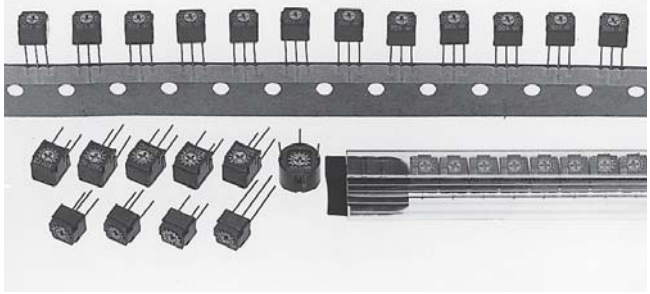
SINGLE TURN CERMET TRIMMERS CT-6

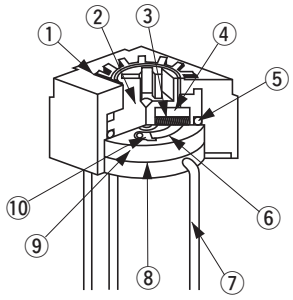
RoHS compliant



FEATURES

- RoHS compliant
- Various configurations to choose from
- Wide variety (14 types)
- “O” ring sealed and washable

INTERNAL STRUCTURE



Part name		Material	Flammability
①	Housing	Polybutyleneterephthalate	UL94V-0
②	Rotor		
③	Wiper	Multi metal alloy	—
④	Rubber cushion	Silicone rubber	
⑤	“O” ring	Silicone rubber	UL94HB
⑥	Resistive element	RuO_2 cermet	—
⑦	Terminal pin	Copper, Tin-plated	
⑧	Adhesive	Epoxy	UL94V-0
⑨	Base element	Ceramic	—
⑩	Electrode	Ag-Pd cermet	

PART NUMBER DESIGNATION

C T - 6 E T V 5 k Ω (5 0 2)

Series name

Terminal pin
E : Sn (Lead-free)

Form of packaging
T : Taping (Ammo pack type)
M : Magazine (stick)
Blank : Bulk in plastic bag

Product shape
P : Top adjustment
W : Top adjustment
R : Top adjustment
V : Top adjustment
F : Rear adjustment
S : Side adjustment
X : Side adjustment
H : Side adjustment
N : Side adjustment

Resistance value

Resistance code

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

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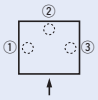
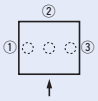
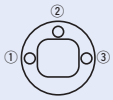
■ LIST OF PART NUMBERS

Adjustment position	Shape of terminal (Top view)	Form of packaging			Remarks
		Taping	Magazine (stick)	Plastic bag	
Top adjustment 		CT-6ETP Ammo pack type	CT-6EMP	CT-6EP	The pin length of CT-6ETP & CT-6EMP is different from CT-6EP.
				CT-6EW	—
				➔ CT-6ER	—
		CT-6ETV Ammo pack type		CT-6EV	—
Side adjustment (↑ Adjustment direction)			CT-6EMS	CT-6ES	The pin length of CT-6EMS is different from CT-6ES.
				CT-6EX	—
		CT-6ETH Ammo pack type		CT-6EH	The pin length of CT-6ETH is different from CT-6EH.
				CT-6EN	—
Rear adjustment				➔ 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.

※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.

〈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	

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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	(B) Linear law
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-6EP, EW, ER, EV) Approx. 0.65 g (CT-6ES, EX, EH, EN) Approx. 0.92 g (CT-6EF)

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 [ΔR/R ≦ ± (2 Ω +3 %)]
Teminal strength	10 N {1.02 kgf} minimum (Tensile strength)
Thrust to rotor	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/s², 6 ms 6 directions for 3 times each	[ΔR/R ≦ 1 %] [S.S. ≦ 1 %]
Vibration	(Amplitude) 1.52 mm or (Acceleration) 196 m/s², 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	Flow : 260 ± 3 °C、5 ~ 6 s, two times maximum Manual soldering : 380 ± 10 °C, 3 ~ 4 s	[ΔR/R ≦ 1 %]

