



Precision Potentiometers

SERIES 39 — 1/2" (12.5mm) Single-Turn Conductive Plastic

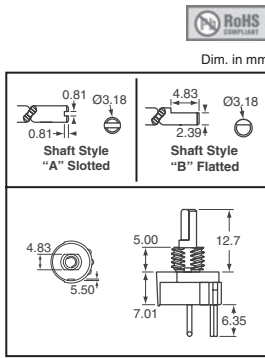
Characteristics: • Total Resistance Tolerance: ±20% • End Resistance: 2Ω maximum • Effective Electrical Angle: Non-Switching Type (Bushing Type "S") and Rotary Switch Type (Bushing Type "S"); 220°±5°; Momentary Push Switch Type (Bushing Type "L") 201°±5° • Contact Resistance Variation: 3% maximum • Dielectric Withstanding Voltage: 750 VRMS minimum • Insulation Resistance: 100MΩ minimum • Power Rating @70°C Linear Taper: 0.25 watt

Switch Characteristics:

Rotary Switch Type (SPST N.O.): • Power Rating (Resistive Load): 0.5A @ 12VDC • Contact Resistance @ 10mA: 200mΩ maximum • Contact Bounce: 5 milliseconds • Actuation Torque: 0.7- 4.9 N-cm (1 - 7 oz. -in.)

Momentary Push Switch Type (SPST N.O.): • Power Rating (Resistive Load): 250mA @ 12VDC • Contact Resistance @ 10mA (with 500gm Shaft Load): 500 maximum • Contact Bounce: 5 milliseconds • Actuation Force: 500 ±100 grams

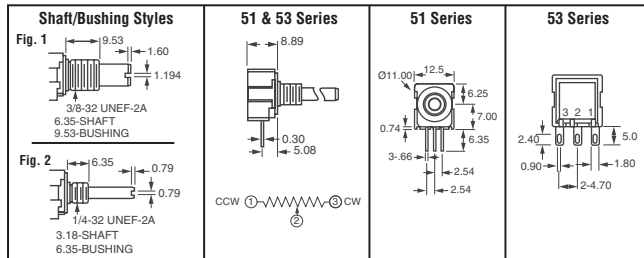
Environmental Characteristics: • Rotation Life (No Load): 50,000 Cycles • Switch Life: Rotary Switch Type: 25,000 cycles; Momentary Push Switch Type: 50,000 cycles



Shaft Style	Ω	Shaft Dia. x Length	Switch Type	Digi-Key Part No.	1	25	50
A	10K	1/8" x 1/2"	Momentary Push	39LA-1PB-103-ND	7.95	5.41	5.09
A	20K		Momentary Push	39LA-1PB-203-ND	7.95	5.41	5.09
A	50K		Momentary Push	39LA-1PB-503-ND	7.95	5.41	5.09
B	10K		Momentary Push	39LB-1PB-103-ND	7.95	5.41	5.09
A	10K		No Switch	39SA-1NB-103-ND	7.28	4.95	4.66
A	20K		No Switch	39SA-1NB-203-ND	7.28	4.95	4.66
A	50K	No Switch	39SA-1NB-503-ND	7.28	4.95	4.66	
A	10K	1/8" x 1/2"	Rotary	39SA-1RB-103-ND	9.55	6.50	6.12
A	20K		Rotary	39SA-1RB-203-ND	9.55	6.50	6.12
A	50K		Rotary	39SA-1RB-503-ND	9.55	6.50	6.12
B	10K		No Switch	39SB-1NB-103-ND	7.28	4.95	4.66
B	10K		Rotary	39SB-1RB-103-ND	9.55	6.50	6.12

SERIES 50 — Sealed 1/2" (12.5mm) Square Control

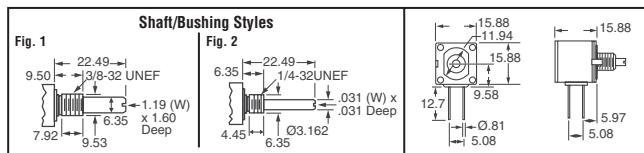
Characteristics: • Effective Electrical Angle: 270° ±5° • Contact Resistance Variation: 2.0% • Dielectric Withstanding Voltage: Sea Level: 1,500VAC minimum; 70,000 Feet: 500VAC minimum • Insulation Resistance: 1,000MΩ minimum • Mounting hardware included



