

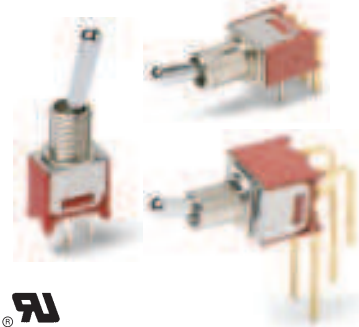
# C&K T Series Subminiature Toggle Switches

## Features/Benefits

- Compact size—small footprint
- Single and double pole models
- PC and panel mount options available
- RoHS compliant models available

## Typical Applications

- Hand-held telecommunications
- Instrumentation
- Medical equipment



  
Models Available

## Specifications

CONTACT RATING: B contact material: 0.4 VA max. @ 20 V AC or DC max. Q contact material (TX01 models): 3 AMPS @ 120 V AC or 28 V DC. All other models: 2 AMPS @ 120 V AC or 28 V DC. See page G-42 for additional ratings.

ELECTRICAL LIFE: TX01 models: 60,000 make-and-break cycles at full load. All other models: 30,000 cycles.

CONTACT RESISTANCE: Below 20 m Ω typ. initial @ 2-4 V DC, 100 mA, for both silver and gold plated contacts.

INSULATION RESISTANCE: 10<sup>9</sup> Ω min.

DIELECTRIC STRENGTH: 1000 Vrms min. @ sea level.

OPERATING TEMPERATURE: -30°C to 85°C.

SOLDERABILITY: Per MIL-STD-202F method 208D, or EIA RS-186E method 9 (1 hour steam aging).

**NOTE:** Any models supplied with P, R, Q, B or G contact material are RoHS compliant and compatible. For the latest information regarding RoHS compliance, please go to: [www.ittcannon.com/rohs](http://www.ittcannon.com/rohs).

**NOTE:** Specifications and materials listed above are for switches with standard options. For information on specific and custom switches, consult Customer Service Center.

## Materials

CASE: Glass filled nylon 6/6, flame retardant, heat stabilized or diallyl phthalate (DAP), (UL 94V-0).

ACTUATOR: Brass, chrome plated.

BUSHING: Brass, nickel plated.

HOUSING: Stainless steel.

SWITCH SUPPORT: Brass, matte-tin plated.

END CONTACTS: B contact material: Copper alloy, with gold plate over nickel plate. Q contact material: Coin silver, silver plated. See above for additional contact materials.

CENTER CONTACTS & TERMINALS: B contact material: Copper alloy, with gold plate over nickel plate. Q contact material: Copper alloy, silver plated. See page G-42 for additional contact materials.

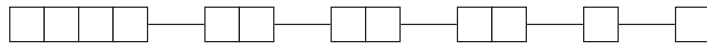
TERMINAL SEAL: Epoxy.

HARDWARE: Nut & Locking Ring: Brass, nickel plated.

Lockwasher: Steel, nickel plated. Additional hardware available separately, see Section O.

## Build-A-Switch

To order, simply select desired option from each category and place in the appropriate box. Available options are shown and described on pages G-37 thru G-42. For additional options not shown in catalog, consult Customer Service Center. All models have epoxy terminal seal and are compatible with all "bottom-wash" PCB cleaning methods.



### Switch Function

- T101** SPDT On-None-On
- T102** SPDT Off-None-On
- T103** SPDT On-Off-On
- T105** SPDT Mom.-Off-Mom.
- T107** SPDT On-Off-Mom.
- T201** DPDT On-None-On
- T205** DPDT Mom.-Off-Mom.

### Actuator

- P3** Flatted, anti-rotation, .490" high
- S** .370" high
- K** Locking lever, round tip
- L1** .620" high
- M1** .220" high
- S1** .410" high

### Bushing

- H** .220" high, threaded, flat
- H9** .220" high, unthreaded, flat
- CF** Splashproof, .310" high, threaded, flat
- D9** .260" high, unthreaded, keyway
- T** .310" high, threaded, flat
- T9** .310" high, unthreaded, flat
- TD** .260" high, threaded, keyway
- TK** .310" high, threaded, keyway
- Y** .220" high, threaded, keyway
- Y9** .220" high, unthreaded, keyway