Δ 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	100	1.00	100
➔ 20	200	2.00	100
50	500	5.00	100
100	101	7.07	70.7
200	201	10.0	50.0
500	501	15.8	31.6
1 k	102	22.4	22.4
2 k	202	31.6	15.8
5 k	502	50.0	10.0
10 k	103	70.7	7.07
20 k	203	100	5.00
50 k	503	158	3.16
100 k	104	200	2.00
200 k	204	200	1.00
500 k	504	200	0.40
1 M	105	200	0.20
2 M	205	200	0.10

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

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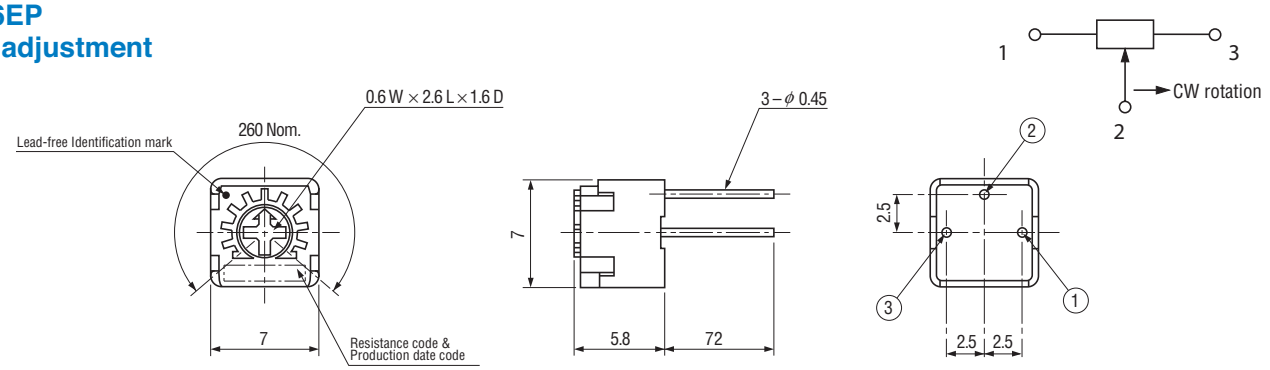
CERMET TRIMMERS

