

# 14 TURNS CERMET TRIMMERS

# RJ-5

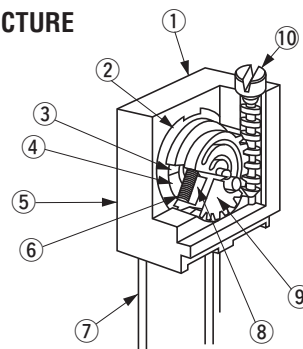
RoHS compliant



## FEATURES

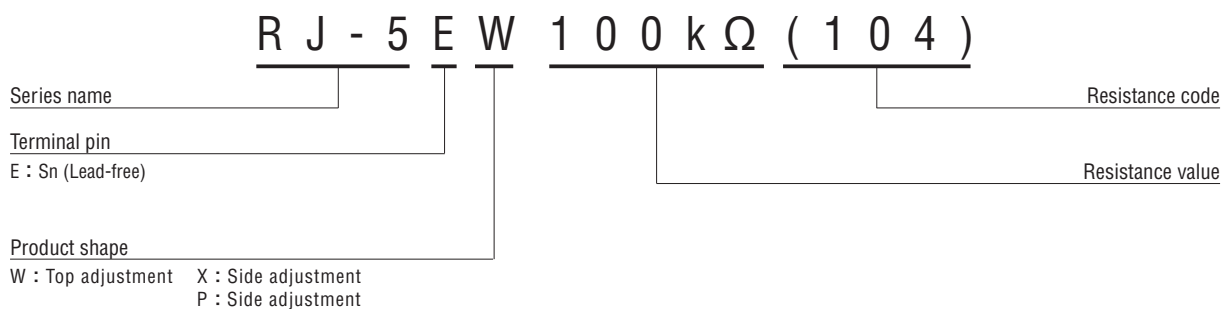
- RoHS compliant
- Fine setting is possible
- Sealed construction (Washable: Refer to 698)

## INTERNAL STRUCTURE




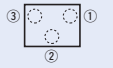
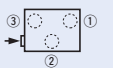

	Part name	Material	Flammability
①	Housing	Polybutyleneterephthalate	UL94V-0
②	Base element	Ceramic	—
③	Electrode	Ag-Pd cermet	
④	Resistive element	RuO <sub>2</sub> cermet	
⑤	Adhesive	Epoxy	
⑥	Wiper	Multi metal alloy	
⑦	Terminal pin	Copper, Tin-plated	
⑧	Rubber cushion	Silicone rubber	UL94HB
⑨	Rotor gear	Polyamide	
!0	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 M Ω
Resistance tolerance	± 10 %
Power ratings	0.25 W (85 °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 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 M Ω : ± 100 10 <sup>-6</sup> /°C maximum
Insulation resistance	1000 M Ω 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 k Ω	2 k Ω	5 k Ω
10 k Ω	20 k Ω	50 k Ω	100 k Ω	200 k Ω	500 k Ω	1 M Ω	2 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 turn	14 turns
Operating torque	20 mN·m {204 gf·cm} maximum
Mechanical stop	Clutch action
Rotational life	200 cycles 10 Ω ~ 200 Ω [ Δ R/R ≤ ± (0.5 Ω + 3 %)] 500 Ω ~ 2 M Ω [ Δ R/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	[ Δ R/R ≤ 1 %] [S.S. ≤ 1 %]
Humidity	− 10 ~ 65 °C (80 ~ 98 %), 10 cycles, 240 h	[ Δ R/R ≤ 1 %]
Shock	981 m/s <sup>2</sup> , 6 ms 6 directions for 3 times each	[ Δ R/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	
Load life	85 °C, 0.25 W, 1000 h	[ Δ R/R ≤ 2 %] [S.S. ≤ 1 %]
Low temp. operation	− 55 °C, 2 h	[ Δ R/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	[ Δ R/R ≤ 1 %]