Bush. Fig.	Taper	Resis. Tolerance	Ω	Watts	Element Material	Digi-Key Part No.	1	25	50	100
2	Linear	±10%	1K	1	Cermet	51CAD-E28-A10L-ND	7.39	5.75	4.70	3.98
1	Linear	±10%	5K	1	Cermet	51CAD-E28-A13L-ND	7.39	5.75	4.70	3.98
1	Audio	±20%	10K	1/4	Conductive Plastic	51AAD-B28-D15L-ND	7.97	6.21	5.07	4.29
2	Audio	±20%	10K	1/4	Conductive Plastic	51CAD-E28-D15L-ND	7.97	6.21	5.07	4.29
2	Linear	±20%	10K	1/2	Conductive Plastic	51CAD-E24-B15L-ND	7.39	5.75	4.70	3.98
1	Linear	±10%	10K	1	Cermet	51AAD-B24-A15L-ND	7.39	5.75	4.70	3.98
2	Linear	±10%	10K	1	Cermet	51CAD-E24-A15L-ND	7.39	5.75	4.70	3.98
2	Linear	±10%	100K	1	Cermet	51CAD-E28-A20L-ND	7.39	5.75	4.70	3.98
1	Linear	±20%	10K	1/2	Conductive Plastic	53AAA-B28-B15L-ND	8.51	6.64	5.42	4.59

SERIES 81 — 2 Watt Cermet - 5/8" Square Single-Turn

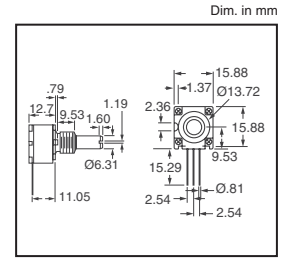
Characteristics: • Resistance Tolerance: ±10% • Continuity: Maintained for full mechanical angle • Effective Electrical Angle: 240° ±6° • Contact Resistance Variation: ±1% or 3Ω (whichever is greater) • Theoretical Resolution: Essentially Infinite • Dielectric Withstanding Voltage: MIL-STD-202, Method 301 (Sea Level: 1500VAC minimum; 70,000 Feet: 500VAC minimum) • Insulation Resistance (500 VDC): 1,000MΩ minimum • Mounting hardware included



Bushing Fig.	Ω	Digi-Key Part No.	1	25	50	100
1	1K	81A1A-B28-A10L-ND	9.02	7.02	5.74	4.85
1	5K	81A1A-B28-A13L-ND	9.02	7.02	5.74	4.85
2	5K	81C1A-E28-A13L-ND	9.02	7.02	5.74	4.85
1	10K	81A1A-B28-A15L-ND	9.02	7.02	5.74	4.85
2	10K	81C1A-E28-A15L-ND	9.02	7.02	5.74	4.85
2	100K	81C1A-E28-A20L-ND	9.02	7.02	5.74	4.85

SERIES 91 — 5/8" Square Single-Turn Conductive Plastic - Bushing Mount

Characteristics: • Resistance Tolerance: ±20% • Continuity: Maintained for full mechanical angle • Effective Electrical Angle: 240° ±6° • Contact Resistance Variation: ±1% • Dielectric Withstanding Voltage: MIL-STD-202, Method 301 (Sea Level: 1,500VAC minimum; 70,000 Feet: 500VAC minimum) • Insulation Resistance (500 VDC): 1,000MΩ minimum • Theoretical Resolution: Essentially infinite • Mounting hardware included

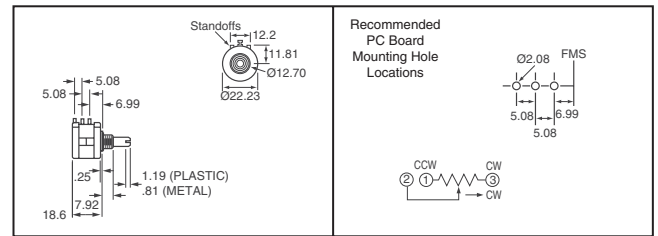


Taper	Ω	Watts	Shaft Length From Mtg. Surface Inches (mm)	Digi-Key Part No.	1	25	50	100
Linear	1K	1/2	7/8" (22.23)	91A1A-B28-B10L-ND	4.74	3.69	3.01	2.55
Linear	5K	1/2	3/4" (19.05)	91A1A-B24-B13L-ND	4.74	3.69	3.01	2.55
Linear	5K	1/2	7/8" (22.23)	91A1A-B28-B13-ND†	4.74	3.69	3.01	2.55
Audio	10K	1/4	3/4" (19.05)	91A1A-B24-D15L-ND	5.37	4.18	3.42	2.89
Linear	10K	1/2	3/4" (19.05)	91A1A-B24-B15L-ND	4.74	3.69	3.01	2.55
Linear	10K	1/2	7/8" (22.23)	91A1A-B28-B15L-ND	4.74	3.69	3.01	2.55

† For RoHS Compliant Part Number, change -ND to L-ND.

