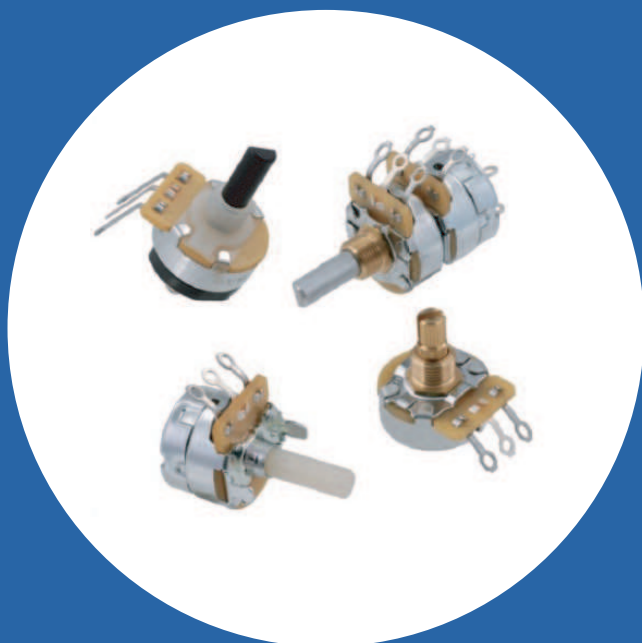


Industrial 24mm Diameter 1/2 Watt, Composition Rotary Potentiometer

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	SWITCH TERMINAL HOLES 2.39/.094x3.18/.125
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	SWITCH TERMINAL HOLES 2.39/.094x3.18/.125
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	SWITCH TERMINAL HOLES 2.39/.094x3.18/.125
Actuating Angle – 20° Actuating Torque – 10 to 20 in. oz. (720 to 1441 gf-cm)			
DIMENSION: $\frac{\text{mm}}{\text{inch}}$			

