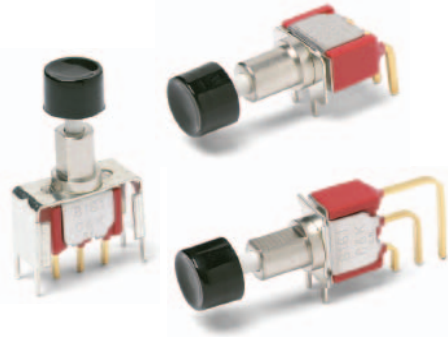


**A****Pushbutton**

8060 Series

Alternate Action and Momentary Pushbutton Switches



Features/Benefits

- Long travel
- Available with LED
- Long life contact design
- Epoxy terminal seal compatible with bottom wash cleaning
- RoHS compliant models available

Typical Applications

- Instrumentation
- Computers and peripherals
- Telecommunications and networking equipment



Models Available

Specifications

CONTACT RATING: Q contact material: 6 AMPS @ 120 V AC or 28 V DC; 3 AMPS @ 250 V AC. See page A-59 for additional ratings.

ELECTRICAL LIFE: 50,000 make-and-break cycles at full load.

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

INSULATION RESISTANCE: 10⁹Ω min.

DIELECTRIC STRENGTH: 1,000 Vrms min. @ sea level.

OPERATING TEMPERATURE: -30°C to 65°C

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

CAP INSTALLATION FORCE: 10 lbs. maximum permissible.

NOTE: Any models supplied with P, R, S, Q, B or G contact material are RoHS compliant.

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 or diallyl phthalate (DAP), flame retardant (UL 94V-0).

PLUNGER: S, S1, S2 Options: Glass filled nylon or glass filled polyester (PBT) (UL 94V-0). L, L1 Options: Brass, nickel plated.

CAP & FRAME: Nylon, black standard.

BUSHING: Brass or zinc, nickel plated.

HOUSING: Stainless steel.

SWITCH SUPPORT: Brass or steel, matte-tin plated.

END CONTACTS: Q contact material: Coin silver, silver plated. See page A-59 for additional contact materials.

CENTER CONTACT & ALL TERMINALS: Q contact material: Copper alloy, silver plated. See page A-59 for additional contact materials.

TERMINAL SEAL: Epoxy. Refer to soldering and cleaning in Technical Data Chapter.

HARDWARE: Nut & Locking Ring: Brass, nickel plated; Lockwasher: Steel, nickel plated.

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 A-53 thru A-61. 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	Actuator or Plunger	Bushing	Terminations	Contact Material	Seal	Cap Color	Frame Color	LED Color
8161 SPDT On-On	S .710" high plunger with .375" dia. cap	H .300" high, flat, hi torque	A Right angle, PC thru-hole	B Gold	E Epoxy	2 Black	2 Black	3 Red
8168 SPDT On-Mom.	J80 Snap-in	H9 .300" high, flat, hi torque	AV2 Vertical right angle, PC thru-hole	P Gold, matte-tin	I Epoxy potted base	1 White		NONE Models without LED
8261 DPDT On-On	J81 Snap-in with frame	NONE No bushing choice required	C PC Thru-hole	Q Silver		3 Red		
	J82 Snap-in with frame for LED	Y3 7.6mm, keyway	Z Solder lug	S Silver, matte-tin		4 Orange		
	J86 Snap-in with frame & LED		A3 Right angle, snap-in, PC thru-hole	G Gold over silver		5 Yellow		
	L .740" high plunger with .395" dia. cap		AV3 Vertical right angle, snap-in, PC thru-hole	R Gold over silver, matte-tin		9 Gray		
	L1 .740" high plunger with .590" dia. cap		V3 .460" high, V-bracket					
	S1 .615" high plunger with .200" dia. cap		V4 .630" high, V-bracket					
	S2 .710" high plunger with .310" dia. cap		V6 .460" high, V-bracket					
			V21 .555" high, snap-in V-bracket					
			V31 .460" high, snap-in V-bracket					
			W .750" long, wire wrap					
			Z3 Quick connect					



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

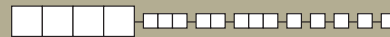
8060 Series Alternate Action and Momentary Pushbutton Switches



A

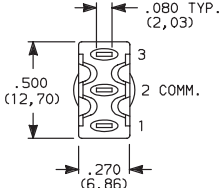
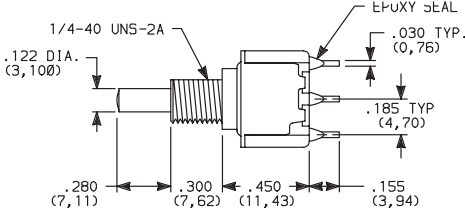
Pushbutton

SWITCH FUNCTION



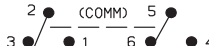
NO. POLES	MODEL NO.	SWITCH FUNCTION		CONNECTED TERMINALS		SCHEMATIC
		POS. 1	POS. 2	POS. 1	POS. 2	
						
