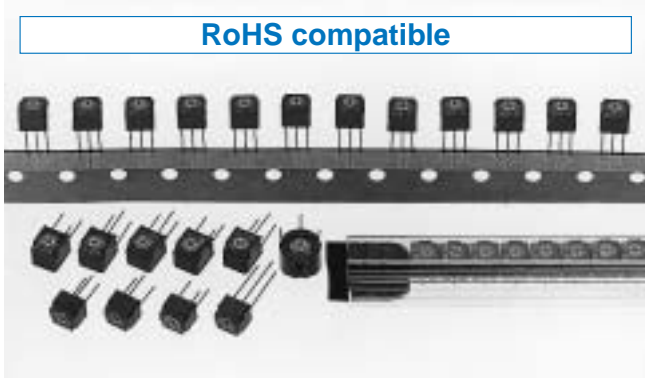


SINGLE TURN CERMET TRIMMERS

CT-6

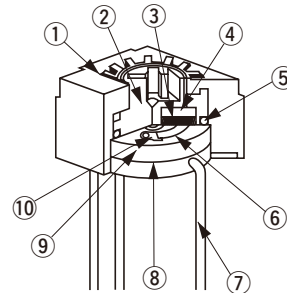
RoHS compatible



FEATURES

- Lead-free soldering, Cadmium-free
- Various configurations to choose from
- Wide variety (14 types)
- "O" ring sealed and washable

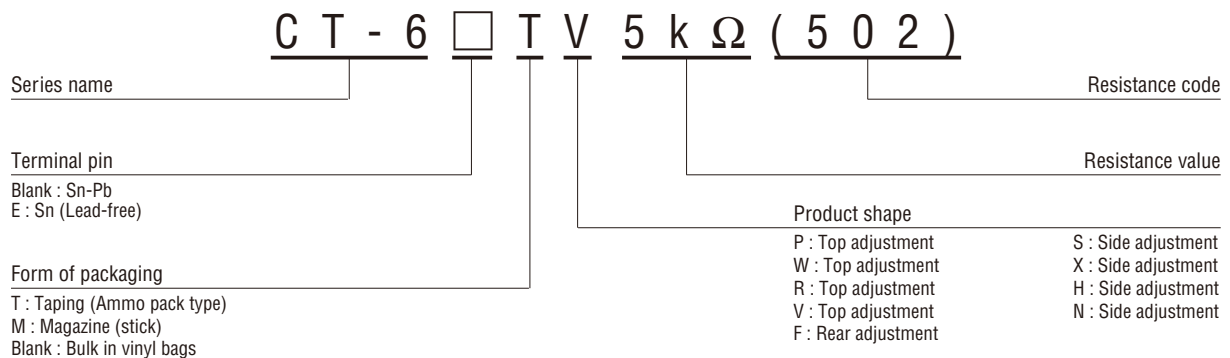
INTERNAL STRUCTURE



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











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

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 | | | | | | Remarks |
|---|---|--------------------------|---------------------------|------------------|----------------|--------------|----------------|--|
| | | Taping | | Magazine (stick) | | Vinyl bag | | |
| | | Sn-Pb | Sn (Lead-free) | Sn-Pb | Sn (Lead-free) | Sn-Pb | Sn (Lead-free) | |
| Top adjustment  |  | CT-6TP Ammo pack type | CT-6ETP Ammo pack type | CT-6MP | CT-6EMP | CT-6P | CT-6EP | The pin length of CT-6TP & CT-6MP is different from CT-6P. |
| |  | | | | | CT-6W | CT-6EW | — |
| |  | | | | | ↻ CT-6R | ↻ CT-6ER | — |
| |  | CT-6TV Ammo pack type | CT-6ETV Ammo pack type | | | CT-6V | CT-6EV | — |
| Side adjustment (↑ Adjustment direction) |  | | | CT-6MS | CT-6EMS | CT-6S | CT-6ES | The pin length of CT-6MS is different from CT-6S. |
| |  | | | | | CT-6X | CT-6EX | — |
| |  | CT-6TH Ammo pack type | CT-6ETH Ammo pack type | | | CT-6H | CT-6EH | The pin length of CT-6TH is different from CT-6H. |
| |  | | | | | CT-6N | CT-6EN | — |
| Rear adjustment |  | | | | | ↻ CT-6F | ↻ CT-6EF | — |
| Pieces in package | | 1000 pcs./taping | | 75 pcs./stick | | 50 pcs./pack | | — |

☐ : Not manufactured

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

<Nominal resistance values>

Fig. 1

| | | | | | |
|--------|--------|--------|-------|-------|-------|
| ↻ 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 | |

- * : 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.
- * : Taping and magazine specifications are not sold separately and must be purchased in taping or stick units.

