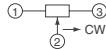


COPAL ELECTRONICS

Cermet Potentiometers

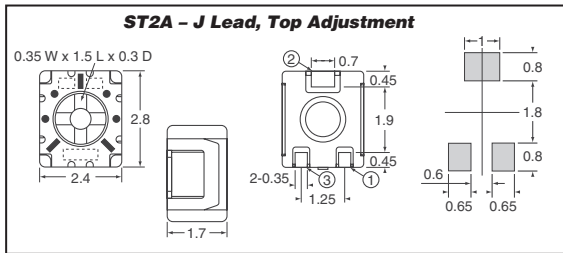


Model ST2 Surface Mount, 2mm Squared Single-Turn



FEATURES: • Lead-free soldering • Cadmium-free • Compact and low-profile • Sealed Construction (Washable) **ELECTRICAL:** Resistance Tolerance: ±20% Temperature Coefficient: ±150 ppm/°C Power Ratings: 0.1W at 70°C; 0W at 125°C **Input Voltage Maximum:** 50VDC or power rating, whichever is less **Wiper Current Maximum:** Power Ratings (I_w, P/R A) **Effective Electrical Turn:** 240° (1 turn) **End Resistance:** 1% or 2Ω, whichever is greater **Contact Resistance Variation:** 2% or 3Ω, whichever is greater

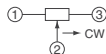
Operating Temperature Range: -55°C - 125°C **Minimum Insulation Resistance:** 1000MΩ at 500VDC **Dielectric Strength:** 500VAC, 1 minute **MECHANICAL:** Mechanical Angle: 270° (1 turn) **Maximum Operating Torque:** 5mN.m (51 gf.cm) **Minimum Stop Strength:** 8mN.m (78.4 gf.cm) **Rotational Life:** 50 cycles (Δ R/R ≤ (2 Ω + 5%)) **Solderability:** 245 ±3°C, 2-3 seconds



Res. (Ω)	Digi-Key Part No.	Cut Tape Price Each			Digi-Key Part No.	T&R Pricing
		1	10	100		
100	ST2TA101CT-ND	3.02	2.81	2.54	ST2TA101TR-ND	1080.00
200	ST2TA201CT-ND	3.02	2.81	2.54	ST2TA201TR-ND	1080.00
500	ST2TA501CT-ND	3.02	2.81	2.54	ST2TA501TR-ND	1080.00
1K	ST2TA102CT-ND	3.02	2.81	2.54	ST2TA102TR-ND	1080.00
2K	ST2TA202CT-ND	3.30	3.07	2.77	—	—
5K	ST2TA502CT-ND	3.30	3.07	2.77	—	—
10K	ST2TA103CT-ND	3.02	2.81	2.54	ST2TA103TR-ND	1080.00
20K	ST2TA203CT-ND	3.30	3.07	2.77	—	—
50K	ST2TA503CT-ND	3.02	2.81	2.54	ST2TA503TR-ND	1080.00
100K	ST2TA104CT-ND	3.02	2.81	2.54	ST2TA104TR-ND	1080.00
200K	ST2TA204CT-ND	3.30	3.07	2.77	—	—
500K	ST2TA504CT-ND	3.30	3.07	2.77	—	—
1 Meg	ST2TA105CT-ND	3.30	3.07	2.77	—	—

Units Marked with Resistance Code and 2-Digit Date Code.

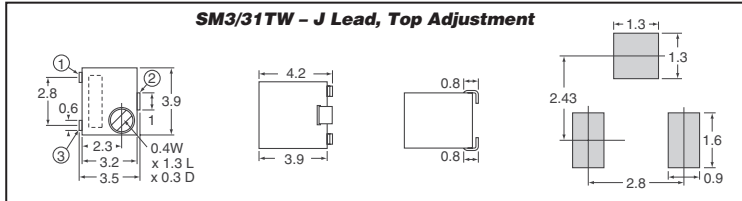
Model SM3/31 Surface Mount, 3mm Squared Multi-Turn



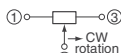
FEATURES: • Lead-free soldering • Fine adjustment • Automatic mounting • Flow/reflow soldering • Sealed construction (Washable) **ELECTRICAL:** Resistance Tolerance: ±20% Maximum Temperature Coefficient: ±100 ppm/°C Power Ratings: 0.125W at 70°C; 0W at 150°C **Input Voltage Maximum:** 200VDC or power rating, whichever is less **Wiper Current Maximum:** 100mA or power rating, whichever is less **Effective Electrical Turn:** 11 turns (SM3); 5 turns (SM31) **End Resistance:** 1% or 3Ω, whichever is greater **Contact Resistance Variation:** 3% or 3Ω, whichever is greater **Operating Temperature Range:** -65°C - 150°C **Minimum Insulation Resistance:** 100MΩ at 500VDC **Dielectric Strength:** 600VAC, 1 minute **MECHANICAL:** Maximum Operating Torque: 5mN.m (51gf.cm) **Mechanical Stop:** Clutch action **Rotational Life:** 200 cycles (Δ R/R ≤ (2Ω + 3%)) **Minimum Thrust to Shaft:** 5N (0.51kgf) **Solderability:** 245 ±3°C, 2-3 seconds

Res. (Ω)	Digi-Key Part No.	Cut Tape Price Each			Digi-Key Part No.	T&R Pricing
		1	10	100		
100	SM-3TW101CT-ND	2.90	2.70	2.44	SM-3TW101TR-ND	1037.00
200	SM-3TW201CT-ND†	2.90	2.70	2.44	SM-3TW201TR-ND†	1037.00
500	SM-3TW501CT-ND	2.90	2.70	2.44	SM-3TW501TR-ND	1037.00
1K	SM-3TW102CT-ND	2.90	2.70	2.44	SM-3TW102TR-ND	1037.00
2K	SM-3TW202CT-ND	2.90	2.70	2.44	SM-3TW202TR-ND	1037.00
5K	SM-3TW502CT-ND	2.90	2.70	2.44	SM-3TW502TR-ND	1037.00
10K	SM-3TW103CT-ND	2.90	2.70	2.44	SM-3TW103TR-ND	1037.00
20K	SM-3TW203CT-ND	2.90	2.70	2.44	SM-3TW203TR-ND	1037.00
50K	SM-3TW503CT-ND	2.90	2.70	2.44	SM-3TW503TR-ND	1037.00
100K	SM-3TW104CT-ND	2.90	2.70	2.44	SM-3TW104TR-ND	1037.00
100	SM-31TW101CT-ND†	2.62	2.43	2.20	SM-31TW101TR-ND†	934.00
200	SM-31TW201CT-ND†	2.62	2.43	2.20	SM-31TW201TR-ND†	934.00
500	SM-31TW501CT-ND†	2.62	2.43	2.20	SM-31TW501TR-ND†	934.00
1K	SM-31TW102CT-ND†	2.62	2.43	2.20	SM-31TW102TR-ND†	934.00
2K	SM-31TW202CT-ND†	2.62	2.43	2.20	SM-31TW202TR-ND†	934.00
5K	SM-31TW502CT-ND†	2.62	2.43	2.20	SM-31TW502TR-ND†	934.00
10K	SM-31TW103CT-ND†	2.62	2.43	2.20	SM-31TW103TR-ND†	934.00
20K	SM-31TW203CT-ND†	2.62	2.43	2.20	SM-31TW203TR-ND†	934.00
50K	SM-31TW503CT-ND†	2.62	2.43	2.20	SM-31TW503TR-ND†	934.00
100K	SM-31TW104CT-ND†	2.62	2.43	2.20	SM-31TW104TR-ND†	934.00

Units Marked with Resistance Code and 2-Digit Date Code. † NEW!