### Terminations

- A** Right angle, PC thru-hole
- AV** Vertical right angle, PC thru-hole
- C** PC Thru-hole
- V3** Vertical mount V-bracket
- Z** Solder lug
- W** Wire wrap

### Contact Material

- B** Gold
- K** Gold, tin-lead
- P** Gold, matte tin
- Q** Silver
- G** Gold over silver
- L** Gold over silver, tin-lead
- R** Gold over silver, matte-tin

### Seal

- E** Epoxy



Toggle



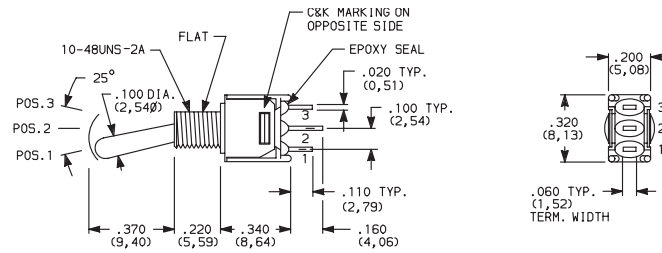
Dimensions are shown: Inch (mm)  
Specifications and dimensions subject to change

# C&K T Series Subminiature Toggle Switches

## SWITCH FUNCTION

NO. POLES	MODEL NO.	SWITCH FUNCTION			CONNECTED TERMINALS			SCHEMATIC
		POS. 1	POS. 2	POS. 3	POS. 1	POS. 2	POS. 3	
SP	<b>T101</b>	ON	NONE	ON	2-3	N/A	2-1	
	<b>T103</b>	ON	OFF	ON	2-3	OPEN	2-1	
	<b>T105</b>	MOM.	OFF	MOM.				
	<b>T107</b>	ON	OFF	MOM.	OPEN	N/A	3-1	
	<b>T102</b>	OFF	NONE	ON				

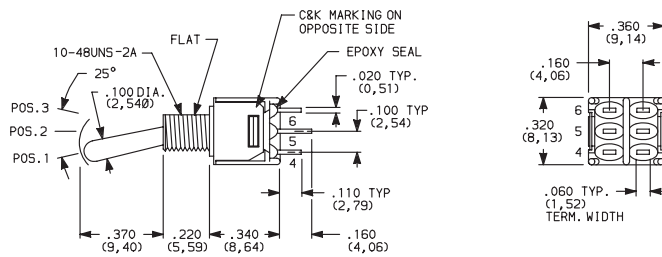
### SPDT



Part number shown: T101SHZQE

DP	<b>T201</b>	ON	NONE	ON	2-3,5-6	N/A	2-1,5-4	
	<b>T205</b>	MOM.	OFF	MOM.	2-3,5-6	OPEN	2-1,5-4	

### DPDT

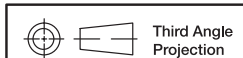


Terminal Nos.  
For Reference Only

Part number shown: T201SHZQE

MOM. = Momentary

All models with all options when ordered with G, L, R or Q contact material.



Dimensions are shown: Inch (mm)  
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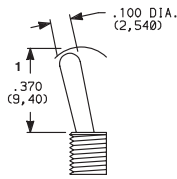


Toggle

# C&K T Series Subminiature Toggle Switches

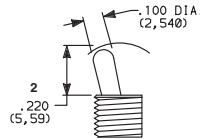
## ACTUATOR

**S** .370" HIGH

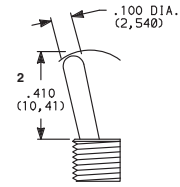


Standard with Z, C or W terminations.

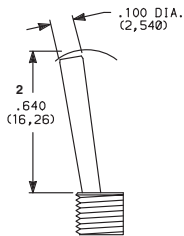
**M1** .220" HIGH  
(with "T" bushing)



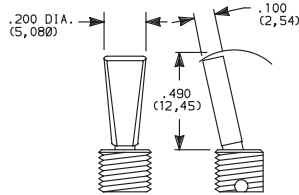
**S1** .410" HIGH  
(with "T" bushing)



**L1** .620" HIGH



**P3** ANTI-ROTATION, FLATTED,  
.450" HIGH

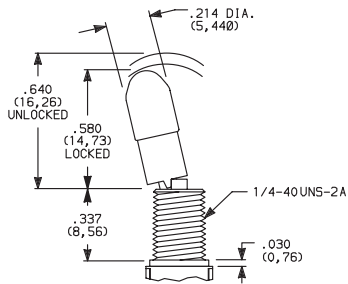


Available with T & T9 bushings only.  
Dress nut part number 709901201  
supplied standard with threaded bushing.

