

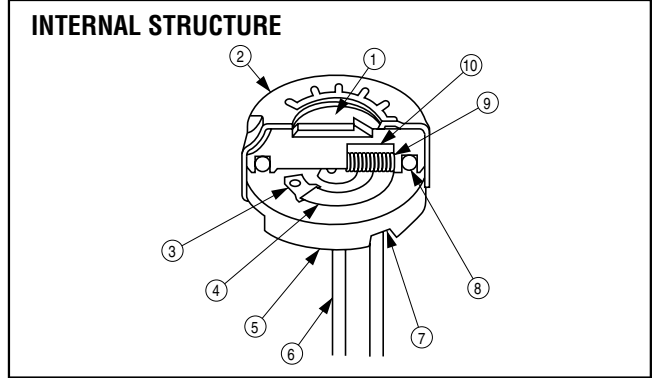
# SINGLE TURN CERMET TRIMMERS **RJ-13**



CERMET TRIMMERS

## FEATURES

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

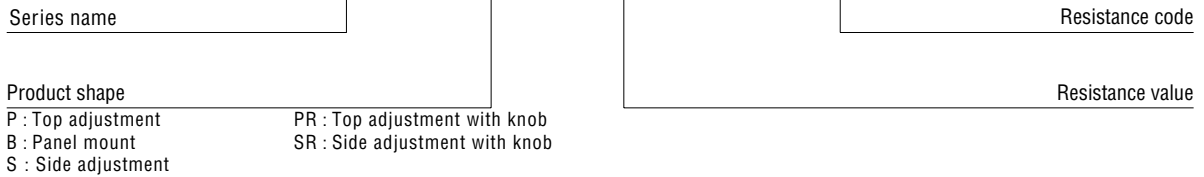


Part name	Material	Flammability
① Rotor	PBT (Polybutyleneterephthalate)	UL-94HB
② Cover	Stainless steel	—
③ Electrode	Ag-Pd cermet	
④ Resistive element	RuO <sub>2</sub> cermet	
⑤ Base element	Ceramic	
⑥ Terminal pin	Nickel, Gold-plated	
⑦ Adhesive	Epoxy	UL-94HB
⑧ "O" ring	Silicone rubber	
⑨ Wiper	Multi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

CFCs, Halon, Carbon tetrachloride and designated bromic flame retardant PBBOs and PBBs are not used in our products.

## PART NUMBER DESIGNATION

**R J - 1 3 P 2 0 k Ω ( 2 0 3 )**



\* 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
		Bulk packaging	
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.

➡ : Semi-standard

**ELECTRICAL CHARACTERISTICS**

Nominal resistance range	10 Ω ~ 5 MΩ
Total resistance tolerance	± 10 %
Power ratings	0.75 W (70 °C) 0 W (125 °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 ~ +125 °C
Temp. coefficient	10 Ω, 20Ω, 5 MΩ : ± 250 ppm/°C maximum 50 Ω ~ 2 MΩ : ± 100 ppm/°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) minimum
Rotational life	200 cycles 10 Ω ~ 200Ω [ΔR/R ≤ ± (0.5 Ω + 3 %)] 500 Ω ~ 5 MΩ [ΔR/R ≤ ± (0.5 Ω + 2 %)]
Terminal strength	20 N {2.04 kgf} minimum (Tensile strength)
Thrust to rotor	10 N {1.02 kgf} minimum
Solderability	235 °C, 2 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 %RH), 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 of 1.52 mm or Acceleration of 196 m/s <sup>2</sup> , 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	125 °C, 250 h	[ΔR/R ≤ 2 %] [S.S. ≤ 2 %]
Immersion seal	85 °C, 60 s	No leaks (No continuous bubbles)
Soldering heat	350 °C, 3 s	[ΔR/R ≤ 1 %]

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

# RJ-13

## CERMET TRIMMERS

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### MAXIMUM INPUT RATINGS

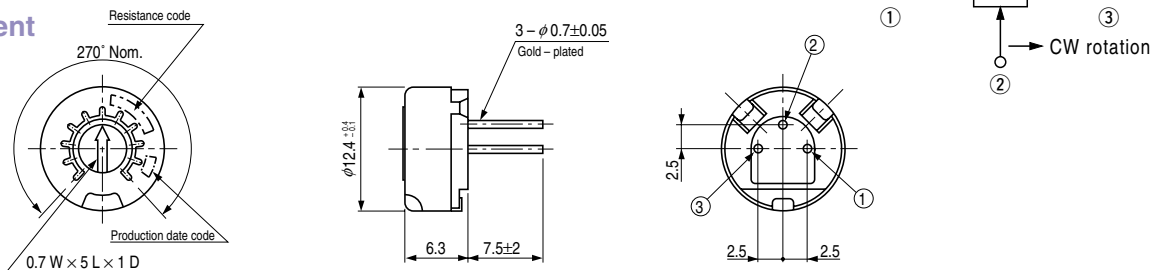
Nominal resistance value (Ω)	Resistance code	Maximum input voltage (V)	Maximum wiper current (mA)
↪ 10	100	1.00	100
↪ 20	200	2.00	100
↪ 50	500	5.00	100
↪ 100	101	8.66	86.6
↪ 200	201	12.2	61.0
↪ 500	501	19.4	38.8
↪ 1 k	102	27.4	27.4
↪ 2 k	202	38.7	19.3
↪ 5 k	502	61.2	12.2
↪ 10 k	103	86.6	8.66
↪ 20 k	203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

