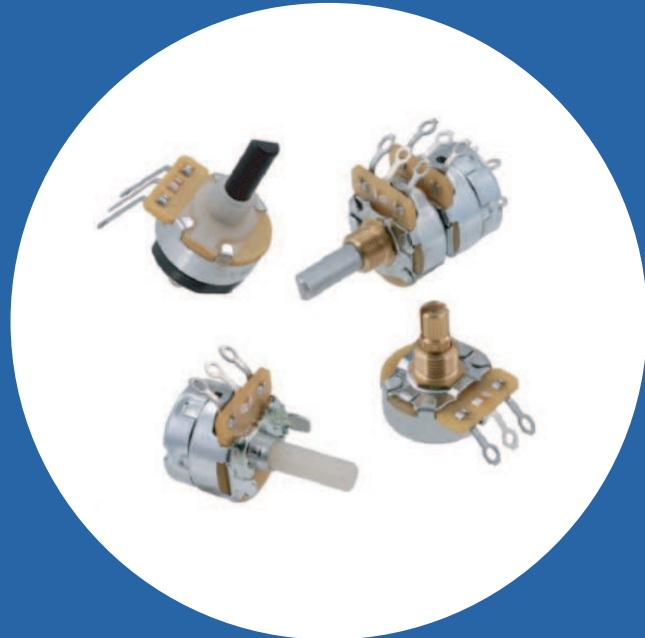


Industrial 24mm Diameter 1/2 Watt, Composition Rotary Potentiometer

Features

- Versatile Mounting Styles
 - Bushing
 - Twist or Bend Tab
 - Snap-in PC Bracket
 - PC Terminal
- Single, Tandem, or Concentric Units
- Power Switch Available
- Panel Seal Available
- Wide Resistance Range
- Low Noise
- RoHS compliant



Electrical and Mechanical Specifications

Resistance Range

100 ohms through 10 Megohms, linear
1K ohms through 1 Megohms, audio

Resistance Tolerance

±30%, ±20%, ±10%

Power Rating

1/2 watts @ 55°C (Resistance up to 100K ohms)
1/3 watts @ 55°C (Resistance above 100K ohms)

Dielectric Strength

1080 VAC for 1 minute

Maximum Operating Voltage

750 VDC

Insulation Resistance

100 Megohms minimum @ 250 VDC

Angle of Rotation

Total Rotation (Potentiometer and Switch)
With rotary switch: 320°
Without switch or with push switch: 300°
Electrical Effective Angle (Potentiometer)
300°

Rotational Torque

Standard: 54 - 432 gf-cm
(Consult CTS for special torque)

Stop Strength

10.36 kgf-cm minimum

Push-Pull Strength of Shaft

10 kg for 10 seconds

Rotational Life

Standard: 10K cycles
Special: 100K, 250K cycles

Operating Temperature

-10°C to +80°C

Solder Heat Resistance

260°C for 5 seconds

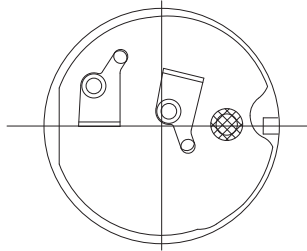
Mounting Information

- Bushing
- Twist Tab
- Bend Tab
- Snap-in PC Bracket
- PC Terminal

OPTIONAL POWER SWITCHES

| Series | Contact Arrangement | Electrical Rating | Outline Drawing |
|--------|---------------------|--|-----------------|
| FR-GC | SPST Rotary | 3 amps @ 125 volts, 1 amp @ 250 volts AC UL Recognized | |
| GC | SPST Rotary | 5 amps @ 20 volts DC (Automotive) | |

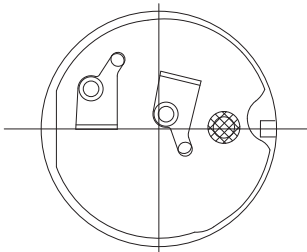
Actuating Angle – 20°
Actuating Torque – 7 to 17 in. oz.
(504 to 1225 gf-cm)



DIMENSION: $\frac{\text{mm}}{\text{inch}}$

| | | | |
|-----|----------------|--|--|
| TGC | SPST Rotary | 6 amps @ 125 volts AC UL & CSA Recognized | |
| | | | |