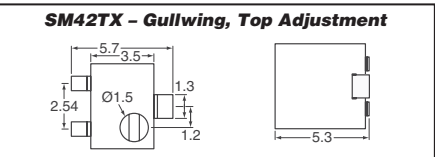
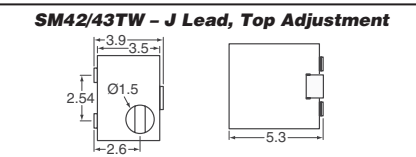
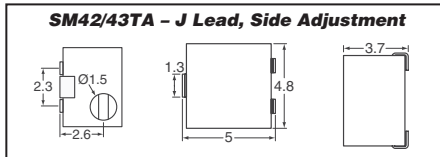


Model SM42/43 Surface Mount, 4mm Squared Multi-Turn



FEATURES: • Lead free soldering • Fine adjustment • Reflow soldering available • Sealed construction (washable) **ELECTRICAL:** • Resistance Tolerance: ±10% • Maximum Temperature Coefficient: ±100 ppm/10°C Maximum • Power Ratings: .25W@85°C, 0W @150°C • Maximum Input Voltage: 300VDC or power rating, whichever is less • Maximum Wiper Current: 100mA or power rating, whichever is smaller • Effective

Electrical Turn: 11 turns (SM42); 5 turns (SM43) • **End Resistance:** 1% or 2Ω, whichever is greater • **Contact Resistance Variation:** 1% or 3Ω, whichever is greater • **Operating Temperature Range:** -65°C - 150°C • **Minimum Insulation Resistance:** 100MΩ @ 500VDC • **Dielectric Strength:** 600VAC for 1 minute **MECHANICAL:** • Maximum Operating Torque: 17.6mN per meter (180gf.cm) • **Mechanical Stop:** Clutch action • **Rotational Life:** 200 cycles (Δ R/R ≤ ±3% + 3%)



Res. (Ω)	Digi-Key Part No.	Cut Tape Price Each			Tape & Reel Qty.	Pricing
		1	10	100		
SM42TA - J-Lead, Side Adjustment						
50	SM-42TA500CT-ND	2.87	2.67	2.42	500	1026.00
100	SM-42TA101CT-ND	2.87	2.67	2.42	500	1026.00
200	SM-42TA201CT-ND	2.87	2.67	2.42	500	1026.00
500	SM-42TA501CT-ND	2.87	2.67	2.42	500	1026.00
1K	SM-42TA102CT-ND	2.87	2.67	2.42	500	1026.00
2K	SM-42TA202CT-ND	2.87	2.67	2.42	500	1026.00
5K	SM-42TA502CT-ND	2.87	2.67	2.42	500	1026.00
10K	SM-42TA103CT-ND	2.87	2.67	2.42	500	1026.00
20K	SM-42TA203CT-ND	2.87	2.67	2.42	500	1026.00
50K	SM-42TA503CT-ND	2.87	2.67	2.42	500	1026.00
100K	SM-42TA104CT-ND	2.87	2.67	2.42	500	1026.00
200K	SM-42TA204CT-ND	2.87	2.67	2.42	500	1026.00
500K	SM-42TA504CT-ND	2.87	2.67	2.42	500	1026.00
1 Meg	SM-42TA105CT-ND	2.87	2.67	2.42	500	1026.00
2 Meg	SM-42TA205CT-ND	2.87	2.67	2.42	500	1026.00
NEW! SM-43TA - J-Lead, Side Adjustment NEW!						
100	SM-43TA101CT-ND	2.57	2.39	2.16	500	918.00
200	SM-43TA201CT-ND	2.57	2.39	2.16	500	918.00
500	SM-43TA501CT-ND	2.57	2.39	2.16	500	918.00
1K	SM-43TA102CT-ND	2.57	2.39	2.16	500	918.00
2K	SM-43TA202CT-ND	2.57	2.39	2.16	500	918.00
5K	SM-43TA502CT-ND	2.57	2.39	2.16	500	918.00
10K	SM-43TA103CT-ND	2.57	2.39	2.16	500	918.00
20K	SM-43TA203CT-ND	2.57	2.39	2.16	500	918.00
50K	SM-43TA503CT-ND	2.57	2.39	2.16	500	918.00

Res. (Ω)	Digi-Key Part No.	Cut Tape Price Each			Tape & Reel Qty.	Pricing
		1	10	100		
100K	SM-43TA104CT-ND	2.57	2.39	2.16	500	918.00
200K	SM-43TA204CT-ND	2.57	2.39	2.16	500	918.00
500K	SM-43TA504CT-ND	2.57	2.39	2.16	500	918.00
1 Meg	SM-43TA105CT-ND	2.57	2.39	2.16	500	918.00
SM-42TW - J-Lead, Top Adjustment						
50	SM-42TW500CT-ND	2.87	2.67	2.42	250	513.00
100	SM-42TW101CT-ND	2.87	2.67	2.42	250	513.00
200	SM-42TW201CT-ND	2.87	2.67	2.42	250	513.00
500	SM-42TW501CT-ND	2.87	2.67	2.42	250	513.00
1K	SM-42TW102CT-ND	2.87	2.67	2.42	250	513.00
2K	SM-42TW202CT-ND	2.87	2.67	2.42	250	513.00
5K	SM-42TW502CT-ND	2.87	2.67	2.42	250	513.00
10K	SM-42TW103CT-ND	2.87	2.67	2.42	250	513.00
20K	SM-42TW203CT-ND	2.87	2.67	2.42	250	513.00
50K	SM-42TW503CT-ND	2.87	2.67	2.42	250	513.00
100K	SM-42TW104CT-ND	2.87	2.67	2.42	250	513.00
200K	SM-42TW204CT-ND	2.87	2.67	2.42	250	513.00
500K	SM-42TW504CT-ND	2.87	2.67	2.42	250	513.00
1 Meg	SM-42TW105CT-ND	2.87	2.67	2.42	250	513.00
2 Meg	SM-42TW205CT-ND	2.87	2.67	2.42	250	513.00
NEW! SM-43TW - J-Lead, Top Adjustment NEW!						
100	SM-43TW101CT-ND	2.57	2.39	2.16	250	459.00
200	SM-43TW201CT-ND	2.57	2.39	2.16	250	459.00
500	SM-43TW501CT-ND	2.57	2.39	2.16	250	459.00
1K	SM-43TW102CT-ND	2.57	2.39	2.16	250	459.00
2K	SM-43TW202CT-ND	2.57	2.39	2.16	250	459.00

