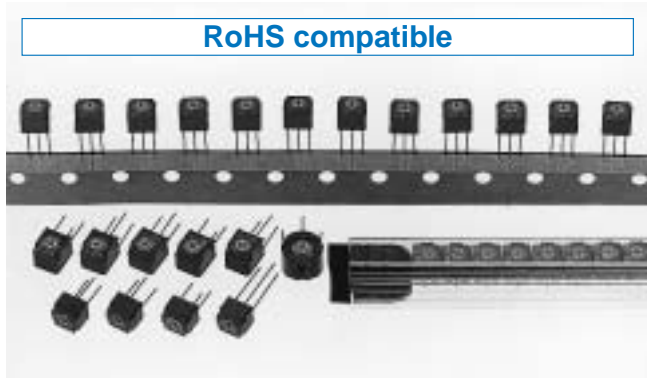


# SINGLE TURN CERMET TRIMMERS

# CT-6

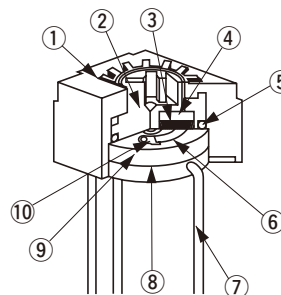
RoHS compatible



## 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 <sub>2</sub> 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 PBBs and PBBs are not used in our products.

## PART NUMBER DESIGNATION

C T - 6		□	T V	5 k Ω	( 5 0 2 )	Resistance code
Series name		Terminal pin		Resistance value		
		Blank : Sn-Pb E : Sn (Lead-free)				
		Form of packaging		Product shape		
		T : Taping (Ammo pack type) M : Magazine (stick) Blank : Bulk in vinyl bags		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

✳ 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.

# CT-6

## CERMET TRIMMERS

### ELECTRICAL CHARACTERISTICS

Nominal resistance range	10 $\Omega$ ~ 2 M $\Omega$
Resistance tolerance	$\pm 10 \%$
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 $\Omega$ , whichever is greater
C.R.V.	1 % or 3 $\Omega$ , whichever is greater
Operating temp. range	-55 ~ 120 °C
Temp. coefficient	10 $\Omega$ ~ 20 $\Omega$ : $\pm 250$ 10 <sup>-6</sup> /°C maximum 50 $\Omega$ ~ 2 M $\Omega$ : $\pm 100$ 10 <sup>-6</sup> /°C maximum
Insulation resistance	1000 M $\Omega$ 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 $\pm 3$ °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 <sup>2</sup> , 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 <sup>2</sup> , 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	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 $\pm 3$ °C, 5 ~ 6 s, two times maximum Manual soldering : 380 $\pm 10$ °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 ( $\Omega$ )	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 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.