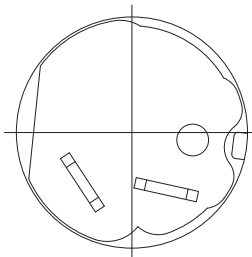
Actuating Angle – 20°
Actuating Torque – 7 to 17 in. oz.
(504 to 1225 gf-cm)



DIMENSION: $\frac{\text{mm}}{\text{inch}}$

| | | | |
|--------|----------------|------------------------------------|--|
| TV-023 | SPST Rotary | TV-5 rating UL & CSA Recognized | |
| | | | |

Actuating Angle – 20°
Actuating Torque – 10 to 20 in. oz.
(720 to 1441 gf-cm)



DIMENSION: $\frac{\text{mm}}{\text{inch}}$

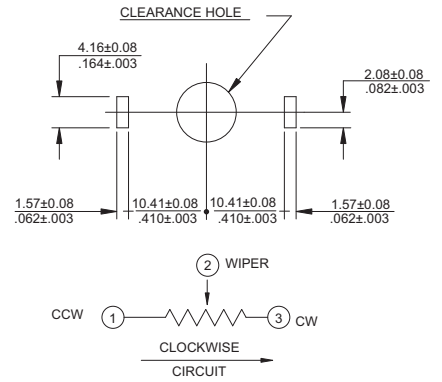
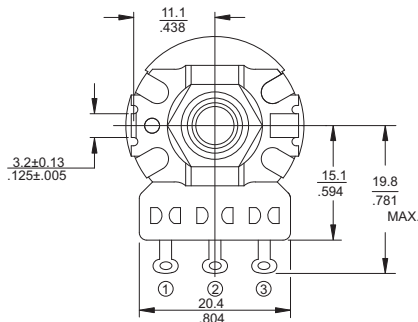
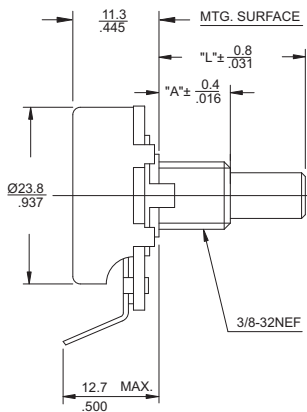
OPTIONAL POWER SWITCHES

| Series | Contact Arrangement | Electrical Rating | Outline Drawing |
|---|------------------------------------|---|-----------------|
| 040 | SPST Push-on Push-off | 6 amps @ 125 volts AC | |
| Pre-travel 13/64" (5.2 mm) Activating Force: 2 to 5 lb (0.9 to 2.3 kg) | | | |
| DIMENSION: $\frac{\text{mm}}{\text{inch}}$ | | | |
| 041 | SPDT Push-on Push-off | 6 amps @ 125 volts AC | |
| Pre-travel 13/64" (5.2mm) Activating Force: 2 to 5 lb (0.9 to 2.3 kgf) | | | |
| DIMENSION: $\frac{\text{mm}}{\text{inch}}$ | | | |
| 050 | SPST Rotary | 3 amps @ 125 volts AC (Shallow construction switch) UL & CSA Recognized 7.5 amps @ 20 volts DC (Automotive) | |
| Actuating Angle: 25° Actuating Torque: 2 to 15 in. oz. (144 to 1080 gf-cm) | | | |
| DIMENSION: $\frac{\text{mm}}{\text{inch}}$ | | | |
| FR-027 | DPST Rotary | 3 amps @ 125 volts, 1 amp @ 250 volts AC UL Recognized | |
| Actuating Angle: 20° Actuating Torque: 10 to 20 in. oz. (720 to 1441 gf-cm) | | | |
| DIMENSION: $\frac{\text{mm}}{\text{inch}}$ | | | |