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

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

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

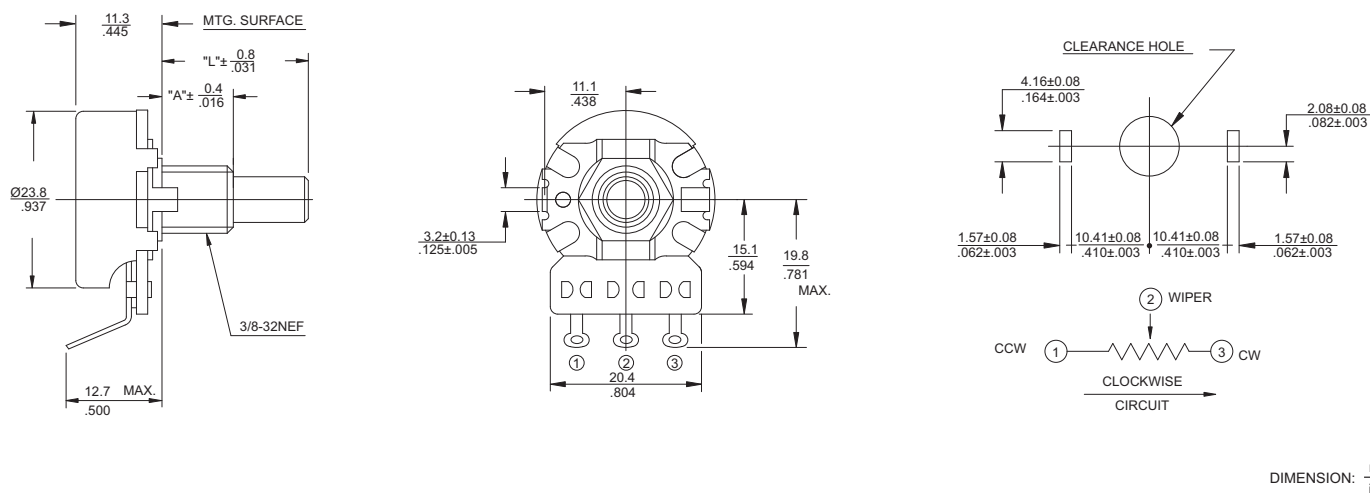
OPTIONAL POWER SWITCHES

Series	Contact Arrangement	Electrical Rating	Outline Drawing
040	SPST Push-on Push-off	6 amps @ 125 volts AC	17.5 .687 5.6 .219 11.9 .469 Ø23.6 .930 Ø17.5 .687 SWITCH TERMINAL HOLES-1.93/.076x3.15/.124
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	17.5 .687 5.6 .219 11.9 .469 Ø23.6 .930 Ø17.5 .687 SWITCH TERMINAL HOLES-1.93/.076x3.15/.124
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)	7.14 .281 7.14 .281 0.4 .016 0.8 .031 9.5 .375 5.6 .219 4.0 .156 0.40 .016 Ø2.4 .094
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	13.1 .515 6.4 .250 6.7 .265 Ø23.39 .921 POLE #1 POLE #2 SWITCH TERMINAL HOLES 2.39/.094 x 3.18/.125
Actuating Angle: 20° Actuating Torque: 10 to 20 in. oz. (720 to 1441 gf-cm)			
DIMENSION: $\frac{\text{mm}}{\text{inch}}$			