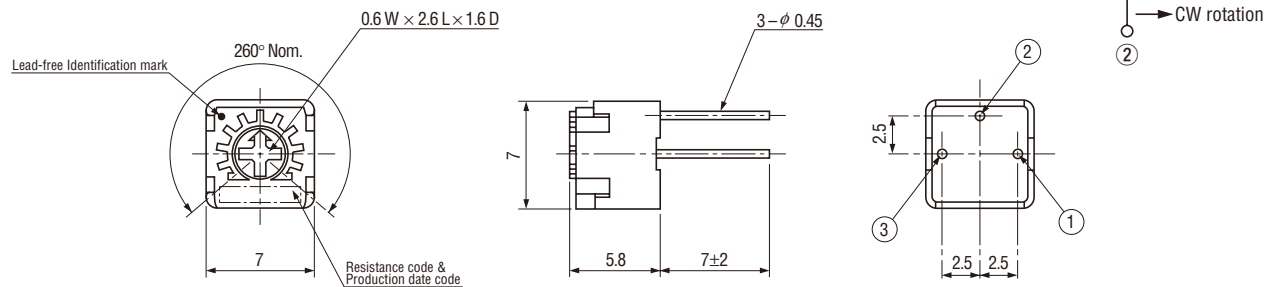
# CT-6

## CERMET TRIMMERS

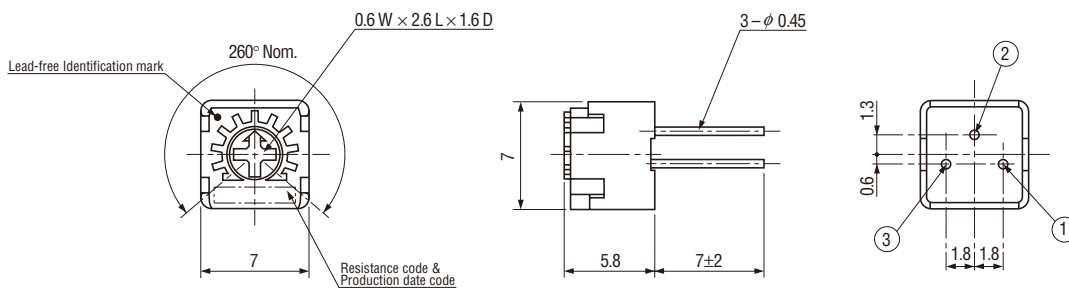
### OUTLINE DIMENSIONS

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

#### CT-6P, CT-6EP Top adjustment

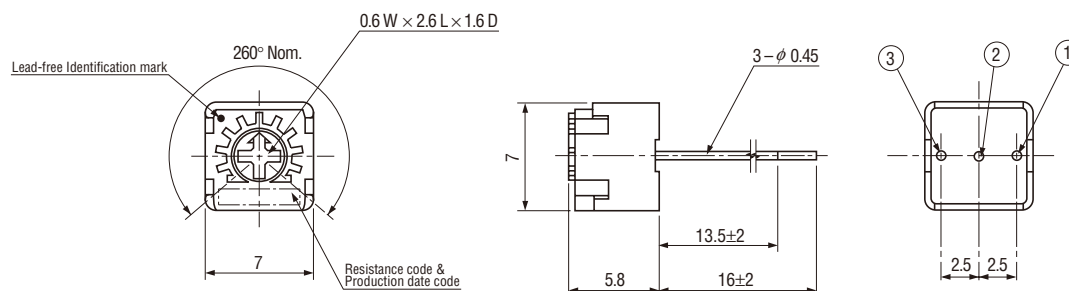


#### CT-6W, CT-6EW Top adjustment

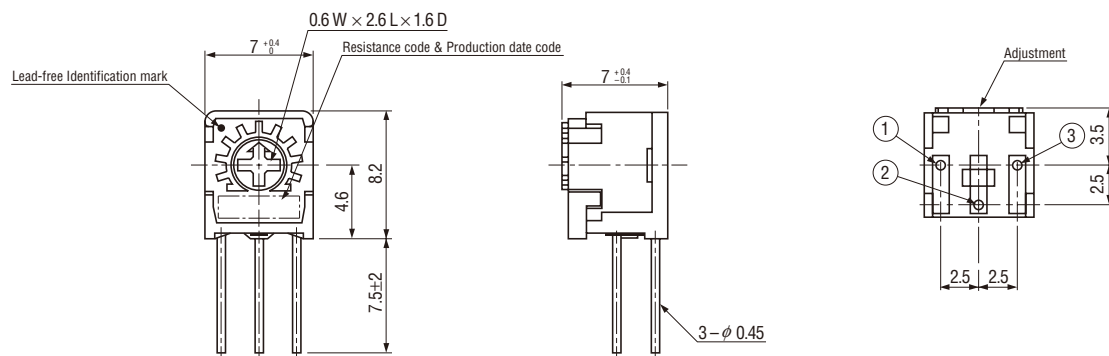


★ : Pin pitch in W type is different from P type.