OPTIONAL POWER SWITCHES

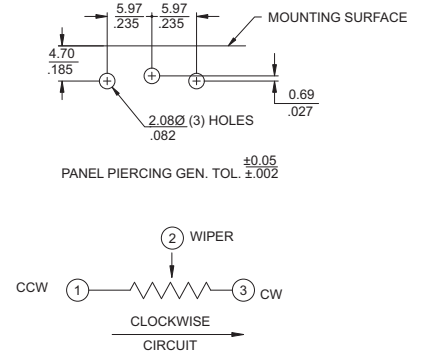
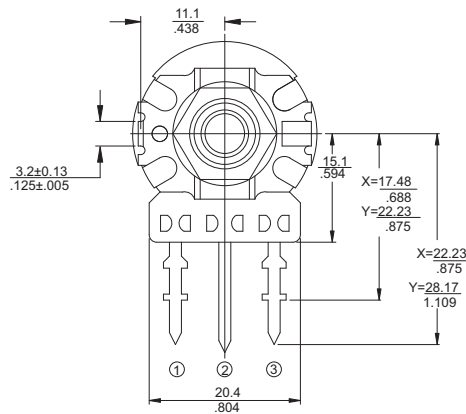
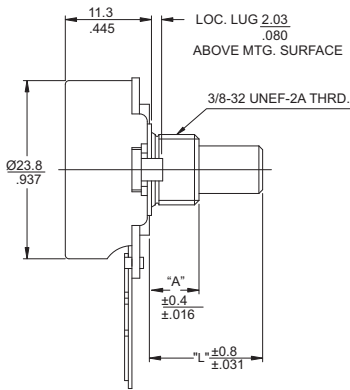
| Series | Contact Arrangement | Electrical Rating | Outline Drawing | |
|--|---|---|-----------------|--|
| <p>TV-020</p> <p>Actuating Angle: 20° Actuating Torque: 10 to 20 in. oz. (720 to 1440 gf-cm)</p> <p>DIMENSION: $\frac{\text{mm}}{\text{inch}}$</p> | <p>DPST Rotary</p> | <p>125 volts AC Pole #1, TV-1 rating Pole #2, TV-3 rating UL & CSA Recognized</p> | | |
| <p>FR-028</p> <p>Actuating Angle: 20° Actuating Torque: 10 to 20 in. oz. (720 to 1440 gf-cm)</p> <p>DIMENSION: $\frac{\text{mm}}{\text{inch}}$</p> | <p>SPDT Rotary</p> | <p>3 amps @ 125 volts AC UL Recognized</p> | | |
| <p>TV-021</p> <p>Actuating Angle: 20° Actuating Torque: 10 to 20 in. oz. (720 to 1440 gf-cm)</p> <p>DIMENSION: $\frac{\text{mm}}{\text{inch}}$</p> | <p>SPDT Rotary</p> | <p>TV-4 rating UL Recognized</p> | | |
| <p>FR-K</p> <p>Pre-travel: 5/32" (3.97mm) Actuating force: 7 to 16 oz. - Single section control (198 to 454 gf) 7 to 20 oz. - Tandem control (198 to 567 gf)</p> <p>DIMENSION: $\frac{\text{mm}}{\text{inch}}$</p> | <p>SPST Pull-on Push-off</p> | <p>3 amps @ 125 volts AC UL & CSA Recognized</p> | | |

450T Metal Shaft, Bushing Mou, Type "T" Solder Lug Terminals



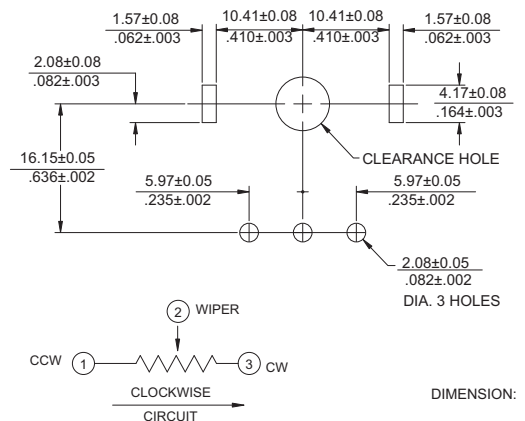
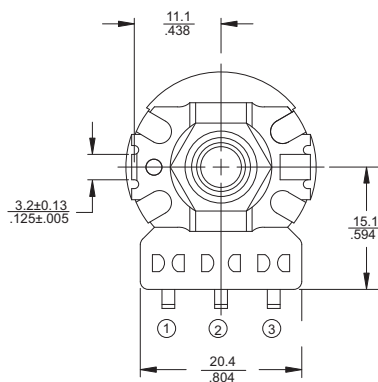
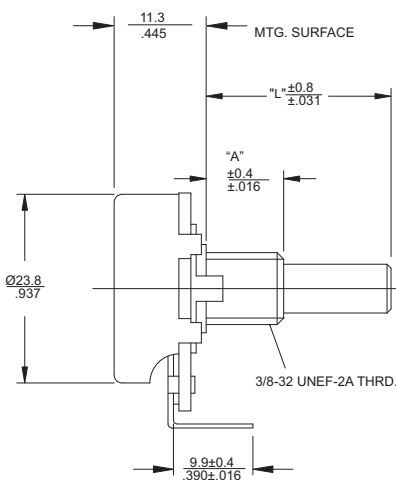
DIMENSION: $\frac{\text{mm}}{\text{inch}}$