Res. (Ω)	Digi-Key Part No.	Cut Tape Price Each			Tape & Reel Qty.	Pricing
		1	10	100		
5.0K	SM-42TX502CT-ND	2.57	2.39	2.16	250	459.00
10K	SM-43TW103CT-ND	2.57	2.39	2.16	250	459.00
20K	SM-43TW203CT-ND	2.57	2.39	2.16	250	459.00
50K	SM-43TW503CT-ND	2.57	2.39	2.16	250	459.00
100K	SM-43TW104CT-ND	2.57	2.39	2.16	250	459.00
200K	SM-43TW204CT-ND	2.57	2.39	2.16	250	459.00
500K	SM-43TW504CT-ND	2.57	2.39	2.16	250	459.00
1 Meg	SM-43TW105CT-ND	2.57	2.39	2.16	250	459.00
SM-42TX - Gullwing, Top Adjustment						
50	SM-42TX500CT-ND	2.93	2.73	2.47	250	523.75
100	SM-42TX101CT-ND	2.93	2.73	2.47	250	523.75
200	SM-42TX201CT-ND	2.93	2.73	2.47	250	523.75
500	SM-42TX501CT-ND	2.93	2.73	2.47	250	523.75
1K	SM-42TX102CT-ND	2.93	2.73	2.47	250	523.75
2K	SM-42TX202CT-ND	2.93	2.73	2.47	250	523.75
5K	SM-42TX502CT-ND	2.93	2.73	2.47	250	523.75
10K	SM-42TX103CT-ND	2.93	2.73	2.47	250	523.75
20K	SM-42TX203CT-ND	2.93	2.73	2.47	250	523.75
50K	SM-42TX503CT-ND	2.93	2.73	2.47	250	523.75
100K	SM-42TX104CT-ND	2.93	2.73	2.47	250	523.75
200K	SM-42TX204CT-ND	2.93	2.73	2.47	250	523.75
500K	SM-42TX504CT-ND	2.93	2.73	2.47	250	523.75
1 Meg	SM-42TX105CT-ND	2.93	2.73	2.47	250	523.75
2 Meg	SM-42TX205CT-ND	2.93	2.73	2.47	250	523.75

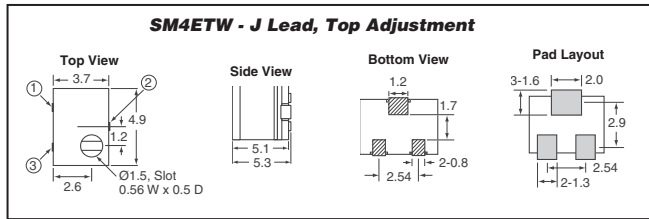
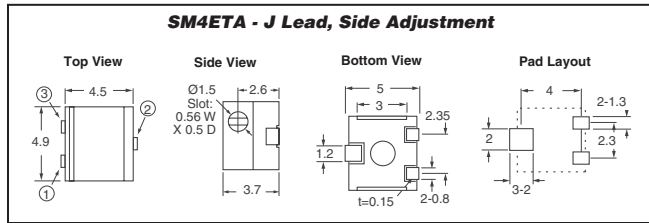
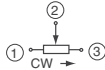
Units Marked with Resistance Code and 2-Digit Date Code. † For Tape and Reel part number, change CT-ND to TR-ND.

(Continued)

Digi-Reel® Most SMT cutdown parts are available on a D



Model SM4
Surface Mount
4mm, 12-Turn, Sealed



FEATURES:

- Lead-free soldering • Cadmium-free • Fine adjustment • Automatic mounting • Flow/reflow soldering • Sealed construction (Washable)

ELECTRICAL:

- Resistance Tolerance: ±10%
- Maximum Temperature Coefficient: ±100 ppm/°C
- Power Ratings: 0.25W at 85°C, 0W at 150°C
- Maximum Input Voltage: 300VDC or power rating, whichever is less
- Maximum Wiper Current: 100mA or power rating, whichever is less
- Effective Electrical Turn: 10 turns
- End Resistance: 1% or 2Ω, whichever is greater
- Contact Resistance Variation: 1% or 3Ω, whichever is greater
- Operating Temperature Range: -65°C - 150°C
- Minimum Insulation Resistance: 1000MΩ at 500VDC Dielectric Strength: 600VAC, 1 minute

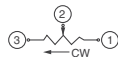
MECHANICAL:

- Mechanical Turn: 12 turns
- Maximum Operating Torque: 20mN.m (204gf.cm)
- Mechanical Stop: Clutch action
- Rotational Life: 200 cycles, (Δ R/R ≤ ± (3Ω +3%))

Resistance (Ω)	Digi-Key Part No.	Price Each		
		1	10	100
100	SM4ETA101CT-ND	2.96	2.76	2.49
200	SM4ETA201CT-ND	2.96	2.76	2.49
200K	SM4ETA204CT-ND	2.96	2.76	2.49
200K	SM4ETW204CT-ND	2.96	2.76	2.49

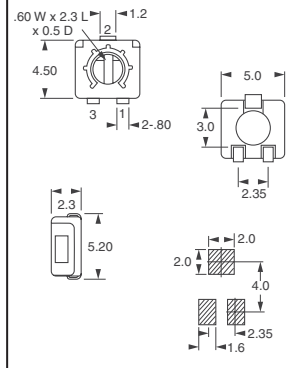
Units Marked with Resistance Code and 2-Digit Date Code.

Model ST4 Surface Mount, 4mm Squared Single-Turn

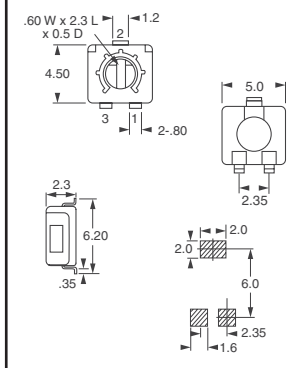


- FEATURES:**
- Lead-free soldering • Cadmium-free • Automatic mounting • Flow/reflow soldering • Sealed construction (Washable) • Stopper structure prevents terminal pin from being open • Cross slot rotor suitable for automatic adjustment
- ELECTRICAL:** Resistance Tolerance: ±20% Maximum Temperature Coefficient: 100Ω - 2MΩ ±100 ppm/°C, other ±250 ppm/°C Power Ratings: 0.25W at 70°C, 0W at 125°C Maximum Input Voltage: 200VDC or power rating, whichever is less Maximum Wiper Current: 100mA or power rating, whichever is less Effective Electrical Angle: 210° (1 turn) End Resistance: 1% or 2Ω, whichever is greater Contact Resistance Variation: 1% or 3Ω, whichever is greater Operating Temperature Range: -55°C - 125°C Minimum Insulation Resistance: 1000MΩ at 500VDC Dielectric Strength: 500VAC, 1 minute MECHANICAL: Mechanical Angle: 240° (1 turn) Maximum Operating Torque: 10mN.m (102gf.cm) Minimum Stop Strength: 30mN.m (306gf.cm) Rotational Life: 100 cycles, (Δ R/R ≤ ± (2Ω +3%))