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 | 220 ° (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 ~ 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. 0.51 g (CT-6P, W, R, V, EP, EW, ER, EV) Approx. 0.65 g (CT-6S, X, H, N, ES, EX, EH, EN) Approx. 0.92 g (CT-6F, EF) |

MECHANICAL CHARACTERISTICS

| | |
|-------------------|---|
| Mechanical angle | 260 ° (1 turn) |
| Operating torque | 2 ~ 20 mN·m {20 ~ 204 gf·cm} |
| Stop strength | 50 mN·m {510 gf·cm} minimum |
| Rotational life | 200 cycles [$\Delta R/R \leq \pm (2 \Omega + 3 \%)$] |
| 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 | [$\Delta R/R \leq 1 \%$] [S.S. $\leq 1 \%$] |
| Humidity | -10 ~ 65 °C (Relative humidity 80 ~ 98 %), 10 cycles, 240 h | [$\Delta R/R \leq 2 \%$] |
| 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 | [$\Delta R/R \leq 3 \%$] [S.S. $\leq 1 \%$] |
| 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 | 120 °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 | Sn-Pb : 350 °C, 3 s Sn 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

MAXIMUM INPUT RATINGS

| Nominal resistance values (Ω) | Resistance code | Maximum input voltage (V) | Maximum wiper current (mA) |
|---|--|--|--|
| ↻ 10 ↻ 20 | 100 200 | 1.00 2.00 | 100 100 |
| 50 100 200 500 | 500 101 201 501 | 5.00 7.07 10.0 15.8 | 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 |

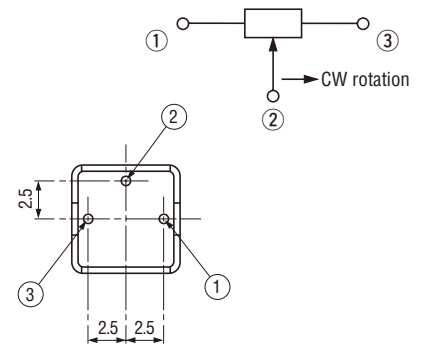
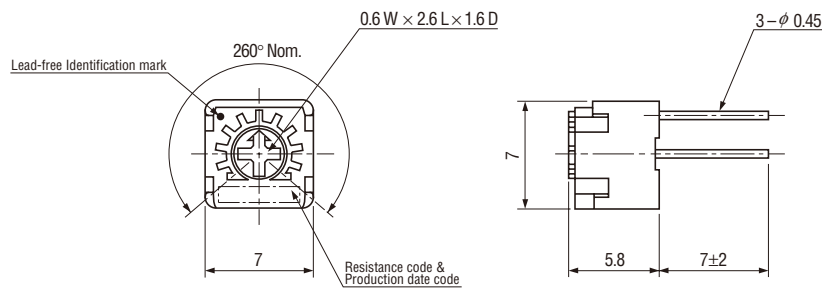
The products indicated by ↻ mark are manufactured upon receipt of order basis.

CT-6 CERMET TRIMMERS

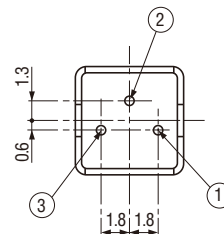
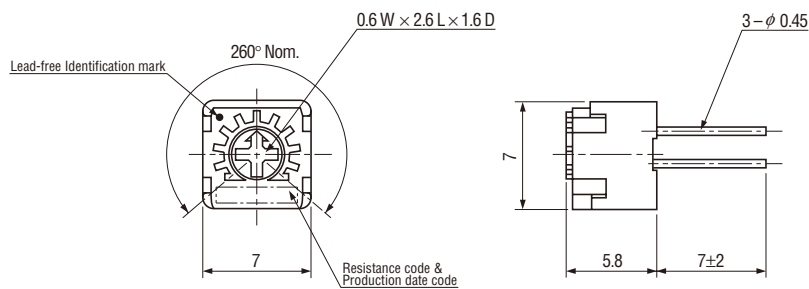
OUTLINE DIMENSIONS

