

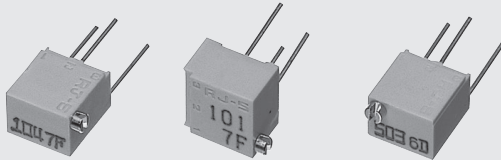


THE DATASHEET OF RJ5EP502



14 TURNS CERMET TRIMMERS **RJ-5**

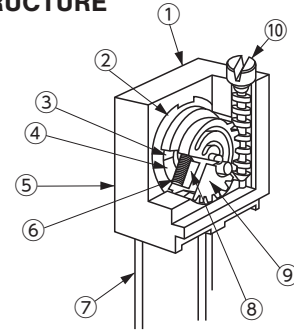
RoHS compliant



FEATURES

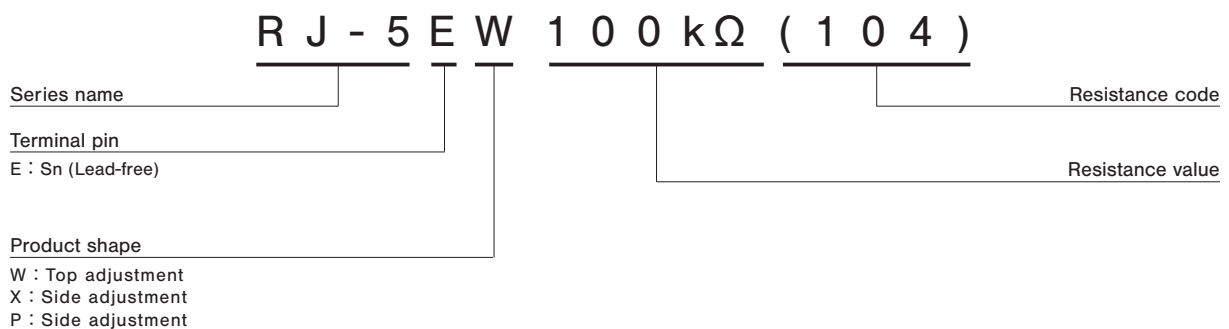
- RoHS compliant
- Fine setting is possible
- Sealed construction (Washable: Refer to page 628.)
- Resin material is UL Recognized 94V-0 (Excluding adhesives)

INTERNAL STRUCTURE







Part name	Material
① Housing	PBT (Polybutyleneterephthalate)
② Base element	Ceramic
③ Electrode	Ag-Pd cermet
④ Resistive element	RuO ₂ cermet
⑤ Adhesive	Epoxy
⑥ Wiper	Multi metal alloy
⑦ Terminal pin	Copper, Tin-plated
⑧ Rubber cushion	Silicone rubber
⑨ Rotor gear	PA (Polyamide)
⑩ 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 MΩ
Resistance tolerance	± 10 %
Power ratings	0.25 W (85 °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 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 ⁻⁶ /°C maximum 100 Ω ~ 2 MΩ : ± 100 10 ⁻⁶ /°C maximum
Insulation resistance	1000 MΩ 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 kΩ	2 kΩ	5 kΩ
10 kΩ	20 kΩ	50 kΩ	100 kΩ	200 kΩ	500 kΩ	1 MΩ	2 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	14 turns
Operating torque	20 mN·m {204 gf·cm} maximum
Mechanical stop	Clutch action
Rotational life	200 cycles 10 Ω ~ 200 Ω [$\Delta R/R \leq \pm (0.5 \Omega + 3 \%)$] 500 Ω ~ 2 MΩ [$\Delta R/R \leq \pm (0.5 \Omega + 2 \%)$]
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	$[\Delta R/R \leq 1 \%$ [S.S. $\leq 1 \%$]
Humidity	-10 ~ 65 °C (Relative humidity 80 ~ 98 %), 10 cycles, 240 h	$[\Delta R/R \leq 1 \%$]
Shock	981 m/s ² , 6 ms 6 directions for 3 times each	$[\Delta R/R \leq 1 \%$ [S.S. $\leq 1 \%$]
Vibration	Amplitude 1.52 mm or Acceleration 196 m/s ² , 10 ~ 2000 Hz, 3 directions, 12 times each	
Load life	85 °C, 0.25 W, 1000 h	$[\Delta R/R \leq 2 \%$ [S.S. $\leq 1 \%$]
Low temp. operation	-55 °C, 2 h	$[\Delta R/R \leq 2 \%$ [S.S. $\leq 2 \%$]
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	$[\Delta R/R \leq 1 \%$]

