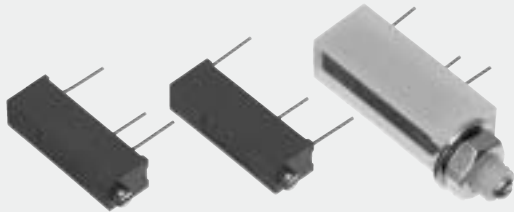


15 TURNS CERMET TRIMMERS

CT-20

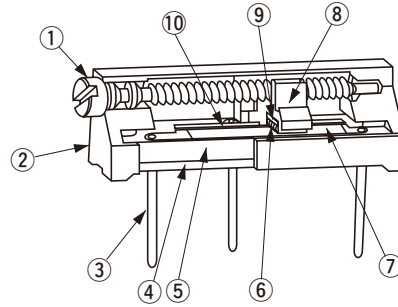
RoHS compatible



FEATURES

- Lead-free soldering, Cadmium-free
- General use type
- Wide resistance range from 10 Ω to 5 MΩ

INTERNAL STRUCTURE



Part name		Material	Flammability
①	Shaft	Brass, Nickel-plated	—
②	Housing	PBT (Polybutyleneterephthalate)	UL-94V-0
③	Terminal pin	Sn-Pb Copper, Solder-plated	—
		Sn Copper, Tin-plated	
④	Adhesive	Epoxy	UL-94V-0
⑤	Base element	Ceramic	—
⑥	Wiper	Multi metal alloy	
⑦	Resistive element	RuO ₂ cermet	
⑧	Slider block	PBT (Polybutyleneterephthalate)	UL-94HB
⑨	Rubber cushion	Silicone rubber	—
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

CT - 20 □ P 200 k Ω (204)

Series name

Terminal pin

Blank : Sn-Pb

E : Sn (Lead-free)

Product shape

P : Side adjustment

X : Side adjustment

PB : Panel mount

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
		Vinyl bag		
		Sn-Pb	Sn (Lead-free)	
Side adjustment (↑ Adjustment direction)		CT-20P	CT-20EP	50 pcs./pack
		CT-20X	CT-20EX	
		CT-20PB	CT-20EPB	25 pcs./pack

■ ELECTRICAL CHARACTERISTICS

Nominal resistance range	10 Ω ~ 5 MΩ
Resistance tolerance	± 10 %
Power ratings	0.5 W (70 °C) 0 W (120 °C)
Resistance law	Linear law (B)
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	12 turns
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, 5 MΩ : ± 250 10 ⁻⁶ /°C maximum 50 Ω ~ 2 MΩ : ± 100 10 ⁻⁶ /°C maximum
Insulation resistance	1000 MΩ minimum (DC500 V)
Dielectric strength	AC600 V, 60 s
Net weight	Approx. 1.08 g (CT-20P, X, EP, EX) Approx. 3.7 g (CT-20PB, EPB)

<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	50 kΩ	100 kΩ	200 kΩ	500 kΩ	1 MΩ	2 MΩ	⤵ 5 MΩ

Fig. 1

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.

■ MECHANICAL CHARACTERISTICS

Mechanical turn	15 turns
Operating torque	35 mN·m {357 gf·cm} maximum
Mechanical stop	Clutch action
Rotational life	200 cycles 10 Ω ~ 200 Ω [Δ R/R ≤ ± (0.5 Ω + 3 %)] 500 Ω ~ 5 MΩ [Δ R/R ≤ ± (0.5 Ω + 2 %)]
Terminal strength	9 N {917 gf} 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	[Δ R/R ≤ 1 %] [S.S. ≤ 1 %]
Humidity	-10 ~ 65 °C (Relative humidity 80 ~ 98 %), 10 cycles, 240 h	[Δ R/R ≤ 1 %]
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 ≤ 2 %] [S.S. ≤ 1 %]
Low temp. operation	-55 °C, 2 h	[Δ R/R ≤ 1 %] [S.S. ≤ 2 %]
High temp. exposure	120 °C, 250 h	[Δ R/R ≤ 2 %] [S.S. ≤ 2 %]
Immersion seal	85 °C, 60 s	No leaks (No continuous bubbles)
Soldering heat	Sn-Pb 350 °C, 3 s Sn Flow soldering : 260 ± 3 °C, 5 ~ 6 s, two times maximum Manual soldering : 380 ± 10 °C, 3 ~ 4 s	[Δ R/R ≤ 1 %]

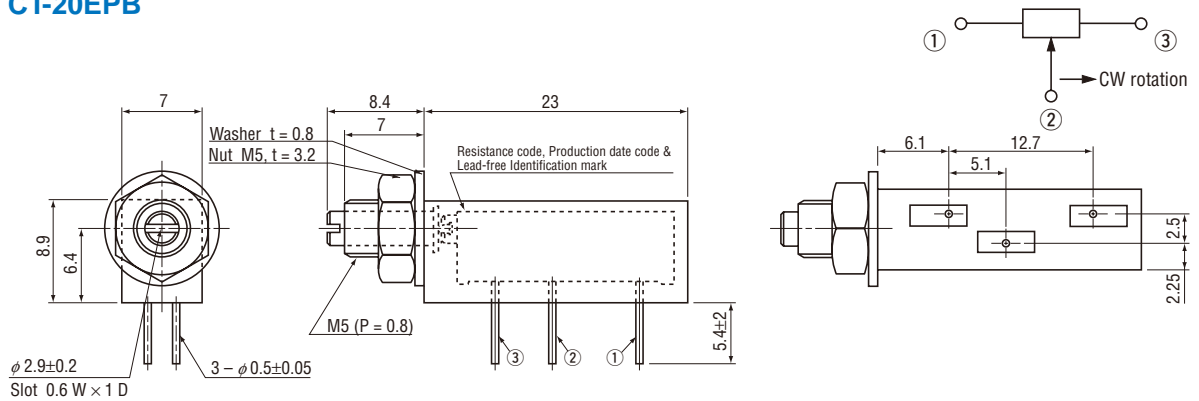
Δ R/R : Change in total resistance
S.S. : Setting stability

CT-20
CERMET TRIMMERS

OUTLINE DIMENSIONS

● CT-20PB, CT-20EPB

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



PACKAGING SPECIFICATIONS

<Vinyl bag packaging specifications>

- Unit of bulk in vinyl bag packaging is 50 pcs. (CT-20PB, CT-20EPB is 25 pcs.) per pack.
- Boxing of bulk in vinyl bags is performed with 100 pcs. (CT-20PB, CT-20EPB is 50 pcs.) per box.