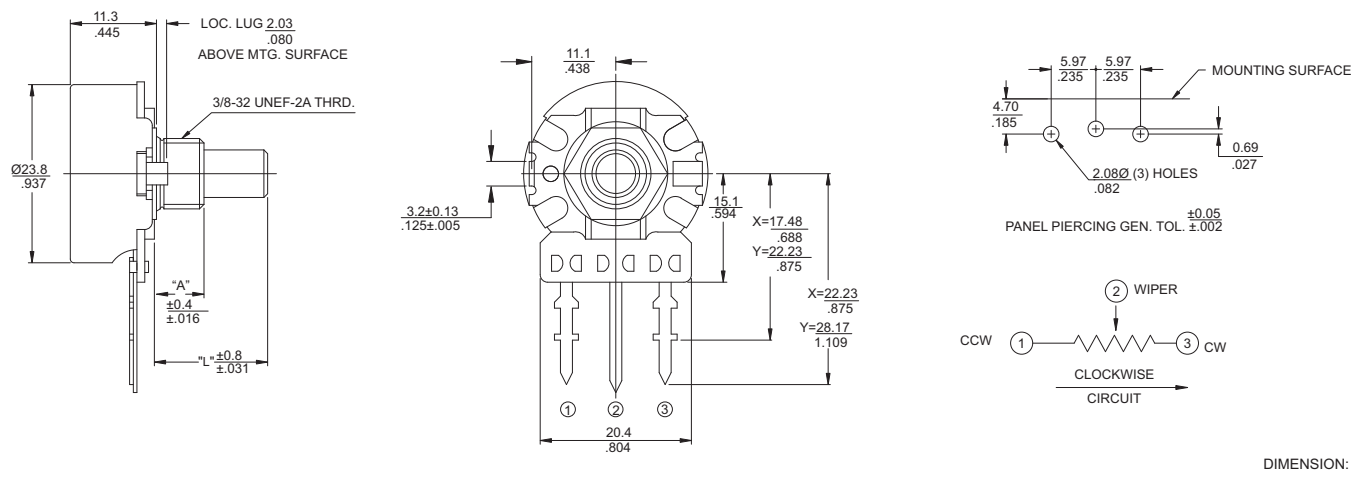
OPTIONAL POWER SWITCHES

Series	Contact Arrangement	Electrical Rating	Outline Drawing	
TV-020	DPST Rotary	125 volts AC Pole #1, TV-1 rating Pole #2, TV-3 rating UL & CSA Recognized		Actuating Angle: 20° Actuating Torque: 10 to 20 in. oz. (720 to 1440 gf-cm)
DIMENSION: $\frac{\text{mm}}{\text{inch}}$				
FR-028	SPDT Rotary	3 amps @ 125 volts AC UL Recognized		Actuating Angle: 20° Actuating Torque: 10 to 20 in. oz. (720 to 1440 gf-cm)
DIMENSION: $\frac{\text{mm}}{\text{inch}}$				
TV-021	SPDT Rotary	TV-4 rating UL Recognized		Actuating Angle: 20° Actuating Torque: 10 to 20 in. oz. (720 to 1440 gf-cm)
DIMENSION: $\frac{\text{mm}}{\text{inch}}$				
FR-K	SPST Pull-on Push-off	3 amps @ 125 volts AC UL & CSA Recognized		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)
DIMENSION: $\frac{\text{mm}}{\text{inch}}$				

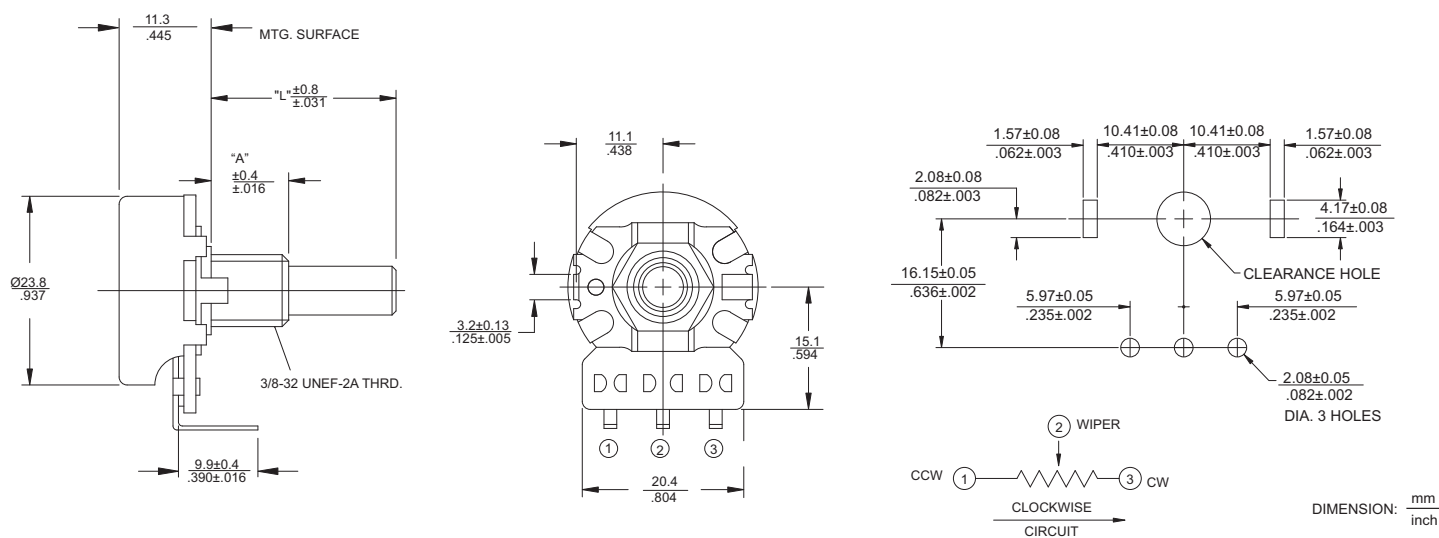
450T Metal Shaft, Bushing Mou, Type "T" Solder Lug Terminals



