C: 1 form B |

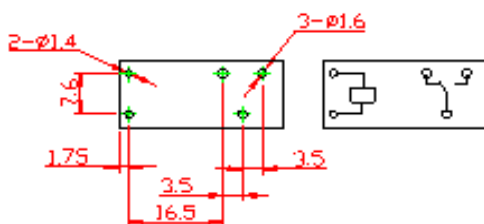
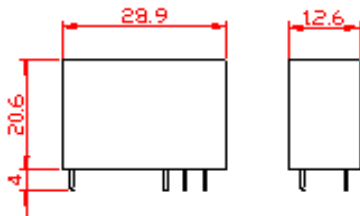
## 4. RATING

CQC FILE NUMBER: CH0036746-99 10A/250VDC  
 UL FILE NUMBER: E167996 10A/240VAC 30VDC  
 TUV FILE NUMBER: R9933789 10A/250VAC 30VDC

## 5. DIMENSION (unit:mm)

## DRILLING (unit:mm)

## WIRING DIAGRAM



## 6. COIL DATA CHART (AT20°C)

| Coil Sensitivity | Coil Voltage Code | Nominal Voltage (VDC) | Nominal Current (mA) | Coil Resistance ( $\Omega$ ) $\pm 10\%$ | Power Consumption (W) | Pull-In Voltage (VDC) | Drop-Out Voltage (VDC) | Max-Allowable Voltage (VDC) |
|------------------|-------------------|-----------------------|----------------------|-----------------------------------------|-----------------------|-----------------------|------------------------|-----------------------------|
| SMI- P0.72W      | 03                | 03                    | 240                  | 12.5                                    | abt. 0.72W            | 80%Max.               | 5% Min.                | 130% Max.                   |
|                  | 05                | 05                    | 138.9                | 36                                      |                       |                       |                        |                             |
|                  | 06                | 06                    | 120                  | 50                                      |                       |                       |                        |                             |
|                  | 09                | 09                    | 78.3                 | 115                                     |                       |                       |                        |                             |
|                  | 12                | 12                    | 60                   | 200                                     |                       |                       |                        |                             |
|                  | 24                | 24                    | 29.3                 | 820                                     |                       |                       |                        |                             |
| SMI- P0.54W      | 48                | 48                    | 14.5                 | 3300                                    |                       |                       |                        |                             |
|                  | 03                | 03                    | 126.5                | 17                                      | abt. 0.54W            | 80%Max.               | 5% Min.                | 130% Max.                   |
|                  | 05                | 05                    | 106.4                | 47                                      |                       |                       |                        |                             |
|                  | 06                | 06                    | 88                   | 68                                      |                       |                       |                        |                             |
|                  | 09                | 09                    | 58                   | 155                                     |                       |                       |                        |                             |
|                  | 12                | 12                    | 44.4                 | 270                                     |                       |                       |                        |                             |
|                  | 24                | 24                    | 21.8                 | 1100                                    |                       |                       |                        |                             |
|                  | 48                | 48                    | 10.9                 | 4400                                    |                       |                       |                        |                             |

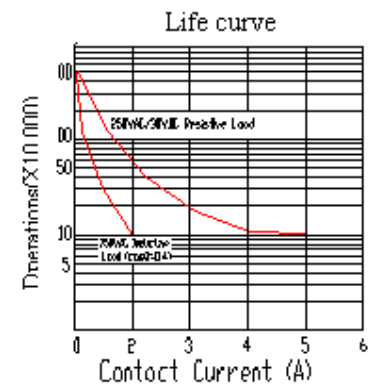
## 7. CONTACT RATING

| Item                   | Arrangement | SMI- 1P                            |                                      |
|------------------------|-------------|------------------------------------|--------------------------------------|
| Rated load             |             | Resistive Load ( $\cos \phi = 1$ ) | Inductive Load ( $\cos \phi = 0.4$ ) |
|                        |             | 5A 250VAC<br>5A 30VDC              | 2A 250VAC<br>2A 30VDC                |
| Carrying current       |             | 5A                                 |                                      |
| Max. switching voltage |             | 190VAC, 65VDC                      |                                      |
| Min. permissible load  |             | 5VDC 10Ma                          |                                      |
| Contact material       |             | AgCdO                              |                                      |

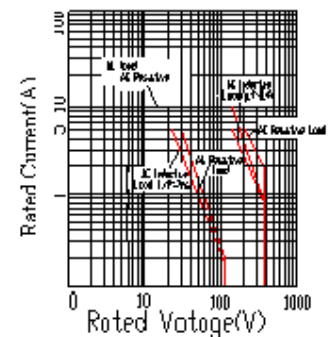
## 8. PERFORMANCE (at initial value)

| Item                          | Type                   | SMI-2P                                            |
|-------------------------------|------------------------|---------------------------------------------------|
| Contact Resistance            |                        | 100m $\Omega$ Max.                                |
| Operation Time                |                        | 15msec Max.                                       |
| Release Time                  |                        | 8msec Max.                                        |
| Dielectric Strength           | Between coil & contact | 5000VAC 50/60HZ (1 minute)                        |
|                               | Between contacts       | 1000VAC 50/60HZ (1 minute)                        |
| Surge Resistiveness           |                        | 1000V (between coil & contact 1 $\times$ 40 msec) |
| Insulation Resistance         |                        | 100 M $\Omega$ Min. (500VDC)                      |
| Max. ON/OFF Switching         | Mechanically           | 300 operation/min                                 |
|                               | Electrically           | 30 operation/min                                  |
| Operating Ambient Temperature |                        | -20°C to +55°C                                    |
| Operating Humidity            |                        | 45 to 80% RH                                      |
| Coil Temperature Rise         |                        | 45 deg. Max.<br>(at rated coil voltage)           |
| Vibration                     | Endurance              | 10 to 55Hz Double Amplitude 1.5mm                 |
|                               | Error Operation        | 10 to 55Hz Double Amplitude 1.5mm                 |
| Shock                         | Endurance              | 100G Min.                                         |
|                               | Error Operation        | 10G Min.                                          |
| Life Expectancy               | Mechanically           | 10 <sup>7</sup> operations. Min.                  |
|                               | Electrically           | 10 <sup>5</sup> operations. Min.                  |

## 9. USEFUL CURVES



### Contact Switching Capacity



### Temperature Rise