SERIES 3590 — 2 Watt - 10 Turn Wirewound

Characteristics: • Resistance Tolerance: ±5% • Effective Electrical Angle: 3600° +10°, -0° • Dielectric Withstanding Voltage: MIL-STD-202, Method 301 (Sea Level: 2,000VAC minimum) • Insulation Resistance (500 VDC): 1,000MΩ minimum • Mounting hardware included



Ω	Resolution %	Bushing Type & Dim.	Shaft Diameter Inches (mm)	Digi-Key Part No.	1	50	100	500
2K	.023	3/8" x 5/16"	2480" (6.30)	3590S-1-202L-ND	10.02	8.12	7.41	7.02
5K	.025			3590S-1-502-ND†	10.02	8.12	7.41	7.02
20K	.016			3590S-1-203L-ND	10.02	8.12	7.41	7.02
50K	.013			3590S-1-503L-ND	12.10	9.80	8.95	8.47
100K	.009			3590S-1-104L-ND	12.98	10.51	9.61	9.10
500	.033	3/8" x 5/16"	2497" (6.34)	3590S-2-501L-ND	10.02	8.12	7.41	7.02
1K	.029			3590S-2-102L-ND	10.02	8.12	7.41	7.01
2K	.023			3590S-2-202-ND†	10.02	8.12	7.41	7.02
5K	.025			3590S-2-502L-ND	10.02	8.12	7.41	7.02
10K	.020			3590S-2-103L-ND	10.02	8.12	7.41	7.02
20K	.016			3590S-2-203L-ND	10.02	8.12	7.41	7.02
50K	.013			3590S-2-503L-ND	12.10	9.80	8.95	8.47
100K	.009			3590S-2-104L-ND	12.98	10.51	9.61	9.10

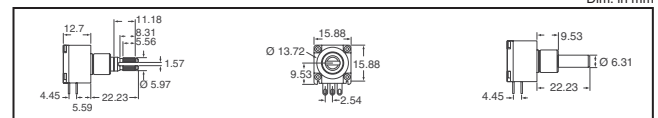
† For RoHS Compliant Part Number, change -ND to L-ND.

SERIES 95 — 5/8" Square Guitar Potentiometer

Specifications: • Rotational Life: 100K cycles • Contact Resistance Variation: 1% maximum • Power Rating: 0.25 watts • Moisture Resistance: ±20% TRS

Features:

• Conductive polymer element • Very low noise • Single-turn • Taper: Audio



Ω	Shaft Type	Digi-Key Part No.	1	5	10	25
250K	Knurled	95A1D-Z28-EAO/300L-ND	13.28	10.92	10.21	9.44
250K	Plain	95A1D-Z28-EAO/301L-ND	8.40	6.83	6.30	5.95
500K	Knurled	95A1D-Z28-EAO/302L-ND	13.28	10.92	10.21	9.44

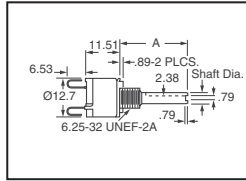
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Precision Potentiometers

SERIES 3862 — 1 Watt Cermet 1/2" Diameter Single-Turn Panel Control

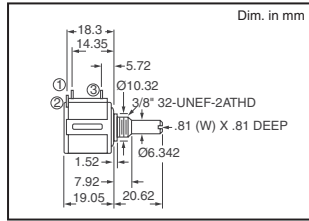


- **Resistance Tolerance:** ±10%
 - **Continuity:** Maintained for full mechanical angle
 - **Effective Electrical Angle:** 260° ±10°
 - **Contact Resistance Variation:** ±3% of total resistance
 - **Theoretical Resolution:** Essentially infinite
 - **Dielectric Withstanding Voltage:** MIL-STD-202, Method 301 (Sea Level: 750VAC minimum; 70,000 Feet: 350VAC minimum)
 - **Insulation Resistance (500 VDC):** 1,000MΩ minimum
- Mounting hardware included.