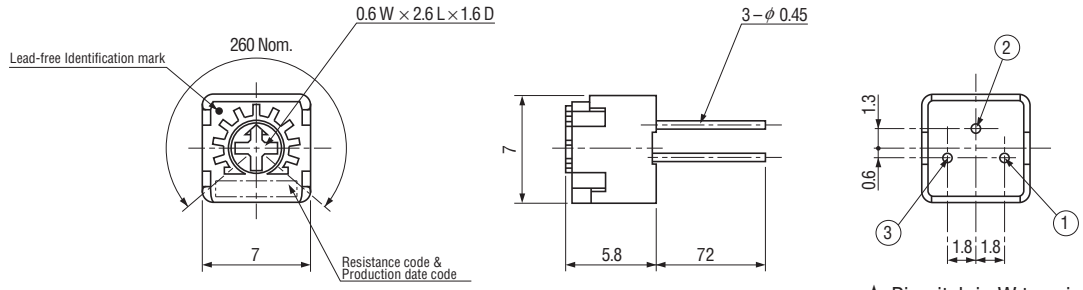
■ OUTLINE DIMENSIONS

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

● CT-6EP
Top adjustment

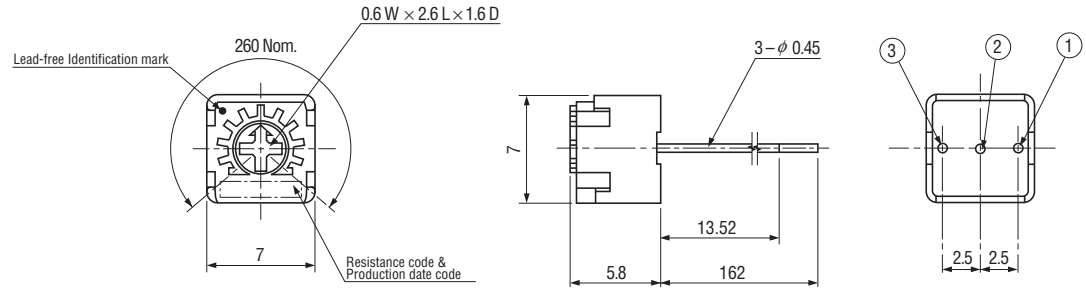


● CT-6EW
Top adjustment

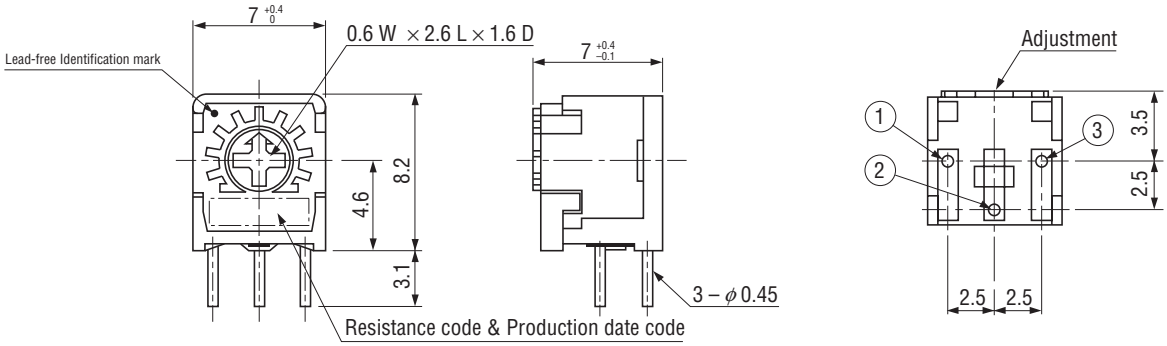


★ Pin pitch in W type is different from P type.

● CT-6EV
Top adjustment



● CT-6ES
Side adjustment



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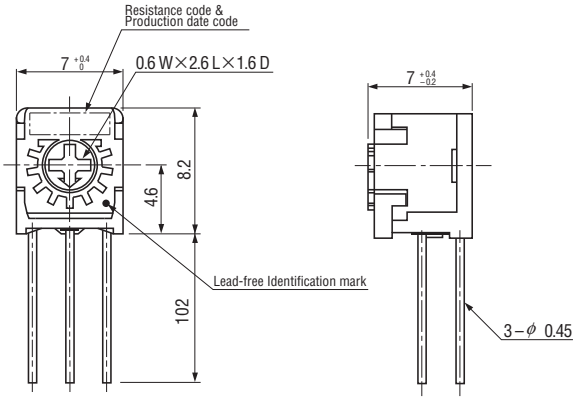
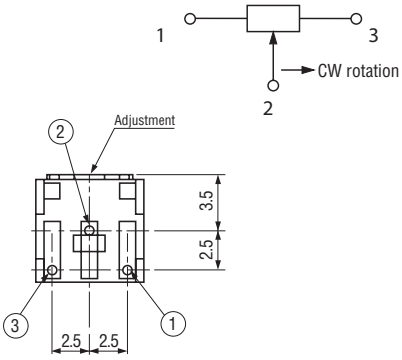
■ OUTLINE DIMENSIONS

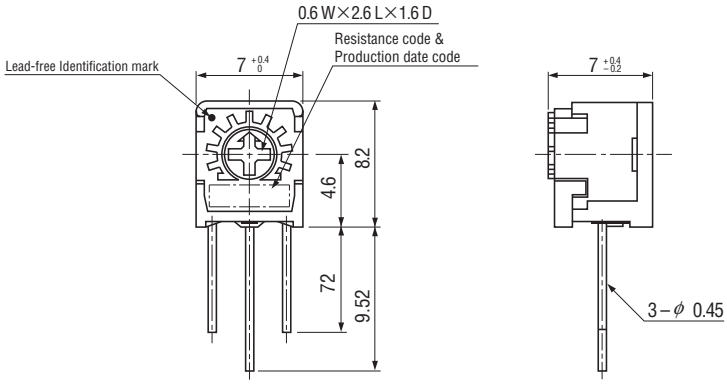
Unless otherwise specified, tolerance: ± 0.3 (Unit: mm)

