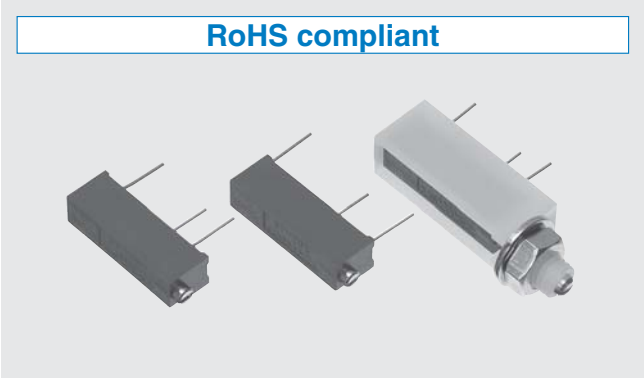


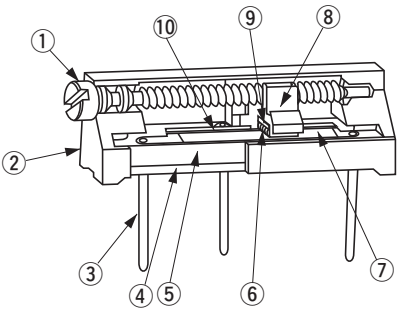
15 TURNS CERMET TRIMMERS

CT-20



FEATURES

- RoHS compliant
- General use type
- Wide resistance range from 10 Ω to 5 M Ω

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

PART NUMBER DESIGNATION

CT - 20EP 200kΩ (204)

Series name

Terminal pin

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
		Plastic bag	
Side adjustment (↑ Adjustment direction)		CT-20EP	50 pcs./pack
		CT-20EX	
		CT-20EPB	25 pcs./pack

ELECTRICAL CHARACTERISTICS

Nominal resistance range	10 Ω ~ 5 M Ω
Resistance tolerance	± 10 %
Power ratings	0.5 W (70 °C) 0 W (120 °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	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 M 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	AC600 V, 60 s
Net weight	Approx. 1.08 g (CT-20EP, EX) Approx. 3.7 g (CT-20EPB)

<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	50 k Ω	100 k Ω	200 k Ω	500 k Ω	1 M Ω	2 M Ω	5 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	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 M Ω [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	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 ≤ 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	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

CT-20

CERMET TRIMMERS

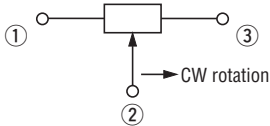
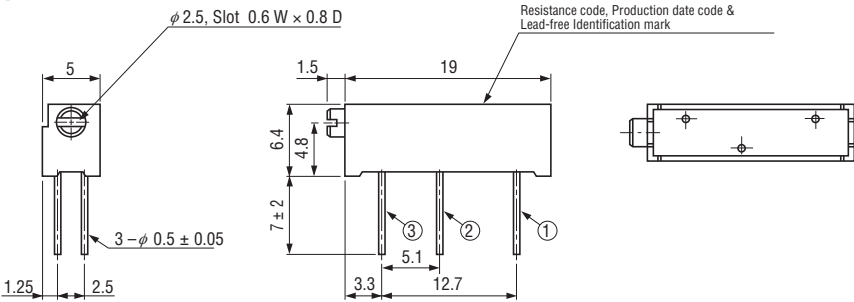
MAXIMUM INPUT RATINGS

Nominal resistance values (Ω)	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 5 M	104 204 504 105 205 505	224 300 300 300 300 300	2.24 1.50 0.60 0.30 0.15 0.06

