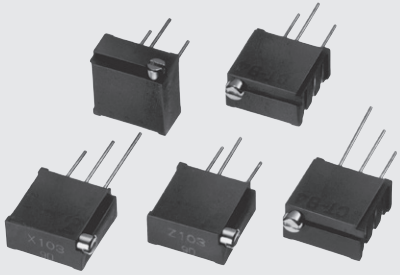


# 18 TURNS CERMET TRIMMERS **CT-94**

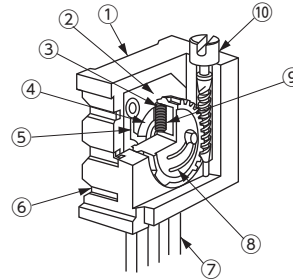
RoHS compliant



## FEATURES

- RoHS compliant
- Thin body design (4.8 mm thick)
- 18 turns, sealed, precision type
- Resin material is UL Recognized 94V-0

## INTERNAL STRUCTURE



Part name	Material
① Housing	Polybutyleneterephthalate
② Base element	Ceramic
③ Wiper	Multi metal alloy
④ Resistive element	RuO <sub>2</sub> cermet
⑤ Electrode	Ag-Pd cermet
⑥ Adhesive	Epoxy
⑦ Terminal pin	Copper, Tin-plated
⑧ Rotor gear	Polyamide
⑨ Rubber cushion	Silicone rubber
⑩ Shaft	Brass, Nickel-plated

## PART NUMBER DESIGNATION

**CT-94EW 1kΩ (102)**

Series name

Terminal pin

E : Sn (Lead-free)

Product shape

W, Y : Top adjustment



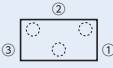

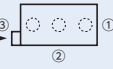

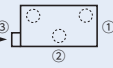

X, P, Z : Side adjustment

Resistance code

Resistance value

※ 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 		CT-94EW	50 pcs./ pack
		CT-94EY	
Side adjustment (1 Adjustment direction) 		CT-94EX	
		CP-94EP	
		CT-94EZ	
			

## ELECTRICAL CHARACTERISTICS

Nominal resistance range	10 Ω ~ 2 MΩ
Resistance tolerance	± 10 %
Power ratings	0.5 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 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 ~ 125 °C
Temp. coefficient	10 Ω , 20 Ω : ± 250 10 <sup>-6</sup> /°C maximum 50 Ω ~ 2 MΩ : ± 100 10 <sup>-6</sup> /°C maximum
Insulation resistance	1000 MΩ minimum (DC500 V)
Dielectric strength	AC900 V, 60 s
Net weight	Approx. 0.88 g (CT-94EP) Approx. 0.92 g (CT-94EW, EX, EY, EZ)

## 〈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

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 [ΔR/R ≤ ± (2 Ω + 3 %)]
Terminal strength	10 N {1.02 kgf} minimum (Tensile strength)
Thrust to shaft	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 ≤ 2 %]
Shock	981 m/s <sup>2</sup> , 6 ms 6 directions for 3 times each	[ΔR/R ≤ 1 %] [S.S. ≤ 1 %]
Vibration	(Amplitude) 1.52 mm or (Acceleration) 196 m/s <sup>2</sup> , 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	125 °C, 250 h	[ΔR/R ≤ 3 %] [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 Manual soldering 380 ± 10 °C, 3 ~ 4 s	[ΔR/R ≤ 1 %]

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

# CT-94

## CERMET TRIMMERS

### MAXIMUM INPUT RATINGS

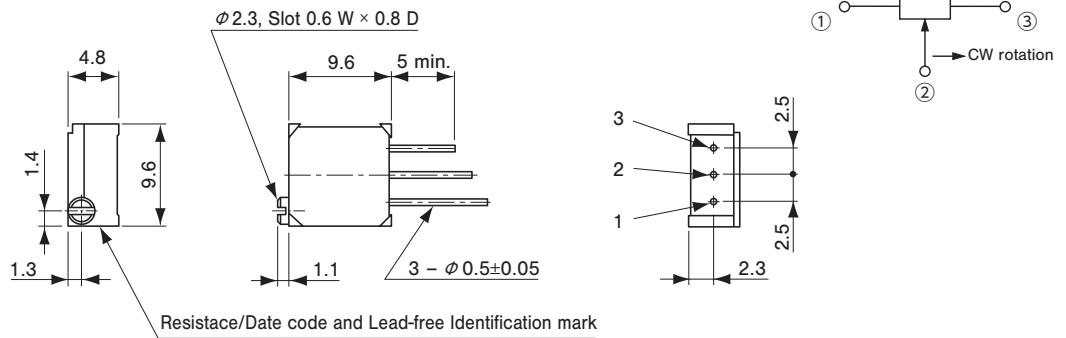
Nominal resistance values ( $\Omega$ )	Resistance code	Maximum input voltage (V)	Maximum wiper current (mA)
$\oplus$ 10 $\ominus$ 20 50 100 200 500	100 200 500 101 201 501	1.00 2.00 5.00 7.07 10.0 15.8	100 100 100 70.7 50.0 31.6
1 k 2 k 5 k 10 k $\ominus$ 20 k 25 k 50 k	102 202 502 103 203 253 503	22.4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

The products indicated by  $\ominus$  mark are manufactured upon receipt of order basis.

