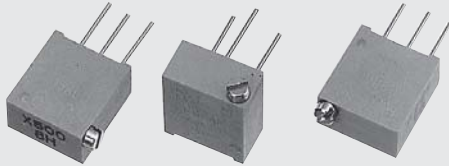


18 TURNS CERMET TRIMMERS **RJ-9**

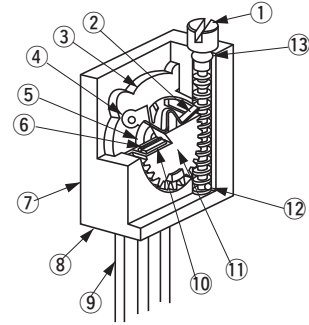
RoHS compliant



FEATURES

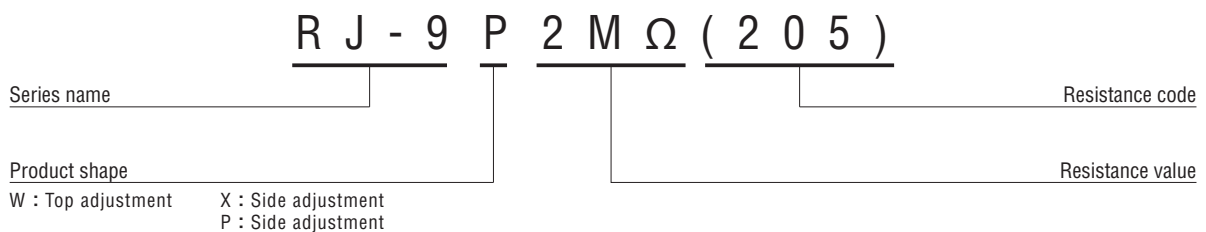
- RoHS compliant
- Wide resistance range from 10 Ω to 5 MΩ
- Precious metal alloy wiper

INTERNAL STRUCTURE



	Part name	Material	Flammability
①	Shaft	Brass, Nickel-plated	—
②	Clutch spring	Stainless steel	
③	Base element	Ceramic	
④	Electrode	Ag-Pd cermet	
⑤	Resistive element	RuO ₂ cermet	
⑥	Wiper	Multi metal alloy	
⑦	Adhesive	Epoxy	
⑧	Housing	Polybutyleneterephthalate	UL94V-0
⑨	Terminal pin	Nickel, Gold-plated	—
⑩	Rubber cushion	Silicone rubber	
⑪	Rotor gear	Polyamide	UL94V-0
⑫	Stop ball	Stainless steel	—
⑬	“O” ring	Silicone rubber	UL94HB

PART NUMBER DESIGNATION


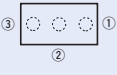
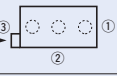



※ Please refer to the LIST OF PART NUMBERS when placing orders.

RJ-9

CERMET TRIMMERS

LIST OF PART NUMBERS

Adjustment position	Shape of terminal (Top view)	Form of packaging	Pieces in package
		Plastic bag	
Top adjustment 		RJ-9W	50 pcs./pack
Side adjustment (↑ Adjustment direction)		RJ-9X	
		RJ-9P	

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	DC300 V or power rating, whichever is smaller
Maximum wiper current	100 mA or power rating, whichever is smaller
Effective electrical turn	15 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, 20 Ω, 5 MΩ : ± 250 10 ⁻⁶ /°C maximum 50 Ω ~ 2 MΩ : ± 100 10 ⁻⁶ /°C maximum
Insulation resistance	1000 MΩ minimum (DC500 V)
Dielectric strength	AC900 V, 60 s
Net weight	Approx. 0.75 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	⤴ 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 turn	18 turns
Operating torque	35 mN·m {357 gf·cm} maximum
Mechanical stop	Clutch action
Rotational life	200 cycles 10Ω ~ 200 Ω [Δ R/R ≤ ± (0.5 Ω + 3 %)] 500Ω ~ 5 MΩ [Δ R/R ≤ ± (0.5 Ω + 2 %)]
Terminal strength	10 N {1.02 kgf} minimum (Tensile strength)
Thrust to 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	[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 ² , 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 ² , 10 ~ 2000 Hz, 3 directions, 12 times each	
Load life	70 °C, 0.5 W, 1000 h	[Δ R/R ≤ 2 %] [S.S. ≤ 1 %]
Low temp. operation	-55 °C, 2 h	[Δ R/R ≤ 1 %] [S.S. ≤ 2 %]
High temp. exposure	120 °C, 250 h	[Δ R/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	[Δ R/R ≤ 1 %]
	Manual soldering 380 ± 10 °C, 3 ~ 4 s	