		C&K marking this side		C&K marking this side		
SP	8161 8168	ON	ON	2-3	2-1	
		ON	MOM.	2-3	2-1	

SPDT

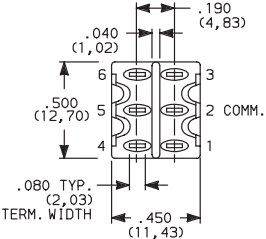
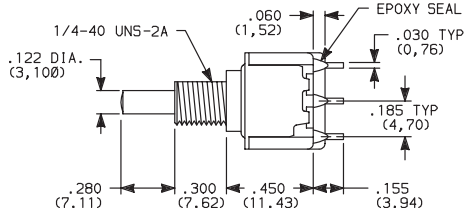


Part number shown: 8161SHZQE

Terminal Nos.
For Reference Only

NO. POLES	MODEL NO.	SWITCH FUNCTION		CONNECTED TERMINALS		SCHEMATIC
		POS. 1	POS. 2	POS. 1	POS. 2	
						
		C&K marking this side		C&K marking this side		
DP	8261	ON	ON	2-3,5-6	2-1,5-4	

DPDT



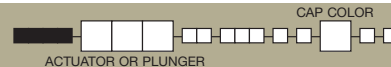
Part number shown: 8261SHZQE

Terminal Nos.
For Reference Only

MOM. = Momentary

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

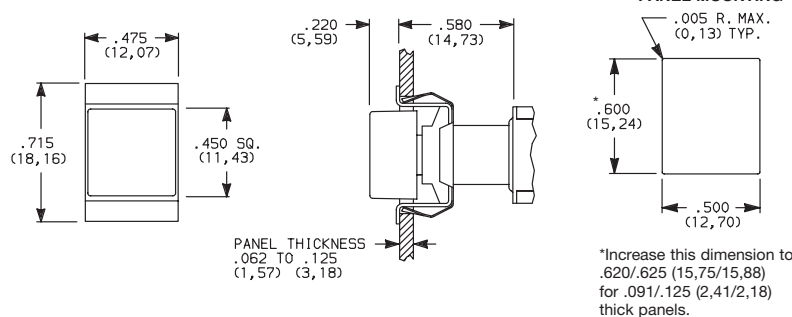
ACTUATOR—SNAP-IN FRONT MOUNT



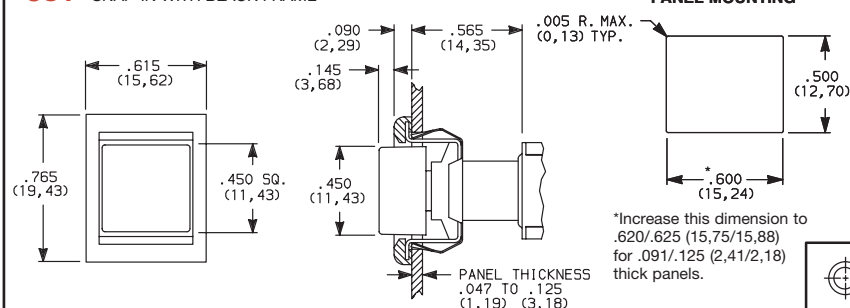
OPTION CODE	CAP COLOR
2	BLACK
1	WHITE
3	RED
4	ORANGE
5	YELLOW
9	GRAY

Cap Finish: matte.
Other colors available, consult Customer Service Center.
Available with C, W, Z or Z3 terminations.
NOTE: Caps & frames available separately, see pages A-60 and A-61.

J80 SNAP-IN



J81 SNAP-IN WITH BLACK FRAME



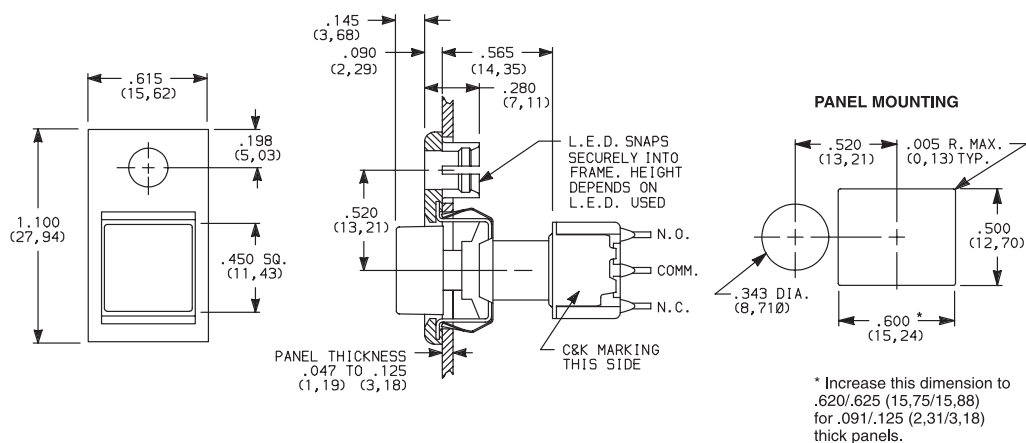
C&K

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

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ACTUATOR—SNAP-IN FRONT MOUNT



OPTION CODE	CAP COLOR
2	BLACK
1	WHITE
3	RED
4	ORANGE
5	YELLOW
9	GRAY

The diagram illustrates a 1D barcode structure. It consists of a series of colored blocks. The first block is labeled "ACTUATOR OR PLUNGER". This is followed by a series of blocks labeled "CAP COLOR". The final block is labeled "LED COLOR".

