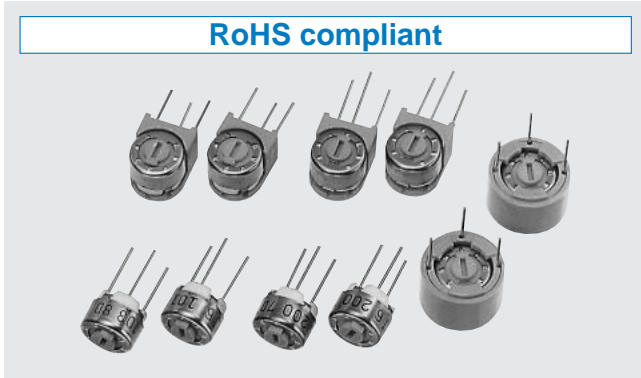


SINGLE TURN CERMET TRIMMERS

# RJ-6

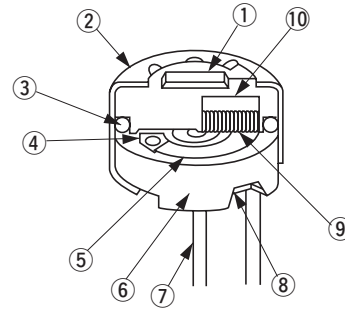
RoHS compliant



## FEATURES

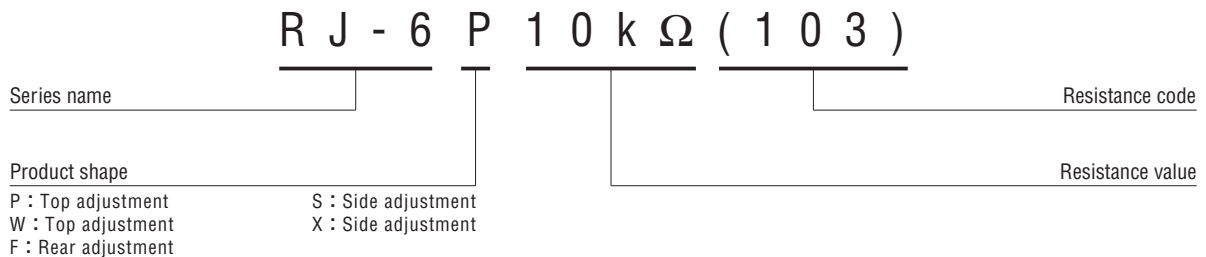
- RoHS compliant
- Wide resistance range from 10 Ω to 5 MΩ
- Low contact resistance variation (1 % maximum)
- Precious metal alloy wiper

### INTERNAL STRUCTURE



|   | Part name         | Material                       | Flammability |
|---|-------------------|--------------------------------|--------------|
| ① | Rotor             | PBT(Polybutyleneterephthalate) | UL-94HB      |
| ② | Cover             | Stainless steel                | —            |
| ③ | “O” ring          | Silicone rubber                | UL-94HB      |
| ④ | Electrode         | Ag-Pd cermet                   | —            |
| ⑤ | Resistive element | RuO <sub>2</sub> cermet        |              |
| ⑥ | Base element      | Ceramic                        |              |
| ⑦ | Terminal pin      | Nickel, Gold-plated            |              |
| ⑧ | Adhesive          | Epoxy                          |              |
| ⑨ | Wiper             | Multi metal alloy              |              |
| ⑩ | Rubber cushion    | Silicone rubber                |              |

## PART NUMBER DESIGNATION



※Please refer to the LIST OF PART NUMBERS when placing orders.