ST4ETA - J Lead, Top Adjustment



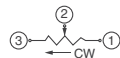
ST4ETB - Gull Wing, Top Adjustment



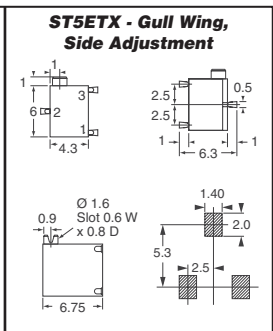
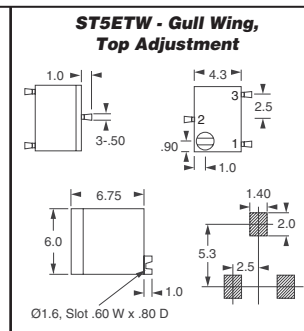
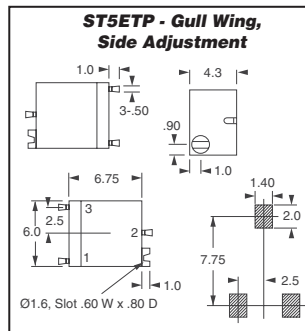
Res. (Ω)	Digi-Key Part No.	Digi-Key Part No.	Cut Tape Price Each			Digi-Key Part No.	Digi-Key Part No.	T&R Pricing 500
			1	10	100			
10	ST4ETA100CT-ND	ST4ETB100CT-ND	1.19	1.11	1.01	ST4ETA100TR-ND	ST4ETB100TR-ND	426.50
50	ST4ETA500CT-ND	ST4ETB500CT-ND	1.15	1.07	.97	ST4ETA500TR-ND	ST4ETB500TR-ND	410.50
100	ST4ETA101CT-ND	ST4ETB101CT-ND	1.15	1.07	.97	ST4ETA101TR-ND	ST4ETB101TR-ND	410.50
200	ST4ETA201CT-ND	ST4ETB201CT-ND	1.15	1.07	.97	ST4ETA201TR-ND	ST4ETB201TR-ND	410.50
500	ST4ETA501CT-ND	ST4ETB501CT-ND	1.15	1.07	.97	ST4ETA501TR-ND	ST4ETB501TR-ND	410.50
1K	ST4ETA102CT-ND	ST4ETB102CT-ND	1.15	1.07	.97	ST4ETA102TR-ND	ST4ETB102TR-ND	410.50
2K	ST4ETA202CT-ND	ST4ETB202CT-ND	1.15	1.07	.97	ST4ETA202TR-ND	ST4ETB202TR-ND	410.50
5K	ST4ETA502CT-ND	ST4ETB502CT-ND	1.15	1.07	.97	ST4ETA502TR-ND	ST4ETB502TR-ND	410.50
10K	ST4ETA103CT-ND	ST4ETB103CT-ND	1.15	1.07	.97	ST4ETA103TR-ND	ST4ETB103TR-ND	410.50
20K	ST4ETA203CT-ND	ST4ETB203CT-ND	1.15	1.07	.97	ST4ETA203TR-ND	ST4ETB203TR-ND	410.50
50K	ST4ETA503CT-ND	ST4ETB503CT-ND	1.15	1.07	.97	ST4ETA503TR-ND	ST4ETB503TR-ND	410.50
100K	ST4ETA104CT-ND	ST4ETB104CT-ND	1.15	1.07	.97	ST4ETA104TR-ND	ST4ETB104TR-ND	410.50
200K	ST4ETA204CT-ND	ST4ETB204CT-ND	1.15	1.07	.97	ST4ETA204TR-ND	ST4ETB204TR-ND	410.50
500K	ST4ETA504CT-ND	ST4ETB504CT-ND	1.15	1.07	.97	ST4ETA504TR-ND	ST4ETB504TR-ND	410.50
1 Meg	ST4ETA105CT-ND	ST4ETB105CT-ND	1.15	1.07	.97	ST4ETA105TR-ND	ST4ETB105TR-ND	410.50
2 Meg	ST4ETA205CT-ND	ST4ETB205CT-ND	1.15	1.07	.97	ST4ETA205TR-ND	ST4ETB205TR-ND	410.50

Units Marked with Resistance Mark and 2 Digit Date Code.

Model ST5
Surface Mount, 6mm Squared Multi-Turn



- FEATURES:**
- Lead-free soldering • Cadmium-free • Precise Adjustment • Automatic mounting • Flow/reflow soldering • Sealed construction (Washable)
- ELECTRICAL:** Resistance Tolerance: ±10% Maximum Temperature Coefficient: 100Ω - 2MΩ ±100 ppm/°C, other ±250 ppm/°C Power Ratings: 0.25W at 85°C, 0W at 120°C Maximum Input Voltage: 200VDC or power rating, whichever is less Maximum Wiper Current: 100mA or power rating, whichever is less Effective Electrical Turn: 11 turns End Resistance: 1% or 3Ω, whichever is greater Contact Resistance Variation: 1% or 3Ω, whichever is greater Operating Temperature Range: -55°C - 120°C Minimum Insulation Resistance: 1000MΩ at 500VDC Dielectric Strength: 600VAC, 1 minute MECHANICAL: Mechanical Turn: 14 turns Maximum Operating Torque: 20mN.m (204gf.cm) Mechanical Stop: Clutch action Rotational Life: 200 cycles, 10Ω - 200Ω (Δ R/R ≤ ± (0.5Ω +3%), 500Ω - 2MΩ (Δ R/R ≤ ± (0.5Ω +2%))



Resistance (Ω)	Digi-Key Part No.	Digi-Key Part No.	Digi-Key Part No.	Cut Tape Price Each			Digi-Key Part No.	Digi-Key Part No.	Digi-Key Part No.	T&R Pricing 500
				1	10	100				
100	ST5ETP101CT-ND	ST5ETW101CT-ND	ST5ETX101CT-ND	3.24	3.01	2.72	ST5ETP101TR-ND	ST5ETW101TR-ND	ST5ETX101TR-ND	1155.50
500	ST5ETP501CT-ND	ST5ETW501CT-ND	ST5ETX501CT-ND	3.24	3.01	2.72	ST5ETP501TR-ND	ST5ETW501TR-ND	ST5ETX501TR-ND	1155.50
1K	ST5ETP102CT-ND	ST5ETW102CT-ND	ST5ETX102CT-ND	3.24	3.01	2.72	ST5ETP102TR-ND	ST5ETW102TR-ND	ST5ETX102TR-ND	1155.50
2K	ST5ETP202CT-ND	ST5ETW202CT-ND	ST5ETX202CT-ND	3.24	3.01	2.72	ST5ETP202TR-ND	ST5ETW202TR-ND	ST5ETX202TR-ND	1155.50
5K	ST5ETP502CT-ND	ST5ETW502CT-ND	ST5ETX502CT-ND	3.24	3.01	2.72	ST5ETP502TR-ND	ST5ETW502TR-ND	ST5ETX502TR-ND	1155.50
10K	ST5ETP103CT-ND	ST5ETW103CT-ND	ST5ETX103CT-ND	3.24	3.01	2.72	ST5ETP103TR-ND	ST5ETW103TR-ND	ST5ETX103TR-ND	1155.50
20K	ST5ETP203CT-ND	ST5ETW203CT-ND	ST5ETX203CT-ND	3.24	3.01	2.72	ST5ETP203TR-ND	ST5ETW203TR-ND	ST5ETX203TR-ND	1155.50
50K	ST5ETP503CT-ND	ST5ETW503CT-ND	ST5ETX503CT-ND	3.24	3.01	2.72	ST5ETP503TR-ND	ST5ETW503TR-ND	ST5ETX503TR-ND	1155.50
100K	ST5ETP104CT-ND	ST5ETW104CT-ND	ST5ETX104CT-ND	3.24	3.01	2.72	ST5ETP104TR-ND	ST5ETW104TR-ND	ST5ETX104TR-ND	1155.50

Units Marked with Resistance Mark and 2 Digit Date Code.