#### CT-6V, CT-6EV Top adjustment



#### CT-6S, CT-6ES Side adjustment

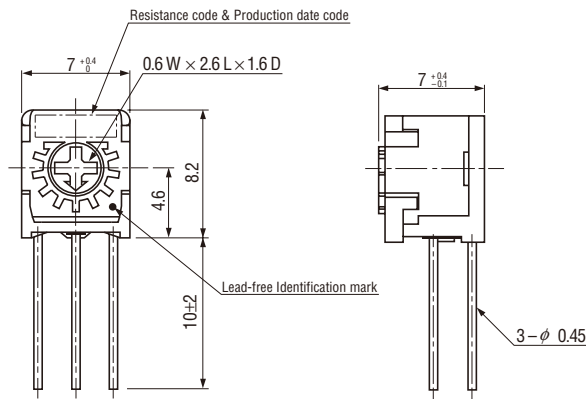


# CT-6

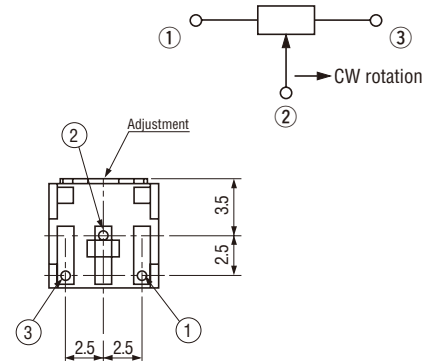
## CERMET TRIMMERS

### OUTLINE DIMENSIONS

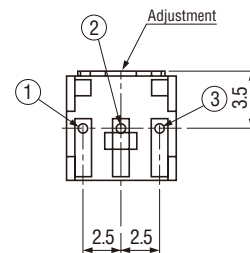
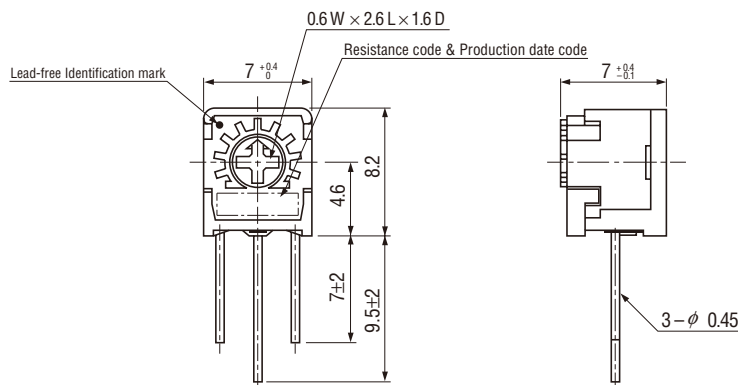
#### CT-6X, CT-6EX Side adjustment



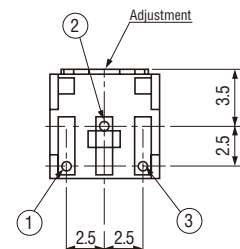
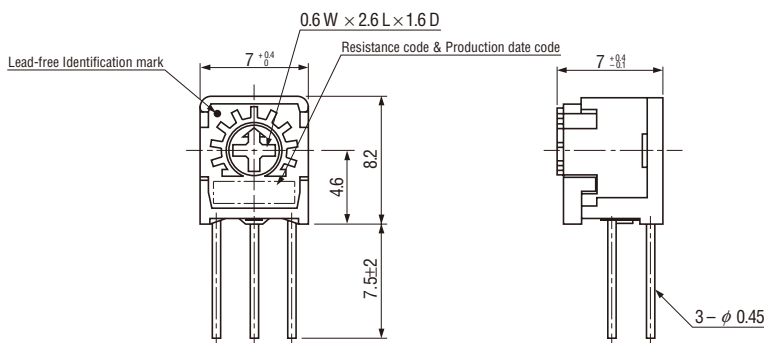
Unless otherwise specified, tolerance:  $\pm 0.3$  (Unit: mm)