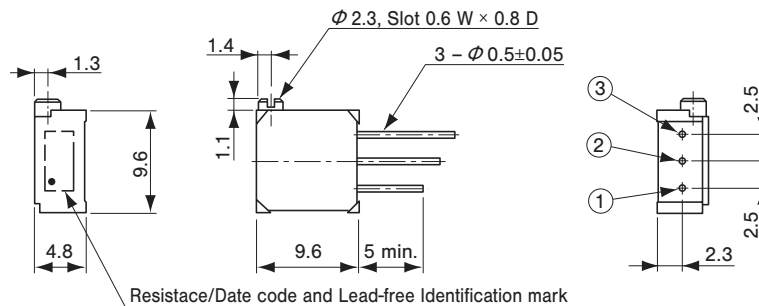
### OUTLINE DIMENSIONS

Unless otherwise specified, tolerance:  $\pm 0.3$  (Unit: mm)

#### CT-94EW Top adjustment



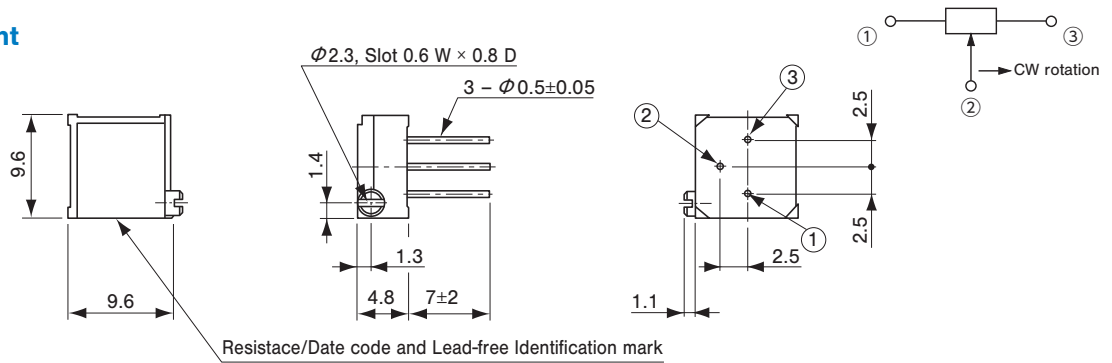
#### CT-94EX Side adjustment



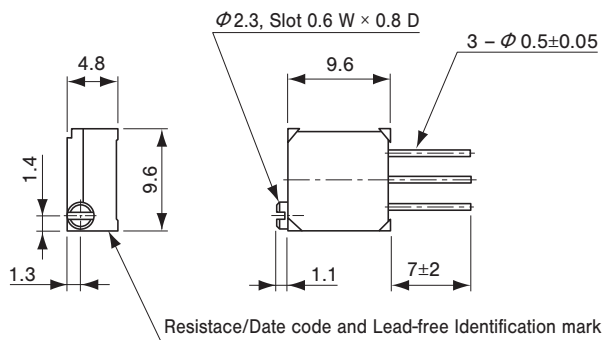
### OUTLINE DIMENSIONS

Unless otherwise specified, tolerance:  $\pm 0.3$  (Unit: mm)

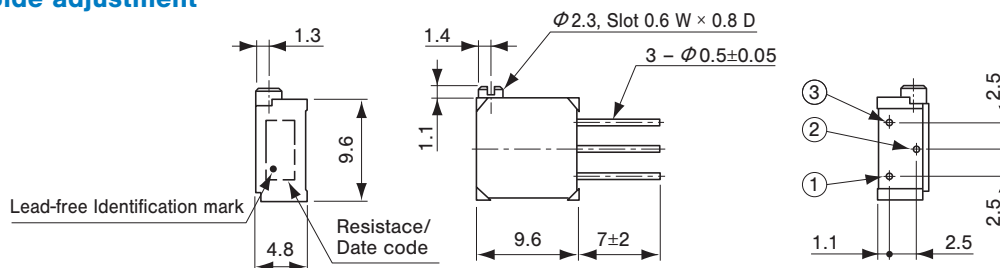
#### CT-94EP Side adjustment



#### CT-94EY Top adjustment



#### CT-94EZ 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.