450X / 450Y Metal Shaft, Bushing Mount, Printed Circuit Type "X" Or "Y" Terminals



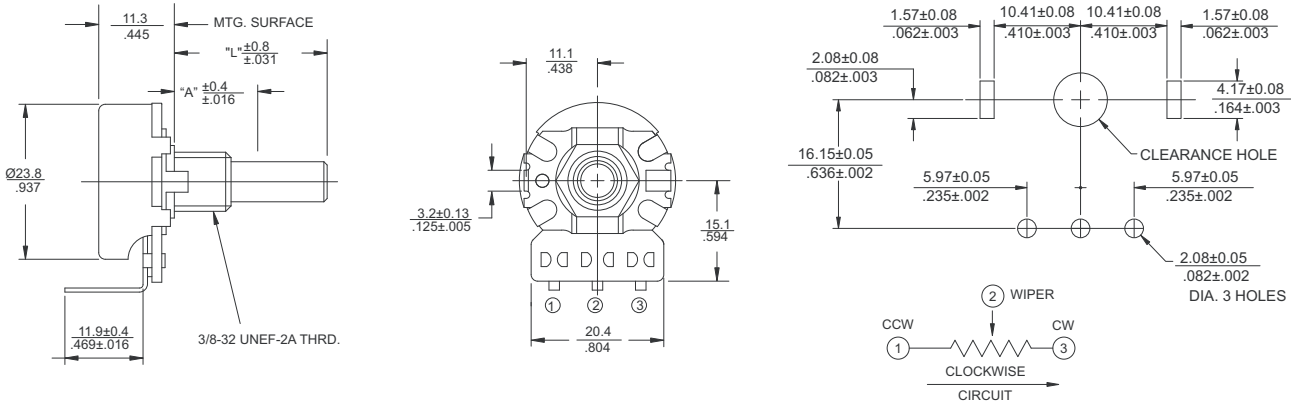
DIMENSION: $\frac{\text{mm}}{\text{inch}}$

450U Metal Shaft, Bushing Mount, Printed Circuit Type "U" Terminals



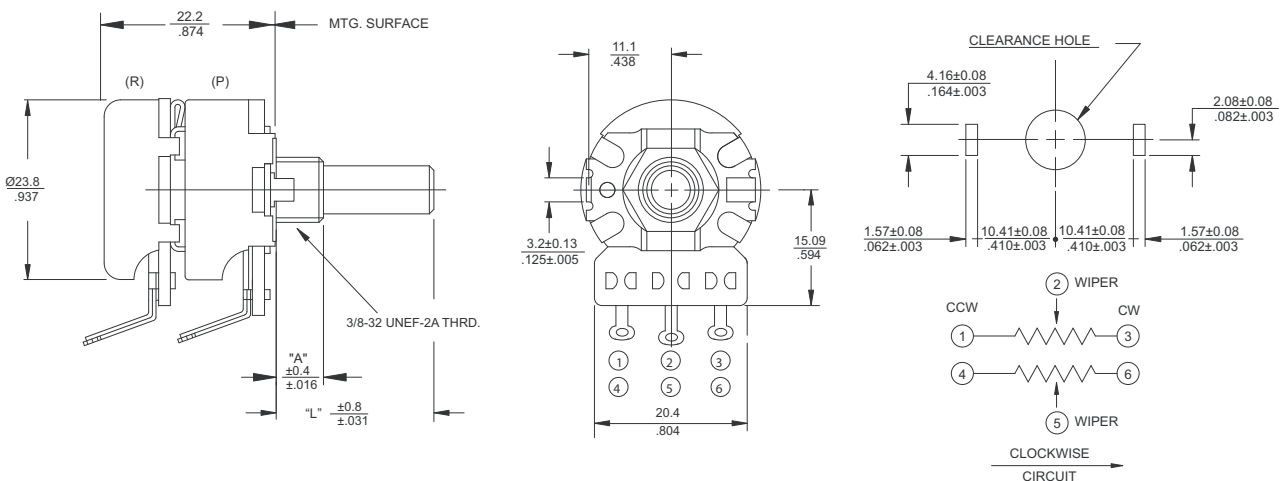
DIMENSION: $\frac{\text{mm}}{\text{inch}}$