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

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CERMET TRIMMERS

MAXIMUM INPUT RATINGS

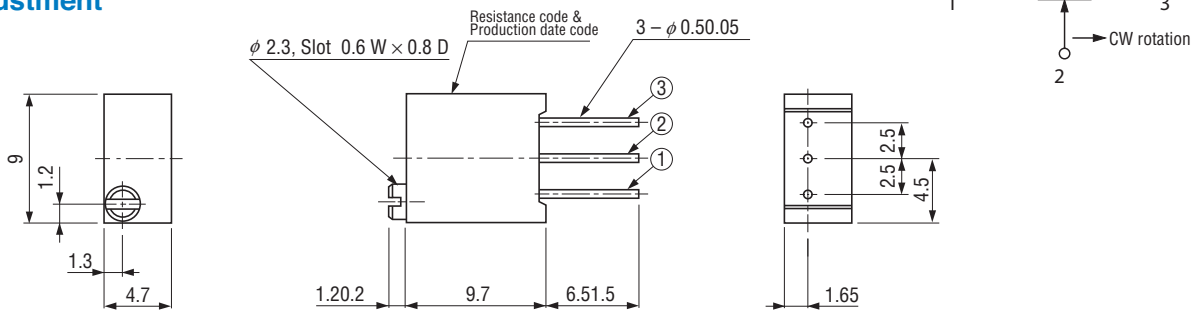
Nominal resistance values (Ω)	Resistance code	Maximum input voltage (V)	Maximum wiper current (mA)
↻ 10 ↻ 20 50 100 200 500	100 200 500 101 201 501	1.00 2.00 5.00 7.07 10.0 15.8	100 100 100 70.7 50.0 31.6
1 k 2 k 5 k 10 k 20 k ↻ 25 k 50 k	102 202 502 103 203 253 503	22.4 31.6 50.0 70.7 100 112 158	22.4 15.8 10.0 7.07 5.00 4.48 3.16
100 k 200 k ↻ 250 k 500 k 1 M 2 M ↻ 5 M	104 204 254 504 105 205 505	224 300 300 300 300 300 300	2.24 1.50 1.20 0.60 0.30 0.15 0.06

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

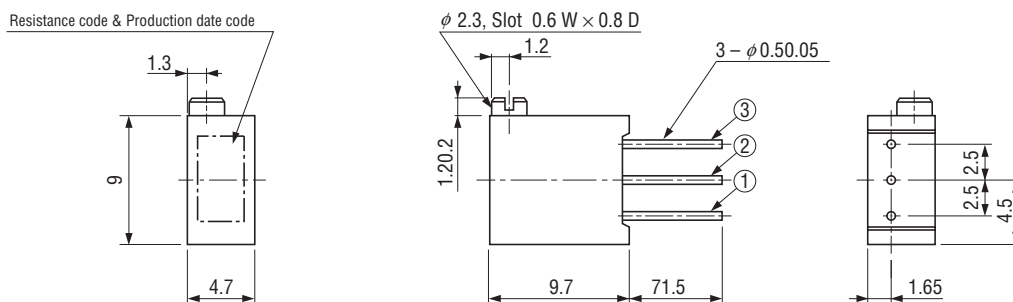
OUTLINE DIMENSIONS

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

RJ-9W Top adjustment



RJ-9X Side adjustment

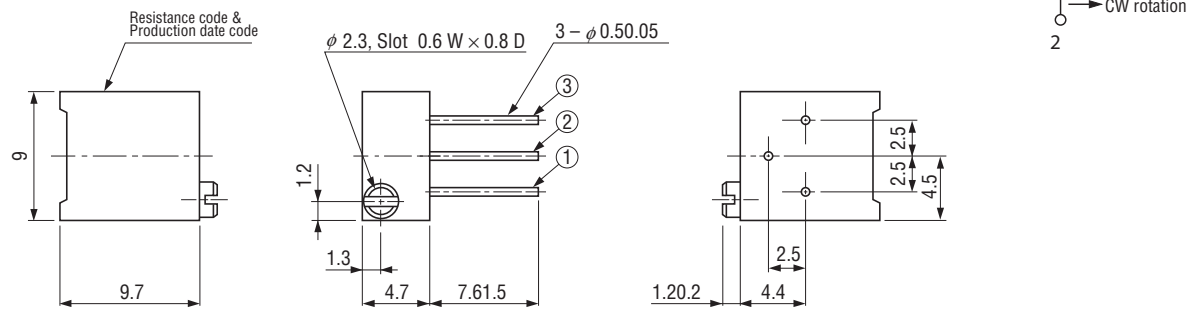


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CERMET TRIMMERS

OUTLINE DIMENSIONS

RJ-9P 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 100 pcs. per box.