



**ULTRA-MINIATURE  
PC BOARD TYPE  
POWER RELAY**

**WJ109-  
RELAYS**



- Ultra-miniature size with universal terminal footprint.
- High contact capacity: 10A.
- Sealed type available.
- Low coil power consumption.

**SPECIFICATIONS**

**Contact**

|  |                                      |
|--|--------------------------------------|
| Arrangement                                      | 1 A; 1 C                             |
| Contact Material                                 | Silver alloy                         |
| Contact Resistance<br>(By voltage drop 6V 1A)    | Max.100mΩ                            |
| Rating   |                                      |
| Resistive load<br>(cosφ=1)                       | 10A 125VAC<br>7A 250VAC<br>10A 28VDC |
| Max. Switching current                           | 10A                                  |
| Max. Switching power                             | 1250VA 300W                          |
| Expected life(min.ope)<br>Mechanical(at 180 cpm) | 1×10 <sup>7</sup>                    |
| Electrical (at 20 cpm)                           | 1×10 <sup>5</sup>                    |

**Characteristics**

|                              |             |   |
|------------------------------|-------------|---|
| Operate Time                 |             | Max.10msec.                               |
| Release Time                 |             | Max.5msec.                                |
| Operating humidity           |             | 45 to 85% RH                              |
| Initial breakdown voltage    |             |   |
| Between coil & contact       |             | 2000VAC (50/60Hz)for 1 min.               |
| Between open contacts        |             | 750VAC (50/60Hz)for 1 min.                |
| Insulation Resistance        |             | Min.1000MΩ (500 VDC)                      |
| Temperature rise(Max.)       |             | 40deg(at nominal voltage)                 |
| Ambient temperature          |             | -40°C ~ +80°C                             |
| Shock<br>Resistance          | Functional  | Min. 10G                                  |
|                              | Destruction | Min. 100G                                 |
| Vibration<br>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(between coil and contacts) |
| Unit weight                  |             | Approx.10g                                |

**Coil**

|                         |               |
|-------------------------|---------------|
| Nominal operating power | 0.36 to 0.45W |
|-------------------------|---------------|

**TYPICAL APPLICATION**

1. Cooling appliances
2. Air conditioners
3. Audio equipment.
4. Domestic appliances
5. Car control units, etc.

**ORDERING INFORMATION**

**WJ109 - 1 C - 12VDC 25Ω**

**1 2 3 4 5**

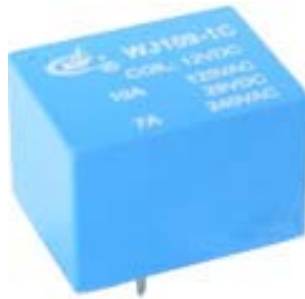
| Type  | Number of pole | Contact form                              | Coil voltage(DC)      | Coil sensitivity                              |
|-------|----------------|---|-----------------------|---|
| wj109 | 1:1pole        | A: 1 form A<br>B: 1 form B<br>C: 1 form C | 3,5,6,9,<br>12,24,48V | 25,70,100,225,<br>400,1600:0.36W<br>Nil:0.45W |

# COIL DATA (at 20 C)

| Nominal Voltage (VDC) | Pick-up Voltage (VDC) | Drop-out Voltage (VDC) | Coil Resistance ( $\Omega$ ) $\pm$ 10% | Nominal operating Power (W) | Coil Resistance ( $\Omega$ ) $\pm$ 10% | Nominal operating Power (W) | Max.Allowable Voltage (VDC) |
|-----------------------|-----------------------|------------------------|--|-----------------------------|--|-----------------------------|-----------------------------|
| 3                     | 2.25                  | 0.15                   | 25                                     | 0.36                        | 20                                     | 0.45                        | 130% of nominal Voltage     |
| 5                     | 3.75                  | 0.25                   | 70                                     |                             | 55                                     |                             |                             |
| 6                     | 4.50                  | 0.30                   | 100                                    |                             | 80                                     |                             |                             |
| 9                     | 6.75                  | 0.45                   | 225                                    |                             | 180                                    |                             |                             |
| 12                    | 9.00                  | 0.60                   | 400                                    |                             | 320                                    |                             |                             |
| 24                    | 18.00                 | 1.20                   | 1600                                   |                             | 1150                                   |                             |                             |
| 48                    | 36.00                 | 2.40                   | 5120                                   | 0.45                        | 5120                                   |                             |                             |

## DIMENSIONS

Unit: mm



Note: The relative changes for the specification will not be advised in the future.