Ω	Dim. A (mm)	Shaft Dia. (mm)	Digi-Key Part No.	Price Each				
				1	25	50	100	250
10K	12.7	3.18	3862C-162-103AL-ND	14.69	11.44	9.34	7.90	7.35
10K	22.20	3.18	3862C-282-103AL-ND	14.69	11.44	9.34	7.90	7.35

SERIES 3540/3541 — 2 Watt - 10 Turn Wirewound/Hybratron®

- **Resistance Tolerance:** ±5% for 3540 series ±10% for 3541 series
 - **Effective Electrical Angle:** 3600° ±10°, -0°
 - **Dielectric Withstanding Voltage:** MIL-STD-202, Method 301 (Sea Level: 1,000VAC minimum)
 - **Insulation Resistance (500VDC):** 1,000MΩ minimum
- Mounting hardware included.

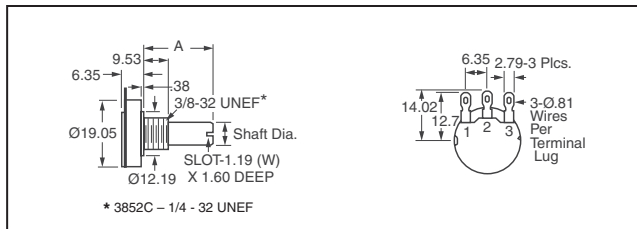


Ω	Resolution %	Digi-Key Part No.	Price Each			
			1	50	100	500
Wirewound						
100	.055	3540S-1-101-ND	26.76	21.68	19.80	18.74
500	.031	3540S-1-501-ND	26.76	21.68	19.80	18.74
1K	.027	3540S-1-102-ND	26.76	21.68	19.80	18.74
2K	.021	3540S-1-202-ND	26.76	21.68	19.80	18.74
5K	.021	3540S-1-502-ND	26.76	21.68	19.80	18.74
10K	.019	3540S-1-103-ND	26.76	21.68	19.80	18.74
20K	.014	3540S-1-203-ND	26.76	21.68	19.80	18.74
50K	.011	3540S-1-503-ND	29.76	24.10	22.02	20.84
100K	.008	3540S-1-104-ND	39.34	31.86	29.11	27.53
Hybratron						
1K	Essen-	3541H-1-102-ND	56.56	45.81	41.85	39.59
5K	tially	3541H-1-502-ND	56.56	45.81	41.85	39.59
10K	Infinite	3541H-1-103-ND	56.56	45.81	41.85	39.59

SERIES 3852 2 Watt Cermet 3/4" (19.05mm) Diameter Panel Control

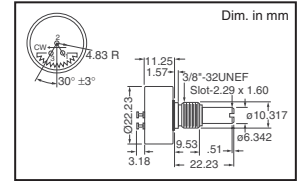


- **Resistance Tolerance:** ±10%
 - **Continuity:** Maintained for full mechanical angle
 - **Effective Electrical Angle:** 250° ±5°
 - **Contact Resistance Variation:** ±3% of total resistance or 3Ω (whichever is greater)
 - **Dielectric Withstanding Voltage:** MIL-STD-202, Method 301 (Sea Level: 900VAC minimum; 70,000 Feet: 350VAC minimum)
 - **Insulation Resistance (500VDC):** 1,000MΩ minimum
- Mounting hardware included.



Ω	Dim. A (mm)	Shaft Dia. (mm)	Digi-Key Part No.	Price Each				
				1	25	50	100	250
1K	12.7	6.35	3852A-162-102AL-ND	9.16	7.12	5.83	4.93	4.58
1K	22.20	6.35	3852A-282-102AL-ND	9.16	7.12	5.83	4.93	4.58
5K	22.20	6.35	3852A-282-502AL-ND	9.16	7.12	5.83	4.93	4.58
10K	22.20	6.35	3852A-282-103AL-ND	9.16	7.12	5.83	4.93	4.58
10K	12.7	6.35	3852A-162-103AL-ND	9.16	7.12	5.83	4.93	4.58
100K	22.20	6.35	3852A-282-104AL-ND	9.16	7.12	5.83	4.93	4.58
10K	22.20	3.18	3852C-282-103AL-ND	9.16	7.12	5.83	4.93	4.58

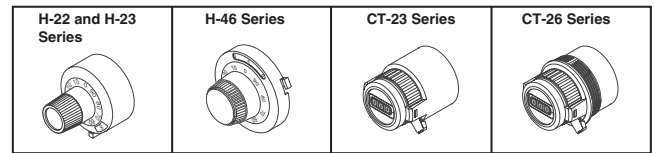
SERIES 6639 — 1 Watt Conductive Plastic - Bushing Mount



- **Resistance Tolerance:** Standard ±15%
 - **Resolution:** Essentially infinite
 - **Effective Electrical Angle:** 340° ±3°
 - **End Voltage:** 0.5% maximum
 - **Output Smoothness:** 0.1%
 - **Dielectric Withstanding Voltage:** MIL-STD-202, Method 301 (Sea Level: 750VAC minimum)
 - **Insulation Resistance (500 VDC):** 500MΩ minimum
- Mounting hardware included.

