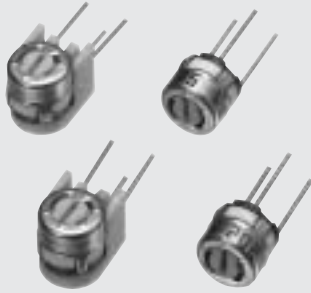


SINGLE TURN CERMET TRIMMERS

RJ-4

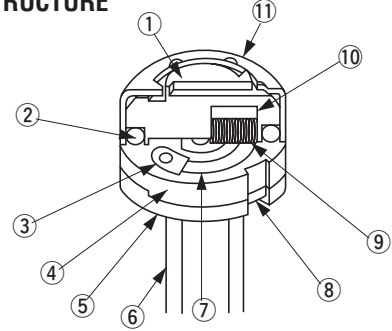
RoHS compliant



FEATURES

- Lead-free soldering, Cadmium-free
- Compact with power rating of 0.5 W
- Precious metal alloy wiper

INTERNAL STRUCTURE



Part name		Material	Flammability
①	Rotor	PBT (Polybutyleneterephthalate)	UL-94HB
②	“O” ring	Silicone rubber	
③	Electrode	Ag-Pd cermet	—
④	Base element	Ceramic	
⑤	Base	PPS (Polyphenylenesulphide)	UL-94V-0
⑥	Terminal pin	Sn-Pb	—
		Copper alloy, Solder-plated	
		Sn	
		Copper alloy, Tin-plated	
⑦	Resistive element	RuO ₂ cermet	
⑧	Adhesive	Epoxy	
⑨	Wiper	Multi metal alloy	
⑩	Rubber cushion	Silicone rubber	
⑪	Cover	Stainless steel	

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

PART NUMBER DESIGNATION

R J - 4		□	W S	2 k Ω	(2 0 2)	
Series name		Terminal pin		Resistance code		
Blank : Sn-Pb E : Sn (Lead-free)				Resistance value		
Product shape						
W : Top adjustment WS : Side adjustment						

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

RJ-4

CERMET TRIMMERS

LIST OF PART NUMBERS

Adjustment position	Form of packaging		Pieces in package
	Plastic bag		
	Sn-Pb	Sn (Lead-free)	
Top adjustment	RJ-4W	RJ-4EW	50 pcs./pack
Side adjustment	RJ-4WS	RJ-4EWS	

<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 products indicated by ➡ mark are manufactured upon receipt of order basis.

* 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.

ELECTRICAL CHARACTERISTICS

Nominal resistance range	10 Ω ~ 2 MΩ
Resistance tolerance	± 10 %
Power ratings	0.5 W (70 °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 angle	200 ° (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 ~ 50 Ω : ± 250 10 ⁻⁶ /°C maximum 100 Ω ~ 2 MΩ : ± 100 10 ⁻⁶ /°C maximum
Insulation resistance	1000 MΩ minimum (DC500 V)
Dielectric strength	AC500 V, 60 s
Net weight	Approx. 0.26 g (RJ-4W, EW) Approx. 0.35 g (RJ-4WS, EWS)

MECHANICAL CHARACTERISTICS

Mechanical angle	230 ° (1 turn)
Operating torque	15 mN·m {153 gf·cm} maximum
Stop strength	45 mN·m {459 gf·cm} minimum
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 rotor	10 N {1.02 kgf} minimum
Solderability	Sn-Pb : 235 °C, 2 s Sn (Lead-free) : 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, 0.5 W 1000 h	[ΔR/R ≤ 3 %] [S.S. ≤ 1 %]
Low temp. operation	−55 °C, 2 h	[ΔR/R ≤ 2 %] [S.S. ≤ 2 %]
High temp. exposure	120 °C, 250 h	[ΔR/R ≤ 3 %] [S.S. ≤ 2 %]
Immersion seal	85 °C, 60 s	No leaks (No continuous bubbles)
Soldering heat	Sn-Pb 350 °C, 3 s Sn Flow : 260 ± 3 °C, 5 ~ 6 s, twice Manual soldering : 380 ± 10 °C, 3 ~ 4 s	[ΔR/R ≤ 1 %]

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

RJ-4

CERMET TRIMMERS

■ MAXIMUM INPUT RATINGS

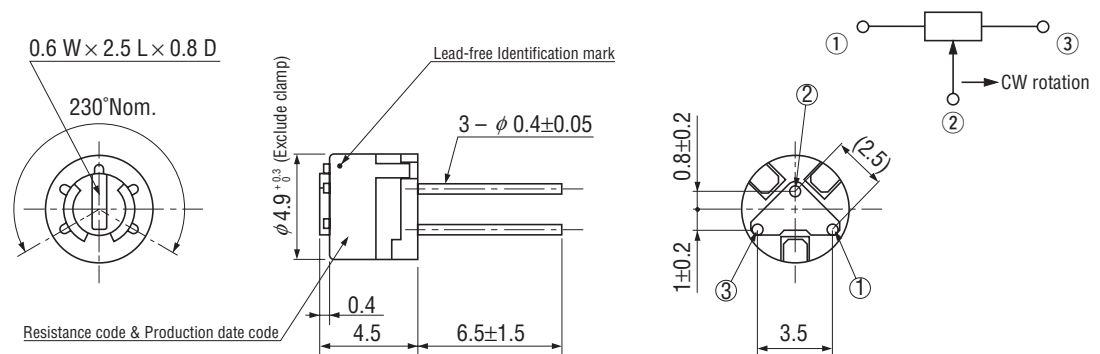
Nominal resistance values (Ω)	Resistance code	Maximum input voltage (V)	Maximum wiper current (mA)
↻ 10 ↻ 20 50 100 200 500	100 200 500 101 201 501	1.00 2.00 5.00 7.07 10.0 15.8	100 100 100 70.7 50.0 31.6
1 k 2 k 5 k 10 k 20 k 50 k	102 202 502 103 203 503	22.4 31.6 50.0 70.7 100 158	22.4 15.8 10.0 7.07 5.00 3.16
100 k 200 k 500 k 1 M 2 M	104 204 504 105 205	200 200 200 200 200	2.00 1.00 0.40 0.20 0.10

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

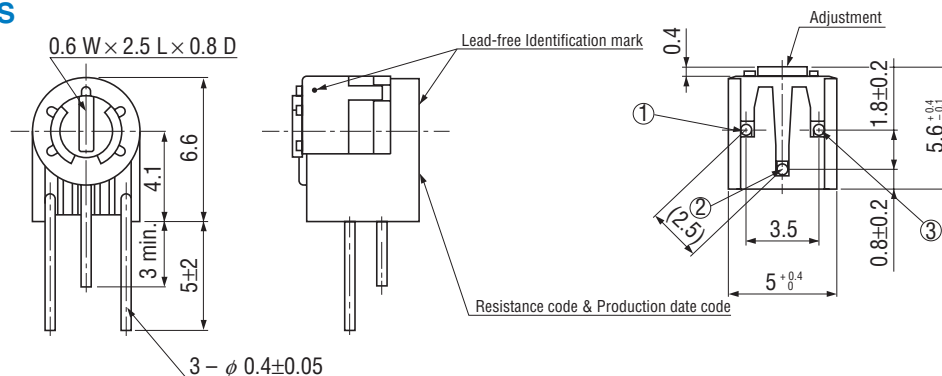
■ OUTLINE DIMENSIONS

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

● RJ-4W, RJ-4EW Top adjustment



● RJ-4WS, RJ-4EWS Side adjustment



■ PACKAGING SPECIFICATIONS

<Bulk pack specifications>

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