450V Metal Shaft, Bushing Mount, Printed Circuit Type "V" Terminals



DIMENSION: $\frac{\text{mm}}{\text{inch}}$

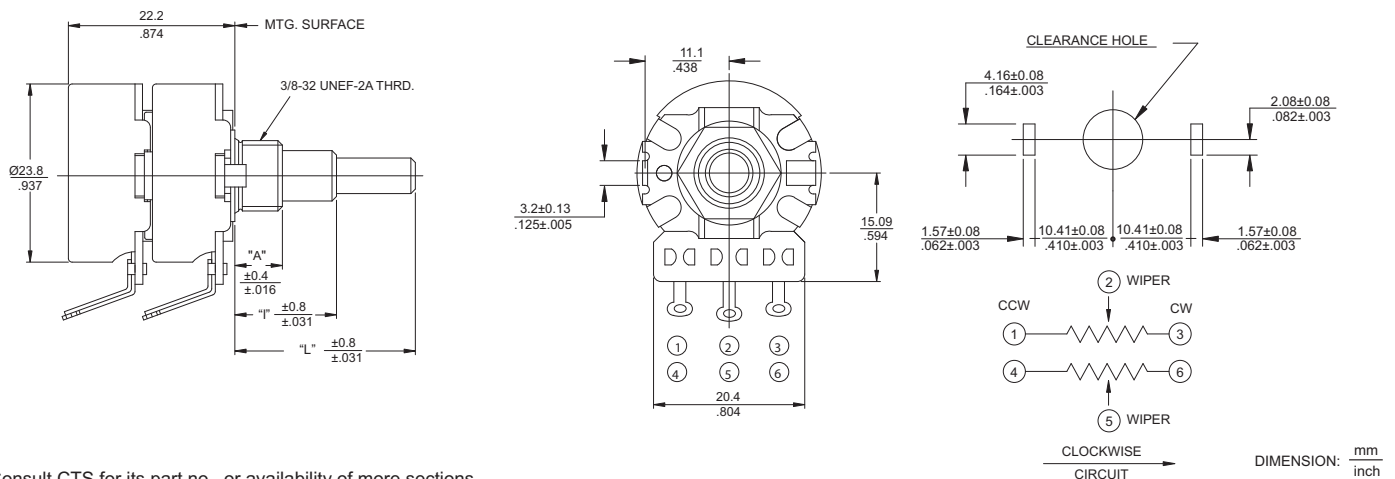
T2-450 Dual-section, Metal Shaft, Bushing Mount, Type "T" Solder Lug Terminals