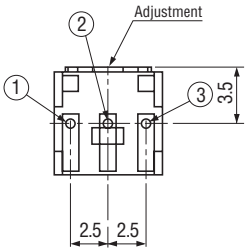
● CT-6EX
Side adjustment



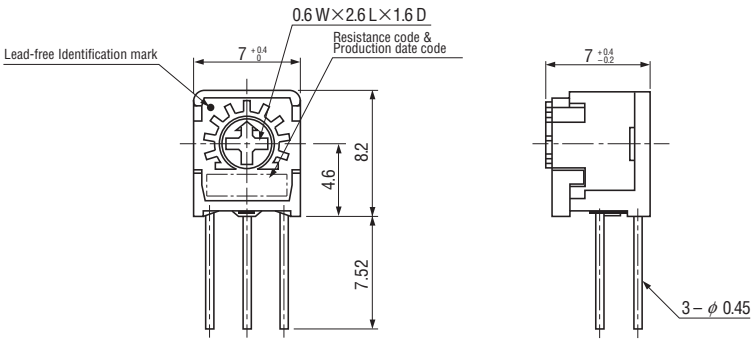


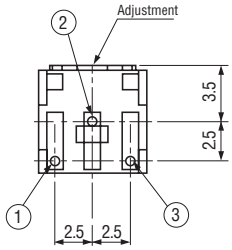
● CT-6EH
Side adjustment





● CT-6EN
Side adjustment





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

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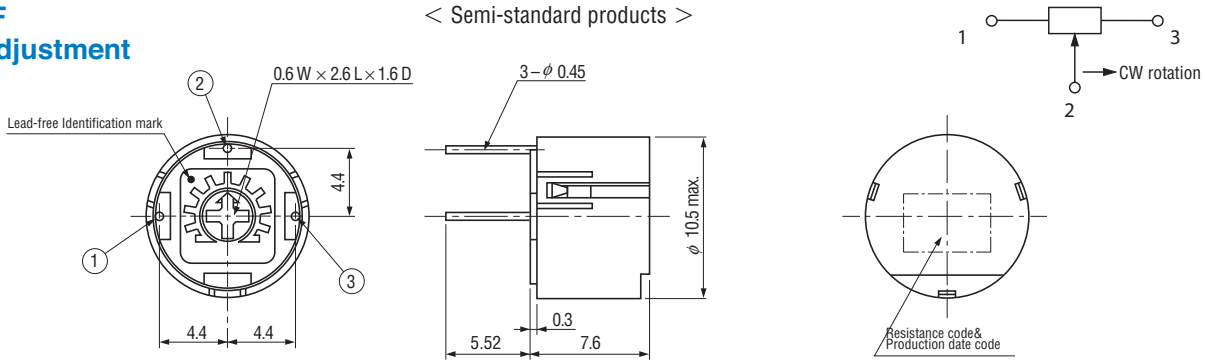
CERMET TRIMMERS