#### CT-6H, CT-6EH Side adjustment



#### CT-6N, CT-6EN Side adjustment

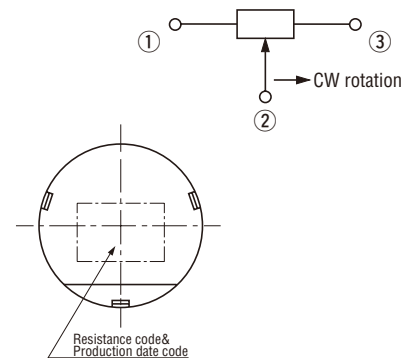
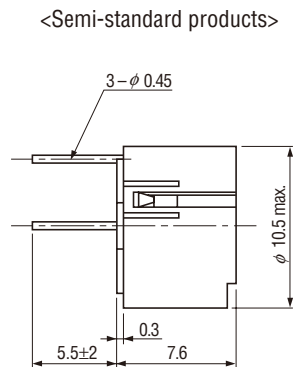
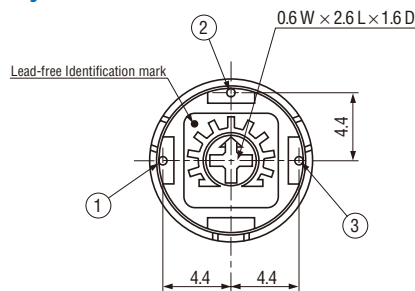


★ : Terminals ① & ③ position in N type is different from X type.

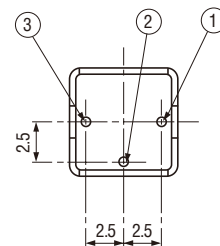
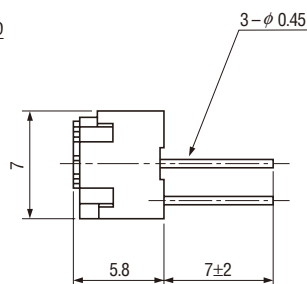
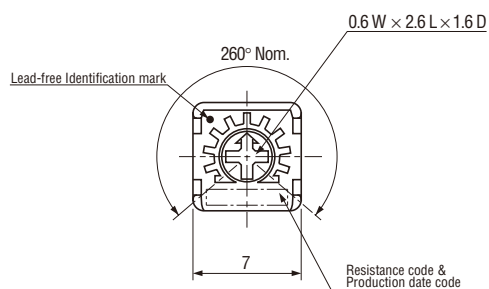
## ■ OUTLINE DIMENSIONS

