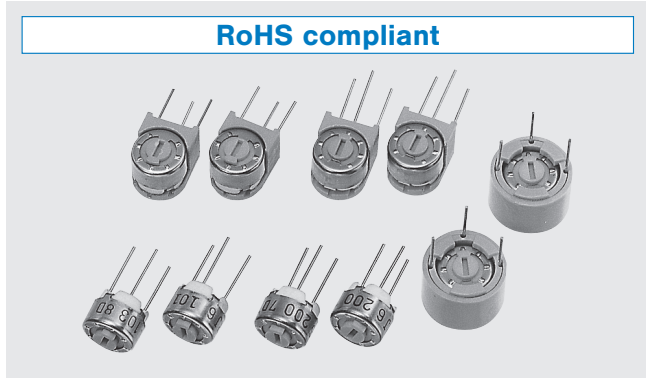
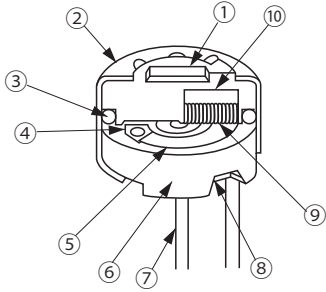


# SINGLE TURN CERMET TRIMMERS **RJ-6**

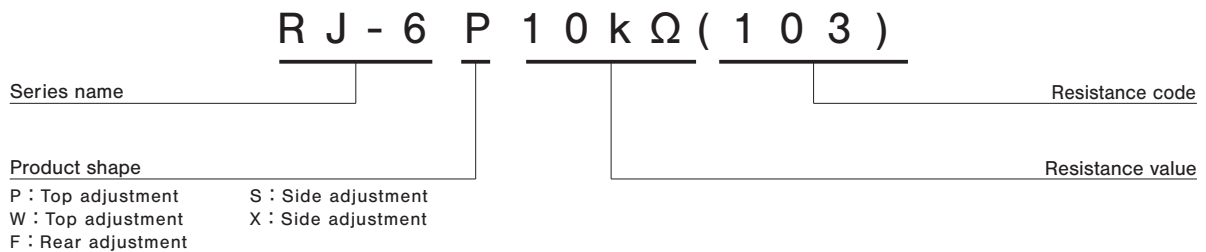


## FEATURES

- RoHS compliant
- Wide resistance range from 10  $\Omega$  to 5 M $\Omega$
- Low contact resistance variation (1 % maximum)
- Precious metal alloy wiper
- Resin material is UL Recognized 94V-0







INTERNAL STRUCTURE	
	
Part name	Material
① Rotor	Polybutyleneterephthalate
② Cover	Stainless steel
③ "O" ring	Silicone rubber
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 , 20 Ω , 5 MΩ : ± 250 10 <sup>-6</sup> /°C maximum 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) Approx. 0.80 g (RJ-6S, X) Approx. 1.01 g (RJ-6F)

## ◀Nominal resistance values▶

⊖10 Ω	⊖20 Ω	50 Ω	100 Ω	200 Ω	500 Ω	1 k Ω	2 k Ω	5 k Ω	10 k Ω
20 k Ω	⊖25 k Ω	50 k Ω	100 k Ω	200 k Ω	⊖250 k Ω	500 k Ω	1 M Ω	2 M Ω	⊖5 M Ω

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 10 Ω ~ 200 Ω [ΔR/R ≤ ± (0.5 Ω + 3 %)] 500 Ω ~ 5 MΩ [ΔR/R ≤ ± (0.5 Ω + 2 %)]
Terminal to strength	10 N {1.02 kgf} minimum (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), 5 cycles	[ΔR/R ≤ 1 %] [S.S. ≤ 1 %]
Humidity	-10 ~ 65 °C (80 ~ 98 %), 10 cycles, 240 h	[ΔR/R ≤ 1 %]
Shock	981 m/s <sup>2</sup> , 6 ms 6 directions for 3 times each	[ΔR/R ≤ 1 %] [S.S. ≤ 1 %]
Vibration	(Amplitude) 1.52 mm or (Acceleration) 196 m/s <sup>2</sup> , 10 ~ 2000 Hz, 3 directions, 12 times each	[ΔR/R ≤ 1 %] [S.S. ≤ 1 %]
Load life	70 °C, 0.5 W, 1000 h	[ΔR/R ≤ 2 %] [S.S. ≤ 1 %]
Low temp. operation	-55 °C, 2 h	[ΔR/R ≤ 1 %] [S.S. ≤ 2 %]
High temp. exposure	120 °C, 250 h	[ΔR/R ≤ 2 %] [S.S. ≤ 2 %]
Immersion seal	85 °C, 60 s	No leaks (No continuous bubbles)
Soldering heat	Flow 260 ± 3 °C, 5 ~ 6 s, two times maximum	[ΔR/R ≤ 1 %]
	Manual soldering 380 ± 10 °C, 3 ~ 4 s	