**LIST OF PART NUMBERS**

| Adjustment position                      | Shape of terminal (Top view) | Form of packaging | Pieces in package |
|--|------------------------------|-------------------|-------------------|
|  |                              | Plastic bag       |                   |
| Top adjustment                           |                              | RJ-6P             | 50 pcs./pack      |
|  |                              | RJ-6W             |                   |
| Side adjustment (↑ Adjustment direction) |                              | RJ-6S             |                   |
|  |                              | RJ-6X             |                   |
| Rear adjustment                          |                              | ➔ RJ-6F           |                   |

**ELECTRICAL CHARACTERISTICS**

|                            |  |
|----------------------------|--|
| Nominal resistance range   | 10 Ω ~ 5 MΩ  |
| Resistance tolerance       | ± 10 %   |
| Power ratings              | 0.5 W (70 °C) 0 W (120 °C)   |
| Resistance law             | Linear law   |
| Maximum input voltage      | DC200 V or power rating, whichever is smaller  |
| Maximum wiper current      | 100 mA or power rating, whichever is smaller   |
| Effective electrical angle | 230 ° (1 turn)   |
| End resistance             | 1 % or 2 Ω, whichever is greater   |
| C.R.V.                     | 1 % or 3 Ω, whichever is greater   |
| Operating temp. range      | -55 ~ 120 °C   |
| Temp. coefficient          | 10 Ω, 20Ω, 5 MΩ : ± 250 10 <sup>-6</sup> /°C maximum<br>50 Ω ~ 2 MΩ : ± 100 10 <sup>-6</sup> /°C maximum |
| Insulation resistance      | 1000 MΩ minimum (DC500 V)  |
| Dielectric strength        | AC900 V, 60 s  |
| Net weight                 | Approx. 0.60 g (RJ-6P,W)<br>Approx. 0.80 g (RJ-6S, X)<br>Approx. 1.01 g (RJ-6F)                          |

〈Nominal resistance values〉

|        |         |       |        |        |          |        |      |      |        |
|--------|---------|-------|--------|--------|----------|--------|------|------|--------|
| ➔ 10 Ω | ➔ 20 Ω  | 50 Ω  | 100 Ω  | 200 Ω  | 500 Ω    | 1 kΩ   | 2 kΩ | 5 kΩ | 10 kΩ  |
| 20 kΩ  | ➔ 25 kΩ | 50 kΩ | 100 kΩ | 200 kΩ | ➔ 250 kΩ | 500 kΩ | 1 MΩ | 2 MΩ | ➔ 5 MΩ |

Fig. 1

※ The above part numbers are all available with the respective combination of <Nominal resistance values> (Fig. 1).  
※ Verify the above part numbers when placing orders.

The products indicated by ➔ mark are manufactured upon receipt of order basis.

**MECHANICAL CHARACTERISTICS**

|                      |  |
|----------------------|--|
| Mechanical angle     | 270 ° (1 turn)   |
| Operating torque     | 2~ 15 mN·m {20 ~ 153 gf·cm}  |
| Stop strength        | 50 mN·m (510 gf·cm) minimum  |
| Rotational life      | 200 cycles<br>10 Ω ~ 200 Ω [ Δ R/R ≤ ± (0.5 Ω + 3 %) ]<br>500 Ω ~ 5 MΩ [ Δ R/R ≤ ± (0.5 Ω + 2 %) ] |
| Terminal to strength | 10 N {1.02 kgf} minimum<br>( Tensile strength)   |
| Thrust rotor         | 10 N {1.02 kgf} minimum  |
| Solderability        | 245 ± 3 °C, 2 ~ 3 s  |