(Continued)

Digi-Reel® Most SMT cutdown parts are available on a Digi-Reel®. For Digi-Reel part number, change 1-ND to 6-ND or CT-ND to DKR-ND. See Digi-Key® Services on page 2 for additional information.

More Product Available Online: www.digikey.com

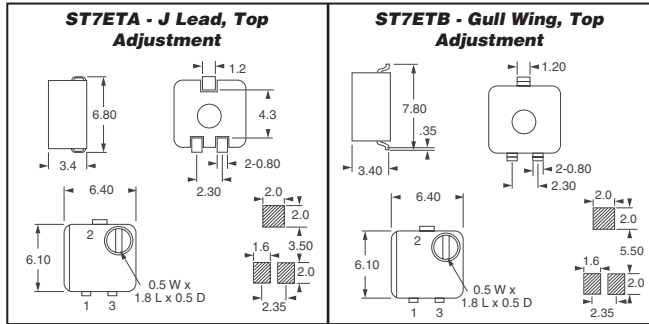
COPAL ELECTRONICS Cermet Potentiometers (Cont.)



Model ST7 Surface Mount, 7mm Squared Multi-Turn



FEATURES: • Lead-free soldering • Cadmium-free • Fine adjustment • Automatic mounting • Flow/reflow soldering • Sealed construction (Washable)



ELECTRICAL: Resistance Tolerance: $\pm 20\%$ Maximum Temperature Coefficient: $100\Omega - 1M\Omega \pm 100$ ppm/ $^{\circ}C$, other ± 250 ppm/ $^{\circ}C$ Power Ratings: 0.25W at $70^{\circ}C$, 0W at $125^{\circ}C$ Maximum Input Voltage: 200VDC or power rating, whichever is less Maximum Wiper Current: 100mA or power rating, whichever is less Effective Electrical Turn: 2.5 turns End Resistance: 1% or 2Ω , whichever is greater Contact Resistance Variation: 1% or 3Ω , whichever is greater Operating Temperature Range: $-55^{\circ}C - 125^{\circ}C$ Minimum Insulation Resistance: 1000M Ω at 500VDC Dielectric Strength: 600VAC, 1 minute

MECHANICAL: Mechanical Turn: 3 turns Maximum Operating Torque: 5mN.m (51gf.cm) Mechanical Stop: Clutch action Rotational Life: 100 cycles, ($\Delta R/R \leq \pm (2\% + 3\%)$)

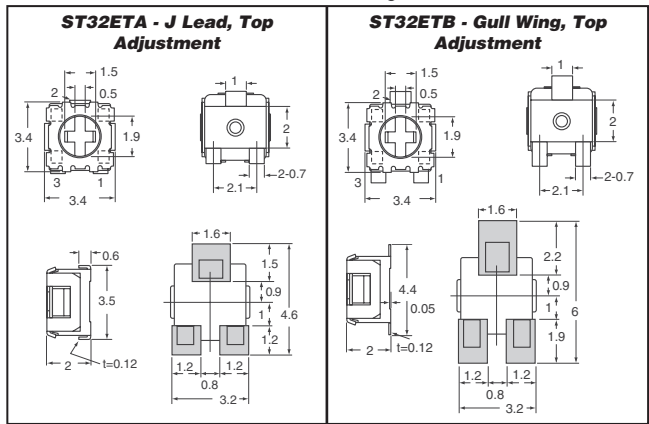
Res. (Ω)	Digi-Key Part No.	Digi-Key Part No.	Cut Tape Price Each			Digi-Key Part No.	Digi-Key Part No.	T&R Pricing 500
			1	10	100			
1K	ST7ETA102CT-ND	ST7ETB102CT-ND	5.99	5.56	5.03	ST7ETA102TR-ND	ST7ETB102TR-ND	2138.50
2K	ST7ETA202CT-ND	ST7ETB202CT-ND	5.99	5.56	5.03	ST7ETA202TR-ND	ST7ETB202TR-ND	2138.50
5K	ST7ETA502CT-ND	ST7ETB502CT-ND	5.99	5.56	5.03	ST7ETA502TR-ND	ST7ETB502TR-ND	2138.50
10K	ST7ETA103CT-ND	—	5.99	5.56	5.03	ST7ETA103TR-ND	—	2138.50
20K	ST7ETA203CT-ND	ST7ETB203CT-ND	5.99	5.56	5.03	ST7ETA203TR-ND	ST7ETB203TR-ND	2138.50
50K	ST7ETA503CT-ND	ST7ETB503CT-ND	5.99	5.56	5.03	—	ST7ETB503TR-ND	2138.50
100K	ST7ETA104CT-ND	ST7ETB104CT-ND	5.99	5.56	5.03	ST7ETA104TR-ND	ST7ETB104TR-ND	2138.50

Units Marked with Resistance Mark and 2 Digit Date Code.

Model ST-32 Surface Mount, 3mm Squared Single-Turn



FEATURES: • Lead-free soldering • Cadmium-free • Top adjustment style • Rotor with a cross slot for ease of adjustment • Lead terminals provide strong adhesive strength against P.C.B. bending • J-hook and Gull wing configurations • Sealed/Washable



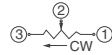
ELECTRICAL: Resistance Tolerance: $\pm 20\%$ Maximum Temperature Coefficient: $100\Omega - 2M\Omega \pm 100$ ppm/ $^{\circ}C$, other ± 250 ppm/ $^{\circ}C$ Power Ratings: 0.125W at $70^{\circ}C$, 0W at $125^{\circ}C$ Maximum Input Voltage: 200VDC or power rating, whichever is less Maximum Wiper Current: 100mA or power rating, whichever is less Effective Electrical Angle: 210° (1 turn) End Resistance: 1% or 2Ω , whichever is greater Contact Resistance Variation: 1% or 3Ω , whichever is greater Operating Temperature Range: $-55^{\circ}C - 125^{\circ}C$ Minimum Insulation Resistance: 1000M Ω at 500VDC Dielectric Strength: 500VAC, 1 minute

MECHANICAL: Mechanical Angle: 250° (1 turn) Maximum Operating Torque: 5mN.m (51gf.cm) Minimum Stop Strength: 20mN.m (204gf.cm) Rotational Life: 100 cycles ($\Delta R/R \leq \pm (2\% + 3\%)$)