- **CT-6F, CT-6EF**  
**Rear adjustment**

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



● **CT-6R, CT-6ER**  
**Top adjustment**



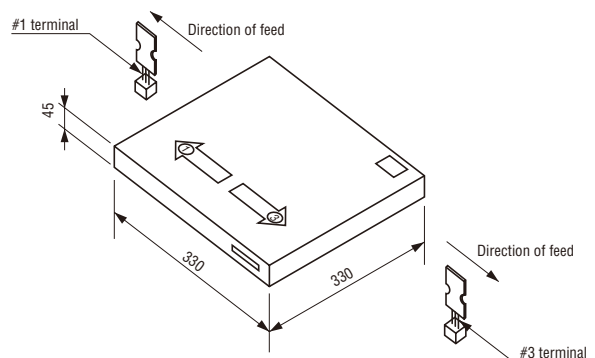
## ■ PACKAGING SPECIFICATIONS

## <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 × 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
 

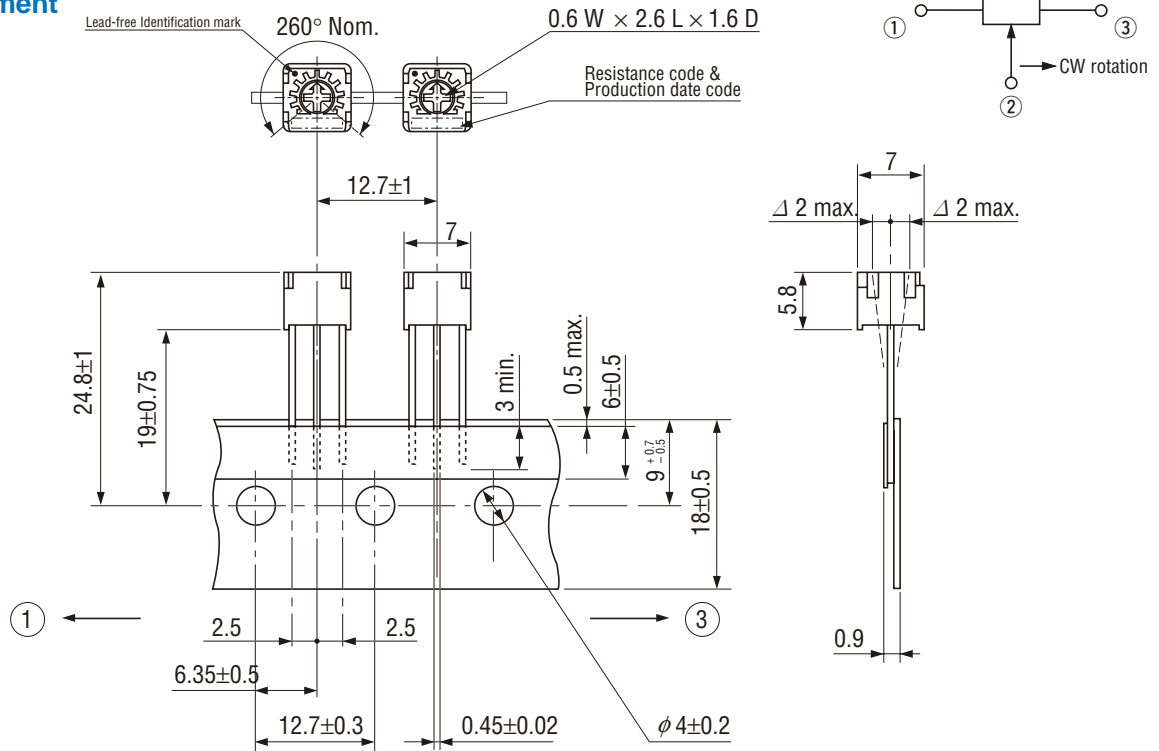
TV, ETV : Approx. 840 g
TH, ETH : Approx. 930 g
TP, ETP : Approx. 850 g