* Consult CTS for its part no. or availability of more sections

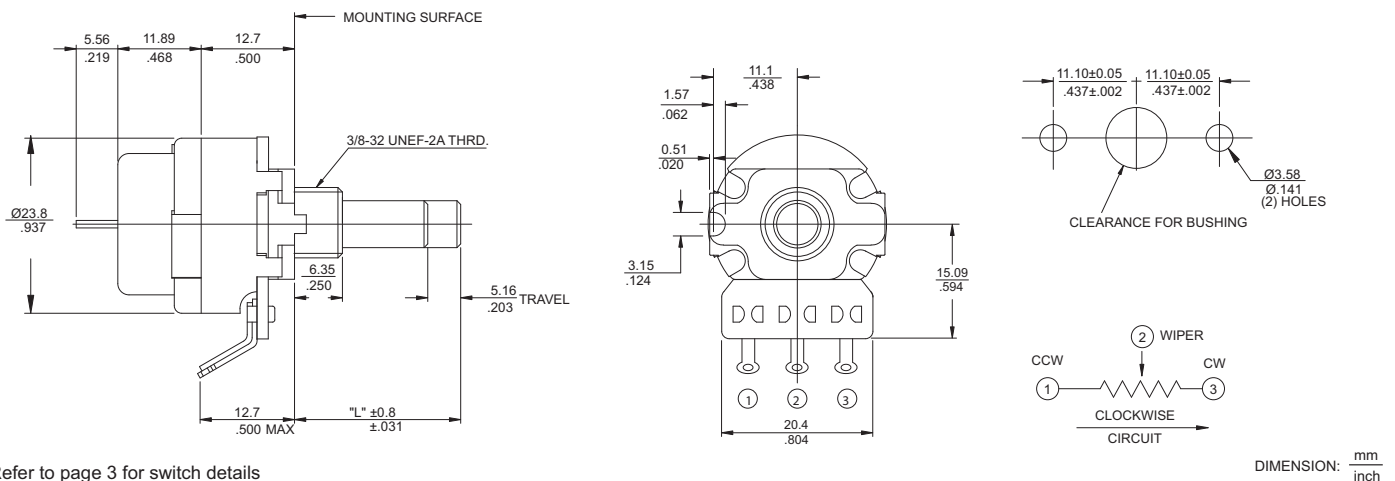
DIMENSION: $\frac{\text{mm}}{\text{inch}}$

TC2-450 Dual-section, Concentric Metal Shafts, Bushing Mount, Type "T" Solder Lug Terminals



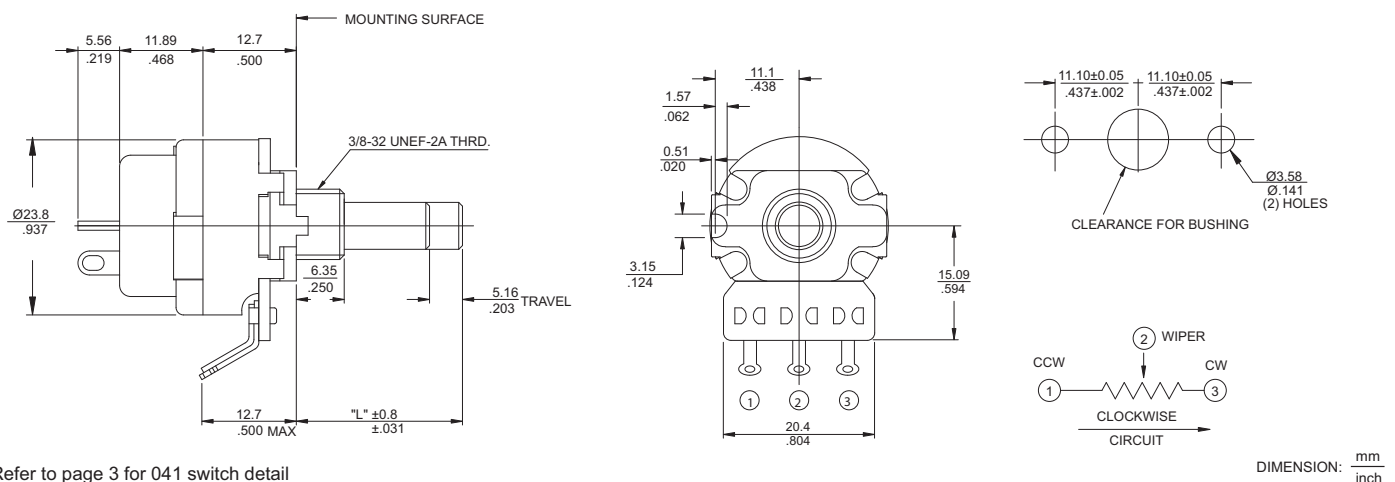
* Consult CTS for its part no., or availability of more sections

040-TMG450 Metal Shaft, Bushing Mount with Insulated Plate, Type "T" Solder Lug Terminals, 040 Switch



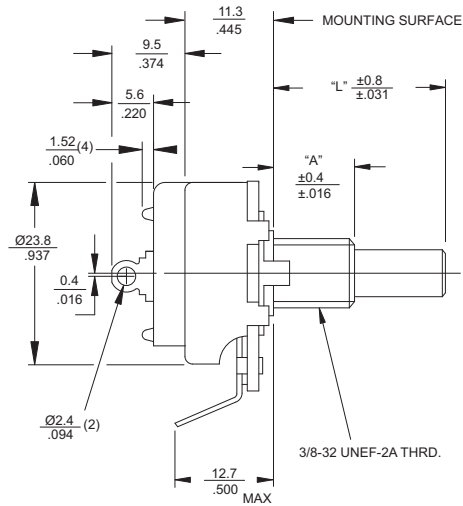
* Refer to page 3 for switch details

041-TMG450 Metal Shaft, Bushing Mount with Insulated Plate, Type "T" Solder Lug Terminals, 041 Switch

