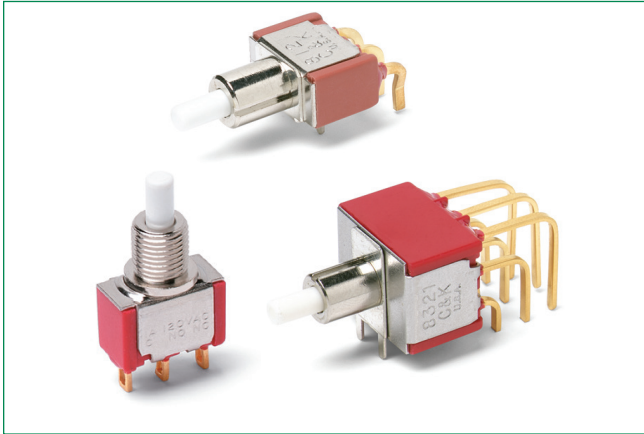


8020 Series

Snap-acting Momentary Pushbutton Switches



Agency Approvals

Agency	Agency File Number
US	E42363

Specifications

Contact Rating	B contact material (8X25 Models): 0.4 VA max. @ 20 V AC or DC maximum. G contact material (8X21, U8X1 Models): 1 AMP @ 120 V AC or 28 V DC or 0.4 VA max. @ 20 V AC or DC max. Note: Break-before-make contacts. Multi-pole contacts do not make and break simultaneously
Electrical Life	60,000 make-and-break cycles at full load*
Contact Resistance	Below 50 mΩ typ. initial @ 2-4 V DC, 100 mA, for both silver and gold plated contacts
Insulation Resistance	10 ⁹ Ω min
Dielectric Strength	1000 Vrms min. @ sea level
Operating Temperature	8X2X MODELS: -30°C to 75°C U8X1 MODELS: -30°C to 65°C
Cap Installation Force	10 lbs. Max. permissible
Solderability	Per MIL-STD-202F method 208D, or EIA RS-186E method 9 (1 hour steam aging)

Notes:

- 10,000 cycles
- Any models supplied with P, R, B or G contact material are RoHS compliant. Specifications and materials listed above are for switches with standard options. For information on specific and custom switches, consult Customer Service Center.

Description

The 8020 series of snap-acting momentary pushbutton switches are used in telecommunications equipment and computer peripherals because of their positive tactile feel and wide variety of termination options. The 8020 switches are also epoxy terminal seal-compatible with bottom wash cleaning.

Features & Benefits

- Positive tactile feel
- Multi-positions available
- Wide variety of termination options
- Epoxy terminal seal compatible with bottom wash cleaning
- RoHS compliant models available

Applications

- Instrumentation
- Computer peripherals
- Telecommunications equipment

Materials

Case & Bushing	Glass filled nylon 6/6 or diallyl phthalate (DAP), flame retardant (UL 94 V-0)
Plunger	Glass filled nylon or glass filled polyester (PBT) (UL 94 V-0)
Switch Support	Nylon, black, standard
Switch Support Retainer	Stainless steel
N.O. & N.C. Contacts	8X21, U8X1 models: G contact material: Coin silver, with gold plate over nickel plate. See page A-43 for additional contact materials. 8X25 models: B contact material: Copper alloy, with gold plate over nickel plate. See page A-43 for additional contact materials.
Common Contacts & All Terminals	Copper alloy, with gold plate over nickel plate
Terminal Seal	Epoxy. Refer to soldering and cleaning Technical Data Chapter
Hardware	Nut & Locking Ring: Brass, nickel plated; Lockwasher: Steel, nickel plated

8020 Series

Snap-acting Momentary Pushbutton Switches



Ordering Number

To order, simply select desired option from each category and place in the appropriate box. 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.