Top View Dimensions:

- Overall width: .615 (15,62)
- Overall height: .765 (19,43)
- Pin pitch (center-to-center): .197 (5,00)
- Pin width: .450 SQ. (11,43)
- Pin spacing from edge: .079 (2,01)

Side View Dimensions:

- Pin height: .090 (2,29)
- Pin thickness: .145 (3,68)
- Package body height: .562 (14,27)

Panel Mounting View Dimensions:

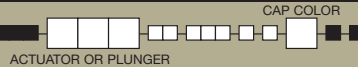
- Panel thickness: .047 TO .125 (1,19) (3,18)
- Pin labels: N.C., COMM., N.O.
- Short lead 15 cathode
- CRK MARKING ON OPPOSITE SIDE
- Panel mounting hole dimensions: .600 (15,24) height, .500 (12,70) width
- Panel mounting hole radius: .005 R. MAX. (0,13) TYP.

OPTION CODE	CAP COLOR
2	BLACK
1	WHITE
3	RED
4	ORANGE
5	YELLOW
9	GRAY

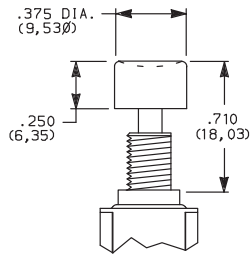
www.ck-components.com

8060 Series Alternate Action and Momentary Pushbutton Switches

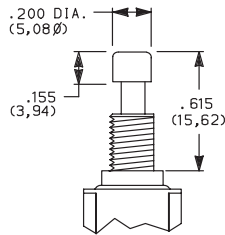
PLUNGER



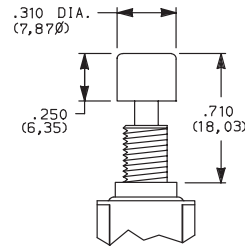
S PLUNGER WITH CAP P/N 7527



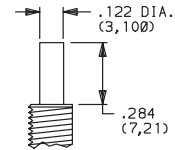
S1 PLUNGER WITH CAP P/N 7089



S2 PLUNGER WITH CAP P/N 8018

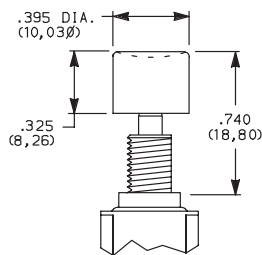


S, S1, S2 plunger dimensions.

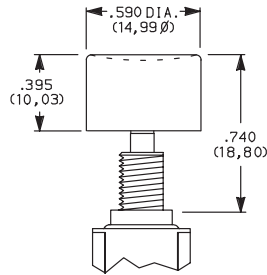


Plunger material: Glass filled nylon or glass filled polyester (UL 94V-0).

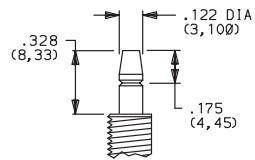
L PLUNGER WITH CAP P/N 8941



L1 PLUNGER WITH CAP P/N 8940



L, L1 plunger dimensions.



Plunger Material: Brass, chrome plated.

OPTION CODE	CAP COLOR
2	BLACK
1	WHITE
3	RED
4	ORANGE
5	YELLOW
9	GRAY

Cap Finish: gloss. Cap supplied not installed. Other colors available, consult Customer Service Center.

NOTE: When selecting plunger and cap option, bushing selection must also be made, see below.

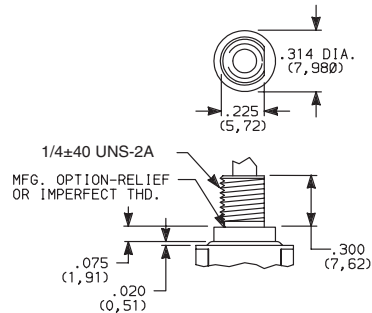
BUSHING



H .300" HIGH THREADED, FLAT
H9 .300" HIGH UNTHREADED, FLAT

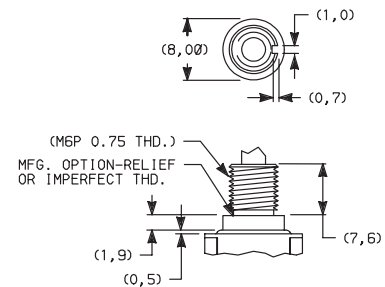
NONE NO BUSHING CHOICE REQUIRED (JXX ACTUATORS)

Y3 7.6mm THREADED, KEYWAY



H bushing standard with C, W, Z or Z3 terminations.
H9 bushing standard with A, A3, AV2, AV3, or V3-V31 terminations.