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

# RJ-6

## CERMET TRIMMERS

### MAXIMUM INPUT RATINGS

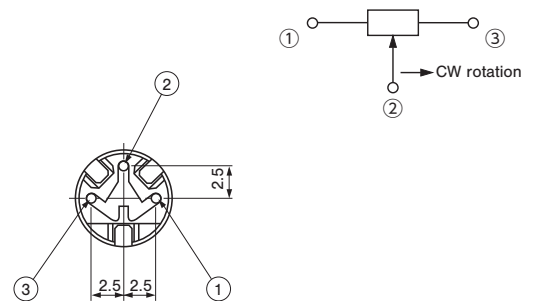
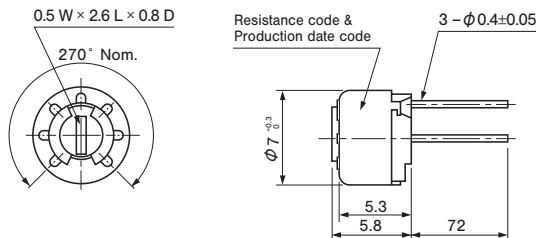
Nominal resistance values ( $\Omega$ )	Resistance code	Maximum input voltage (V)	Maximum wiper current (mA)
$\ominus$ 10 $\ominus$ 20 50 100 200 500	100	1.00	100
	200	2.00	100
	500	5.00	100
	101	7.07	70.7
	201	10.0	50.0
	501	15.8	31.6
1 k 2 k 5 k 10 k 20 k $\ominus$ 25 k 50 k	102	22.4	22.4
	202	31.6	15.8
	502	50.0	10.0
	103	70.7	7.07
	203	100	5.00
	503	158	3.16
$\ominus$ 100 k $\ominus$ 200 k $\ominus$ 250 k 500 k 1 M 2 M $\ominus$ 5 M	104	200	2.00
	204	200	1.00
	254	200	0.80
	504	200	0.40
	105	200	0.20
	205	200	0.10
505	200	0.04	

The products indicated by  $\ominus$  mark are manufactured upon receipt of order basis.

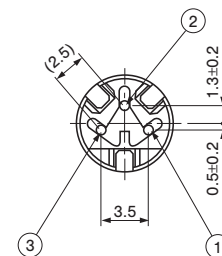
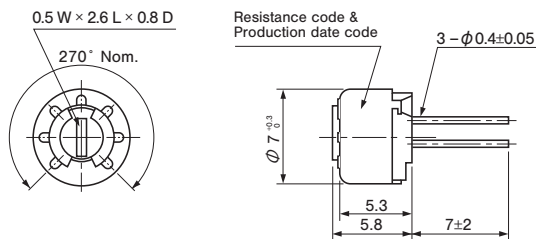
### OUTLINE DIMENSIONS

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

#### RJ-6P Top adjustment

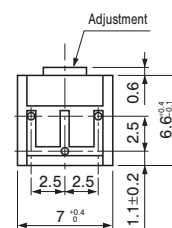
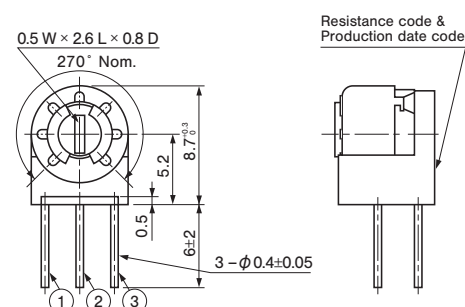


#### RJ-6W Top adjustment



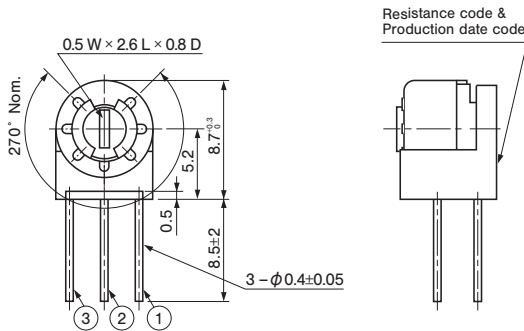
★ Pin pitch in W type is different from P type.

#### RJ-6S Side adjustment

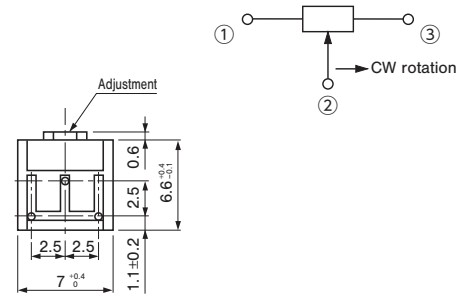


## OUTLINE DIMENSIONS

### RJ-6X Side adjustment



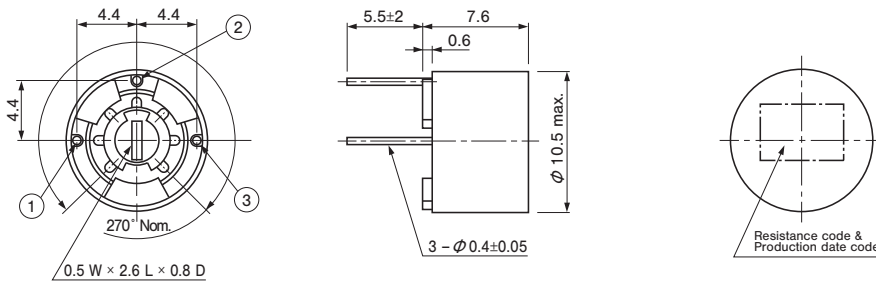
Unless otherwise specified, tolerance:  $\pm 0.3$  (Unit: mm)



★ 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.