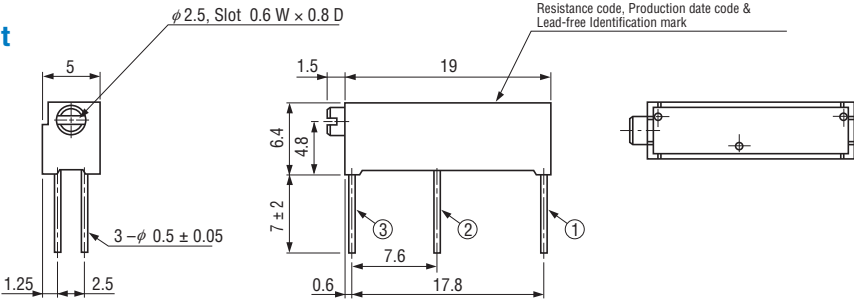
The products indicated by ➡ mark are manufactured upon receipt of order basis.

OUTLINE DIMENSIONS

CT-20EP Side adjustment

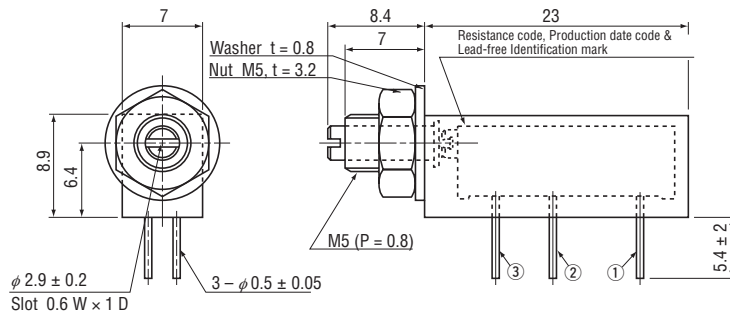


CT-20EX Side adjustment

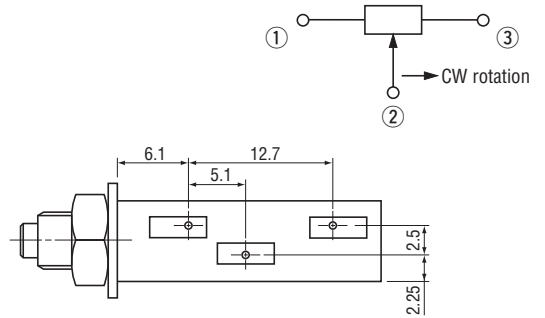


OUTLINE DIMENSIONS

CT-20EPB



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



PACKAGING SPECIFICATIONS

<Bulk pack specifications>

- Unit of bulk in a plastic bag is 50 pcs. (CT-20EPB is 25 pcs.) per pack.
- Boxing of bulk in a plastic bag is performed with 100 pcs. (CT-20EPB is 50 pcs.) per box.

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Nidec:

[CT-20EP101](#) [CT-20EP102](#) [CT-20EP103](#) [CT-20EX503](#) [CT-20EX504](#) [CT-20EX505](#) [CT-20EX203](#) [CT-20EX204](#) [CT-20EX205](#) [CT-20EX500](#) [CT-20EX501](#) [CT-20EX502](#) [CT-20EX103](#) [CT-20EX104](#) [CT-20EX105](#) [CT-20EX200](#) [CT-20EX201](#) [CT-20EX202](#) [CT-20EPB502](#) [CT-20EPB503](#) [CT-20EX100](#) [CT-20EX101](#) [CT-20EX102](#) [CT-20EP100](#) [CT-20EPB201](#) [CT-20EPB202](#) [CT-20EPB203](#) [CT-20EPB204](#) [CT-20EPB500](#) [CT-20EPB501](#) [CT-20EP504](#) [CT-20EP505](#) [CT-20EPB101](#) [CT-20EPB102](#) [CT-20EPB103](#) [CT-20EPB104](#) [CT-20EP204](#) [CT-20EP205](#) [CT-20EP500](#) [CT-20EP501](#) [CT-20EP502](#) [CT-20EP503](#) [CT-20EP104](#) [CT-20EP105](#) [CT-20EP200](#) [CT-20EP201](#) [CT-20EP202](#) [CT-20EP203](#)