Withstands 12 in./lbs. of torque with no distortion.

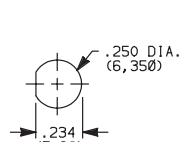


Withstands 12 in./lbs. of torque with no distortion.

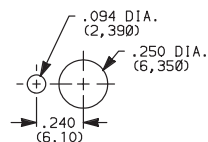
NOTE: When selecting bushing option, plunger selection must also be made, see above. No bushing option choice required when any JXX actuator option is selected.

PANEL MOUNTING

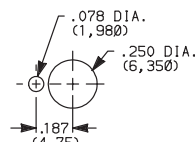
1/4 IN. BUSHING



Without Locking Ring

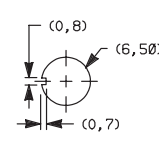


With Standard Locking Ring

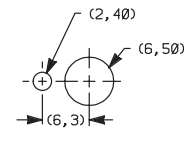


With Small Locking Ring

METRIC BUSHING



Without Locking Ring



With Locking Ring

NOTE: Two mounting nuts, locking ring and lockwasher supplied standard with threaded bushings. Optional mounting nut and locking ring styles and finishes available, see section "Technical Data and Additional Hardware".



Third Angle Projection

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

C&K



A

Pushbutton

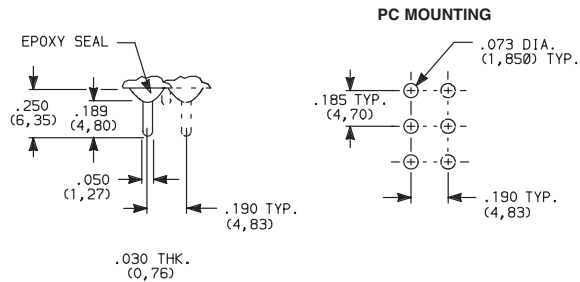


8060 Series Alternate Action and Momentary Pushbutton Switches

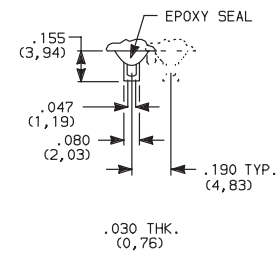
TERMINATIONS



C PC THRU-HOLE



Z SOLDER LUG

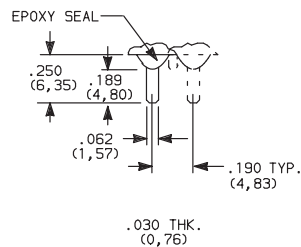


SPDT and DPDT

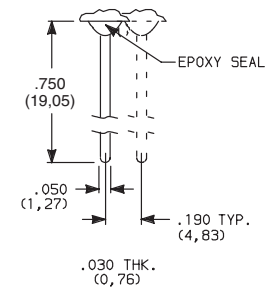
SPDT and DPDT

Not available with P, S or R contact material.

Z3 QUICK CONNECT



W WIRE WRAP



SPDT and DPDT

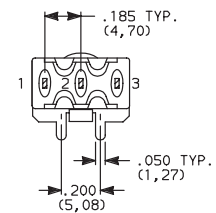
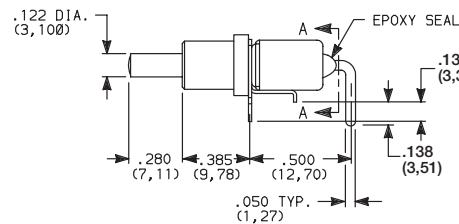
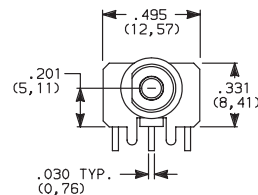
SPDT and DPDT

Not available with P, S or R contact material.
Mating quick connector available;
order part number 530100000, page A-61.

A RIGHT ANGLE, PC THRU-HOLE

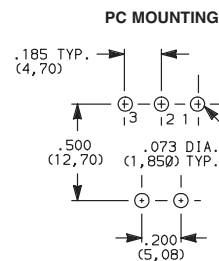
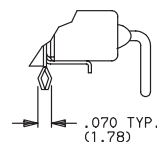
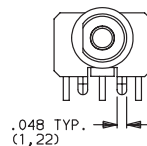


8161SH9ABE2
SPDT



SECTION A-A

A3 RIGHT ANGLE, SNAP-IN, PC THRU-HOLE



Not available with I seal.
Terminal bend radii and lead-in manufacturing option.

NOTE: PC pattern must clear switch support leg.