Res. (Ω)	Digi-Key Part No.	Digi-Key Part No.	Cut Tape Price Each			Digi-Key Part No.	Digi-Key Part No.	T&R Pricing 500
			1	10	100			
50	ST32ETA500CT-ND	ST32ETB500CT-ND	1.15	1.07	.97	ST32ETA500TR-ND	ST32ETB500TR-ND	410.50
100	ST32ETA101CT-ND	ST32ETB101CT-ND	1.15	1.07	.97	ST32ETA101TR-ND	ST32ETB101TR-ND	410.50
200	ST32ETA201CT-ND	ST32ETB201CT-ND	1.15	1.07	.97	ST32ETA201TR-ND	ST32ETB201TR-ND	410.50
500	ST32ETA501CT-ND	ST32ETB501CT-ND	1.15	1.07	.97	ST32ETA501TR-ND	ST32ETB501TR-ND	410.50
1K	ST32ETA102CT-ND	ST32ETB102CT-ND	1.15	1.07	.97	ST32ETA102TR-ND	ST32ETB102TR-ND	410.50
2K	ST32ETA202CT-ND	ST32ETB202CT-ND	1.15	1.07	.97	ST32ETA202TR-ND	ST32ETB202TR-ND	410.50
5K	ST32ETA502CT-ND	ST32ETB502CT-ND	1.15	1.07	.97	ST32ETA502TR-ND	ST32ETB502TR-ND	410.50
10K	ST32ETA103CT-ND	ST32ETB103CT-ND	1.15	1.07	.97	ST32ETA103TR-ND	ST32ETB103TR-ND	410.50
20K	ST32ETA203CT-ND	ST32ETB203CT-ND	1.15	1.07	.97	ST32ETA203TR-ND	ST32ETB203TR-ND	410.50
50K	ST32ETA503CT-ND	ST32ETB503CT-ND	1.15	1.07	.97	ST32ETA503TR-ND	ST32ETB503TR-ND	410.50
100K	ST32ETA104CT-ND	ST32ETB104CT-ND	1.15	1.07	.97	ST32ETA104TR-ND	ST32ETB104TR-ND	410.50
200K	ST32ETA204CT-ND	ST32ETB204CT-ND	1.15	1.07	.97	ST32ETA204TR-ND	ST32ETB204TR-ND	410.50
500K	ST32ETA504CT-ND	ST32ETB504CT-ND	1.15	1.07	.97	ST32ETA504TR-ND	ST32ETB504TR-ND	410.50
1 Meg	ST32ETA105CT-ND	ST32ETB105CT-ND	1.15	1.07	.97	ST32ETA105TR-ND	ST32ETB105TR-ND	410.50

Units Marked with Resistance Mark and 1 Digit Date Code.

Model CT6 6mm Squared Single Turn

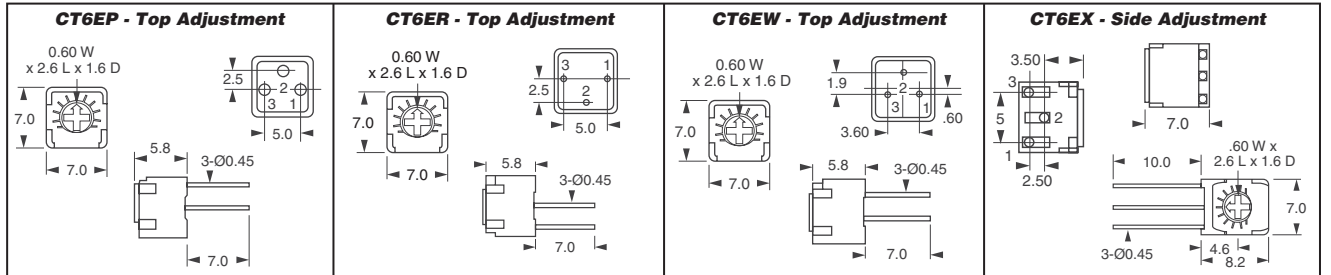


FEATURES: • Lead-free soldering • Cadmium-free • Various configurations • "O" ring sealed and washable

ELECTRICAL: Resistance Tolerance: $\pm 10\%$ Maximum Temperature Coefficient: $50\Omega - 2M\Omega \pm 100$ ppm/ $^{\circ}C$, other ± 250 ppm/ $^{\circ}C$ Power Ratings: 0.5W at $70^{\circ}C$, 0W at $120^{\circ}C$ Maximum Input Voltage: 200VDC or power rating, whichever is less Maximum Wiper Current: 100mA or power rating, whichever is less Effective Electrical Angle: 220° (1 turn) End Resistance: 1% or 2Ω , whichever is greater

Contact Resistance Variation: 1% or 3Ω , whichever is greater Operating Temperature Range: $-55^{\circ}C - 120^{\circ}C$ Minimum Insulation Resistance: 1000M Ω at 500VDC Dielectric Strength: 900VAC, 1 minute

MECHANICAL: Mechanical Angle: 260° (1 turn) Operating Torque: 2-20mN.m (20-204gf.cm) Minimum Stop Strength: 50mN.m (510gf.cm) Rotational Life: 200 cycles, ($\Delta R/R \leq \pm (2\% + 3\%)$) Minimum Terminal Strength: 10N (1.02kgf) Solderability: $245 \pm 3^{\circ}C$, 2-3 seconds



Res. (Ω)	Digi-Key Part No.	Price Each				
		1	10	500	1,000	
50	CT6EP500-ND	.68	.64	.58	.49	.44
100	CT6EP101-ND	.68	.64	.58	.49	.44
200	CT6EP201-ND	.68	.64	.58	.49	.44
500	CT6EP501-ND	.68	.64	.58	.49	.44
1K	CT6EP102-ND	.68	.64	.58	.49	.44
2K	CT6EP202-ND	.68	.64	.58	.49	.44
5K	CT6EP502-ND	.68	.64	.58	.49	.44
10K	CT6EP103-ND	.68	.64	.58	.49	.44
20K	CT6EP203-ND	.68	.64	.58	.49	.44
50K	CT6EP503-ND	.68	.64	.58	.49	.44
100K	CT6EP104-ND	.68	.64	.58	.49	.44
200K	CT6EP204-ND	.68	.64	.58	.49	.44
500K	CT6EP504-ND	.68	.64	.58	.49	.44
1 Meg	CT6EP105-ND	.68	.64	.58	.49	.44
2 Meg	CT6EP205-ND	.68	.64	.58	.49	.44

Res. (Ω)	Digi-Key Part No.	Digi-Key Part No.	Price Each				
			1	10	500	1,000	
50	CT6ER500-ND	CT6EW500-ND	.76	.71	.64	.55	.49
100	CT6ER101-ND	CT6EW101-ND	.76	.71	.64	.55	.49
200	CT6ER201-ND	CT6EW201-ND	.76	.71	.64	.55	.49
500	CT6ER501-ND	CT6EW501-ND	.76	.71	.64	.55	.49
1K	CT6ER102-ND	CT6EW102-ND	.76	.71	.64	.55	.49
2K	CT6ER202-ND	CT6EW202-ND	.76	.71	.64	.55	.49
5K	CT6ER502-ND	CT6EW502-ND	.76	.71	.64	.55	.49
10K	CT6ER103-ND	CT6EW103-ND	.76	.71	.64	.55	.49
20K	CT6ER203-ND	CT6EW203-ND	.76	.71	.64	.55	.49
50K	CT6ER503-ND	CT6EW503-ND	.76	.71	.64	.55	.49
100K	CT6ER104-ND	CT6EW104-ND	.76	.71	.64	.55	.49
200K	CT6ER204-ND	CT6EW204-ND	.76	.71	.64	.55	.49
500K	CT6ER504-ND	CT6EW504-ND	.76	.71	.64	.55	.49
1 Meg	CT6ER105-ND	CT6EW105-ND	.76	.71	.64	.55	.49
2 Meg	CT6ER205-ND	CT6EW205-ND	.76	.71	.64	.55	.49