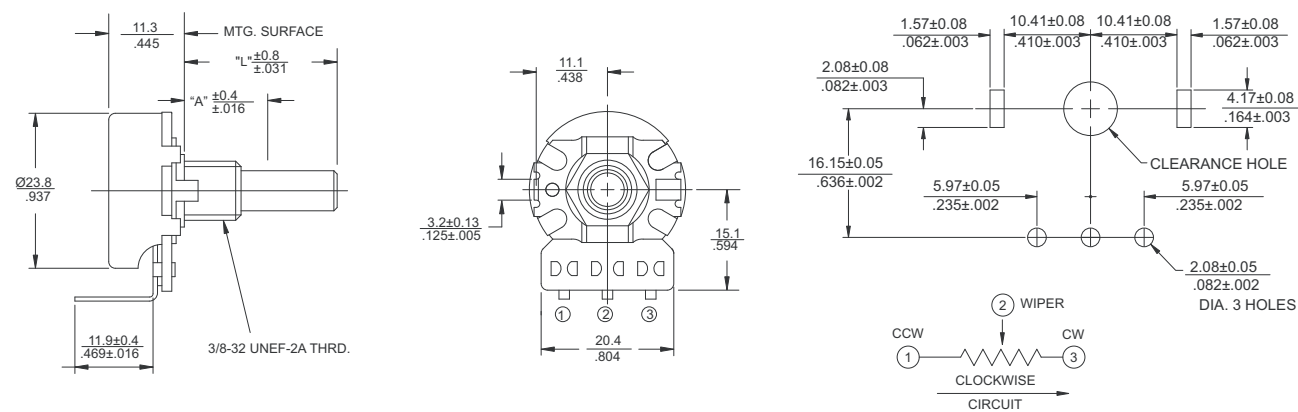
450X / 450Y Metal Shaft, Bushing Mount, Printed Circuit Type "X" Or "Y" Terminals