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

CT-6P, CT-6EP Top adjustment

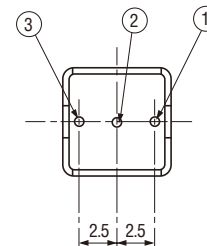
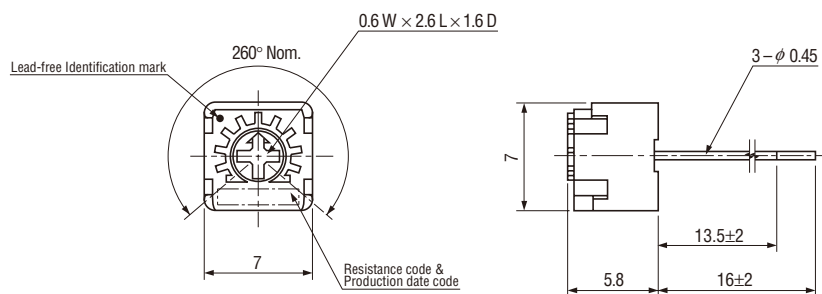


CT-6W, CT-6EW Top adjustment

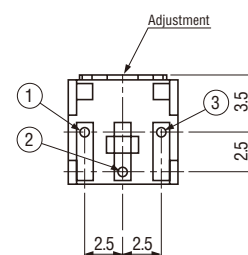
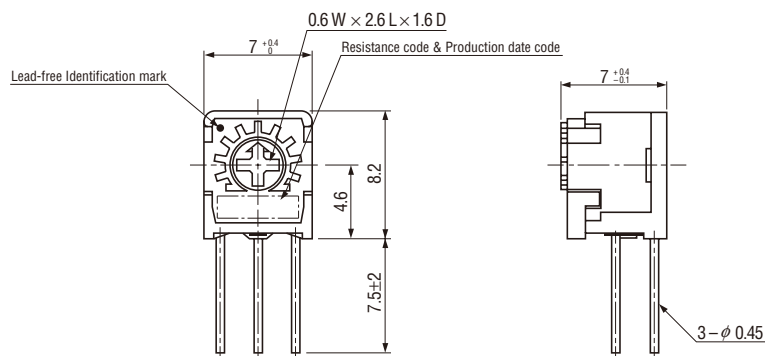


★ : Pin pitch in W type is different from P type.