Res. (Ω)	Digi-Key Part No.	Price Each				
		1	10	500	1,000	
50	CT6EX500-ND	.76	.71	.64	.55	.49
100	CT6EX101-ND	.76	.71	.64	.55	.49
200	CT6EX201-ND	.76	.71	.64	.55	.49
500	CT6EX501-ND	.76	.71	.64	.55	.49
1K	CT6EX102-ND	.76	.71	.64	.55	.49
2K	CT6EX202-ND	.76	.71	.64	.55	.49
5K	CT6EX502-ND	.76	.71	.64	.55	.49
10K	CT6EX103-ND	.76	.71	.64	.55	.49
20K	CT6EX203-ND	.76	.71	.64	.55	.49
50K	CT6EX503-ND	.76	.71	.64	.55	.49
100K	CT6EX104-ND	.76	.71	.64	.55	.49
200K	CT6EX204-ND	.76	.71	.64	.55	.49
500K	CT6EX504-ND	.76	.71	.64	.55	.49
2 Meg	CT6EX205-ND	.76	.71	.64	.55	.49

Units Marked with Resistance Mark and 2 Digit Date Code.

(Continued)

Digi-Reel® Most SMT cutdown parts are available on a Digi-Reel®. For Digi-Reel part number, change 1-ND to 6-ND or CT-ND to DKR-ND. See Digi-Key® Services on page 2 for additional information.

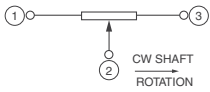
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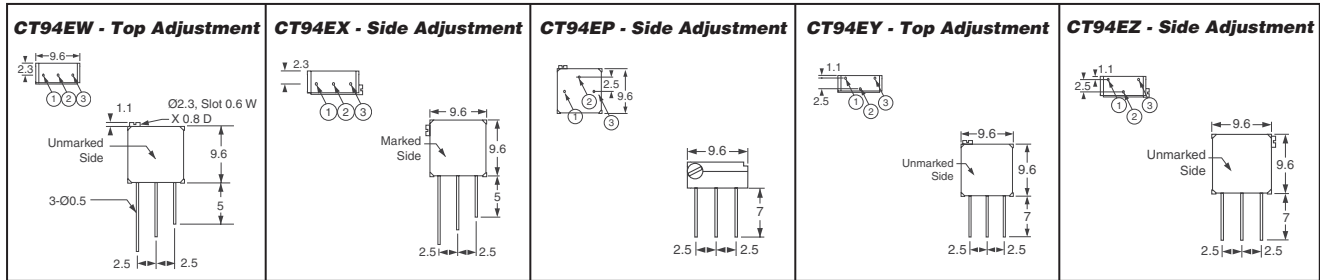
(T091) 1925



Model CT94 9mm Squared Multi-Turn



FEATURES: • Lead-free soldering • Cadmium-free • Thin body design • 18 turn, sealed, precision type
ELECTRICAL: Resistance Tolerance: $\pm 10\%$ Maximum Temperature Coefficient: $50\Omega - 2M\Omega \pm 100 \text{ ppm}/^\circ\text{C}$, other $\pm 250 \text{ ppm}/^\circ\text{C}$ Power Ratings: 0.5W at 70°C , 0W at 125°C Maximum Input Voltage: 300VDC or power rating, whichever is less Maximum Wiper Current: 100mA or power rating, whichever is less Effective Electrical Turn: 15 turns End Resistance: 1% or 2Ω , whichever is greater Contact Resistance Variation: 1% or 3Ω , whichever is greater Operating Temperature Range: $-55^\circ\text{C} - 125^\circ\text{C}$ Minimum Insulation Resistance: $1000M\Omega$ at 500VDC Dielectric Strength: 900VAC, 1 minute **MECHANICAL:** Mechanical Turn: 18 turns Maximum Operating Torque: 35mN.m (357gf.cm) Mechanical Stop: Clutch action Rotational Life: 200 cycles, ($\Delta R/R \leq (2\Omega + 3\%)$) Minimum Terminal Strength: 10N (1.02kgf) Solderability: $245 \pm 3^\circ\text{C}$, 2-3 seconds

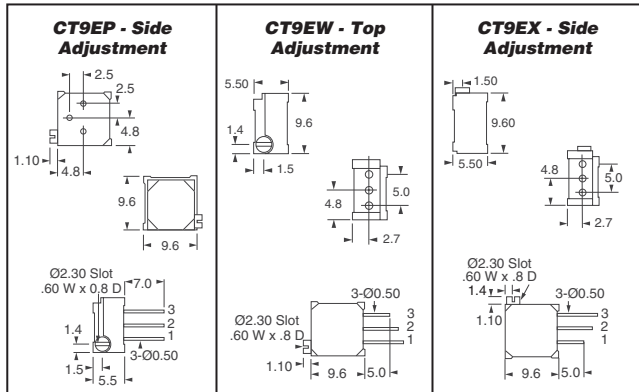
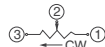


Res. (Ω)	Digi-Key Part No.	Digi-Key Part No.	Price Each			
			1	10	100	500
50	CT94EW500-ND	—	1.36	1.27	1.15	.98
100	CT94EW101-ND	CT94EX101-ND	1.36	1.27	1.15	.98
200	CT94EW201-ND	—	1.36	1.27	1.15	.98
500	CT94EW501-ND	CT94EX501-ND	1.36	1.27	1.15	.98
1K	CT94EW102-ND	CT94EX102-ND	1.36	1.27	1.15	.98
2K	CT94EW202-ND	CT94EX202-ND	1.36	1.27	1.15	.98
5K	CT94EW502-ND	CT94EX502-ND	1.36	1.27	1.15	.98
10K	CT94EW103-ND	CT94EX103-ND	1.36	1.27	1.15	.98
20K	CT94EW203-ND	CT94EX203-ND	1.36	1.27	1.15	.98
50K	CT94EW503-ND	CT94EX503-ND	1.36	1.27	1.15	.98
100K	CT94EW104-ND	CT94EX104-ND	1.36	1.27	1.15	.98
200K	CT94EW204-ND	CT94EX204-ND	1.36	1.27	1.15	.98
500K	CT94EW504-ND	CT94EX504-ND	1.36	1.27	1.15	.98
1 Meg	CT94EW105-ND	CT94EX105-ND	1.36	1.27	1.15	.98
2 Meg	CT94EW205-ND	—	1.36	1.27	1.15	.98