<sup>1</sup> Actuator shown with standard H bushing.  
Subtract .040 (1,02) for TD and D9 bushings,  
subtract .090 (2,29) for T, T9, TK, K9 &  
CF bushings.

<sup>2</sup> Actuators shown with T, T9, TK & CF bushings,  
add .050 (1,27) for TD and D9 bushings,  
add .090 (2,29) for H, H9, Y & Y9 bushings.  
All actuators have chrome finish (except K).

**K** LOCKING LEVER



Not available with CF bushing option.

Bushing option code not required. Not available with TX05 & TX07 models.

### Locking Positions



-01 & -02 Models  
2 Position lock



-03 & -11 Models  
3 Position lock



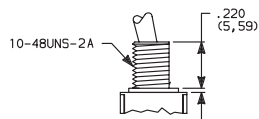
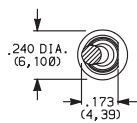
-08 Models  
1 Position lock

K actuators have natural aluminum finish.

Keyway on right side. To prevent accidental actuation, toggles  
must be lifted before being actuated. When released, toggles  
again lock in place. Overtightening mounting nut may cause  
actuator to bind.

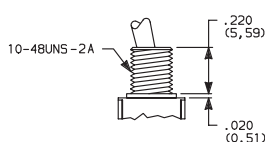
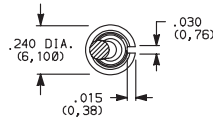
## BUSHING

**H** .220" HIGH THREADED, FLAT

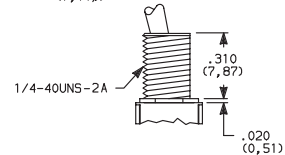
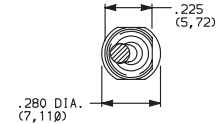


H standard with C, W & Z terminations.  
H9 standard with A, AV & V3 terminations.

**Y** .220" HIGH THREADED, KEYWAY



**T** .310" HIGH THREADED, FLAT



**T9** .310" HIGH UNTHREADED, FLAT

Toggle

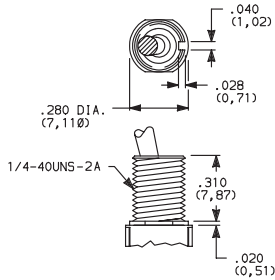


Dimensions are shown: Inch (mm)  
Specifications and dimensions subject to change

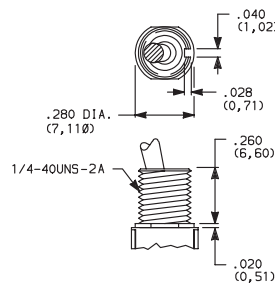
# C&K T Series Subminiature Toggle Switches

