

18 TURNS CERMET TRIMMERS

CT-94



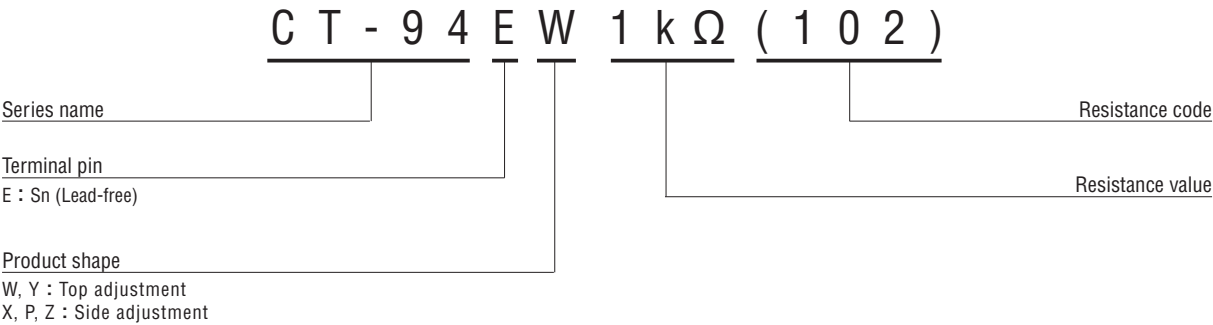
FEATURES

- RoHS compliant
- Thin body design (4.8 mm thick)
- 18 turns, sealed, precision type

INTERNAL STRUCTURE

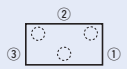
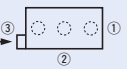
	Part name	Material	Flammability
①	Housing	Polybutyleneterephthalate	UL94V-0
②	Base element	Ceramic	—
③	Wiper	Multi metal alloy	
④	Resistive element	RuO ₂ cermet	
⑤	Electrode	Ag-Pd cermet	
⑥	Adhesive	Epoxy	UL94V-0
⑦	Terminal pin	Copper, Tin-plated	—
⑧	Rotor gear	Polyamide	UL94HB
⑨	Rubber cushion	Silicone rubber	—
!0	Shaft	Brass, Nickel-plated	

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	Pieces in package
		Plastic bag	
Top adjustment 		CT-94EW	50 pcs./pack
		CT-94EY	
Side adjustment (↑ Adjustment direction)		CT-94EX	
		CP-94EP	
		CT-94EZ	

ELECTRICAL CHARACTERISTICS

Nominal resistance range	10 Ω ~ 2 M Ω
Resistance tolerance	± 10 %
Power ratings	0.5 W (70 °C) 0 W (125 °C)
Resistance law	(B) 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 M Ω : ± 100 10 ⁻⁶ /°C maximum
Insulation resistance	1000 M Ω 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 k Ω	2 k Ω	5 k Ω
10 k Ω	20 k Ω	25 k Ω	50 k Ω	100 k Ω	200 k Ω	250 k Ω	500 k Ω	1 M Ω
								2 M Ω

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 [Δ R/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	[Δ R/R ≤ 1 %] [S.S. ≤ 1 %]
Humidity	— 10 ~ 65 °C (80 ~ 98 %), 10 cycles, 240 h	[Δ R/R ≤ 2 %]
Shock	981 m/s ² , 6 ms 6 directions for 3 times each	[Δ R/R ≤ 1 %] [S.S. ≤ 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	[Δ R/R ≤ 3 %] [S.S. ≤ 1 %]
Low temp. operation	— 55 °C, 2 h	[Δ R/R ≤ 2 %] [S.S. ≤ 2 %]
High temp. exposure	125 °C, 250 h	[Δ R/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	[Δ R/R ≤ 1 %]

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

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■ MAXIMUM INPUT RATINGS

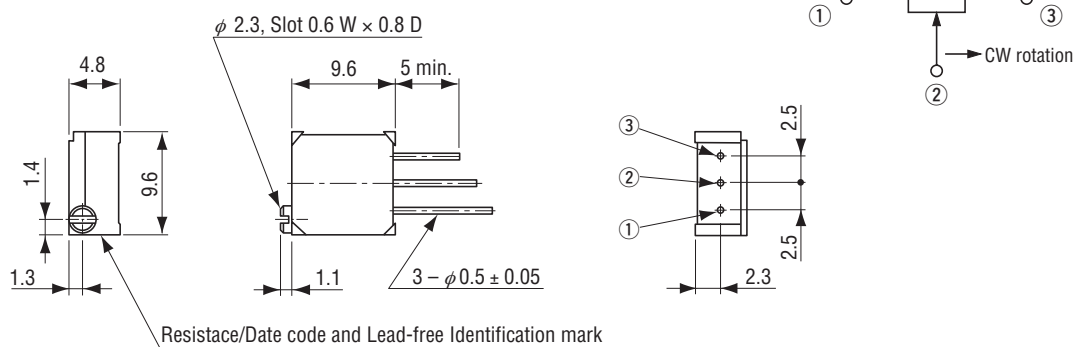
Nominal resistance values (Ω)		Resistance code	Maximum input voltage (V)	Maximum wiper current (mA)
→ → 50 100 200 500	10	100	1.00	100
	20	200	2.00	100
	50	500	5.00	100
	100	101	7.07	70.7
	200	201	10.0	50.0
	500	501	15.8	31.6
→ 1 k 2 k 5 k 10 k 20 k 25 k 50 k	102	22.4	22.4	
	202	31.6	15.8	
	502	50.0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