8x - x - x - x - x - x - x - x - x

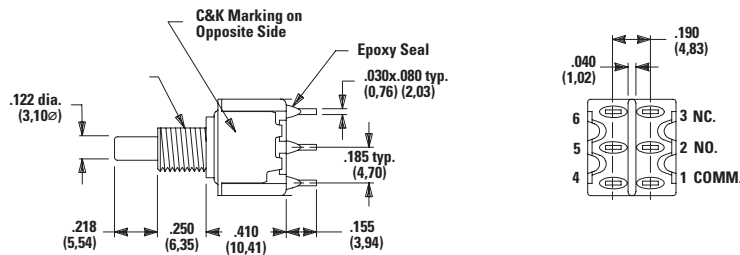
<p>Switch Function</p> <p>8121: SPDT On-Mom. 1 Amp 8125: SPDT On-Mom. 0.4VA 8221: DPDT On-Mom. 1 Amp 8225: DPDT On-Mom. 0.4VA 8321: 3PDT On-Mom. 1 Amp 8325: 3PDT On-Mom. 0.4VA 8421: 4PDT On-Mom. 1 Amp 8425: 4PDT On-Mom. 0.4VA</p>	<p>Actuator or Plunger</p> <p>S: Plunger None: Snap-in J80: Snap-in J81: Snap-in w/ frame J82: Snap-in w/ frame for LED J83: Snap-in w/ frame & flush cap J84: Snap-in w/ frame for LED, flush J85: Snap-in w/ frame & LED J95: PC w/ V-bracket & LED L: Plunger M: Snap-fitting plunger</p>	<p>Frame Color</p> <p>2: Black None: Models without frame 1: White</p>	<p>Cap Color</p> <p>2: Black None: Models without caps 1: White</p>	<p>Seal</p> <p>E: Epoxy I: Epoxy potted base</p>	<p>Contact Material</p> <p>B: Gold G: Gold over silver P: Gold, matte-tin R: Gold over silver, matte tin</p>	<p>LED Color</p> <p>3: Red None: Models without LED 5: Yellow 6: Green</p>
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<p>Bushing</p> <p>D8: 0.288" high, flat H9: 0.250" high, flat, hi torque Y: 0.350" high, keyway Y3: 6.35mm high, keyway, hi torque Y4: 0.378" high, flat, hi torque Y9: 0.350" high, keyway</p>	<p>Terminations</p> <p>A: Right angle, PC Thru-hole AV2: Vertical right angle, PC Thru-hole C: PC Thru-hole Z: Solder lug A2: Right angle, snap-in, PC Thru-hole A3: Vertical right angle, snap-in, PC Thru-hole</p>	<p>Bushing</p> <p>D9: 0.280" high, keyway H: 0.250" high, flat None: No bushing choice required D: 0.280" high, keyway D2: 0.288" high, flat D3: 0.180" high</p>	<p>Terminations</p> <p>A4: Right angle, PC thru-hole, reversed terminals A6: Right angle, PC thru-hole AV1: Vertical right angle, PC thru-hole AV3: Vertical right angle, snap-in, PC thru-hole</p>	<p>Terminations</p> <p>V2: 0.555" high, V-bracket V3: 0.460" high, V-bracket V4: 0.630" high, V-bracket V6: 0.460" high, V-bracket V7: 0.630" high, V-bracket V8: 0.953" high, V-bracket V9: 1.150" high, V-bracket</p>	<p>Terminations</p> <p>V31: 0.460" high, snap-in V-bracket V61: 0.460" high, snap-in V-bracket W: 0.750" long, wire wrap W1: 0.964" long, wire wrap W3: 0.425" long, wire wrap W4: 1.062" long, wire wrap Z3: Quick connect</p>
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Notes:
 Models 8121, 8221, 8321, 8421 with UL Part Numbers U811, U821, U831 and U841, respectively are **UL** US

SPDT

No. Poles	Mo. Poles	UL/CSA ¹ Model No.	Switch Function		Connected Terminals		Schematic
			POS. 1	POS. 2	POS. 1	POS. 2	
			C&K marking on opposite side				
SP	8121	U811	ON	MOM.	1-3	1-2	
	8125	-					



Part Number Shown: 8121SHZGE

Terminal Nos. For Reference Only

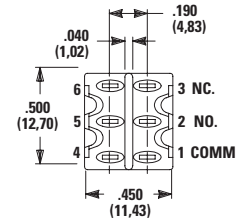
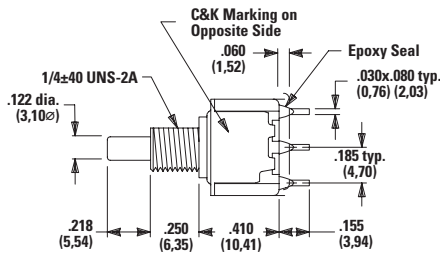
8020 Series