# CT-6

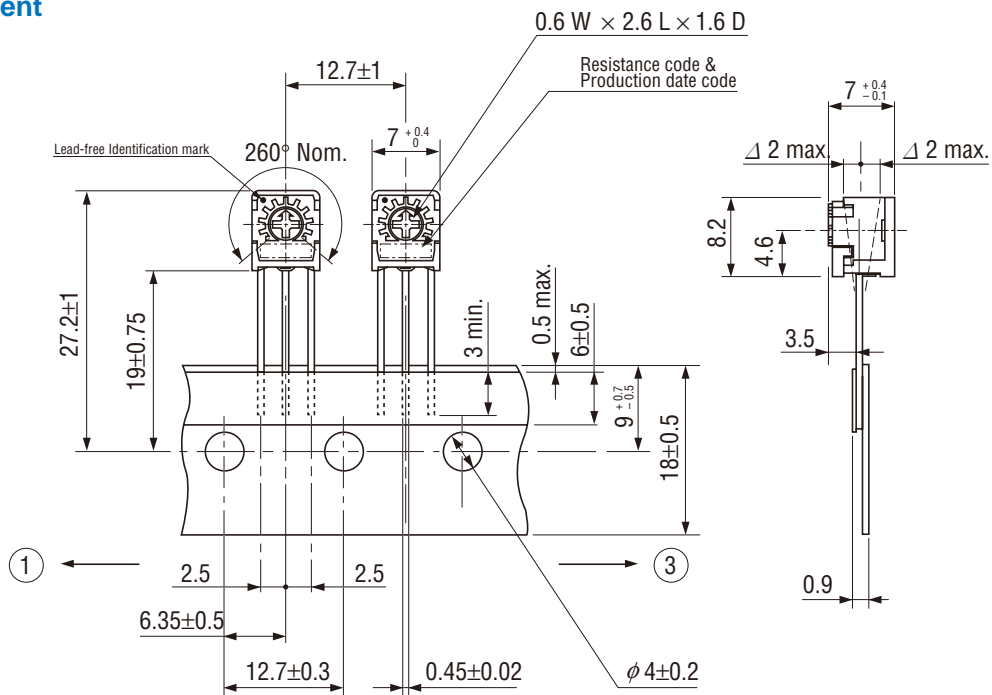
## CERMET TRIMMERS

### ● CT-6TV, CT-6ETV Top adjustment

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



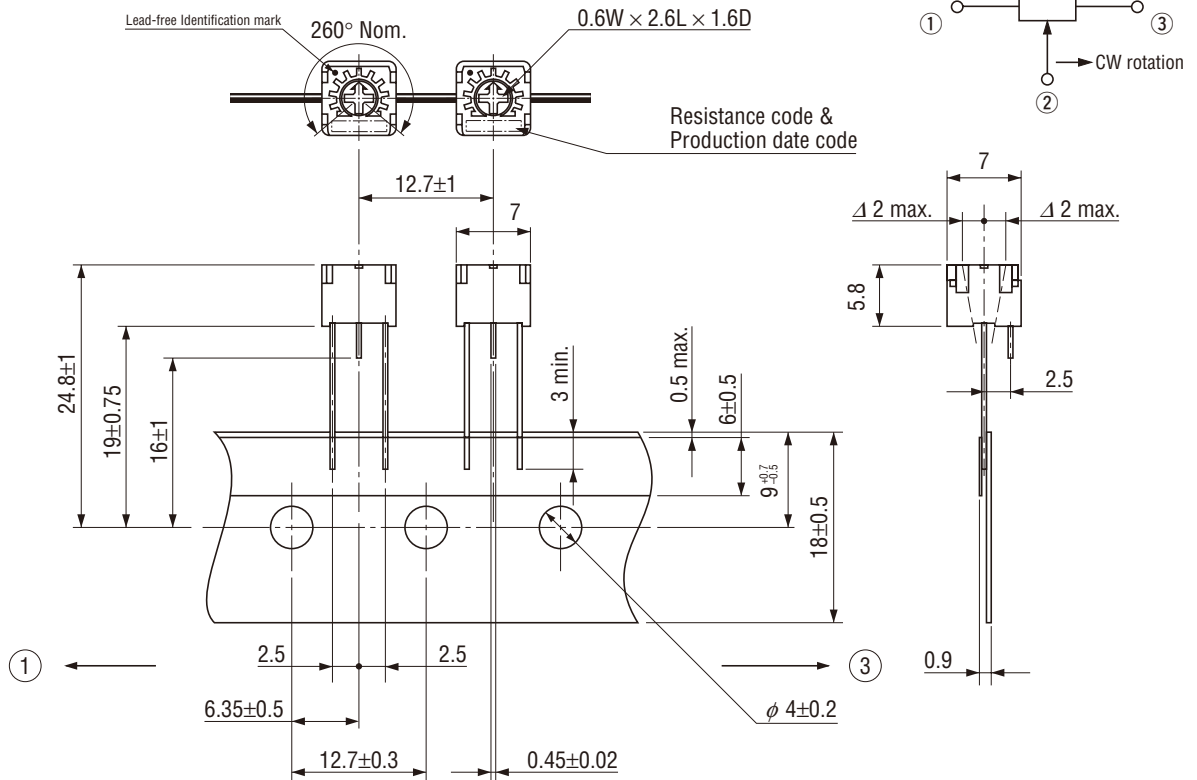
### ● CT-6TH, CT-6ETH Side adjustment



## CT-6 CERMET TRIMMERS

### ● CT-6TP, CT-6ETP Top adjustment

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



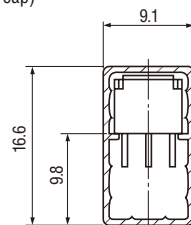
### <Magazine packaging specifications>

- 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.