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

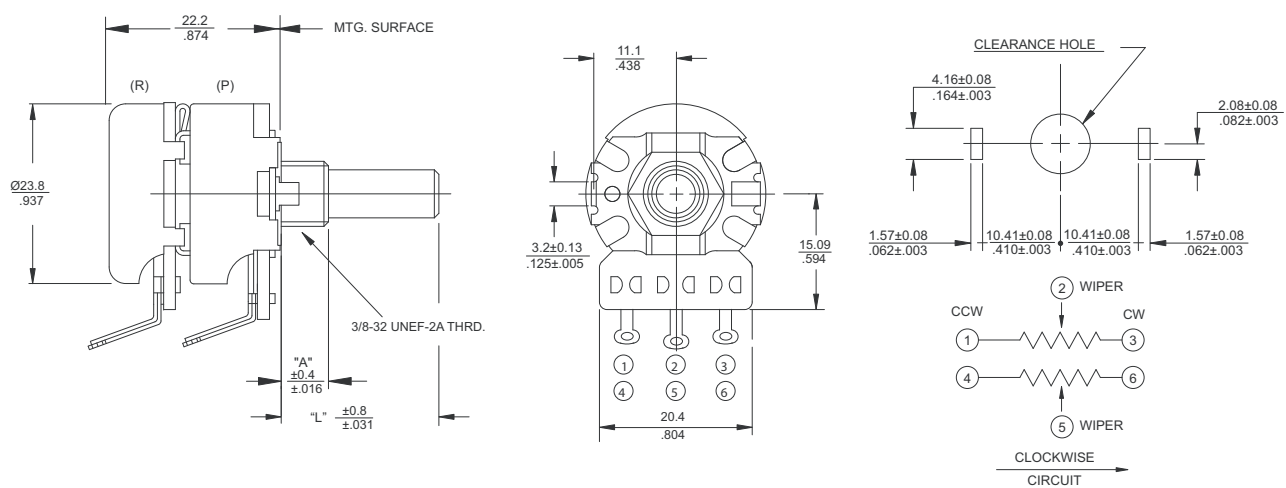


450V Metal Shaft, Bushing Mount, Printed Circuit Type “V” Terminals



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

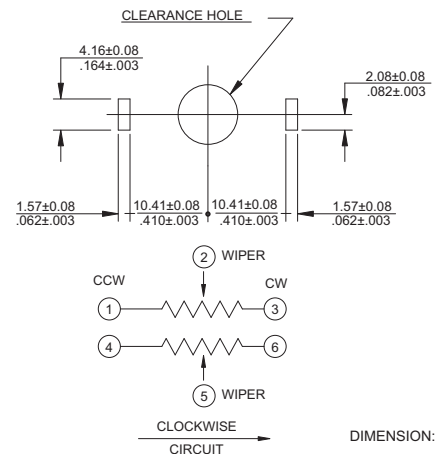
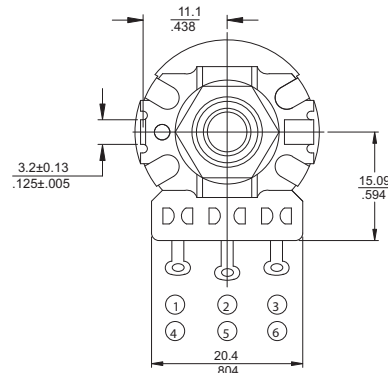
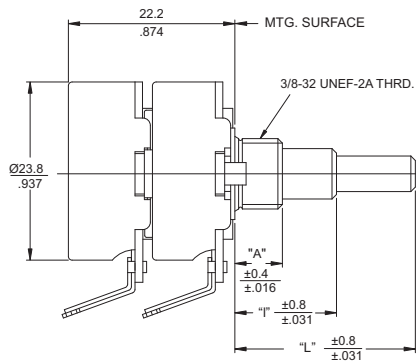
T2-450 Dual-section, Metal Shaft, Bushing Mount, Type “T” Solder Lug Terminals



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

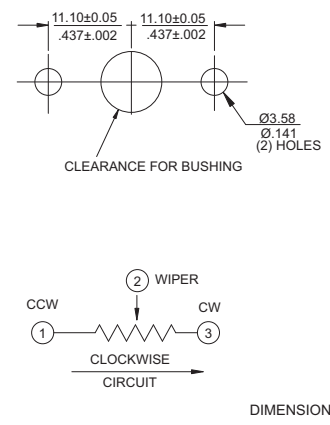
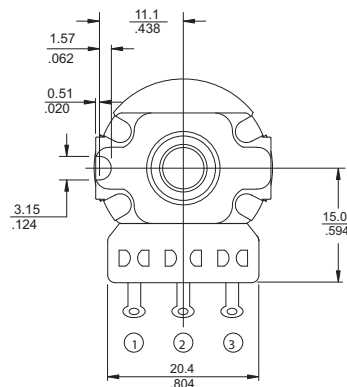
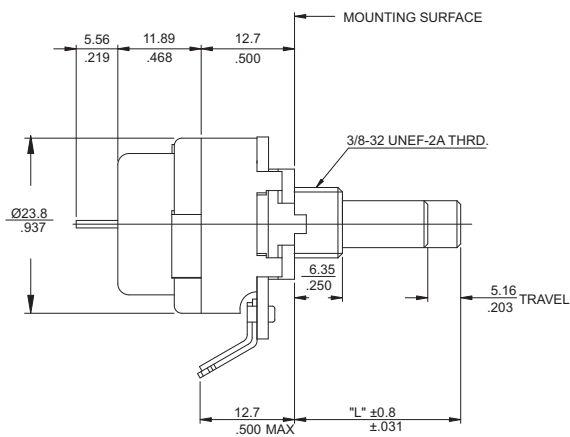
DIMENSION: $\frac{\text{mm}}{\text{inch}}$

TC-2450 Dual-section, Concentric Metal Shafts, Bushing Mount, Type "T" Solder Lug Terminals



