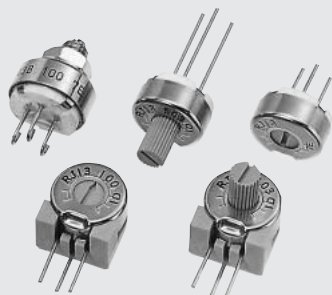


SINGLE TURN CERMET TRIMMERS

RJ-13

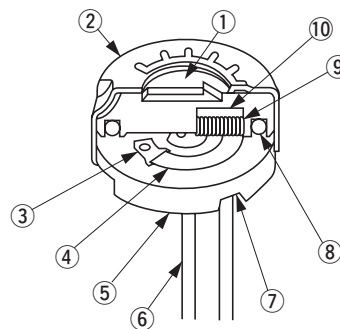
RoHS compliant



FEATURES

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

INTERNAL STRUCTURE



	Part name	Material	Flammability
①	Rotor	PBT(Polybutyleneterephthalate)	UL-94HB
②	Cover	Stainless steel	—
③	Electrode	Ag-Pd cermet	
④	Resistive element	RuO ₂ cermet	
⑤	Base element	Ceramic	
⑥	Terminal pin	Nickel, Gold-plated	
⑦	Adhesive	Epoxy	UL-94HB
⑧	“O” ring	Silicone rubber	
⑨	Wiper	Multi metal alloy	
⑩	Rubber cushion	Silicone rubber	—

PART NUMBER DESIGNATION

R J - 1 3 P 2 0 k Ω (2 0 3)

Series name

Resistance code

Product shape

Resistance value

P : Top adjustment
 B : Panel mount
 S : Side adjustment

PR : Top adjustment with knob
 SR : Side adjustment with knob

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

RJ-13

CERMET TRIMMERS

LIST OF PART NUMBERS

Adjustment position	Shape of terminal (Top view)	Form of packaging	Pieces in package
		Plastic bag	
Top adjustment 		RJ-13P	50 pcs./pack
		RJ-13B	25 pcs./pack
		RJ-13PR	
Side adjustment (↑ Adjustment direction)		RJ-13S	
		RJ-13SR	

<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.

ELECTRICAL CHARACTERISTICS

Nominal resistance range	10 Ω ~ 5 MΩ
Resistance tolerance	± 10 %
Power ratings	0.75 W (70 °C) 0 W (120 °C)
Resistance law	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 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 ⁻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. 1.90 g (RJ-13P) Approx. 4.50 g (RJ-13B) Approx. 2.15 g (RJ-13PR) Approx. 2.50 g (RJ-13S) Approx. 2.78 g (RJ-13SR)

MECHANICAL CHARACTERISTICS

Mechanical angle	270 ° (1 turn)
Operating torque	3 ~ 35 mN·m {30.6~357 gf·cm}
Stop strength	100 mN·m {1.02 kgf·cm}
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	20 N {2.04 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	[ΔR/R ≤ 1 %] [S.S. ≤ 1 %]
Humidity	−10 ~ 65 °C (80 ~ 98 %), 10 cycles, 240 h	[ΔR/R ≤ 1 %]
Shock	981 m/s ² , 6 ms 6 directions for 3 times each	[ΔR/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, 0.75 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 soldering : 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-13

CERMET TRIMMERS

MAXIMUM INPUT RATINGS

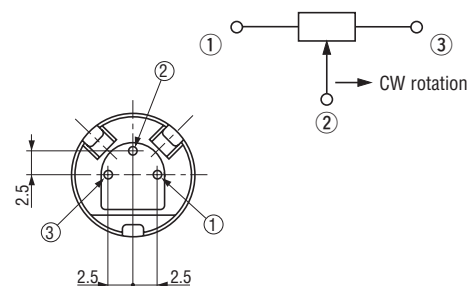
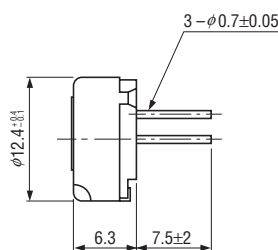
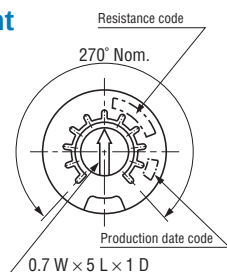
Nominal resistance value (Ω)	Resistance code	Maximum input voltage (V)	Maximum wiper current (mA)
→ 10 → 20 50 100 200 500	100 200 500 101 201 501	1.00 2.00 5.00 8.66 12.2 19.4	100 100 100 86.6 61.0 38.8
1 k 2 k 5 k 10 k → 20 k → 25 k 50 k	102 202 502 103 203 253 503	27.4 38.7 61.2 86.6 122 137 194	27.4 19.3 12.2 8.66 6.10 5.48 3.88
→ 100 k → 200 k → 250 k → 500 k → 1 M → 2 M → 5 M	104 204 254 504 105 205 505	274 300 300 300 300 300 300	2.74 1.50 1.20 0.60 0.30 0.15 0.06