CT-6V, CT-6EV Top adjustment



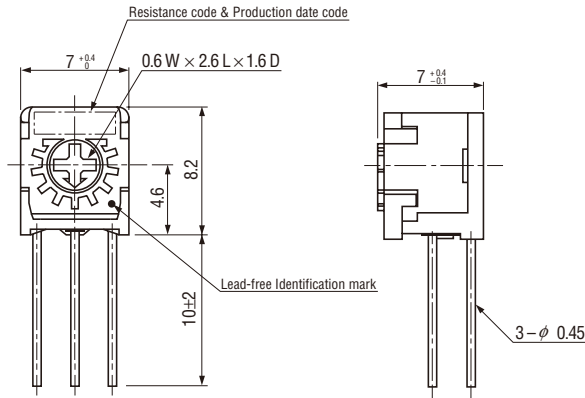
CT-6S, CT-6ES Side adjustment



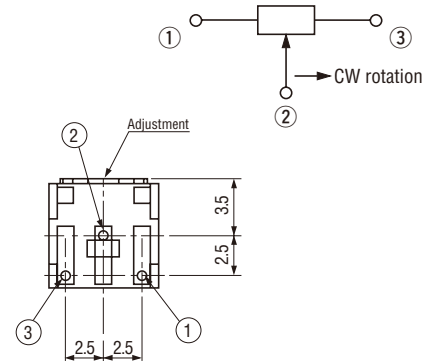
CT-6 CERMET TRIMMERS

OUTLINE DIMENSIONS

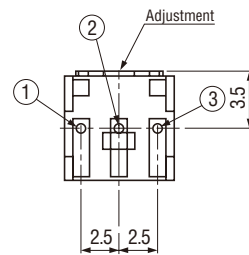
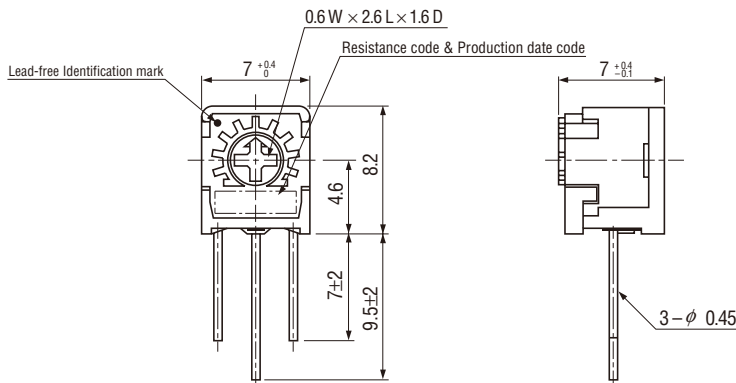
CT-6X, CT-6EX Side adjustment



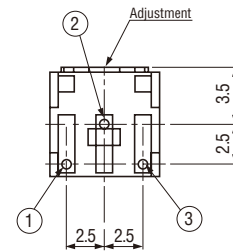
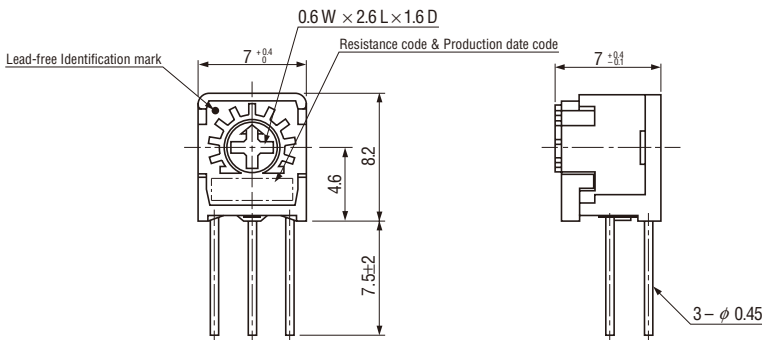
Unless otherwise specified, tolerance: ± 0.3 (Unit: mm)



CT-6H, CT-6EH Side adjustment



CT-6N, CT-6EN Side adjustment

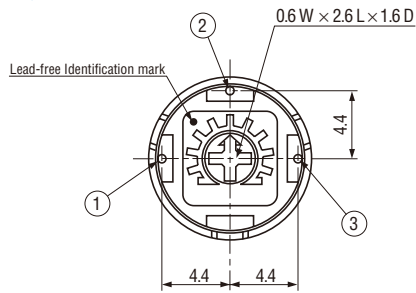


★ : Terminals ① & ③ position in N type is different from X type.