Snap-acting Momentary Pushbutton Switches



DPDT

No. Poles	Model No.	UL/CSA ¹ Model No.	Switch Function		Connected Terminals		Schematic
			POS. 1	POS. 2	POS. 1	POS. 2	
			C&K marking on opposite side				
DP	8221	U821	ON	MOM.	1-3, 4-6	1-2,4-5	
	8225	-					

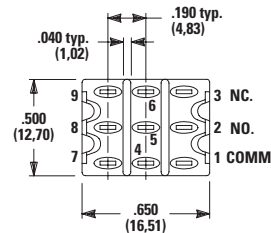
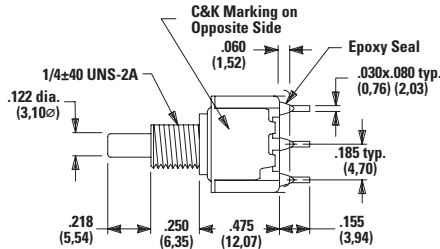


Terminal Nos. For Reference Only

Part Number Shown: 8221SHZGE

3PDT

No. Poles	Model No.	UL/CSA ¹ Model No.	Switch Function		Connected Terminals		Schematic
			POS. 1	POS. 2	POS. 1	POS. 2	
			C&K marking on opposite side				
3P	8321	U831	ON	MOM.	1-3, 4-6, 7-9	1-2, 4-5, 7-8	
	8325	-					



Terminal Nos. For Reference Only

Part Number Shown: 8321SHZGE

Notes:
MOM. = Momentary

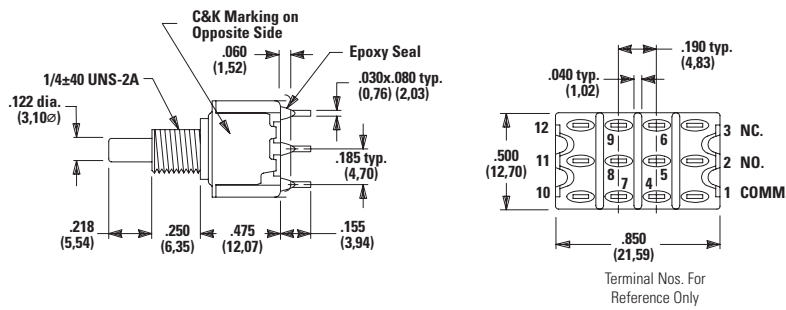
8020 Series

Snap-acting Momentary Pushbutton Switches



4PDT

No. Poles	Model No.	UL/CSA ¹ Model No.	Switch Function		Connected Terminals		Schematic
			POS. 1	POS. 2	POS. 1	POS. 2	
C&K marking on opposite side							
4P	8421	U841	ON	MOM.	1-3, 4-6, 7-9, 10-12	1-2,4-5, 7-8, 10-11	
	8425	-					

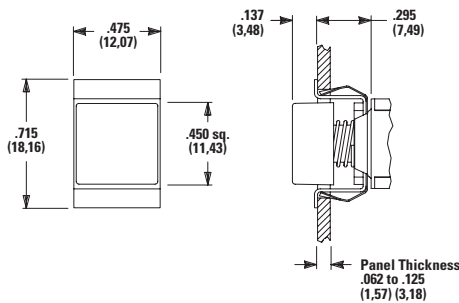


Part Number Shown: 8421SHZGE

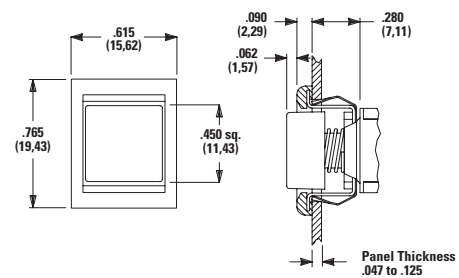
Notes:
MOM. = Momentary

Actuator - Snap-in Front Mount inches (mm)

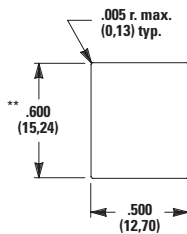
J80 Snap-in



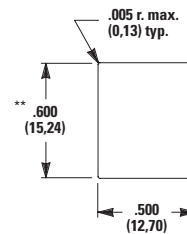
J81 Snap-in with Frame



Panel Mounting



Panel Mounting



Notes:
No frame color choice required. Increase this dim. to 0.620/0.625 (15.75/15.88) for 0.091/0.125 (2.31/3.18) thk. panels.