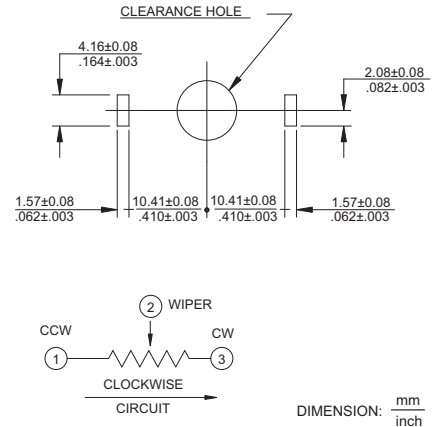
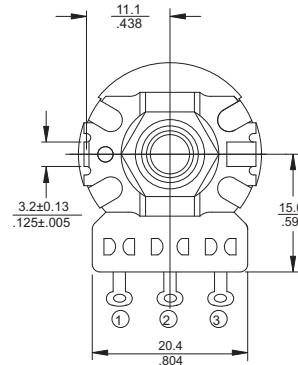


* Refer to page 3 for 041 switch detail

050-T450 Metal Shaft, Bushing Mount, Solder Lug terminals, 050 Switch

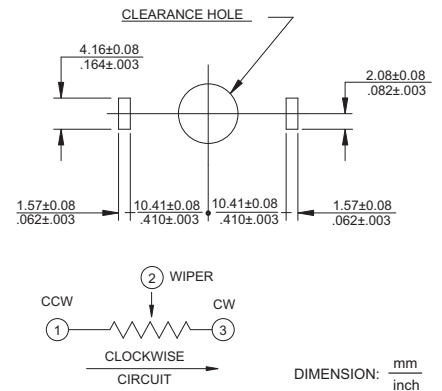
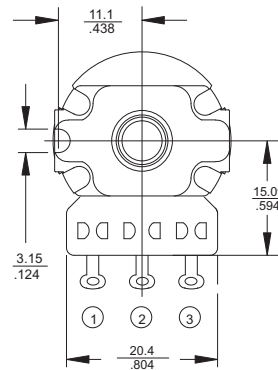
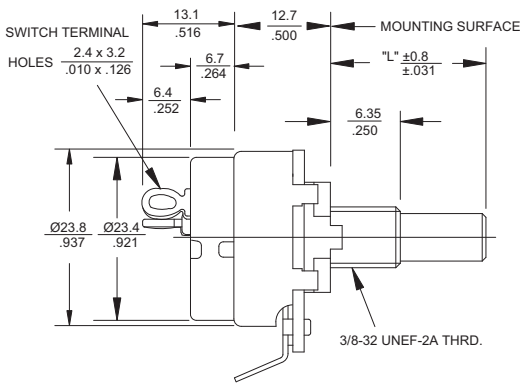


* Refer to Ordering Information for switch details



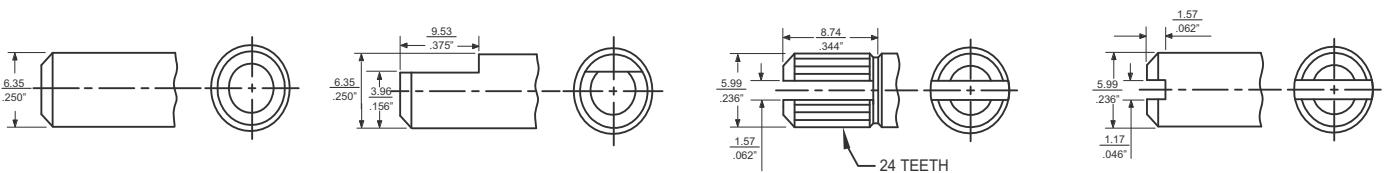
* Refer to page 3 for 050 switch detail

TGC-TMG450 Metal Shaft, Bushing Mount with Insulated Plate, Type "T" Solder Lug Terminals, TGC Switch