## BUSHING

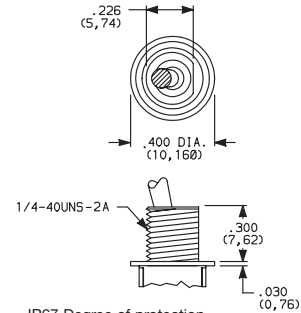
**TK** .310" HIGH THREADED, KEYWAY



**TD** .260" HIGH THREADED, KEYWAY

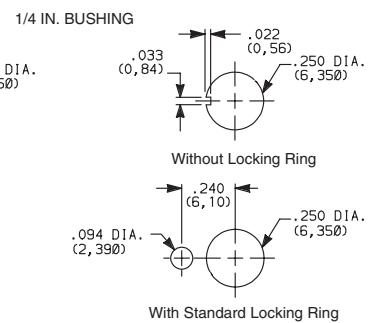
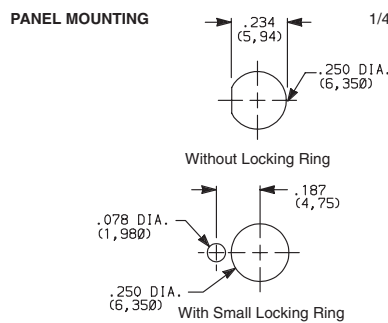
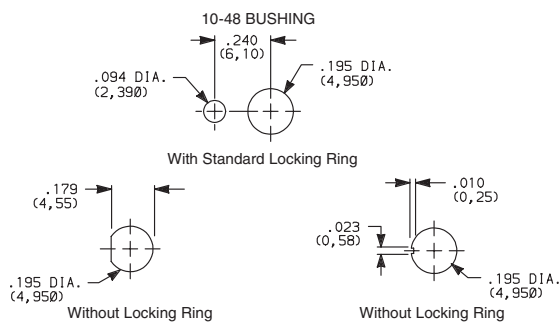


**CF** SPLASHPROOF, .310" HIGH THREADED, FLAT



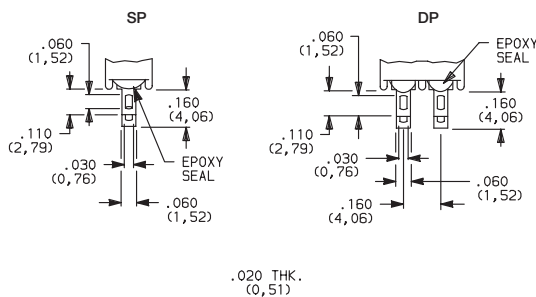
IP67 Degree of protection.  
Internal o-ring actuator seal and external bushing seal washer standard.

Not available with K locking lever option.

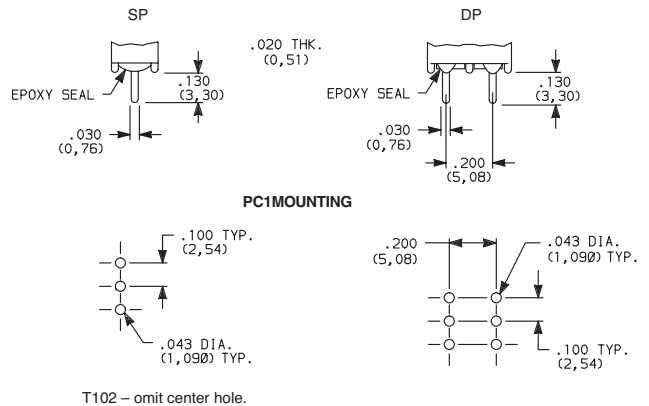


## TERMINATIONS

**Z** SOLDER LUG

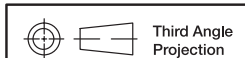
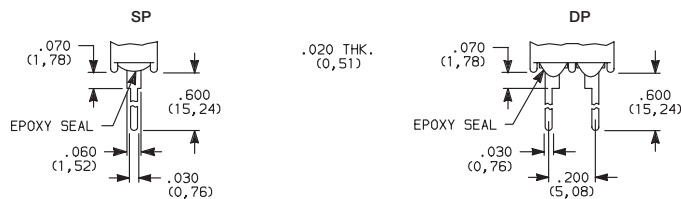


**C** PC THRU-HOLE



Not available with K, P, L or R contact materials.

**W** WIRE WRAP



Dimensions are shown: Inch (mm)  
Specifications and dimensions subject to change



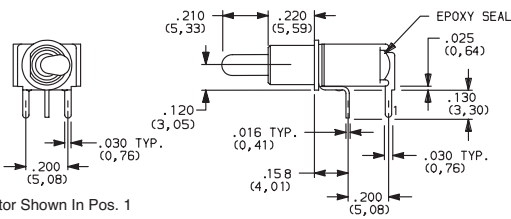
Toggle

# C&K T Series Subminiature Toggle Switches

## TERMINATIONS

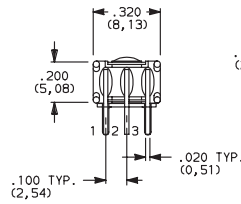


### A RIGHT ANGLE, PC THRU-HOLE

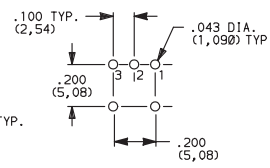


Actuator Shown In Pos. 1

Not available with T102 model.