↪ : Semi-standard

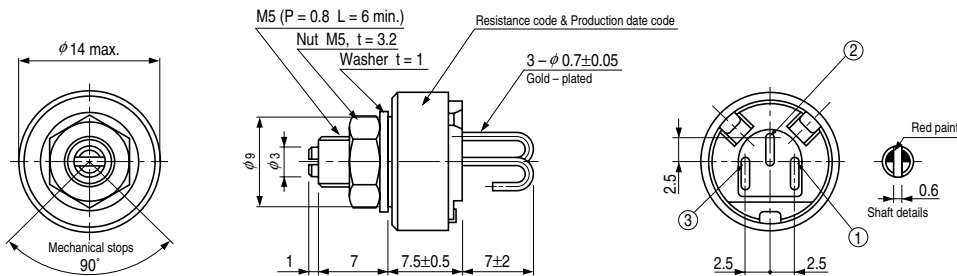
### OUTLINE DIMENSIONS

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

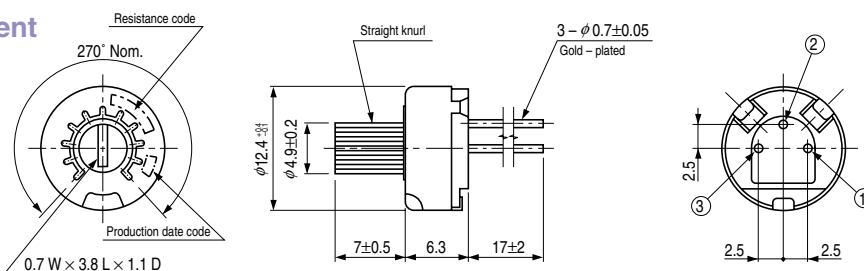
#### RJ-13P Top adjustment



#### RJ-13B Panel mount

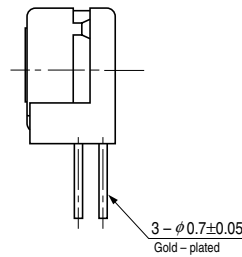
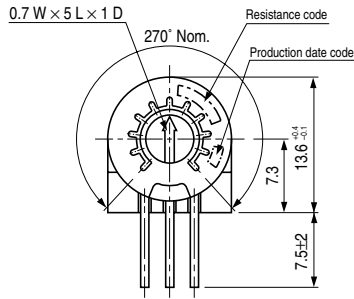


#### RJ-13PR Top adjustment with knob

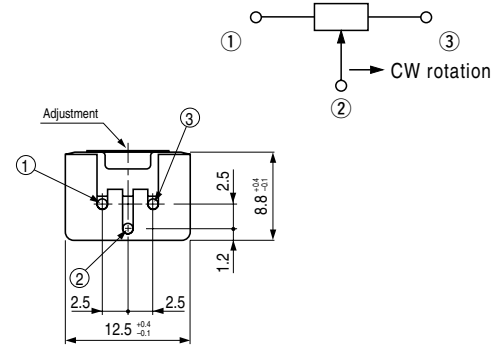


**OUTLINE DIMENSIONS**

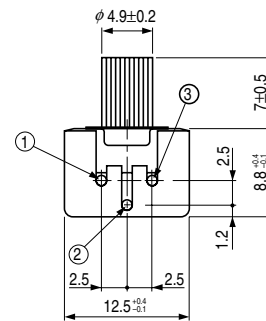
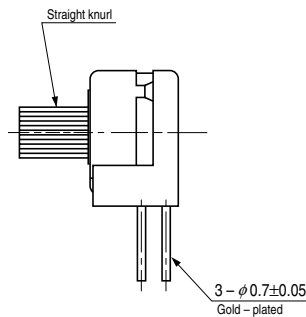
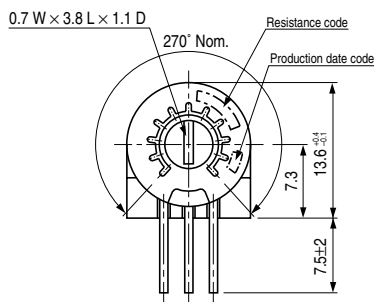
**RJ-13S**  
**Side adjustment**



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



**RJ-13SR**  
**Side adjustment with knob**



**PACKAGING SPECIFICATIONS**

<Bulk packaging specifications>

- Unit of bulk in vinyl bag packaging is 25 pcs. per pack.  
Only that of RJ-13P is 50 pcs. per pack.
- Boxing of bulk in vinyl bags is performed with 50 pcs. per box.  
Only that of RJ-13P is 100 pcs. per box.

单击下面可查看定价，库存，交付和生命周期等信息

[>>Vishay\(威世\)](#)