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With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



## Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

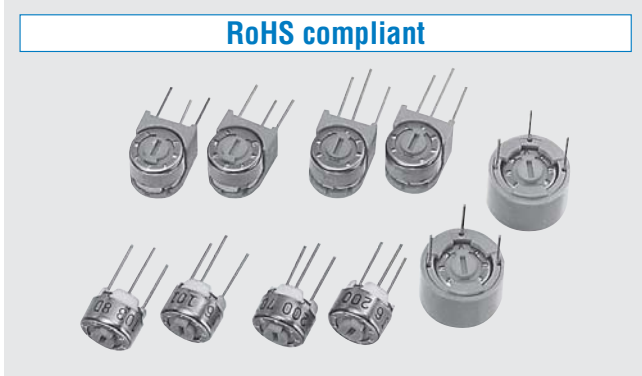
Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



# SINGLE TURN CERMET TRIMMERS

# RJ-6

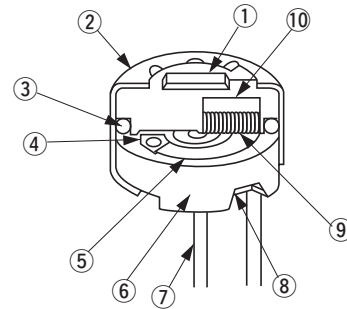
RoHS compliant



## FEATURES

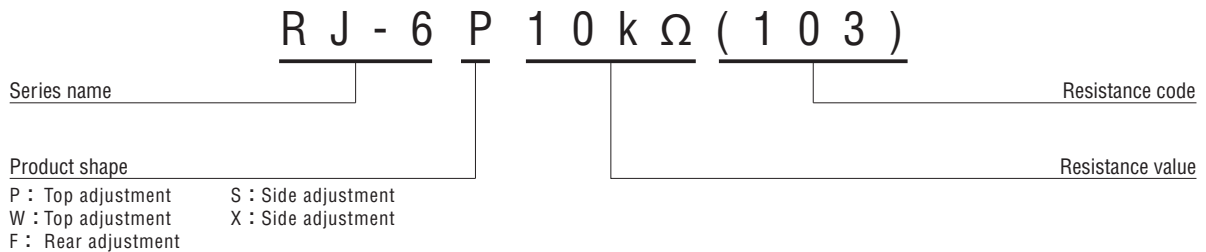
- RoHS compliant
- Wide resistance range from 10 Ω to 5 MΩ
- Low contact resistance variation (1 % maximum)
- Precious metal alloy wiper

## INTERNAL STRUCTURE



|   | Part name         | Material                  | Flammability |
|---|-------------------|---------------------------|--------------|
| ① | Rotor             | Polybutyleneterephthalate | UL94HB       |
| ② | Cover             | Stainless steel           | —            |
| ③ | “O” ring          | Silicone rubber           | UL94HB       |
| 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.

# RJ-6

## CERMET TRIMMERS

### LIST OF PART NUMBERS

| Adjustment position   | Shape of terminal (Top view)  | Form of packaging   | Pieces in package |
|---|---|---|-------------------|
|   |   | Plastic bag   |                   |
| Top adjustment<br> |  | RJ-6P   | 50 pcs./pack      |
|   |  | RJ-6W   |                   |
| Side adjustment<br>(↑ 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             | (B) 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          | 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      | 260 ± 3 °C, 5 ~ 6 s, two times maximum   | [ Δ R/R ≤ 1 % ]                   |
|                     | Manual soldering<br>380 ± 10 °C, 3 ~ 4 s   |                                   |

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

# RJ-6

## CERMET TRIMMERS

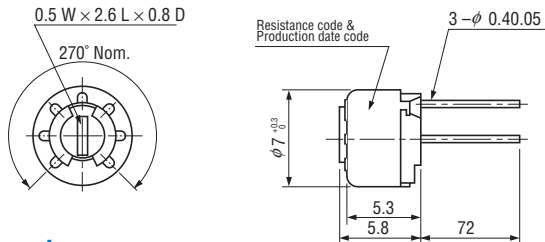
### MAXIMUM INPUT RATINGS

| Nominal resistance values ( $\Omega$ )  | 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> |

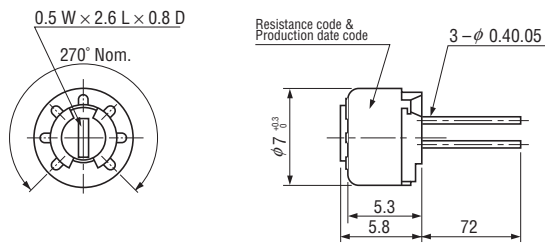
The products indicated by ➔ mark are manufactured upon receipt of order basis.

