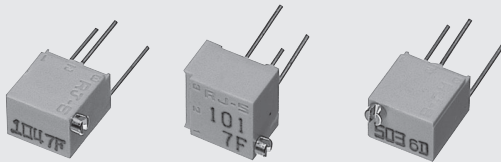


# 14 TURNS CERMET TRIMMERS **RJ-5**

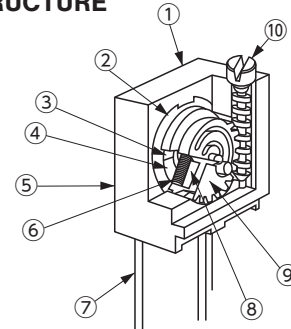
RoHS compliant



## FEATURES

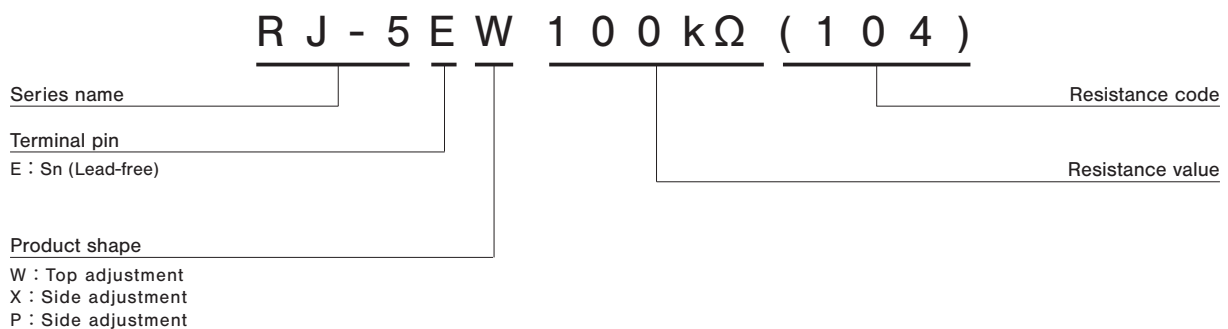
- RoHS compliant
- Fine setting is possible
- Sealed construction (Washable: Refer to page 628.)
- Resin material is UL Recognized 94V-0 (Excluding adhesives)

## INTERNAL STRUCTURE







Part name	Material
① Housing	PBT (Polybutyleneterephthalate)
② Base element	Ceramic
③ Electrode	Ag-Pd cermet
④ Resistive element	RuO <sub>2</sub> cermet
⑤ Adhesive	Epoxy
⑥ Wiper	Multi metal alloy
⑦ Terminal pin	Copper, Tin-plated
⑧ Rubber cushion	Silicone rubber
⑨ Rotor gear	PA (Polyamide)
⑩ Shaft	Brass, Nickel-plated

## 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-5EW	50 pcs./pack
Side adjustment (↑ Adjustment direction)		RJ-5EX	
		RJ-5EP	

## ELECTRICAL CHARACTERISTICS

Nominal resistance range	10 Ω ~ 2 MΩ
Resistance tolerance	± 10 %
Power ratings	0.25 W (85 °C) 0 W (120 °C)
Resistance law	Linear law (B)
Maximum input voltage	DC200 V or power rating, whichever is smaller
Maximum wiper current	100 mA or power rating, whichever is smaller
Effective electrical turn	11 turns
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 ~ 50 Ω : ± 250 10 <sup>-6</sup> /°C maximum 100 Ω ~ 2 MΩ : ± 100 10 <sup>-6</sup> /°C maximum
Insulation resistance	1000 MΩ minimum (DC500 V)
Dielectric strength	AC600 V, 60 s
Net weight	Approx. 0.37 g

## <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	50 kΩ	100 kΩ	200 kΩ	500 kΩ	1 MΩ	2 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 turn	14 turns
Operating torque	20 mN·m {204 gf·cm} maximum
Mechanical stop	Clutch action
Rotational life	200 cycles 10 Ω ~ 200 Ω [ΔR/R ≤ ± (0.5 Ω + 3 %)] 500 Ω ~ 2 MΩ [ΔR/R ≤ ± (0.5 Ω + 2 %)]
Terminal strength	10 N {1.02 kgf} minimum (Tensile strength)
Thrust to shaft	5 N {0.51 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 (Relative humidity 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	85 °C, 0.25 W, 1000 h	[ΔR/R ≤ 2 %] [S.S. ≤ 1 %]
Low temp. operation	-55 °C, 2 h	[ΔR/R ≤ 2 %] [S.S. ≤ 2 %]
High temp. exposure	120 °C, 250 h	
Immersion seal	85 °C, 60 s	No leaks (No continuous bubbles)
Soldering heat	Flow : 260 ± 3 °C, 5 ~ 6 s, two times maximum Manual soldering : 380 ± 10 °C, 3 ~ 4 s	[ΔR/R ≤ 1 %]