■ OUTLINE DIMENSIONS

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

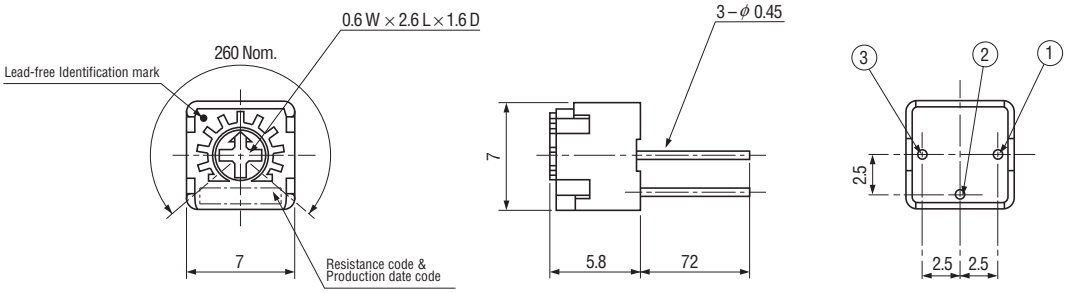
● CT-6EF
Rear adjustment

< Semi-standard products >



● CT-6ER
Top adjustment

< Semi-standard products >



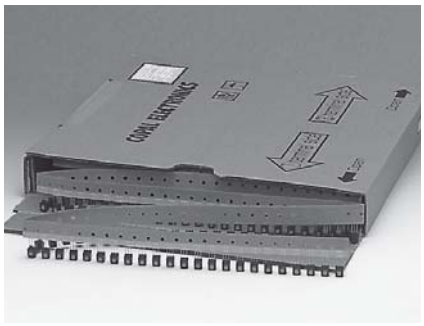
■ PACKAGING SPECIFICATIONS

<Taping packaging specifications>

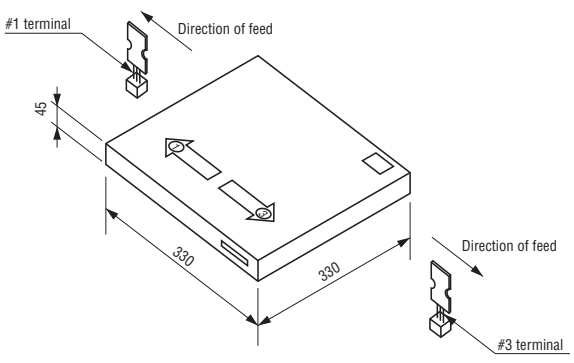
- Taping version is packaged in 1000 pcs. per reel. Orders will be accepted for units of 1000 pcs., i.e., 1000, 2000, 3000 pcs., etc.
- Taping version (ammo pack type) is boxed with one reel (1000 pcs.).

Ammo Pack

- Package size: 330 mm × 330 mm × 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 ETV : Approx. 840 g
  ETH : Approx. 930 g
  ETP : Approx. 850 g



