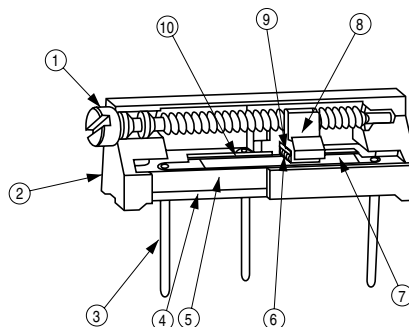




**FEATURES**

- General use type
- Wide resistance range from 10 Ω to 5 MΩ

**INTERNAL STRUCTURE**

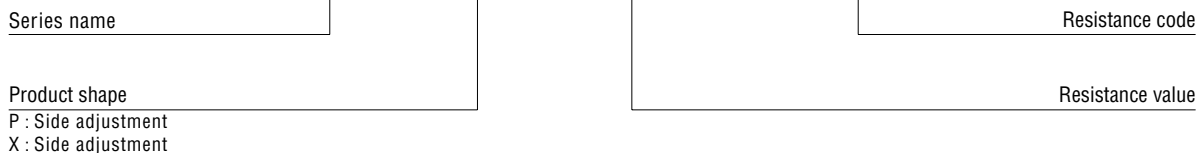


Part name	Material	Flammability
① Shaft	Brass, Nickel-plated	—
② Housing	PBT (Polybutyleneterephthalate)	UL-94V-0
③ Terminal pin	Copper, Solder-plated	—
④ Adhesive	Epoxy	UL-94V-0
⑤ Base element	Ceramic	—
⑥ Wiper	Multi metal alloy	
⑦ Resistive element	RuO <sub>2</sub> cermet	UL-94HB
⑧ Slider block	PBT (Polybutyleneterephthalate)	
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 )**



\* 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
		Bulk packaging	
Side adjustment (↑ Adjustment direction)		CT-20P	50 pcs./pack
		CT-20X	

**<Nominal resistance values>**

↻ 10 Ω	↻ 20 Ω	↻ 25 kΩ	50 kΩ	100 Ω	100 kΩ	200 Ω	200 kΩ	↻ 250 kΩ	500 Ω	500 kΩ	1 kΩ	2 kΩ	5 kΩ
10 kΩ	20 kΩ	↻ 25 kΩ	50 kΩ	100 kΩ	200 kΩ	↻ 250 kΩ	500 kΩ	1 MΩ	2 MΩ	↻ 5 MΩ			

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.

↻ : Semi-standard

**ELECTRICAL CHARACTERISTICS**

Nominal resistance range	10 Ω ~ 5 MΩ
Total resistance tolerance	± 10 %
Power ratings	0.5 W (70 °C) 0 W (125 °C)
Resistance law	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 ~ +125 °C
Temp. coefficient	10 Ω, 20 Ω, 5 MΩ ± 250 ppm/°C maximum 50 Ω ~ 2 MΩ ± 100 ppm/°C maximum
Insulation resistance	1000 MΩ minimum (DC500 V)
Dielectric strength	AC600 V, 60 s
Net weight	Approx. 1.08 g

**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 [ΔR/R ≤ ± (0.5 Ω+3 %)] 500 Ω ~ 5 MΩ [ΔR/R ≤ ± (0.5 Ω+2 %)]
Terminal strength	9 N {917 gf} minimum (Tensile strength)
Thrust to rotor	10 N {1.02 kgf} minimum
Solderability	235 °C, 2 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 %RH), 10 cycles, 240 h	[ΔR/R ≤ 1 %]
Shock	981 m/s <sup>2</sup> , 6 ms 6 directions for 3 times each	[ΔR/R ≤ 1 %] [S.S. ≤ 1 %]
Vibration	Amplitude of 1.52 mm or Acceleration of 196 m/s <sup>2</sup> , 10-2000 Hz, 3 directions, 12 times each	[ΔR/R ≤ 1 %] [S.S. ≤ 1 %]
Load life	70 °C, 0.5 W, 1000 h	[ΔR/R ≤ 2 %] [S.S. ≤ 1 %]
Low temp. operation	-55 °C, 2 h	[ΔR/R ≤ 1 %] [S.S. ≤ 2 %]
High temp. exposure	125 °C, 250 h	[ΔR/R ≤ 2 %] [S.S. ≤ 2 %]
Immersion seal	85 °C, 60 s	No leaks (No continuous bubbles)
Soldering heat	350 °C, 3 s	[ΔR/R ≤ 1 %]