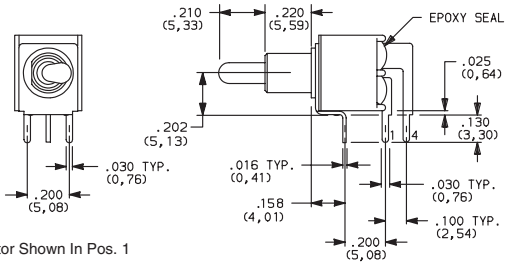


#### PC1 MOUNTING

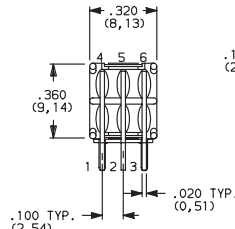


T101MH9ABE  
Horizontal Actuation  
SPDT

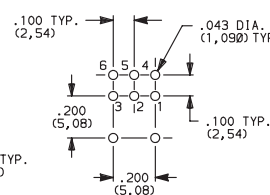
### A RIGHT ANGLE, PC THRU-HOLE



Actuator Shown In Pos. 1

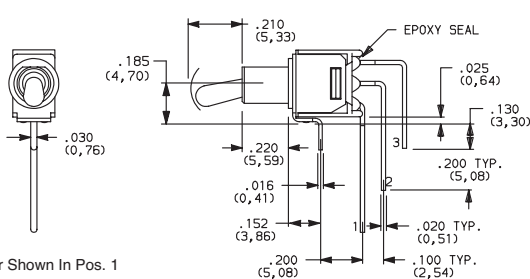


#### PC MOUNTING



T201MH9ABE  
Horizontal Actuation  
DPDT

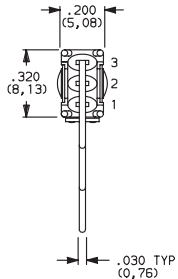
### AV VERTICAL RIGHT ANGLE, PC THRU-HOLE



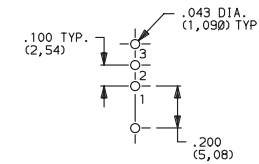
Actuator Shown In Pos. 1

T102 Models: Omit terminal 2

NOTE: Terminal bend radii and lead-in manufacturing option.

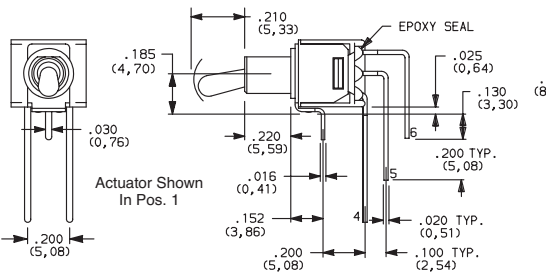


#### PC1 MOUNTING

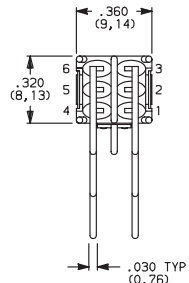


T101MH9AVBE  
Vertical Actuation  
SPDT

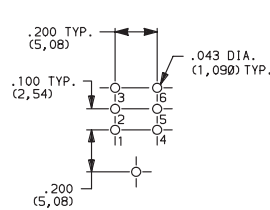
### AV VERTICAL RIGHT ANGLE, PC THRU-HOLE



Actuator Shown In Pos. 1



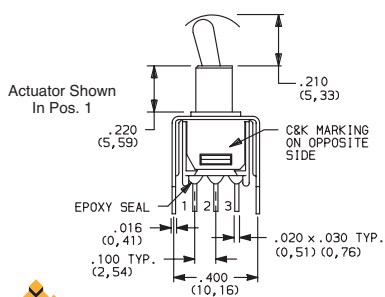
#### PC1 MOUNTING



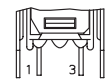
T201MH9AVBE  
Vertical Actuation  
DPDT

NOTE: Terminal bend radii and lead-in manufacturing option.

### V3 VERTICAL MOUNT, V-BRACKET

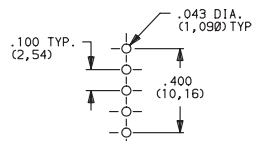


Actuator Shown In Pos. 1



T102 Models: Omit terminal 2

#### PC1 MOUNTING



T102 Models: Omit center hole.



