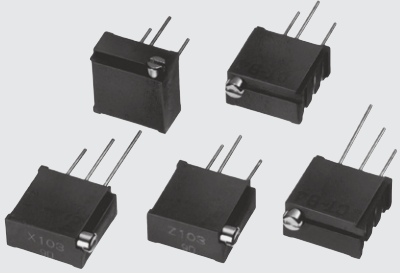


18 TURNS CERMET TRIMMERS **CT-94**

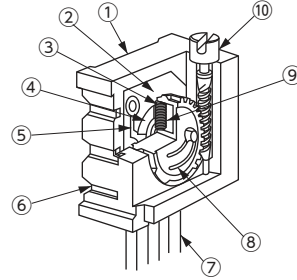
RoHS compliant



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 ₂ 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



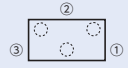
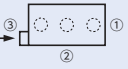

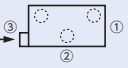
X, P, Z : Side adjustment

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 ⁻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. 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 [$\Delta R/R \leq \pm (2 \Omega + 3 \%)$] |
| 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 | [$\Delta R/R \leq 1 \%$] [S.S. $\leq 1 \%$] |
| Humidity | -10 ~ 65 °C (80 ~ 98 %), 10 cycles, 240 h | [$\Delta R/R \leq 2 \%$] |
| 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 | 70 °C, 0.5 W, 1000 h | [$\Delta R/R \leq 3 \%$] [S.S. $\leq 1 \%$] |
| Low temp. operation | -55 °C, 2 h | [$\Delta R/R \leq 2 \%$] [S.S. $\leq 2 \%$] |
| High temp. exposure | 125 °C, 250 h | [$\Delta R/R \leq 3 \%$] [S.S. $\leq 2 \%$] |
| 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 | [$\Delta R/R \leq 1 \%$] |

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

CT-94

CERMET TRIMMERS

MAXIMUM INPUT RATINGS

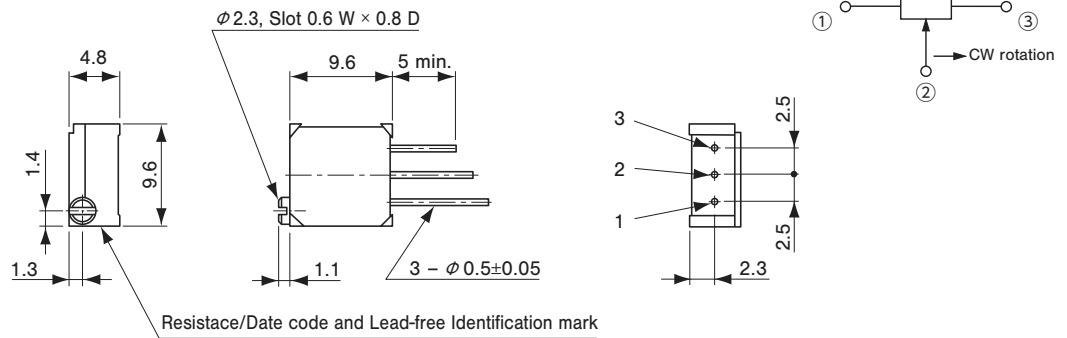
| Nominal resistance values (Ω) | Resistance code | Maximum input voltage (V) | Maximum wiper current (mA) |
|--|---|---|--|
| ⊕ ⊖ 10 20 50 100 200 500 | 100 200 500 101 201 501 | 1.00 2.00 5.00 7.07 10.0 15.8 | 100 100 100 70.7 50.0 31.6 |
| ⊖ 1 k 2 k 5 k 10 k 20 k 25 k 50 k | 102 202 502 103 203 253 503 | 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 |
| ⊖ 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 ⊖ mark are manufactured upon receipt of order basis.

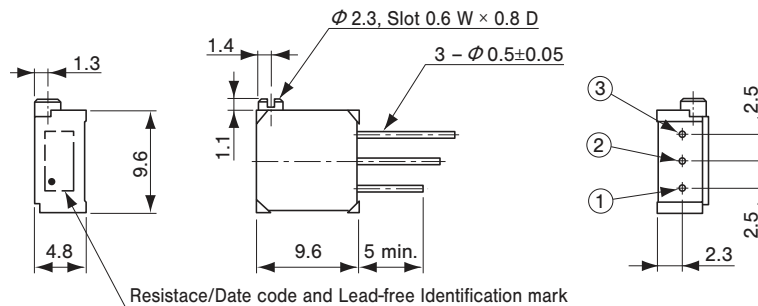
OUTLINE DIMENSIONS

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

CT-94EW Top adjustment



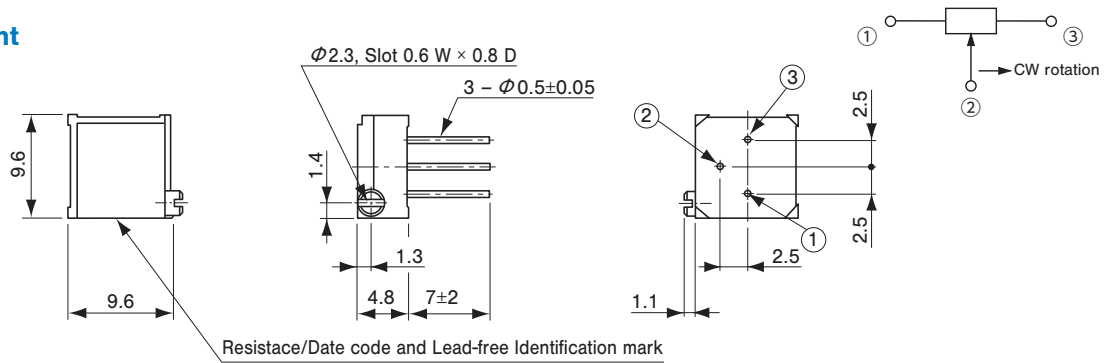
CT-94EX Side adjustment



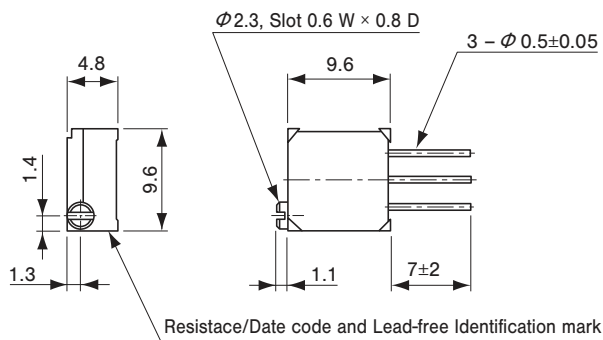
OUTLINE DIMENSIONS

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

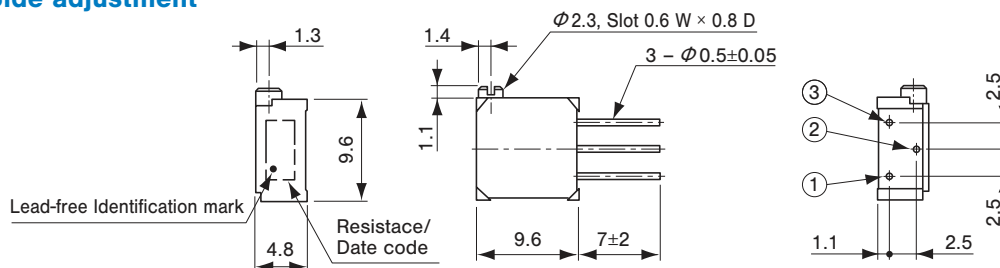
CT-94EP Side adjustment



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.