Ammo pack type



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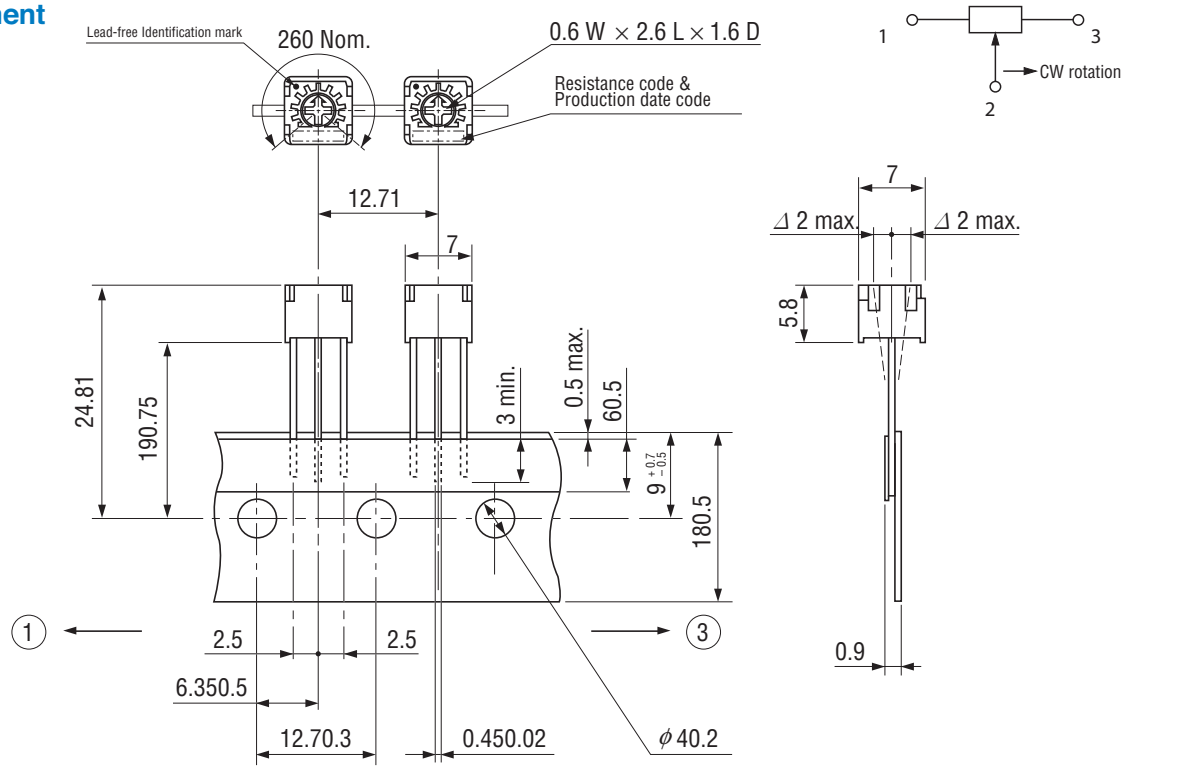
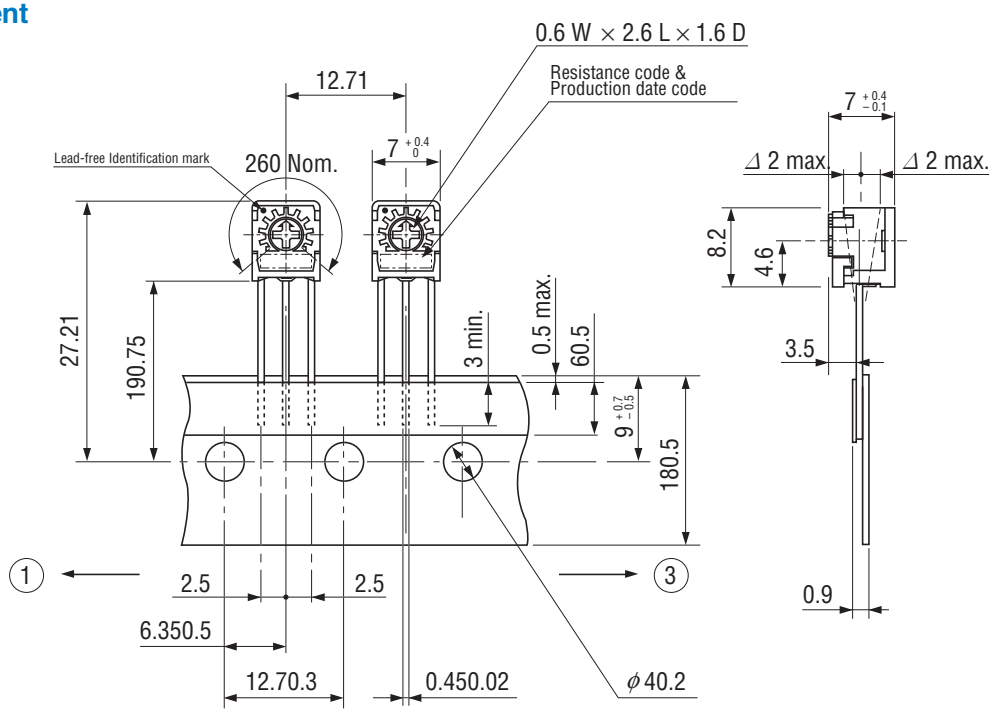
CERMET TRIMMERS