Ω	Digi-Key Part No.	Price Each			
		1	50	100	500
1K	6639S-1-102-ND	11.46	9.29	8.48	8.30
5K	6639S-1-502-ND	11.46	9.29	8.48	8.30
10K	6639S-1-103-ND	11.46	9.29	8.48	8.30

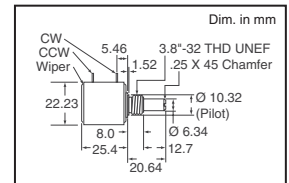
SERIES H-22, H-23, H-46, CT-23 and CT-26 Turns-Counting Dials



Turns	Read Out	Division/ Turn	Brake	Dia. (mm)	Accepts Shaft Dia. (mm)	Body Finish	Digi-Key Part No.	Price Each		
								1	25	50
H-22 Series										
0-15	Analog	50	Yes	22	6.35	Clear	H-22-6A-ND	8.54	8.12	7.69
							H-22-6A-B-ND	11.54	8.88	7.85
							H-22-6M-ND	11.54	8.88	7.85
H-23 Series										
0-15	Analog	50	Yes	22	6.35	Polished	H-23-6A-ND	11.54	8.88	7.85
							H-23-6M-ND	11.54	8.88	7.85
H-46 Series										
0-20	Analog	100	Yes	46	6.35	Clear	H-46-6A-ND	16.90	16.06	15.21
CT-23 Series										
0-10	Digital	50	Yes	27	6.35	Clear	CT-23-6A-ND	20.42	15.63	14.81
							CT-23-6M-ND	20.42	15.63	14.81
CT-26 Series										
0-10	Digital	50	Yes	28	6.35	Clear	CT-26-6A-ND	20.42	15.63	14.81
							CT-26-6M-ND	20.42	15.63	14.81

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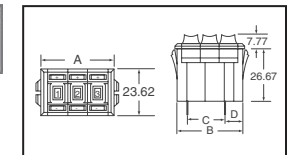
SERIES 3500 2 Watt - 10 Turn Wirewound



- **Resistance Tolerance:** ±3%
 - **Independent Linearity:** ±0.20%
 - **Effective Electrical Angle:** 3600° ±10°, -0°
 - **Dielectric Withstanding Voltage:** MIL-STD-202, Method 301 (Sea Level: 1,500VAC minimum; 70,000 Feet: 400VAC minimum)
 - **Insulation Resistance (500VDC):** 1,000MΩ minimum
- Mounting hardware included.

Ω	Resolution %	Digi-Key Part No.	Price Each				
			1	25	100	500	1,000
1K	.030	3500S-2-102L-ND	41.75	33.82	30.91	29.23	27.15
5K	.018	3500S-2-502L-ND	41.75	33.82	30.91	29.23	27.15
10K	.019	3500S-2-103L-ND	41.75	33.82	30.91	29.23	27.15

SERIES 3680 2 Watt Pushbutton Cermet



- **Resistance Tolerance:** ±3%
- **Resolution:** 3682: 1%; 3683: 0.1%
- **Power Rating:** +25°C: 2 Watts
- **Dielectric Withstanding Voltage:** MIL-STD-202, Method 301 (Sea Level: 1000VAC minimum)

Ω	Dimensions (mm)				Digi-Key Part No.	Price Each				
	A	B	C	D		1	25	100	500	1,000
10K	26.67	25.15	10.67	11.94	3682S-1-103L-ND	27.34	22.14	20.23	19.14	17.78
1K	37.08	35.31	18.54	11.94	3683S-1-102L-ND	40.46	32.77	29.94	28.32	26.30
5K	37.08	35.31	18.54	11.94	3683S-1-502L-ND	40.46	32.77	29.94	28.32	26.30
10K	37.08	35.31	18.54	11.94	3683S-1-103L-ND	40.46	32.77	29.94	28.32	26.30

More Product Available Online: www.digikey.com

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