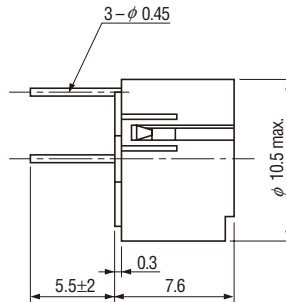
CT-6 CERMET TRIMMERS

OUTLINE DIMENSIONS

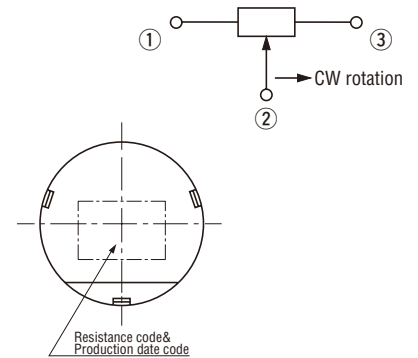
CT-6F, CT-6EF Rear adjustment



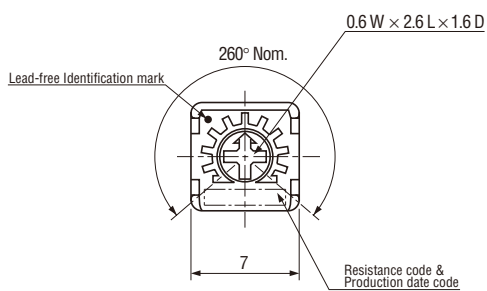
<Semi-standard products>



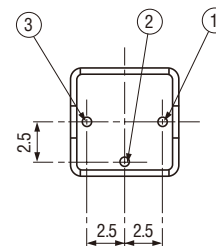
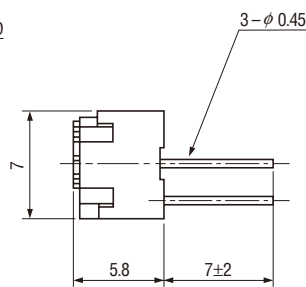
Unless otherwise specified, tolerance: ± 0.3 (Unit: mm)



CT-6R, CT-6ER Top adjustment



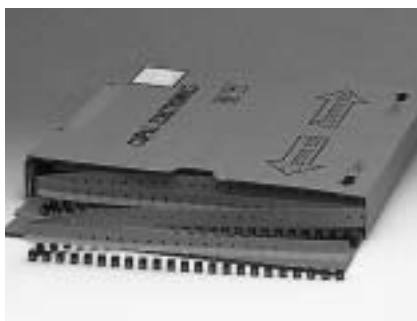
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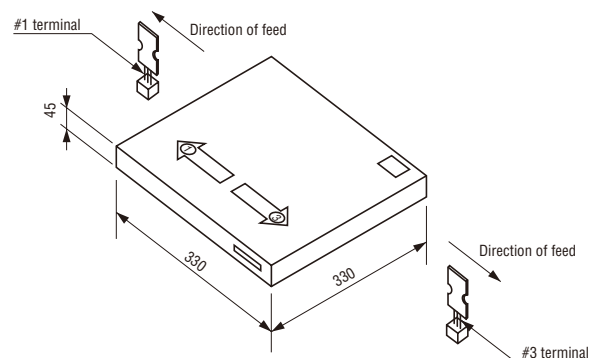
PACKAGING SPECIFICATIONS

<Taping packaging specifications>

- Taping version is packaged in 1000 pcs. per reel.
Orders will be accepted for units of 1000 pcs., i.e., 1000, 2000, 3000 pcs., etc.
- Taping version (ammo pack type) is boxed with one reel (1000 pcs.).