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

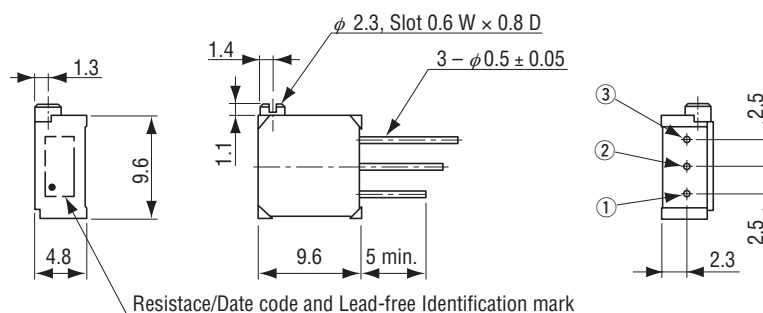
■ OUTLINE DIMENSIONS

- **CT-94EW**
Top adjustment

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

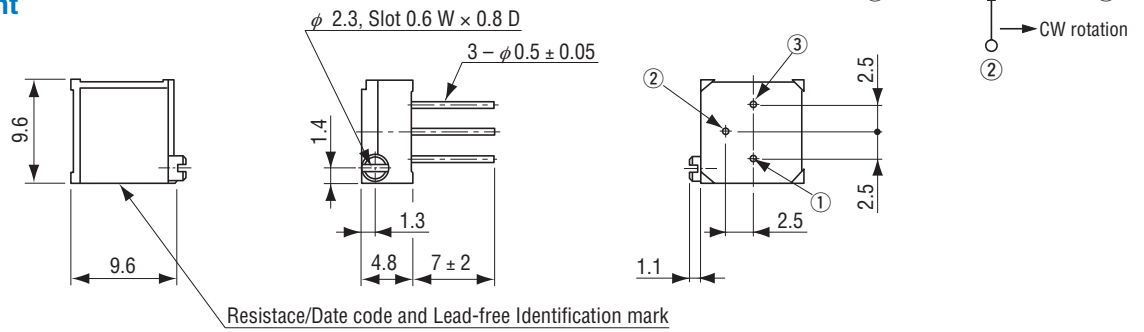


- **CT-94EX**
Side adjustment

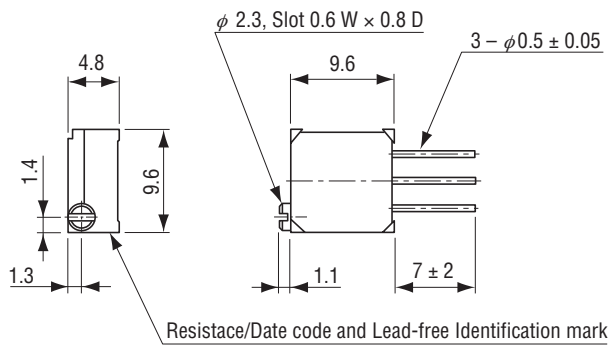


OUTLINE DIMENSIONS

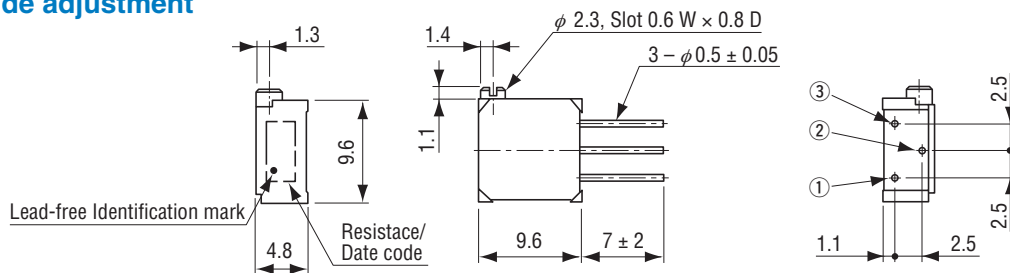
CT-94EP Side adjustment



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.

Mouser Electronics

Authorized Distributor

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[CT-94EW104](#) [CT-94EW504](#) [CT-94EW101](#) [CT-94EX104](#) [CT-94EW503](#) [CT-94EY102](#) [CT-94EY103](#) [CT-94EY104](#)
[CT-94EP100](#) [CT-94EP101](#) [CT-94EP102](#) [CT-94EP103](#) [CT-94EZ504](#) [CT-94EZ205](#) [CT-94EZ253](#) [CT-94EZ500](#) [CT-](#)
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