{ } : Reference only

**ENVIRONMENTAL CHARACTERISTICS**

| Test item           | Test conditions  | Specifications                    |
|---------------------|--|-----------------------------------|
| Thermal shock       | -65 ~ 125 °C (0.5 h),<br>5 cycles  | [ Δ R/R ≤ 1 % ]<br>[ S.S. ≤ 1 % ] |
| Humidity            | -10 ~ 65 °C (80 ~ 98 %),<br>10 cycles, 240 h   | [ Δ R/R ≤ 1 % ]                   |
| Shock               | 981 m/s <sup>2</sup> , 6 ms<br>6 directions for 3 times each   | [ Δ R/R ≤ 1 % ]<br>[ S.S. ≤ 1 % ] |
| Vibration           | Amplitude 1.52 mm or<br>Acceleration 196 m/s <sup>2</sup> ,<br>10 ~ 2000 Hz, 3 directions, 12 times each |                                   |
| Load life           | 70 °C, 0.5 W, 1000 h   | [ Δ R/R ≤ 2 % ]<br>[ S.S. ≤ 1 % ] |
| Low temp. operation | -55 °C, 2 h  | [ Δ R/R ≤ 1 % ]<br>[ S.S. ≤ 2 % ] |
| High temp. exposure | 120 °C, 250 h  | [ Δ R/R ≤ 2 % ]<br>[ S.S. ≤ 2 % ] |
| Immersion seal      | 85 °C, 60 s  | No leaks (No continuous bubbles)  |
| Soldering heat      | Flow soldering :<br>260 ± 3 °C, 5 ~ 6 s, two times maximum   | [ Δ R/R ≤ 1 % ]                   |
|                     | Manual soldering : 380 ± 10 °C, 3 ~ 4 s  |                                   |

Δ R/R : Change in total resistance  
S.S. : Setting stability

**MAXIMUM INPUT RATINGS**

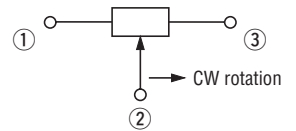
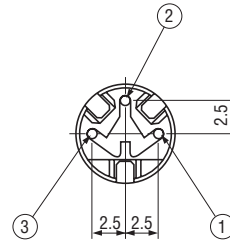
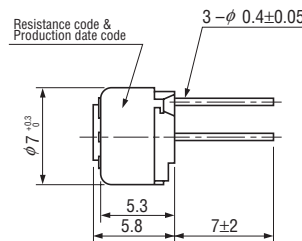
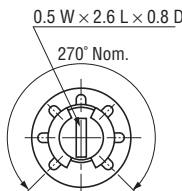
| Nominal resistance values (Ω)   | Resistance code   | Maximum input voltage (V)   | Maximum wiper current (mA)   |
|---|---|---|--|
| <ul style="list-style-type: none"> <li>↻ 10</li> <li>↻ 20</li> <li>↻ 50</li> <li>↻ 100</li> <li>↻ 200</li> <li>↻ 500</li> </ul>                           | <ul style="list-style-type: none"> <li>100</li> <li>200</li> <li>500</li> <li>101</li> <li>201</li> <li>501</li> </ul>              | <ul style="list-style-type: none"> <li>1.00</li> <li>2.00</li> <li>5.00</li> <li>7.07</li> <li>10.0</li> <li>15.8</li> </ul>            | <ul style="list-style-type: none"> <li>100</li> <li>100</li> <li>100</li> <li>70.7</li> <li>50.0</li> <li>31.6</li> </ul>                  |
| <ul style="list-style-type: none"> <li>↻ 1 k</li> <li>↻ 2 k</li> <li>↻ 5 k</li> <li>↻ 10 k</li> <li>↻ 20 k</li> <li>↻ 25 k</li> <li>↻ 50 k</li> </ul>     | <ul style="list-style-type: none"> <li>102</li> <li>202</li> <li>502</li> <li>103</li> <li>203</li> <li>253</li> <li>503</li> </ul> | <ul style="list-style-type: none"> <li>22.4</li> <li>31.6</li> <li>50.0</li> <li>70.7</li> <li>100</li> <li>112</li> <li>158</li> </ul> | <ul style="list-style-type: none"> <li>22.4</li> <li>15.8</li> <li>10.0</li> <li>7.07</li> <li>5.00</li> <li>4.48</li> <li>3.16</li> </ul> |
| <ul style="list-style-type: none"> <li>↻ 100 k</li> <li>↻ 200 k</li> <li>↻ 250 k</li> <li>↻ 500 k</li> <li>↻ 1 M</li> <li>↻ 2 M</li> <li>↻ 5 M</li> </ul> | <ul style="list-style-type: none"> <li>104</li> <li>204</li> <li>254</li> <li>504</li> <li>105</li> <li>205</li> <li>505</li> </ul> | <ul style="list-style-type: none"> <li>200</li> <li>200</li> <li>200</li> <li>200</li> <li>200</li> <li>200</li> <li>200</li> </ul>     | <ul style="list-style-type: none"> <li>2.00</li> <li>1.00</li> <li>0.80</li> <li>0.40</li> <li>0.20</li> <li>0.10</li> <li>0.04</li> </ul> |

The products indicated by ↻ mark are manufactured upon receipt of order basis.