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

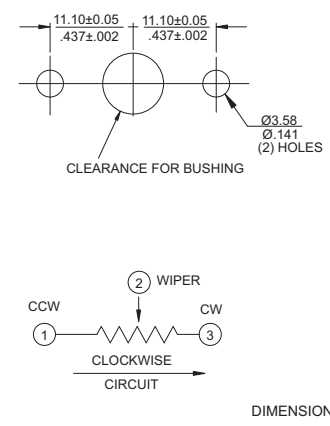
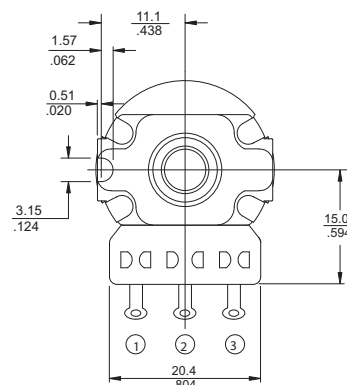
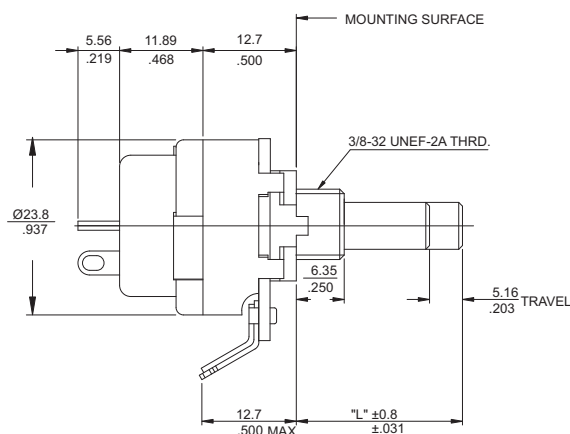
040-TMG450 Metal Shaft, Bushing Mount with Insulated Plate, Type "T" Solder Lug Terminals, 040 Switch



* Refer to page 3 for switch details

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

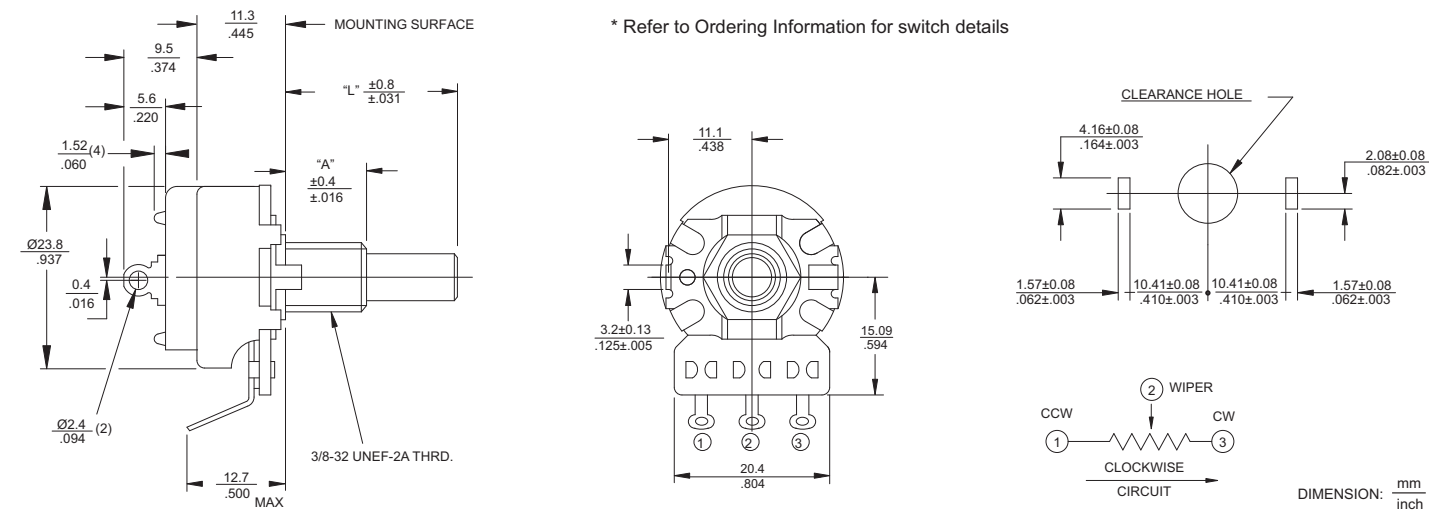
041-TMG450 Metal Shaft, Bushing Mount with Insulated Plate, Type "T" Solder Lug Terminals, 041 Switch



