



Relays for advanced technology

# POWER PCB RELAY

# WJ105-RELAYS



- Ultra Miniature Size
- 10A, 5A switching Capability
- SPST-NO and SPDT configuration
- Surge resistiveness of 5000V
- Sealing Construction.
- UL/C-UL recognized.

## SPECIFICATIONS

### Contact

|  | WJ105<br>(0.45W)  | WJ105<br>(0.2W) |
|--|-------------------|-----------------|
| Arrangement                              | 1 A, 1C           |                 |
| Contact Material                         | Silver alloy      |                 |
| Contact Resistance<br>(By voltage 6V 1A) | Max.100mΩ         |                 |
| UL/C-UL Rating                           | 10A 120VAC        | 5A 120VAC       |
| Resistive load                           | 5A 250VAC         | 3A 250VAC       |
| (cosφ=1)                                 | 5A 28VDC          | 3A 28VDC        |
| General                                  | 1.5A 250VAC       | 1A 250VAC       |
| use (cosφ=0.75~0.8)                      |                   |                 |
| Max. Switching voltage                   | 265VAC            | 30VDC           |
| Max. Switching current                   | 10A               | 5A              |
| Max. Switching power                     | 1200VA 150W       | 720VA 90W       |
| Expected life(min.ope)                   |                   |                 |
| Mechanical(at 120 cpm)                   | 1×10 <sup>7</sup> |                 |
| Electrical (at 20 cpm)                   | 1×10 <sup>5</sup> |                 |

### Characteristics

|  | WJ105 (0.45W)  | WJ105(0.2W)                              |
|--|--|--|
| Operate Time   | Max.10msec.  | Max.15msec.                              |
| Release Time   | Max.4msec.   |  |
| Operating humidity   | 45 to 85% RH   |  |
| Initial breakdown voltage<br>Between coil & contact<br>Between open contacts | 3,000VAC (50/60Hz)for 1 min.<br>1,000VAC (50/60Hz)for 1 min. |  |
| Insulation Resistance  | Min. 1000MΩ (500 VDC)  |  |
| Ambient temperature  | -30°C~+55°C  | -30°C~+80°C                              |
| Shock Resistance   | Functional   | Min. 10G                                 |
|  | Destruction  | Min. 100G                                |
| Vibration Resistance   | Functional   | 10 to 55 Hz at double Amplitude of 1.5mm |
|  | Destruction  | 10 to 55 Hz at double Amplitude of 1.5mm |
| Insulation withstand voltage   | 5000V 1.2×50μs   |  |
| Unit weight  | Approx.9g  |  |

### Coil

|                         |              |
|-------------------------|--------------|
| Nominal operating power | 0.2 to 0.45W |
|-------------------------|--------------|

TYPICAL APPLICATION : 1.Openers, Emergency lighting equipment, air conditioners.  
2.Home appliances, Programmable controllers, Garage door etc

## ORDERING INFORMATION

e. g.

**WJ105- 1 A - 12VDC 45Ω**

①      ②      ③      ④      ⑤

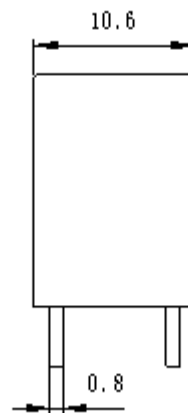
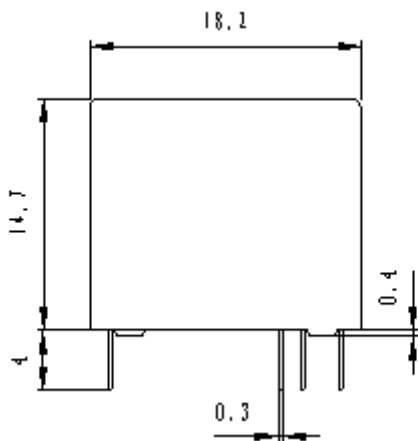
| Relay Series | Contact Arrangement: | Coil Voltage:               | coil power  |
|--------------|----------------------|-----------------------------|---|
| WJ105        | 1A: SPST-NO 1C: SPDT | DC: 3, 5, 6, 9, 12, 24, 48V | Nil: 0.45W coil power<br>45Ω, 125Ω, 180Ω, 400Ω, 720Ω, 2800Ω,<br>11520Ω: 0.2W coil power |

# COIL DATA (at 20°C)

| 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) |
|-----------------------|----------------------|--|-----------------------|-----------------------|------------------------|------------------------------|
| 3                     | 150.0                | 20                                     | 0.45                  | 75%Max.               | 5%Min.                 | 130% of nominal voltage      |
| 5                     | 91.0                 | 55                                     |                       |                       |                        |                              |
| 6                     | 75.0                 | 80                                     |                       |                       |                        |                              |
| 9                     | 50.0                 | 180                                    |                       |                       |                        |                              |
| 12                    | 37.5                 | 320                                    |                       |                       |                        |                              |
| 24                    | 18.8                 | 1280                                   |                       |                       |                        |                              |
| 48                    | 9.4                  | 5100                                   | 0.20                  | 75%Max.               | 5%Min.                 | 130% of nominal voltage      |
| 3                     | 67.0                 | 45                                     |                       |                       |                        |                              |
| 5                     | 40.0                 | 125                                    |                       |                       |                        |                              |
| 6                     | 33.3                 | 180                                    |                       |                       |                        |                              |
| 9                     | 22.5                 | 400                                    |                       |                       |                        |                              |
| 12                    | 16.7                 | 720                                    |                       |                       |                        |                              |
| 24                    | 8.16                 | 2800                                   |                       |                       |                        |                              |

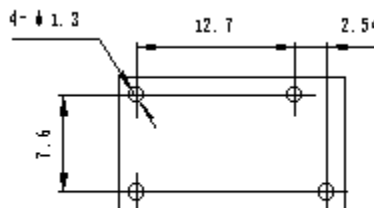
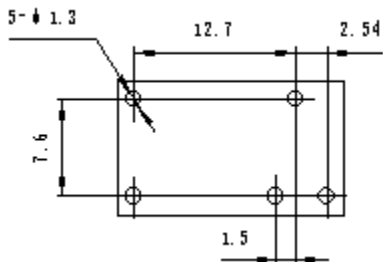
## DIMENSIONS

Unit: mm



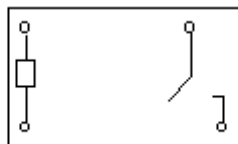
## PCB LAYOUT

( $T=2.52\pm 0.02\text{mm}$ )



## SCHEMATIC

1A (SPST-NO)



1C (SPDT)