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

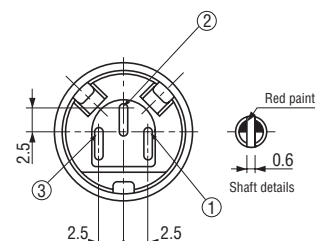
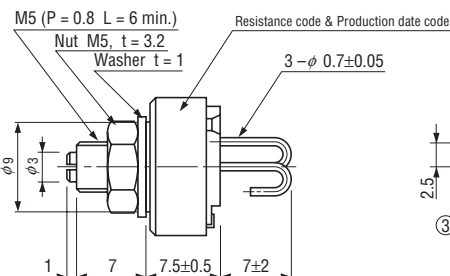
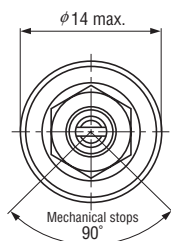
OUTLINE DIMENSIONS

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

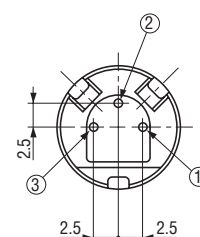
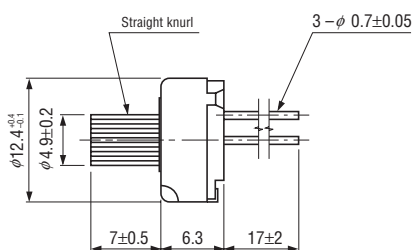
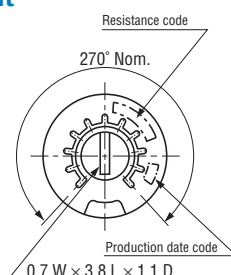
RJ-13P Top adjustment



RJ-13B Panel mount



RJ-13PR Top adjustment with knob

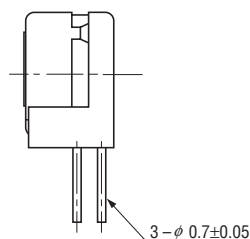
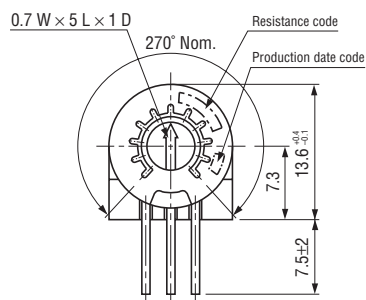


RJ-13

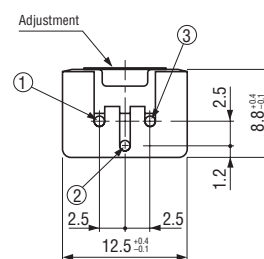
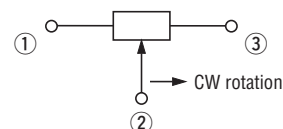
CERMET TRIMMERS

OUTLINE DIMENSIONS

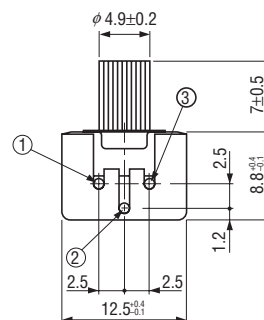
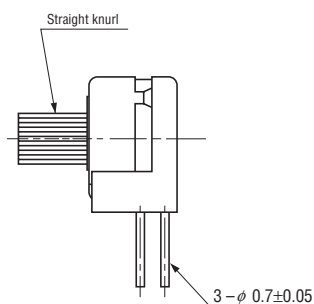
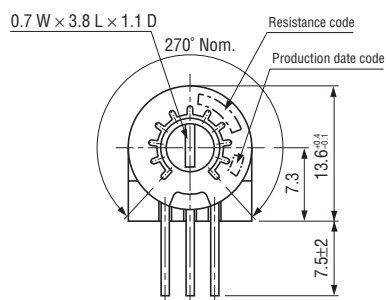
● RJ-13S Side adjustment



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



● RJ-13SR Side adjustment with knob



PACKAGING SPECIFICATIONS

<Bulk pack specifications>

- Unit of bulk pack in a plastic bag is 25 pcs. per pack, only that RJ-13P is 50 pcs. per pack.
- Boxing of bulk in a plastic bag is performed with 50 pcs. per box, only that RJ-13P is 100 pcs. per box.