* Refer to page 3 for 041 switch detail

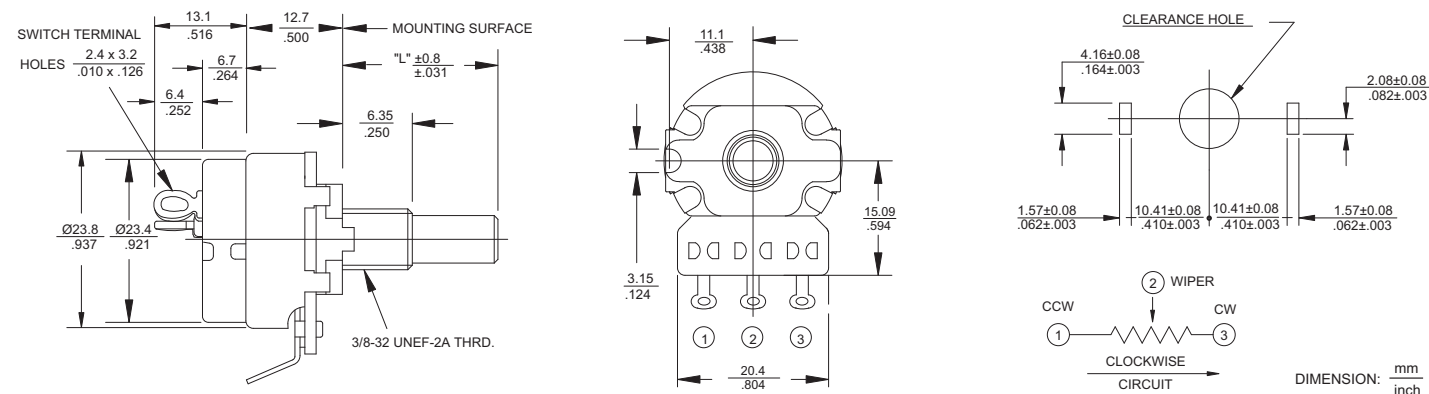
DIMENSION: $\frac{\text{mm}}{\text{inch}}$