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

# RJ-5

## CERMET TRIMMERS

### MAXIMUM INPUT RATINGS

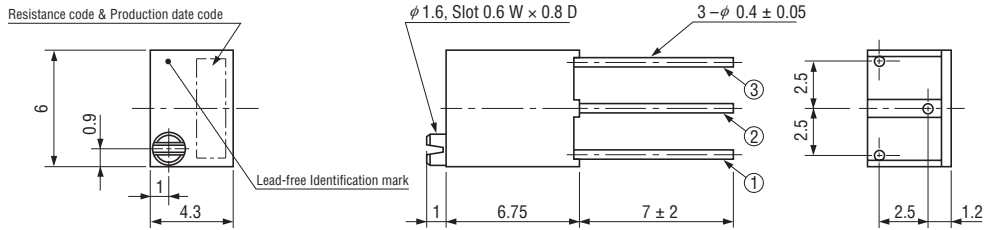
Nominal resistance values (Ω)	Resistance code	Maximum input voltage (V)	Maximum wiper current (mA)
<div style="display: flex; flex-direction: column; gap: 5px;"> <span>↻ 10</span> <span>↻ 20</span> <span>50</span> <span>100</span> <span>200</span> <span>500</span> </div>	<div style="display: flex; flex-direction: column; gap: 5px;"> <span>100</span> <span>200</span> <span>500</span> <span>101</span> <span>201</span> <span>501</span> </div>	<div style="display: flex; flex-direction: column; gap: 5px;"> <span>1.00</span> <span>2.00</span> <span>3.53</span> <span>5.00</span> <span>7.07</span> <span>11.1</span> </div>	<div style="display: flex; flex-direction: column; gap: 5px;"> <span>100</span> <span>100</span> <span>70.7</span> <span>50.0</span> <span>35.3</span> <span>22.3</span> </div>
<div style="display: flex; flex-direction: column; gap: 5px;"> <span>1 k</span> <span>2 k</span> <span>5 k</span> <span>10 k</span> <span>20 k</span> <span>50 k</span> </div>	<div style="display: flex; flex-direction: column; gap: 5px;"> <span>102</span> <span>202</span> <span>502</span> <span>103</span> <span>203</span> <span>503</span> </div>	<div style="display: flex; flex-direction: column; gap: 5px;"> <span>15.8</span> <span>22.3</span> <span>35.3</span> <span>50.0</span> <span>70.7</span> <span>111</span> </div>	<div style="display: flex; flex-direction: column; gap: 5px;"> <span>15.8</span> <span>11.1</span> <span>7.07</span> <span>5.00</span> <span>3.53</span> <span>2.23</span> </div>
<div style="display: flex; flex-direction: column; gap: 5px;"> <span>100 k</span> <span>200 k</span> <span>500 k</span> <span>1 M</span> <span>2 M</span> </div>	<div style="display: flex; flex-direction: column; gap: 5px;"> <span>104</span> <span>204</span> <span>504</span> <span>105</span> <span>205</span> </div>	<div style="display: flex; flex-direction: column; gap: 5px;"> <span>158</span> <span>200</span> <span>200</span> <span>200</span> <span>200</span> </div>	<div style="display: flex; flex-direction: column; gap: 5px;"> <span>1.58</span> <span>1.00</span> <span>0.40</span> <span>0.20</span> <span>0.10</span> </div>

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

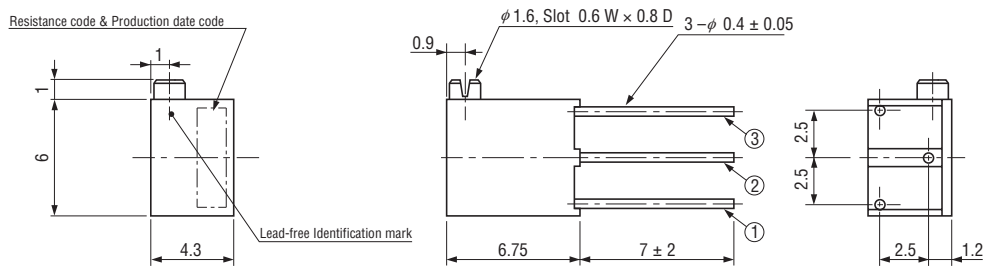
### OUTLINE DIMENSIONS

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

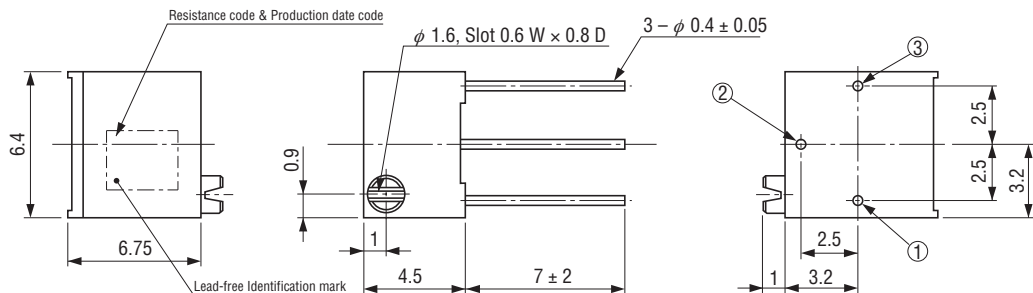
#### RJ-5EW Top adjustment



#### 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.

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