● CT-6ETV
Top adjustment

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



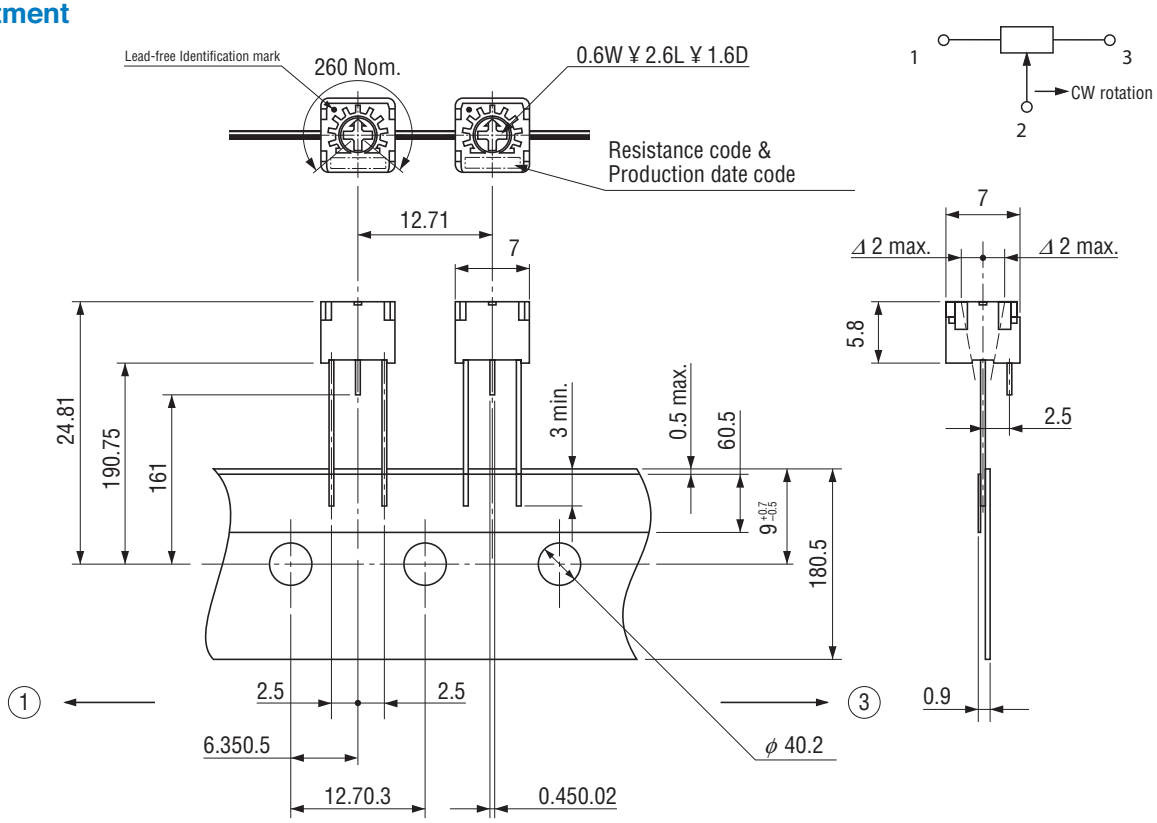
● CT-6ETH
Side adjustment



CT-6
CERMET TRIMMERS

● CT-6ETP
Top adjustment

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

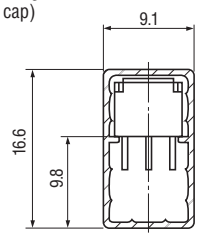


<Magazine packaging specifications>

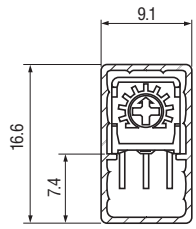
- Magazine is packaged 75 pcs. per stick.
  Orders will be accepted for units of 75 pcs. i.e., 150, 225 pcs., etc.
- Magazine is packed 3000 pcs. sticks per box.