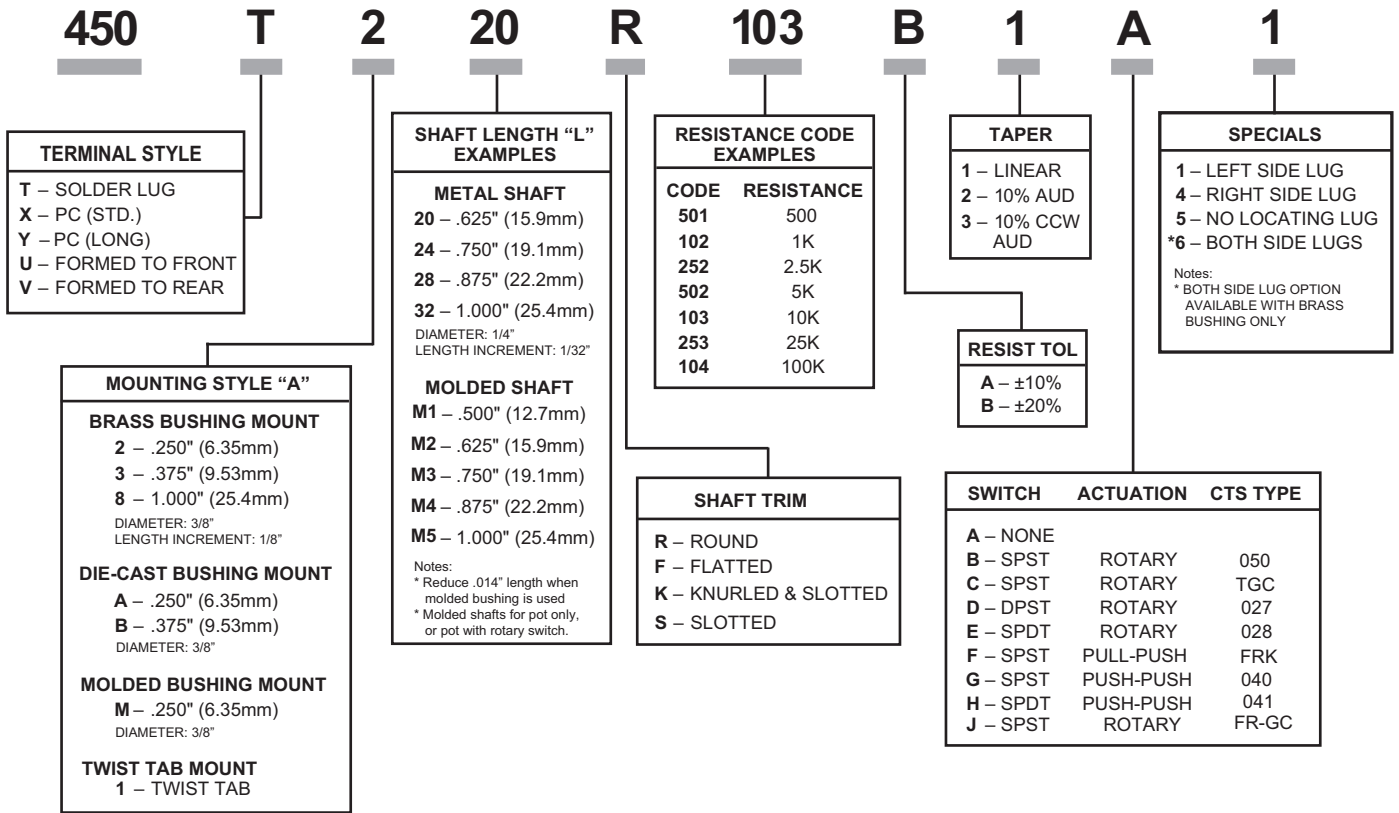
* Refer to page 2 for TGC switch detail

Shaft Trim Options



DIMENSION: $\frac{\text{mm}}{\text{inch}}$

Ordering Information



Please consult factory for other mounting options or custom features not listed.

Looking for pricing, stock, or lifecycle information?

Click below to explore more details on WIN SOURCE:

-  [View 450T328S502A1C1 on WIN SOURCE](#)
-  [CTS Electrocomponents Information](#)

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