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



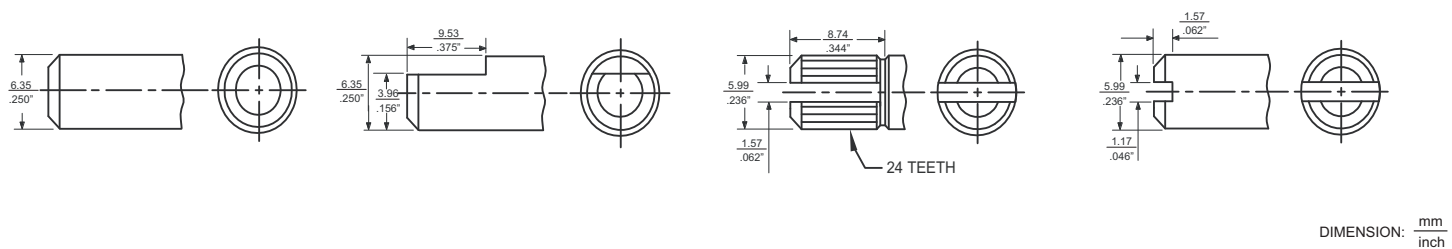
* Refer to page 3 for 050 switch detail

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

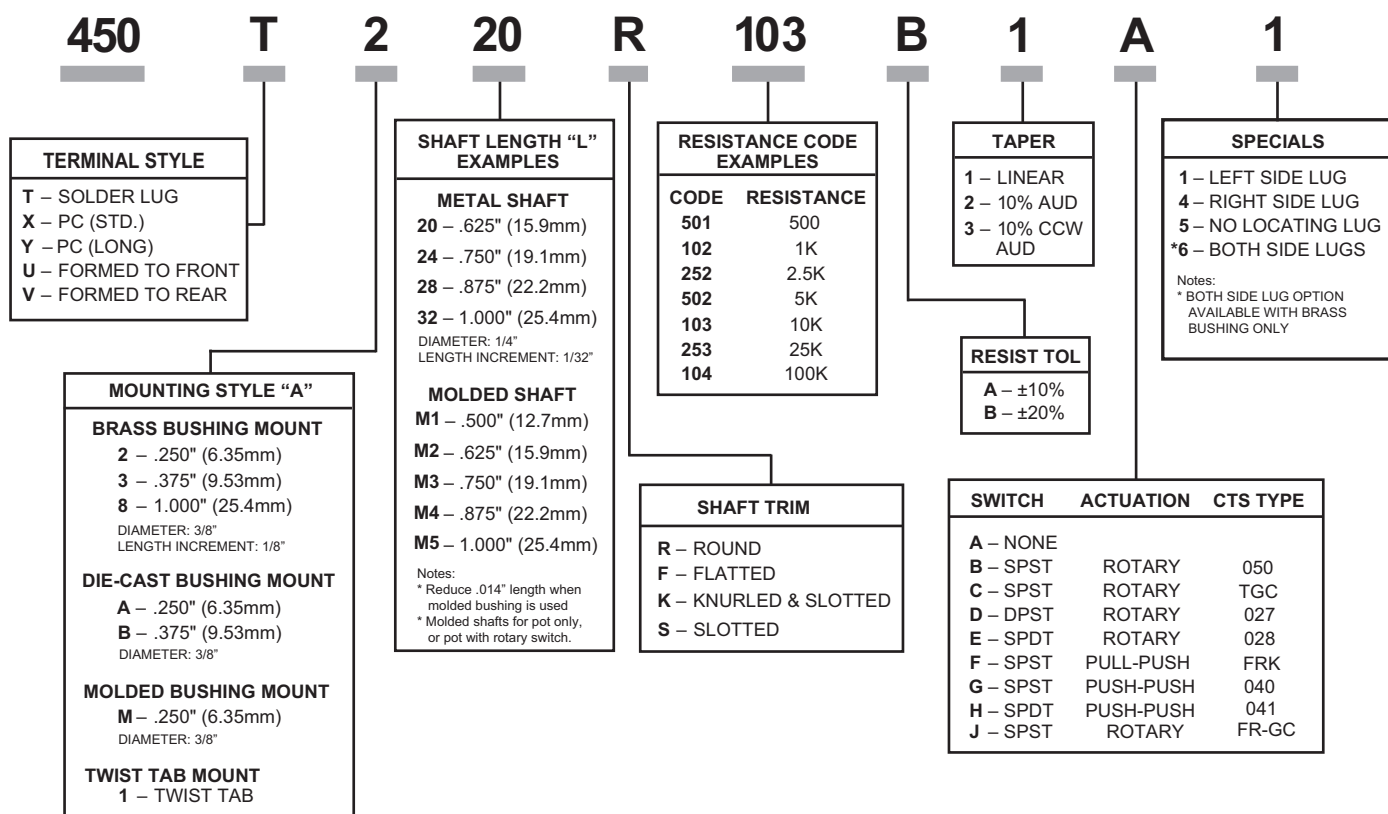


* Refer to page 2 for TGC switch detail

Shaft Trim Options



Ordering Information



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