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

8060 Series Alternate Action and Momentary Pushbutton Switches

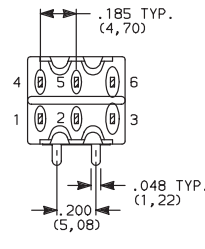
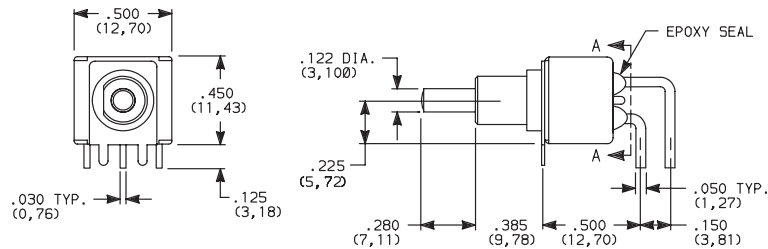
TERMINATIONS



A

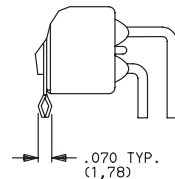
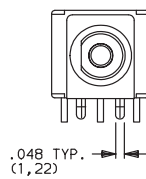
Pushbutton

A RIGHT ANGLE, PC THRU-HOLE

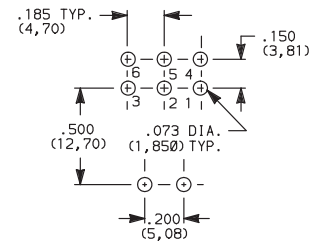


8261SH9ABE2
DPDT

A3 RIGHT ANGLE, SNAP-IN, PC THRU-HOLE

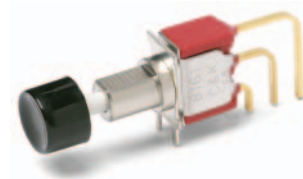
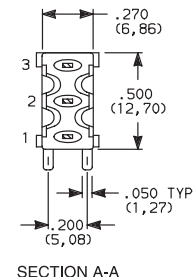
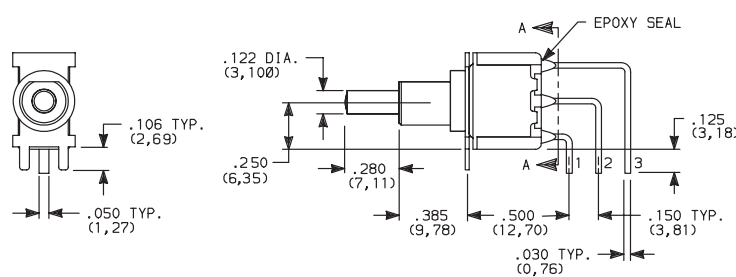


PC MOUNTING



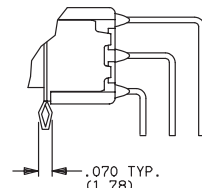
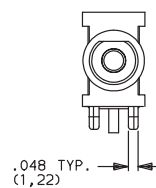
Not available with I seal.
Terminal bend radii and lead-in manufacturing option.

AV2 VERTICAL RIGHT ANGLE, PC THRU-HOLE, .150" PITCH

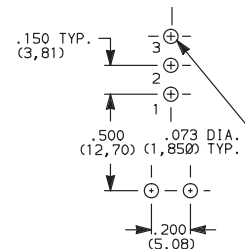


8161SH9AV2BE2
SPDT

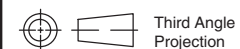
AV3 VERTICAL RIGHT ANGLE, SNAP-IN, PC THRU-HOLE, .150" PITCH



PC MOUNTING



Not available with I seal.
Terminal bend radii and lead-in manufacturing option.

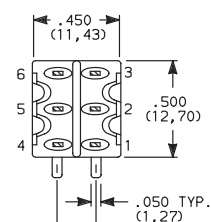


Dimensions are shown: Inches (mm)
Specifications and dimensions subject to change

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TERMINATIONS



SECTION A-A

.048 TYP.
(1,22)

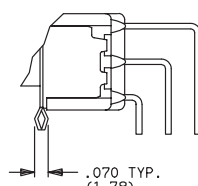
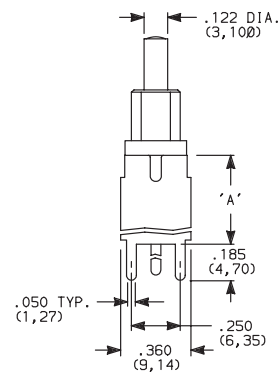
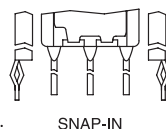


Figure 1 is a schematic diagram of a 6N6 vacuum tube circuit. The tube is shown with its internal structure: a cathode at the bottom, a control grid (G1) with 2 pins, a screen grid (G2) with 5 pins, and a plate (P1) with 6 pins. The cathode is connected to ground (0) and has a .500 (12, 70) bias. The control grid (G1) is connected to a .150 (3, 81) bias. The screen grid (G2) is connected to a .190 (4, 83) bias. The plate (P1) is connected to a .073 (1, 850) bias. The plate is also connected to a .200 bias. The diagram includes various labels for pins and bias values.

