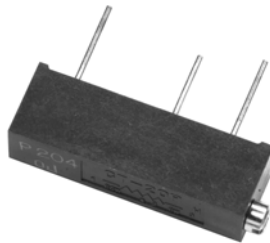


# Cermet Trimmers, 15 Turns

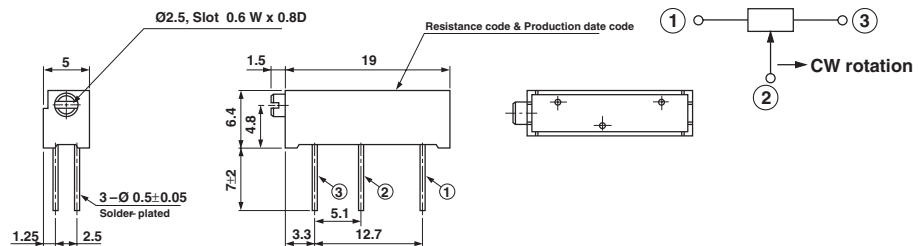
## FEATURES

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

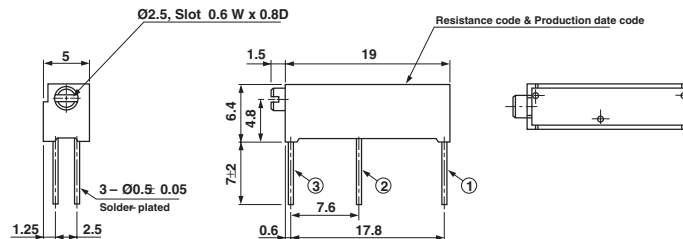


## DIMENSIONS in millimeters

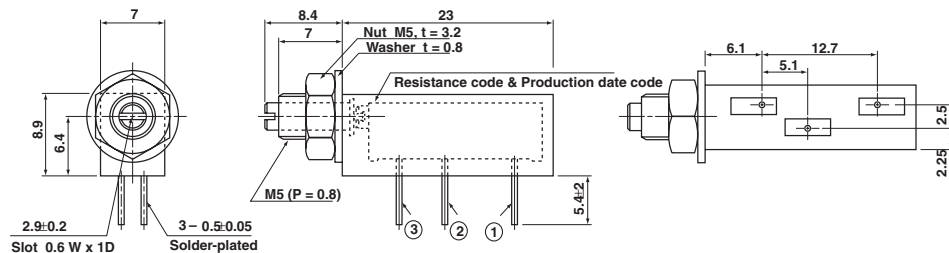
### CT-20P Side Adjustment



### CT-20X Side Adjustment



### CT-20PB



Unless otherwise specified, tolerance: ± 0.3

ELECTRICAL SPECIFICATIONS	
Nominal Resistance Range	10Ω ~ 5MΩ
Nominal 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 Temperature Range	- 55 ~ + 120 °C
Temperature Coefficient	10 Ω, 20 Ω, 5 MΩ: ± 250 10 <sup>-6</sup> /°C maximum 50 Ω ~ 2 MΩ: ± 100 10 <sup>-6</sup> /°C maximum
Insulation Resistance	1000 MΩ minimum (DC500 V)
Dielectric Strength	AC600 V, 60 s
Net Weight	Approx. 1.08 g (CT-20P, X) Approx. 3.7 g (CT-20PB)

**MECHANICAL SPECIFICATIONS**

<b>Mechanical Turn</b>	15 turns
<b>Operating Torque</b>	35 mN·m {357 gf·cm} maximum
<b>Mechanical Stop</b>	Clutch action
<b>Rotational Life</b>	200 cycles 10Ω ~ 200Ω [ΔR/R ≤ ± (0.5 Ω + 3 %)] 500 Ω ~ 5 MΩ [ΔR/R ≤ ± (0.5 Ω + 2 %)]
<b>Terminal Strength</b>	9 N {917 gf} minimum (Tensile strength)
<b>Thrust To Rotor</b>	10 N {1.02 kgf} minimum
<b>Solderability</b>	235 °C, 2 s