Ammo pack type



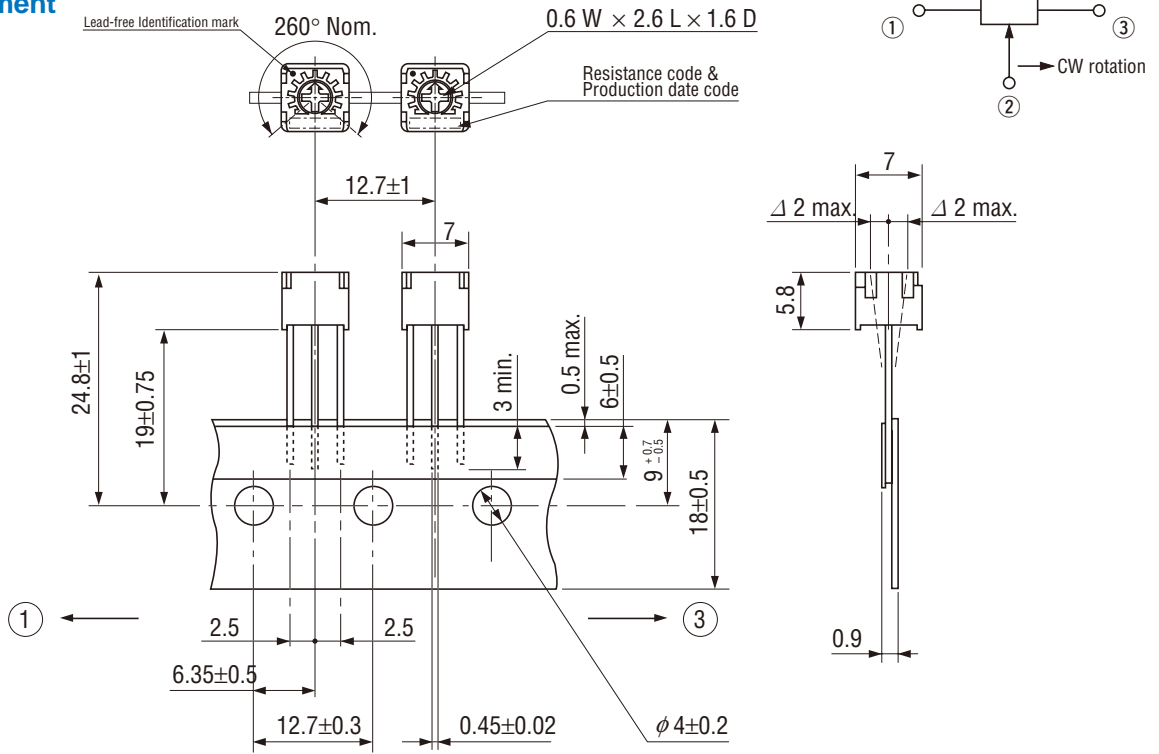
Ammo Pack

- Package size: 330 mm x 330 mm x 45 mm
- The leader and end of the tape have an empty part of minimum 300 mm respectively.
- There are two tape outlets on the package for different terminal alignment directions, for which details refer to the sketch above.
(e.g.) When the tape is fed from the right outlet marked ③, #3 terminal comes out first.
- Gross weight of the boxing version
TV, ETV : Approx. 840 g
TH, ETH : Approx. 930 g
TP, ETP : Approx. 850 g