V6 VERTICAL MOUNT, V-BRACKET

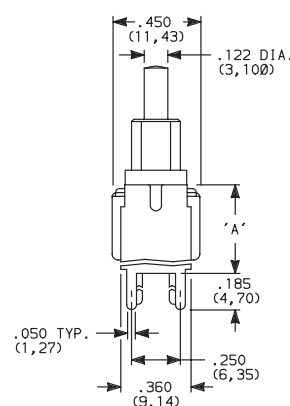
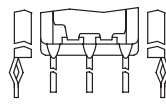
Technical drawing of a 3-pin connector. Dimensions and labels include:

- Top pin diameter: .280 (7, 11)
- Pin diameter: .375 (9, 53)
- Label: C&K MARKING ON OPPOSITE SIDE
- Label: EPOXY SEAL
- Pin numbers: 1, 2, 3
- Pin diameter: .020 TYP. (0, 51)
- Pin diameter: .030 X .050 TYP. (0, 76) (1, 27)
- Pin diameter: .185 TYP. (4, 70)
- Pin diameter: .750 (19, 05)



OPTION CODE	DIM 'A'
V21	.555 (14,10)
V6	.460 (11,68)

V6 VERTICAL MOUNT, V-BRACKET

[illegible]

OPTION CODE	DIM 'A'
V21	.555 (14,10)
V6	.460 (11,68)



Third Angle Projection

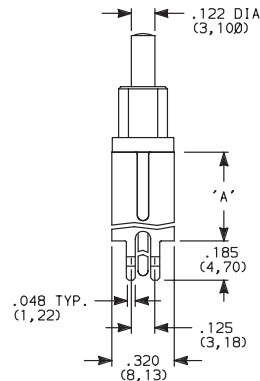
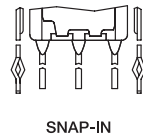
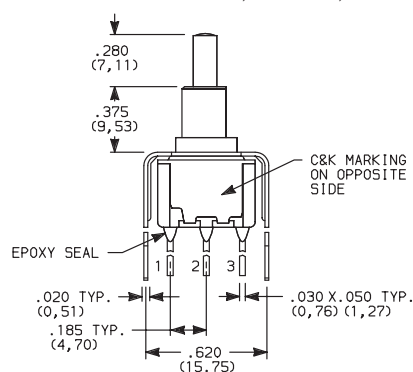


8060 Series Alternate Action and Momentary Pushbutton Switches

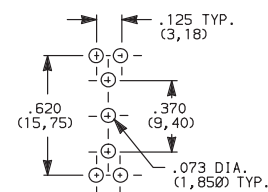
TERMINATIONS

V3, V4 VERTICAL MOUNT, V-BRACKET

V31 VERTICAL MOUNT, V-BRACKET, SNAP-IN



PC MOUNTING



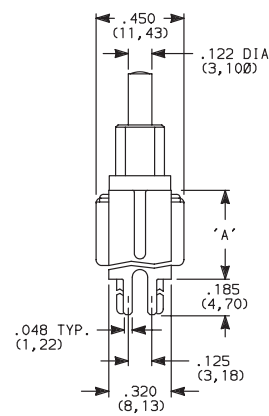
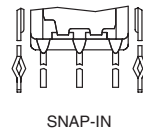
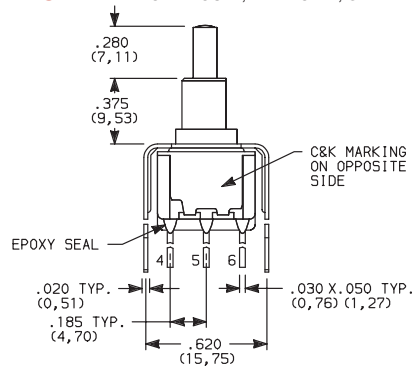
**8161SH9_BE2
SPDT**

OPTION CODE	DIM 'A'
V3, V31	.460 (11,68)
V4	.630 (16,00)

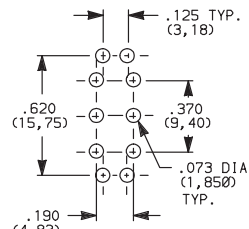
Not available with I seal.

V3, V4 VERTICAL MOUNT, V-BRACKET

V31 VERTICAL MOUNT, V-BRACKET, SNAP-IN



PC MOUNTING



**8261SH9_BE2
DPDT**

OPTION CODE	DIM 'A'
V3, V31	.460 (11,68)
V4	.630 (16,00)

Not available with I seal.