Plastic magazine type

<Typical>
Plastic magazine length = 580 mm
(Without rubber cap)



CT-6EMP

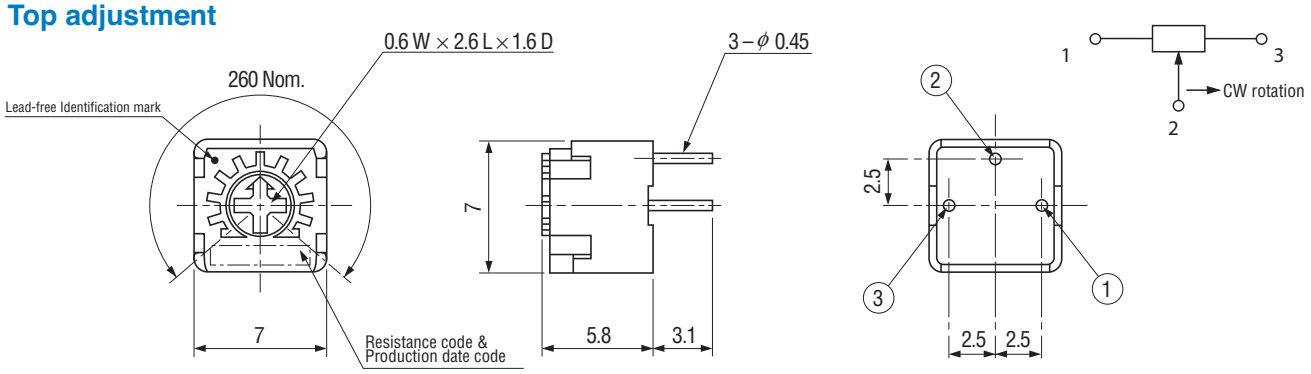


CT-6EMS

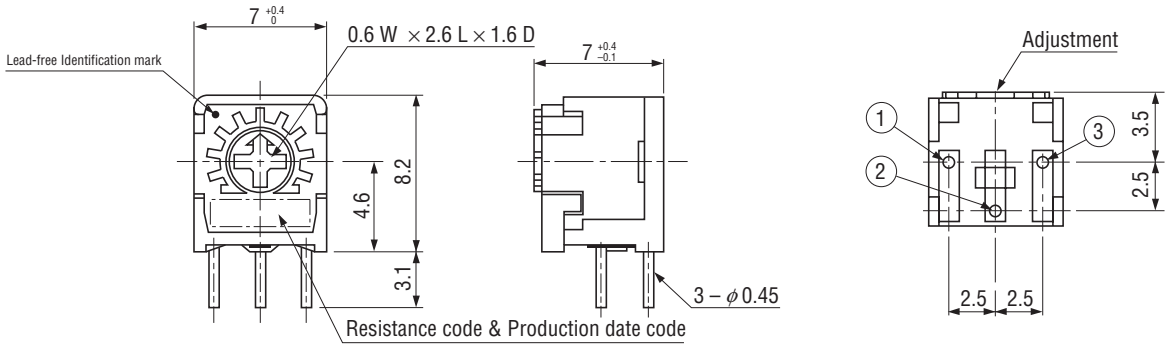
CT-6
CERMET TRIMMERS

● **CT-6EMP**
Top adjustment

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



● **CT-6EMS**
Side adjustment



<Bulk pack specifications>

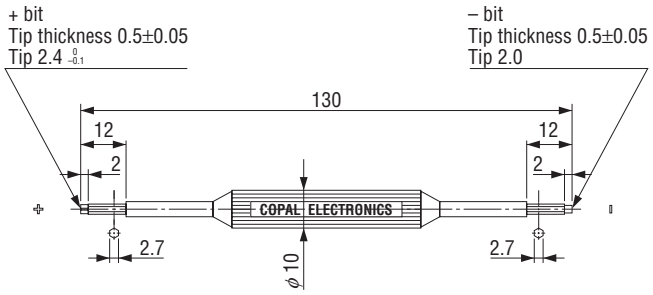
- Unit of bulk pack in a plastic bag is 50 pcs. per pack.
- Boxing of bulk in a plastic bag is performed with 200 pcs. (CT-6EF is 100 pcs.) per box.

■ ADJUSTMENT TOOL, MODEL TA-64

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

- 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 : Polyoxymethylene

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