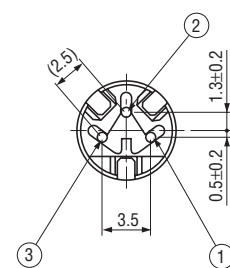
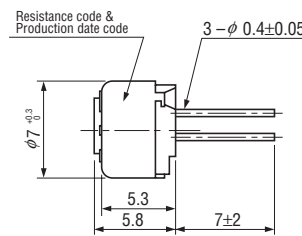
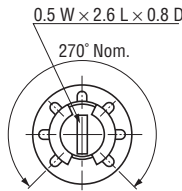
**OUTLINE DIMENSIONS**

Unless otherwise specified, tolerance: ± 0.3 (Unit: mm)

**RJ-6P  
Top adjustment**

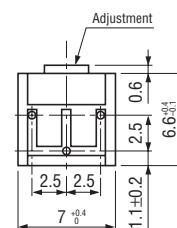
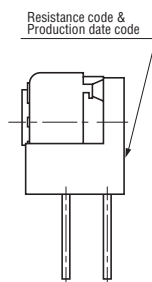
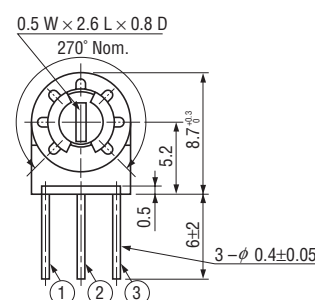


**RJ-6W  
Top adjustment**



★ Pin pitch in W type is different from P type.

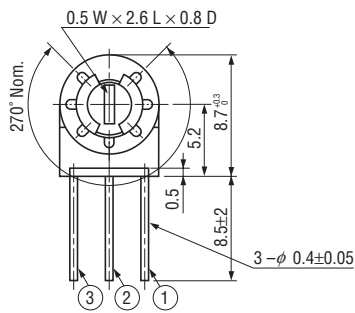
**RJ-6S  
Side adjustment**



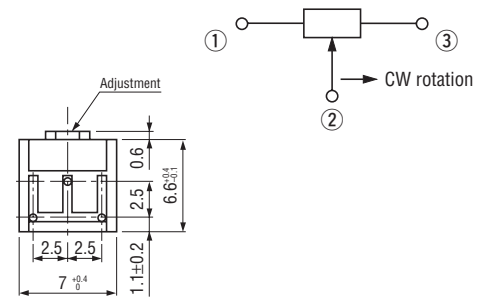
# RJ-6 CERMET TRIMMERS

## OUTLINE DIMENSIONS

### ● RJ-6X Side adjustment



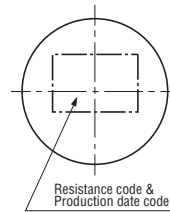
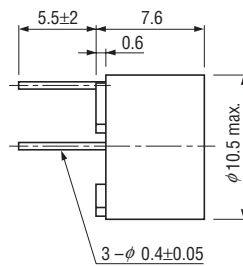
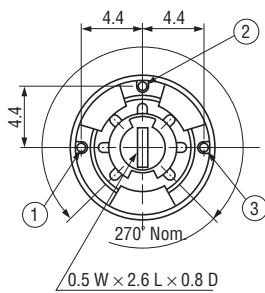
Unless otherwise specified, tolerance: ± 0.3 (Unit: mm)



★ Pin position & stopper position of X type are different from S type.

### ● RJ-6F Rear adjustment

< Semi-standard products >



## PACKAGING SPECIFICATIONS

### <Bulk pack specifications>

- Unit of bulk pack in a plastic bag is 50 pcs. per pack.
- Boxing of bulk in a plastic bag is performed with 200 pcs. (RJ-6F is 100 pcs.) per box.