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

# RJ-5

## CERMET TRIMMERS

### MAXIMUM INPUT RATINGS

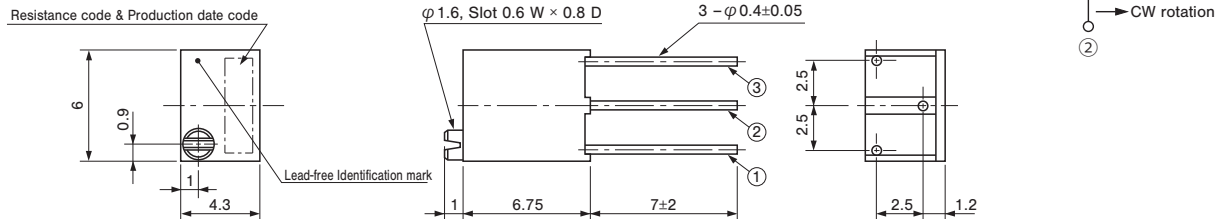
Nominal resistance values ( $\Omega$ )	Resistance code	Maximum input voltage (V)	Maximum wiper current (mA)
$\ominus$ 10 $\ominus$ 20 50 100 200 500	100 200 500 101 201 501	1.00 2.00 3.53 5.00 7.07 11.1	100 100 70.7 50.0 35.3 22.3
1 k 2 k 5 k 10 k 20 k 50 k	102 202 502 103 203 503	15.8 22.3 35.3 50.0 70.7 111	15.8 11.1 7.07 5.00 3.53 2.23
100 k 200 k 500 k 1 M 2 M	104 204 504 105 205	158 200 200 200 200	1.58 1.00 0.40 0.20 0.10

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

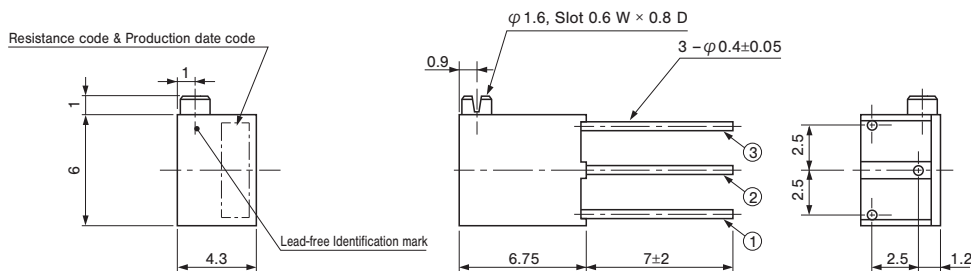
### OUTLINE DIMENSIONS

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

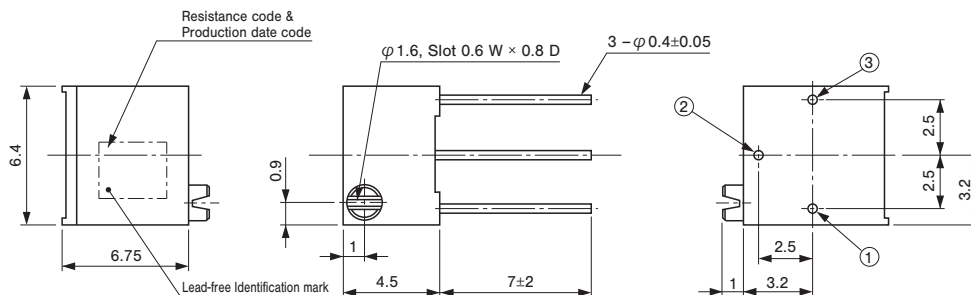
#### RJ-5EW Top adjustment



#### RJ-5EX Side adjustment



#### RJ-5EP Side adjustment



## ■ PACKAGING SPECIFICATIONS

### <Bulk pack specifications>

- Unit of bulk in a plastic bag is 50 pcs. per pack.
- Boxing of bulk in a plastic bag is performed with 200 pcs. per box.