T101MH9V3BE  
SPDT



Third Angle Projection  
Dimensions are shown: Inch (mm)  
Specifications and dimensions subject to change

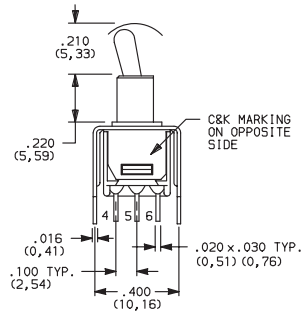
# C&K T Series Subminiature Toggle Switches

## TERMINATIONS

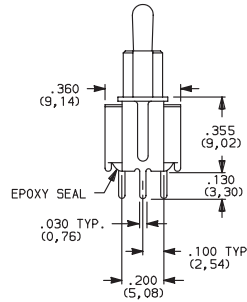
**V3** VERTICAL MOUNT, V-BRACKET



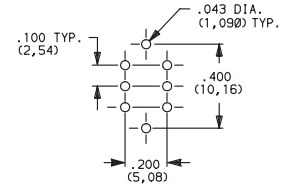
T201MH9V3BE  
DPDT



Actuator Shown In Pos. 1



PC MOUNTING




## CONTACT MATERIAL

OPTION CODE	RoHS1 COMPLIANT	RoHS1 COMPATIBLE	CONTACT MATERIAL	TERMINAL PLATING	RATINGS	
<b>B</b>	YES	YES	GOLD <sup>1</sup>	GOLD <sup>1</sup>	LOW LEVEL/ DRY CIRCUIT	0.4 VA MAX. @ 20 V AC OR DC MAX.
<b>K</b>	NO	YES		TIN-LEAD <sup>6</sup>		
<b>P</b>	YES	YES		MATTE-TIN <sup>7</sup>		
<b>Q</b>	YES	YES	SILVER <sup>4,5</sup>	SILVER <sup>5</sup>	POWER	TX01 MODELS: 3 AMPS @ 120 V AC OR 28 V DC. ALL OTHER MODELS: 2 AMPS @ 120 V AC OR 28 V DC.
<b>G</b>	YES	YES	GOLD OVER SILVER <sup>2,3</sup>	GOLD <sup>3</sup>	LOW LEVEL/DRY CIRCUIT OR POWER	TX01 MODELS: 0.4 VA MAX @ 20 V AC OR DC MAX. OR 3 AMPS @ 120 V AC OR 28 V DC. ALL OTHER MODELS: 0.4 VA MAX @ 20 V AC OR DC MAX. OR 2 AMPS @ 120 V AC OR 28 V DC.
<b>L</b>	NO	YES		TIN-LEAD <sup>6</sup>		
<b>R</b>	YES	YES		MATTE-TIN <sup>7</sup>		

\* Note: See Technical Data section of this catalog for RoHS compliant and compatible definitions and specifications.

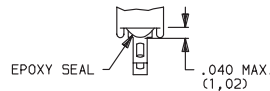
- 1 CONTACTS & TERMINALS: Copper alloy, with gold plate over nickel plate.
- 2 END CONTACTS: Coin silver, with gold plate over nickel plate.
- 3 CENTER CONTACTS & ALL TERMINALS: Copper alloy, with gold plate over nickel plate.
- 4 END CONTACTS: Coin silver, silver plated.
- 5 CENTER CONTACT & ALL TERMINALS: Copper alloy, silver plated.
- 6 TERMINALS: Copper alloy, with tin-lead alloy over nickel plate.
- 7 TERMINALS: Copper alloy, with matte-tin over nickel plate.

**NOTE:** Any models supplied with P, R, Q, B or G contact material are RoHS compliant. For the latest information regarding RoHS compliance, please go to: [www.ittcannon.com/rohs](http://www.ittcannon.com/rohs).

All models  with all options when ordered with R, G, L or Q contact material.  
B contact material standard with A, AV, V3 & W terminations.  
Q contact material standard with C & Z terminations.

## SEAL

**E** EPOXY SEAL



Dimensions are shown: Inch (mm)  
Specifications and dimensions subject to change



Toggle