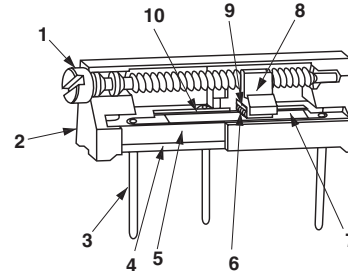
STANDARD RESISTANCE TABLE			
NOMINAL RESISTANCE VALUES (Ω)	RESISTANCE CODE	MAXIMUM INPUT VOLTAGE (V)	MAXIMUM WIPER CURRENT (mA)
10*	100	1.00	100
20*	200	2.00	100
50	500	5.00	100
100	101	7.07	70.7
200	201	10.0	50.0
500	501	15.8	31.6
1 k	102	22.4	22.4
2 k	202	31.6	15.8
5 k	502	50.0	10.0
10 k	103	70.7	7.07
20 k	203	100	5.00
50 k	503	158	3.16
100 k	104	224	2.24
200 k	204	300	1.50
500 k	504	300	0.60
1 M	105	300	0.30
2 M	205	300	0.15
5 M*	505	300	0.06

\*Manufactured upon receipt of order basis.

**ENVIRONMENTAL SPECIFICATIONS**

<b>Thermal Shock</b>	-65 ~ 125 °C (0.5 h), 5 cycles	[ΔR/R ≤ 1 %] [S.S. ≤ 1 %]
<b>Humidity</b>	-10 ~ 65 °C (Relative humidity 80 ~ 98 %), 10 cycles, 240 h	[ΔR/R ≤ 1 %]
<b>Shock</b>	981 m/s <sup>2</sup> , 6 ms 6 directions for 3 times each	
<b>Vibration</b>	Amplitude 1.52 mm or Acceleration 196 m/s <sup>2</sup> , 10 ~ 2000Hz, 3 directions, 12 times each	[ΔR/R ≤ 1 %] [S.S. ≤ 1 %]
<b>Load Life</b>	70 °C, 0.5 W, 1000 h	[ΔR/R ≤ 2 %] [S.S. ≤ 1 %]
<b>Low Temperature Operation</b>	-55 °C, 2 h	[ΔR/R ≤ 1 %] [S.S. ≤ 2 %]
<b>High Temperature Exposure</b>	120 °C, 250 h	[ΔR/R ≤ 2 %] [S.S. ≤ 2 %]
<b>Immersion Seal</b>	85 °C, 60 s	No leaks (No continuous bubbles)
<b>Soldering Heat</b>	350 °C, 3 s	[ΔR/R ≤ 1 %]

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



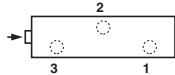
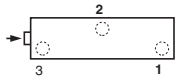
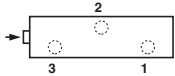
CONSTRUCTION			
PART NAME	MATERIAL	FLAMMABILITY	
1	Shaft	Brass, Nickel-plated	-
2	Housing	Polybutyleneterephthalate	UL-94V-0
3	Terminal pin	Copper, Solder-plated	-
4	Adhesive	Epoxy	UL-94V-0
5	Base element	Ceramic	-
6	Wiper	Multi metal alloy	-
7	Resistive element	RuO <sub>2</sub> cermet	
8	Slider block	Polybutyleneterephthalate	UL-94HB
9	Rubber cushion	Silicone rubber	-
10	Electrode	Ag-Pd cermet	-

CFCs, Halon, Carbon tetrachloride and designated bromic flame retardant PBBs and PBBs are not used in our products.

**PACKAGING SPECIFICATIONS**

**Vinyl bag packaging specifications**

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

<b>LIST OF PART NUMBERS</b>			
ADJUSTMENT POSITION	SHAPE OF TERMINAL (TOP VIEW)	FORM OF PACKAGING	PIECES IN PACKAGE
		VINYL BAG	
Side adjustment (Adjustment direction)		CT-20P	50 pcs./pack
		CT-20X	
		CT-20PB	25 pcs./pack

<b>NOMINAL RESISTANCE VALUES</b>								
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*

- The above part numbers are all available with the respective combination of <Nominal resistance values>.
  - Verify the above part numbers when placing orders.
- \*Manufactured upon receipt of order basis.

<b>ORDERING INFORMATION</b>			
<b>CT20</b> SERIES	<b>TERMINAL PIN</b> Blank: Sn-Pb E: Sn (Lead-free)	<b>P</b> PRODUCT SHAPE P: Side adjustment X: Side adjustment PB: Panel mount	<b>204</b> RESISTANCE CODE

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