CONTACT MATERIAL

OPTION CODE	CONTACT MATERIAL	TERMINAL PLATING	RATINGS	
B	GOLD ¹	GOLD ¹	LOW LEVEL/DRY CIRCUIT	0.4 VA MAX. @ 20 V AC OR DC MAX.
P		MATTE-TIN ⁶		
Q	SILVER ^{4,5}	SILVER ⁵	POWER	6 AMPS @ 120 V AC OR 28 V DC; 3 AMPS @ 250 V AC.
S		MATTE-TIN ⁶		
G	GOLD OVER SILVER ^{2,3}	GOLD ³	LOW LEVEL/DRY CIRCUIT OR POWER	0.4 VA MAX @ 20 V AC OR DC MAX. OR 6 AMPS @ 120 V AC OR 28 V DC; 3 AMPS @ 250 V AC.
R		MATTE-TIN ⁶		

* 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 matte-tin over nickel plate.

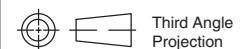
NOTE: Any models supplied with P, S, R, Q, B or G contact material are RoHS compliant.

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

B contact material standard with all terminations except C, Z & Z3.

Q contact material standard with C, Z & Z3 terminations.

P, S & R contact materials not available with Z & Z3 terminations.



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





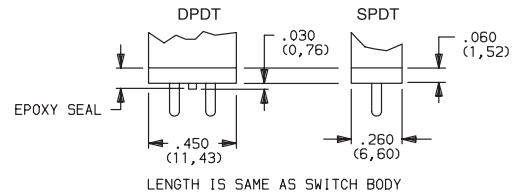
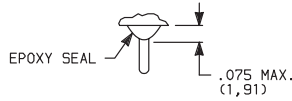
A

Pushbutton

8060 Series

Alternate Action and Momentary Pushbutton Switches

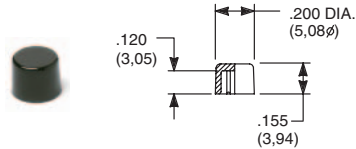
SEAL

E EPOXY SEAL**I** EPOXY POTTED BASE

NOTE: Available with C, W, Z, Z3 terminations only.

AVAILABLE HARDWARE

Cap

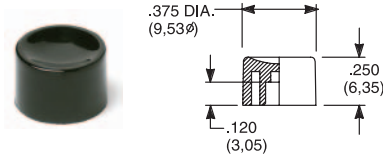


PART NO.

708901000 WHITE
708902000 BLACK
708903000 RED
708904000 ORANGE
708905000 YELLOW
708909000 GRAY

Material: Nylon
Finish: Gloss

Cap

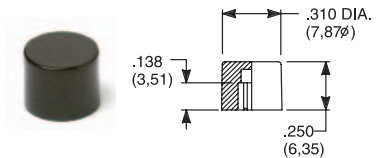


PART NO.

752701000 WHITE
752702000 BLACK
752703000 RED
752704000 ORANGE
752705000 YELLOW
752709000 GRAY

Material: Nylon
Finish: Gloss

Cap

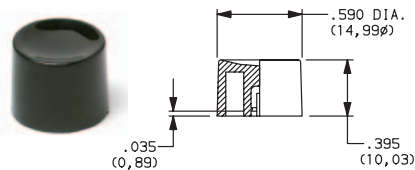


PART NO.

801801000 WHITE
801802000 BLACK
801803000 RED
801804000 ORANGE
801805000 YELLOW
801809000 GRAY

Material: Nylon
Finish: Gloss

Cap, Snap-fitting plunger

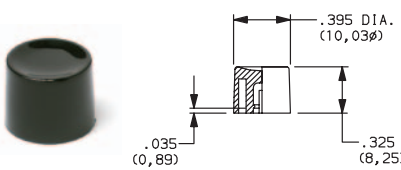


PART NO.

452D01000 WHITE
452D02000 BLACK
452D03000 RED
452D04000 ORANGE
452D05000 YELLOW
452D09000 GRAY

Material: Nylon
Finish: Gloss

Cap, Snap-fitting plunger

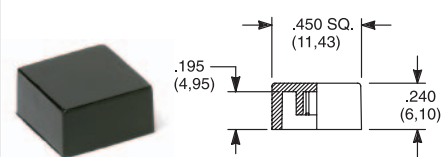


PART NO.

894101000 WHITE
894102000 BLACK
894103000 RED
894104000 ORANGE
894105000 YELLOW
894109000 GRAY

Material: Nylon
Finish: Gloss

Cap, J80, J81 & J82 options only



PART NO.

484601000 WHITE
484602000 BLACK
484603000 RED
484604000 ORANGE
484605000 YELLOW
484609000 GRAY

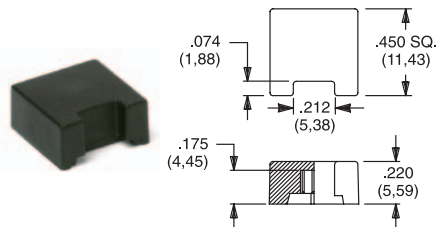
Material: Nylon
Finish: Gloss

PART NO.

798201000 WHITE
798202263 BLACK
798203000 RED
798204000 ORANGE
798205000 YELLOW
798209000 GRAY

Material: Nylon
Finish: Matte

Cap, J86 & J96 options only



PART NO.