### OUTLINE DIMENSIONS

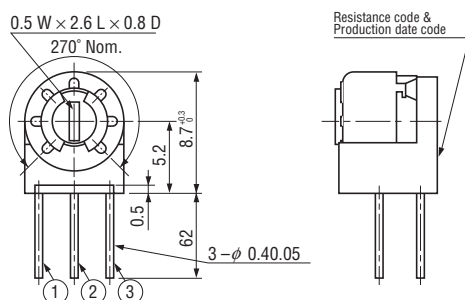
#### ● RJ-6P Top adjustment



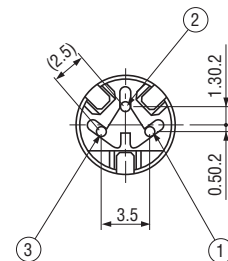
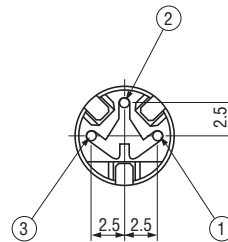
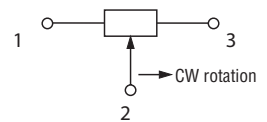
#### ● RJ-6W Top adjustment



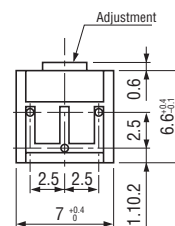
#### ● RJ-6S Side adjustment



Unless otherwise specified, tolerance:  $\pm 0.3$  (Unit: mm)



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

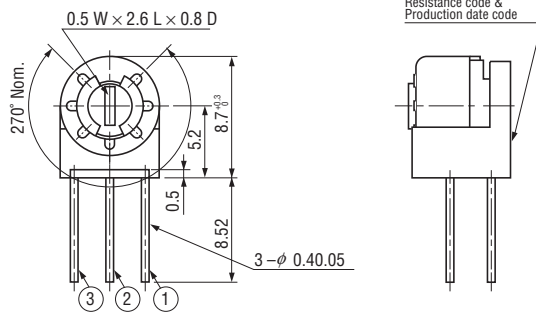


# RJ-6

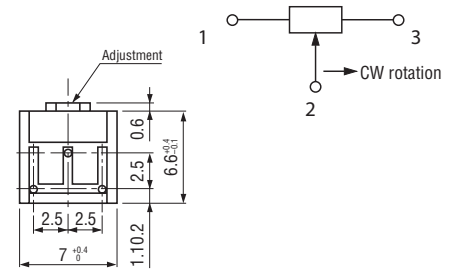
## CERMET TRIMMERS

### OUTLINE DIMENSIONS

#### RJ-6X Side adjustment



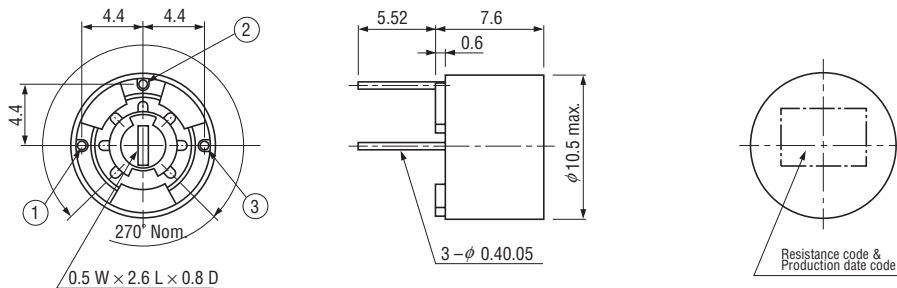
Unless otherwise specified, tolerance: ± 0.3 (Unit: mm)



★ 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.