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

# CT-20

## CERMET TRIMMERS

CERMET TRIMMERS

### MAXIMUM INPUT RATINGS

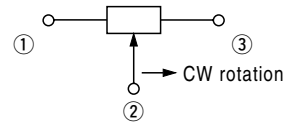
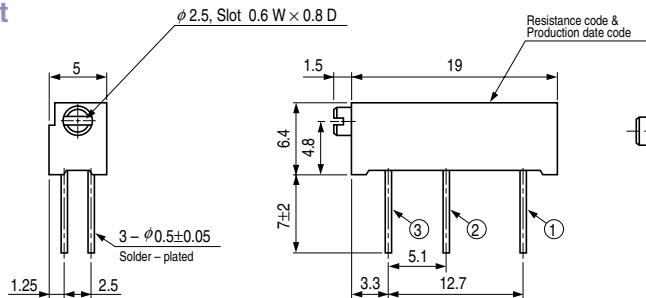
Nominal resistance values (Ω)	Resistance code	Maximum input voltage (V)	Maximum wiper current (mA)
<ul style="list-style-type: none"> <li>⊕ 10</li> <li>⊕ 20</li> <li>⊕ 50</li> <li>100</li> <li>200</li> <li>500</li> </ul>	<ul style="list-style-type: none"> <li>100</li> <li>200</li> <li>500</li> <li>101</li> <li>201</li> <li>501</li> </ul>	<ul style="list-style-type: none"> <li>1.00</li> <li>2.00</li> <li>5.00</li> <li>7.07</li> <li>10.0</li> <li>15.8</li> </ul>	<ul style="list-style-type: none"> <li>100</li> <li>100</li> <li>100</li> <li>70.7</li> <li>50.0</li> <li>31.6</li> </ul>
<ul style="list-style-type: none"> <li>1 k</li> <li>2 k</li> <li>5 k</li> <li>10 k</li> <li>⊕ 20 k</li> <li>⊕ 25 k</li> <li>50 k</li> </ul>	<ul style="list-style-type: none"> <li>102</li> <li>202</li> <li>502</li> <li>103</li> <li>203</li> <li>253</li> <li>503</li> </ul>	<ul style="list-style-type: none"> <li>22.4</li> <li>31.6</li> <li>50.0</li> <li>70.7</li> <li>100</li> <li>112</li> <li>158</li> </ul>	<ul style="list-style-type: none"> <li>22.4</li> <li>15.8</li> <li>10.0</li> <li>7.07</li> <li>5.00</li> <li>4.48</li> <li>3.16</li> </ul>
<ul style="list-style-type: none"> <li>⊕ 100 k</li> <li>⊕ 200 k</li> <li>⊕ 250 k</li> <li>500 k</li> <li>1 M</li> <li>2 M</li> <li>⊕ 5 M</li> </ul>	<ul style="list-style-type: none"> <li>104</li> <li>204</li> <li>254</li> <li>504</li> <li>105</li> <li>205</li> <li>505</li> </ul>	<ul style="list-style-type: none"> <li>224</li> <li>300</li> <li>300</li> <li>300</li> <li>300</li> <li>300</li> <li>300</li> </ul>	<ul style="list-style-type: none"> <li>2.24</li> <li>1.50</li> <li>1.20</li> <li>0.60</li> <li>0.30</li> <li>0.15</li> <li>0.06</li> </ul>

⊕ : Semi-standard

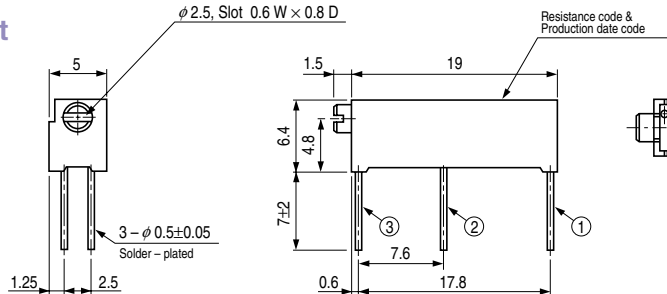
### OUTLINE DIMENSIONS

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

#### CT-20P Side adjustment



#### CT-20X Side adjustment



### PACKAGING SPECIFICATIONS

#### <Bulk packaging specifications>

- Unit of bulk in vinyl bag packaging is 50 pcs. per pack.
- Boxing of bulk in vinyl bags is performed with 100 pcs. per box.