459701000
459702000
459703000
459704000
459705000
459709000

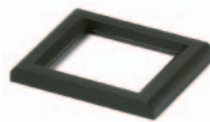
Material: Nylon
Finish: Gloss

PART NO.

476801000 WHITE
476802000 BLACK
476803000 RED
476804000 ORANGE
476805000 YELLOW
476809000 GRAY

Material: Nylon
Finish: Matte

Frame



PART NO.

615602263 BLACK

Material: Nylon
Finish: Matte

Frame



PART NO.

613302263 BLACK

Material: Nylon
Finish: Matte

NOTE: Additional nuts, locking rings and lockwashers available separately, see section "Technical Data and Additional Hardware".
Other cap & frame colors available, consult Customer Service Center.



Third Angle
Projection

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

C&K

8060 Series Alternate Action and Momentary Pushbutton Switches

AVAILABLE HARDWARE

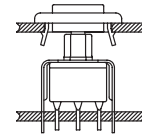
Fits Z3 Termination
female connector

PART NO.
530100000

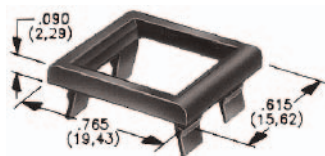
Available in loose pieces.



TYPICAL APPLICATION



Frames snap into panel opening and are independent from switch mounting. Accurate positioning of the PC mounted switch relative to the panel opening is necessary to provide proper clearance between actuator and frame. Available in two basic styles and four panel thicknesses .047-.125 in. Material: Nylon. Finish: Matte.



.047" (1,19) PANEL THK.

.062" (1,57) PANEL THK.

.090" (2,29) PANEL THK.

.125" (3,18) PANEL THK.

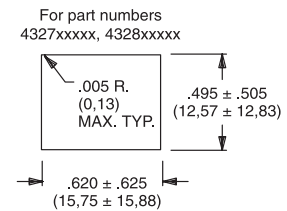
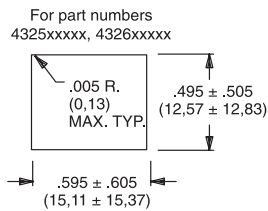
PART NO.
432502263

PART NO.
432602263

PART NO.
432702263

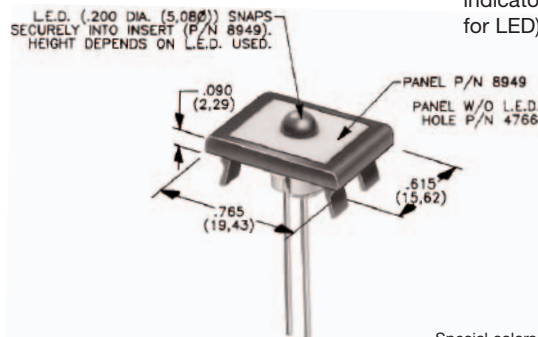
PART NO.
432802263 BLACK

PANEL MOUNTING



Panel Inserts

Above frames (part nos. 432XXXXXX) are also available with insert which accepts LED for indicator light assembly. Order insert separately from frame. Blank insert panel (without hole for LED) also available. **LED not included.**



PANEL INSERT
WITH HOLE FOR LED

BLANK PANEL INSERT
WITHOUT HOLE FOR LED

PART NO.
894902000

PART NO.
476602000 BLACK

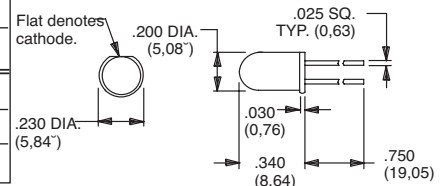
Special colors, custom markings available, consult Customer Service Center.

LED INFORMATION

SWITCHES WITH LED SUPPLIED: J86 OPTION:

Rectangular LEDs are supplied on 8060 Series pushbutton switches with J86 option. These LEDs are factory installed and are not replaceable. The following specifications apply:

OPTION CODE	COLOR	TYP. INTENSITY	TYP. FORWARD VOLTAGE	TYP. FORWARD CURRENT	MAX RATINGS AT 25°C AMBIENT TEMPERATURE		
					FORWARD VOLTAGE	CONTINUOUS FORWARD CURRENT	POWER DISSIPATION
6	Green	1.0 mcd	2.1 V	20 mA	2.5 V	50 mA	125 mW
3	Red*	0.5 mcd		10 mA		30 mA	75 mW
5	Yellow	4.0 mcd		20 mA		50 mA	125 mW



Process Information: Soldering to LED leads must be completed within 5 seconds at 500°F (260°C) maximum.

Caution: Circuit elements must limit forward current of LED to 50mA max. continuous.

* Extra-bright red LED available (typ. intensity 4.5 mcd), consult Customer Service Center.

LEDs are not supplied with J82 & J84 options. LED snaps into switch frame surrounding actuator and is wired externally.

Suggested LED for J82 & J84 options.
Dimensions for reference only.



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



A

Pushbutton