$\Delta R/R$: Change in total resistance
S.S. : Setting stability

RJ-5

CERMET TRIMMERS

MAXIMUM INPUT RATINGS

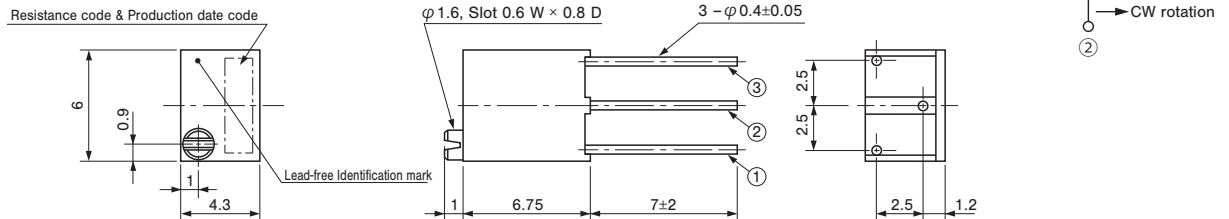
Nominal resistance values (Ω)	Resistance code	Maximum input voltage (V)	Maximum wiper current (mA)
\ominus 10 \ominus 20 50 100 200 500	100 200 500 101 201 501	1.00 2.00 3.53 5.00 7.07 11.1	100 100 70.7 50.0 35.3 22.3
1 k 2 k 5 k 10 k 20 k 50 k	102 202 502 103 203 503	15.8 22.3 35.3 50.0 70.7 111	15.8 11.1 7.07 5.00 3.53 2.23
100 k 200 k 500 k 1 M 2 M	104 204 504 105 205	158 200 200 200 200	1.58 1.00 0.40 0.20 0.10

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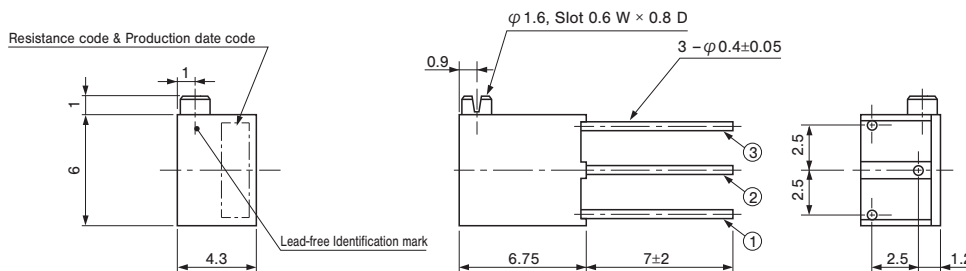
OUTLINE DIMENSIONS

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

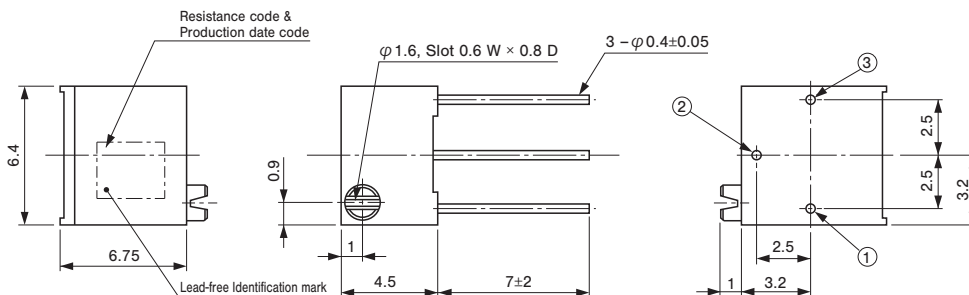
RJ-5EW Top adjustment



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.

Looking for pricing, stock, or lifecycle information?

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- ⊖ [Nidec Copal Electronics](#) Information

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- ✓ Obsolete Management
- ✓ Cost Control Management
- ✓ Shortage Management
- ✓ Alternative Solution
- ✓ Excess Inventory Management