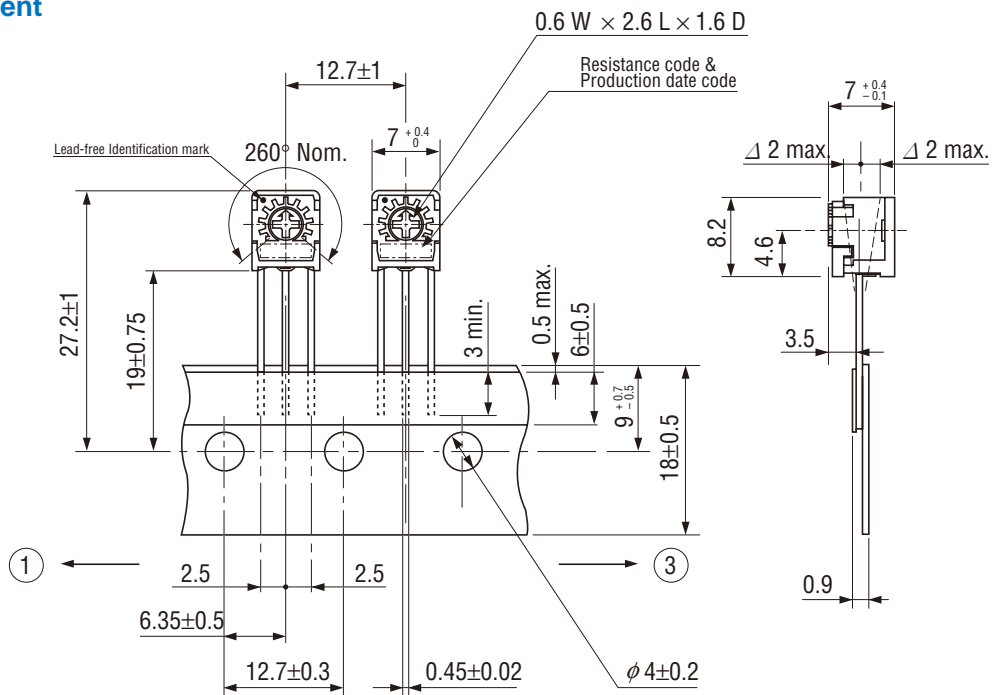
CT-6
CERMET TRIMMERS

● **CT-6TV, CT-6ETV**
Top adjustment

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



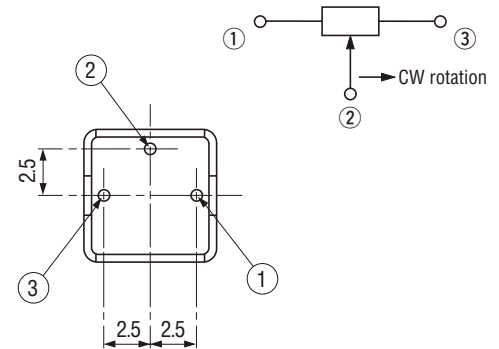
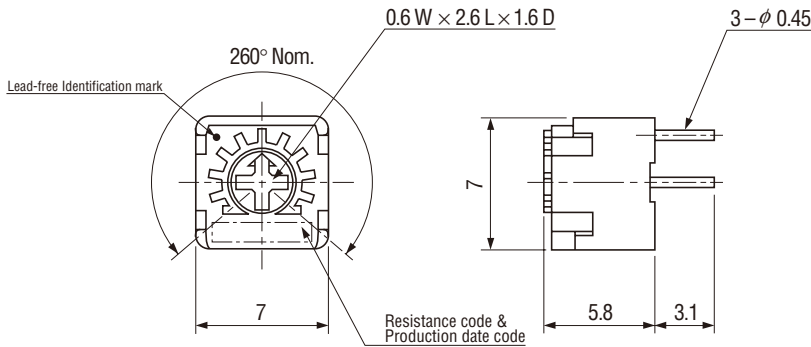
● **CT-6TH, CT-6ETH**
Side adjustment



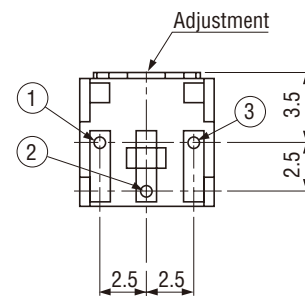
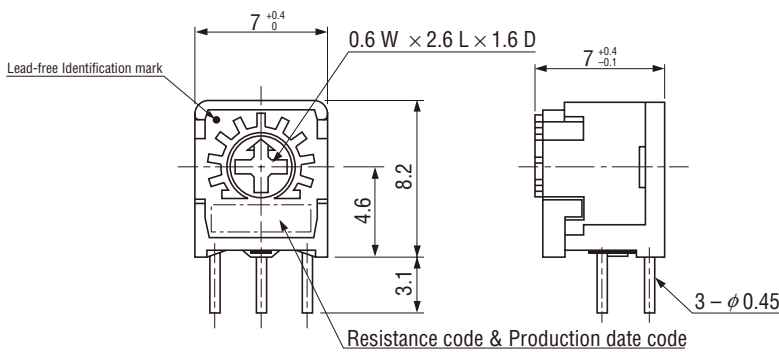
CT-6 CERMET TRIMMERS

● **CT-6MP, CT-6EMP**
Top adjustment

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



● **CT-6MS, CT-6EMS**
Side adjustment



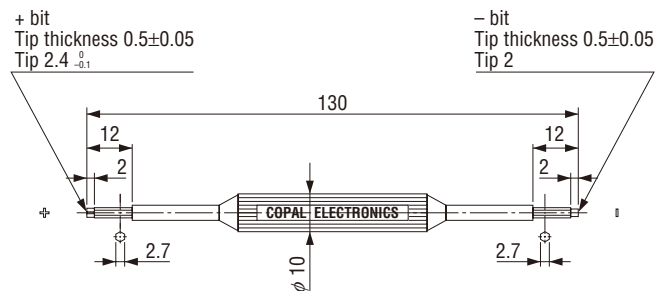
<Vinyl bag packaging specifications>

- Unit of bulk in vinyl bag packaging is 50 pcs. per pack.
- Boxing of bulk in vinyl bags is performed with 200 pcs. (CT-6F, CT-6EF is 100 pcs.) per box.

■ **ADJUSTMENT TOOL, MODEL TA-64**

- Good for both minus and cross slot rotors / shafts.
- Recommended for use with the following copal trimmers.

| Recommended models | |
|--------------------|-------|
| + bit | - bit |
| CT-6 | ST-4 |
| FT-63 | RJ-4 |
| | RJ-6 |
| | TM-7 |



Material : Polybutyleneterephthalate

Note : Please do not use the tool for purposes other than adjustment of electronic components.