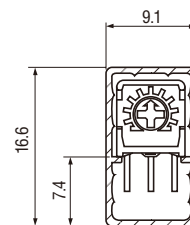


Plastic magazine type

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



CT-6MP, EMP



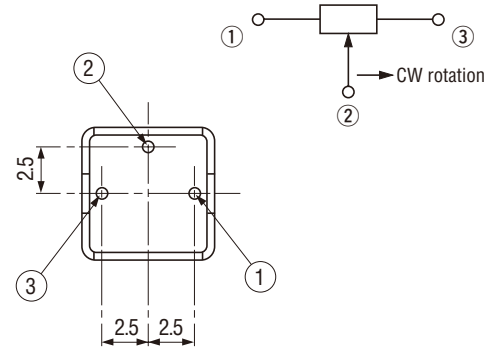
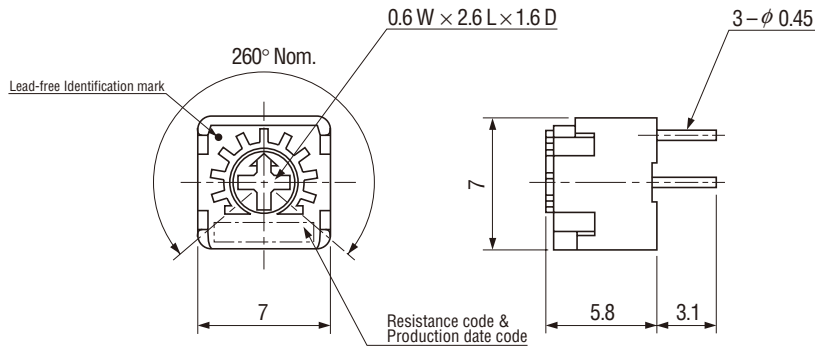
CT-6MS, EMS



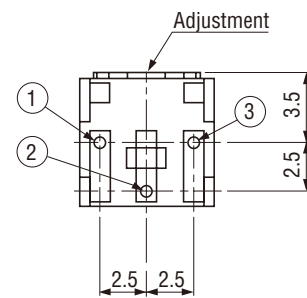
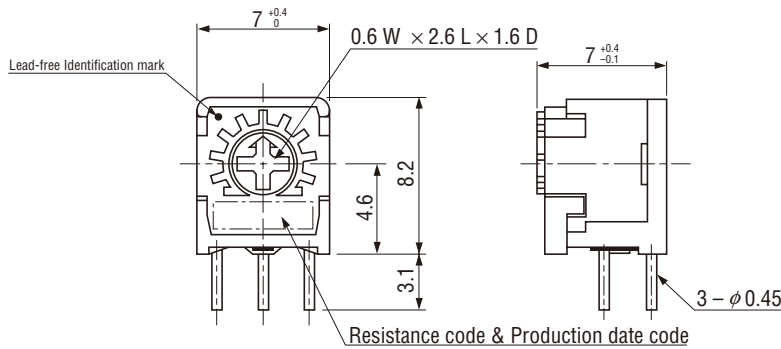
# CT-6 CERMET TRIMMERS

## ● CT-6MP, CT-6EMP Top adjustment

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



## ● CT-6MS, CT-6EMS Side adjustment



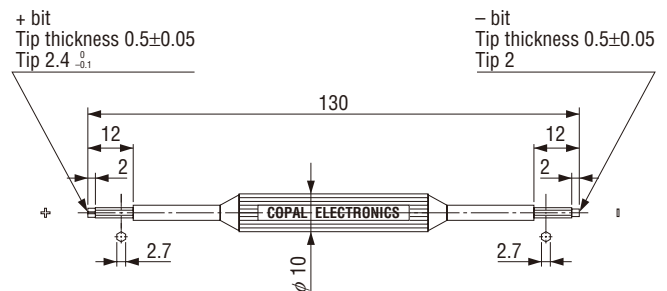
### <Vinyl bag packaging specifications>

- 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.