Res. (Ω)	Digi-Key Part No.	Digi-Key Part No.	Digi-Key Part No.	Price Each			
				1	10	100	500
50	—	CT94EY500-ND	—	1.36	1.27	1.15	.98
100	CT94EP101-ND	—	CT94EZ101-ND	1.36	1.27	1.15	.98
200	—	CT94EY201-ND	CT94EZ201-ND	1.36	1.27	1.15	.98
500	CT94EP501-ND	—	CT94EZ501-ND	1.36	1.27	1.15	.98
1K	CT94EP102-ND	—	CT94EZ102-ND	1.36	1.27	1.15	.98
2K	CT94EP202-ND	—	CT94EZ202-ND	1.36	1.27	1.15	.98
5K	CT94EP502-ND	—	CT94EZ502-ND	1.36	1.27	1.15	.98
10K	CT94EP103-ND	—	CT94EZ103-ND	1.36	1.27	1.15	.98
20K	CT94EP203-ND	—	CT94EZ203-ND	1.36	1.27	1.15	.98
50K	CT94EP503-ND	—	CT94EZ503-ND	1.36	1.27	1.15	.98
100K	CT94EP104-ND	—	CT94EZ104-ND	1.36	1.27	1.15	.98
200K	CT94EP204-ND	—	CT94EZ204-ND	1.36	1.27	1.15	.98
500K	CT94EP504-ND	—	CT94EZ504-ND	1.36	1.27	1.15	.98
1 Meg	—	CT94EY105-ND	—	1.36	1.27	1.15	.98
2 Meg	CT94EP205-ND	—	CT94EY205-ND	1.36	1.27	1.15	.98

Units Marked with Resistance Code and 2 Digit Date Code.

Model CT9 9mm Squared Multi-Turn

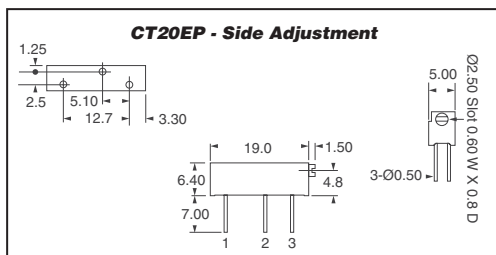
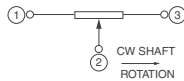


FEATURES: • Lead-free soldering • Cadmium-free • General use • Fine setting possible with 18 turn configuration
ELECTRICAL: Resistance Tolerance: $\pm 10\%$ Maximum Temperature Coefficient: $50\Omega - 2M\Omega \pm 100 \text{ ppm}/^\circ\text{C}$, other $\pm 250 \text{ ppm}/^\circ\text{C}$ Power Ratings: 0.5W at 70°C , 0W at 120°C Maximum Input Voltage: 300VDC or power rating, whichever is less Maximum Wiper Current: 100mA or power rating, whichever is less Effective Electrical Turn: 15 turns End Resistance: 1% or 2Ω , whichever is greater Contact Resistance Variation: 1% or 3Ω , whichever is greater Operating Temperature Range: $-55^\circ\text{C} - 120^\circ\text{C}$ Minimum Insulation Resistance: $1000M\Omega$ at 500VDC Dielectric Strength: 900VAC, 1 minute
MECHANICAL: Mechanical Turn: 18 turns Maximum Operating Torque: 35mN.m (357gf.cm) Mechanical Stop: Clutch action Rotational Life: 200 cycles, ($\Delta R/R \leq (2\Omega + 3\%)$) Minimum Terminal Strength: 10N (1.02kgf) Solderability: $245 \pm 3^\circ\text{C}$, 2-3 seconds

Res. (Ω)	Digi-Key Part No.	Digi-Key Part No.	Digi-Key Part No.	Price Each				
				1	10	100	500	1,000
1K	CT9EP102-ND	CT9EW102-ND	CT9EX102-ND	1.87	1.75	1.58	1.34	1.21
2K	CT9EP202-ND	CT9EW202-ND	CT9EX202-ND	1.87	1.75	1.58	1.34	1.21
5K	CT9EP502-ND	CT9EW502-ND	CT9EX502-ND	1.87	1.75	1.58	1.34	1.21
10K	CT9EP103-ND	CT9EW103-ND	CT9EX103-ND	1.87	1.75	1.58	1.34	1.21
20K	CT9EP203-ND	CT9EW203-ND	CT9EX203-ND	1.87	1.75	1.58	1.34	1.21
50K	CT9EP503-ND	CT9EW503-ND	CT9EX503-ND	1.87	1.75	1.58	1.34	1.21
100K	CT9EP104-ND	CT9EW104-ND	CT9EX104-ND	1.87	1.75	1.58	1.34	1.21

Units Marked with Resistance Mark and 2 Digit Date Code.

Model CT20 20mm Rectangular Multi-Turn



FEATURES: • Lead-free soldering • Cadmium-free • General use
ELECTRICAL: Resistance Tolerance: $\pm 10\%$ Maximum Temperature Coefficient: $50\Omega - 2M\Omega \pm 100 \text{ ppm}/^\circ\text{C}$, other $\pm 250 \text{ ppm}/^\circ\text{C}$ Power Ratings: 0.5W at 70°C , 0W at 120°C Maximum Input Voltage: 300VDC or power rating, whichever is less Maximum Wiper Current: 100mA or power rating, whichever is less Effective Electrical Turn: 12 turns End Resistance: 1% or 2Ω , whichever is greater Contact Resistance Variation: 1% or 3Ω , whichever is greater Operating Temperature Range: $-55^\circ\text{C} - 120^\circ\text{C}$ Minimum Insulation Resistance: $1000M\Omega$ at 500VDC Dielectric Strength: 600VAC, 1 minute
MECHANICAL: Mechanical Turn: 15 turns Maximum Operating Torque: 35mN.m (357gf.cm) Mechanical Stop: Clutch action Rotational Life: 200 cycles, $100 - 200\Omega (\Delta R/R \leq \pm (0.5\Omega + 3\%))$; $500\Omega - 5M\Omega (\Delta R/R \leq \pm (0.5\Omega + 2\%))$ Minimum Terminal Strength: 9N (917gf) Solderability: $245 \pm 3^\circ\text{C}$, 2-3 seconds

Resistance (Ω)	Digi-Key Part No.	Price Each			
		1	10	100	500
1K	CT20EP102-ND	1.60	1.49	1.35	1.15
2K	CT20EP202-ND	1.60	1.49	1.35	1.15
5K	CT20EP502-ND	1.60	1.49	1.35	1.15
10K	CT20EP103-ND	1.60	1.49	1.35	1.15
20K	CT20EP203-ND	1.60	1.49	1.35	1.15
50K	CT20EP503-ND	1.60	1.49	1.35	1.15
100K	CT20EP104-ND	1.60	1.49	1.35	1.15

Units Marked with Resistance Mark and 2 Digit Date Code.

Digi-Reel® Most SMT cutdown parts are available on a Digi-Reel®. For Digi-Reel part number, change 1-ND to 6-ND or CT-ND to DKR-ND. See Digi-Key® Services on page 2 for additional information.

More Product Available Online: www.digkey.com