Notes:
Available with C, W-W4, Z or Z3 terminations and SPDT and DPDT models only. Increase this dim. to 0.620/0.625 (15.75/15.88) for 0.091/0.125 (2.31/3.18) thk. panels.

8020 Series

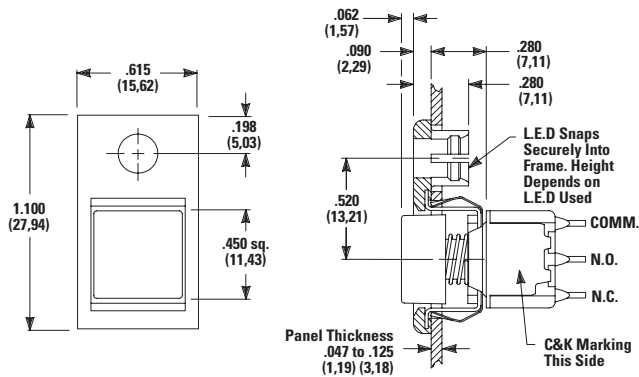
Snap-acting Momentary Pushbutton Switches



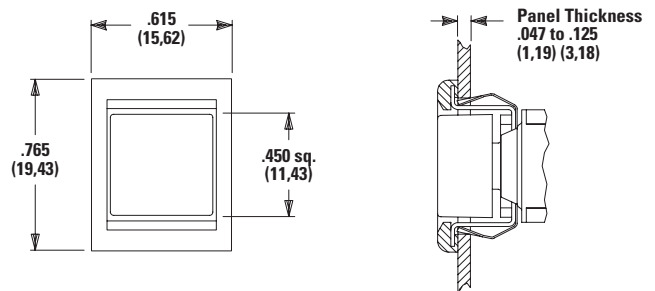
Option Code	Cap and Frame Color
2	Black
NONE	No Frame Color (J80 option)
1	White
3	Red
4	Orange
5	Yellow
6	Green
7	Blue
9	Gray

Notes:
Other colors available, consult Customer Service Center. Cap and Frame Finish: matte. Caps and frames available separately.

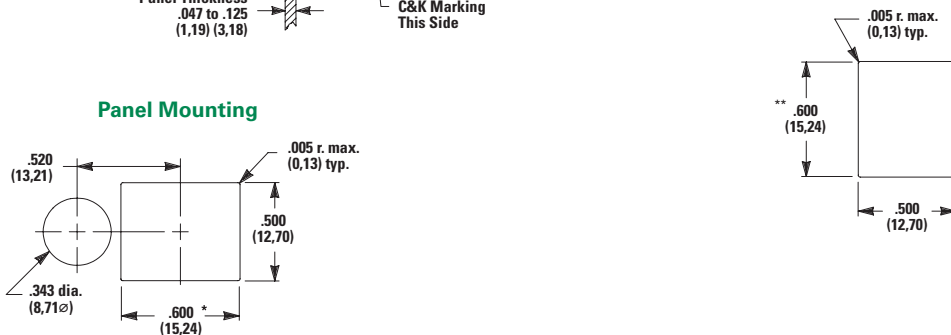
J82 Snap-in with Frame for LED



J83 Snap-in with Frame and Flush Cap



Panel Mounting



* Increase this DIM. to .620/.625 (15,75/15,88) for .091/.125 (2,31/3,18) thk. panels.

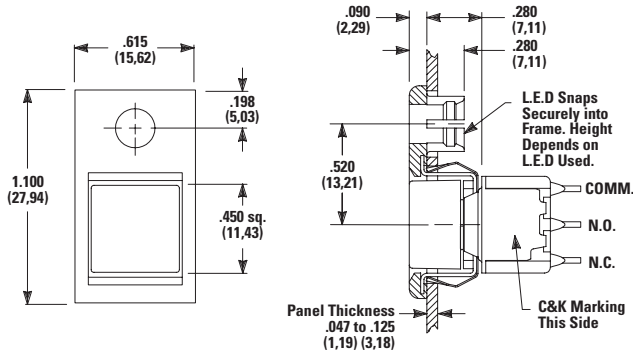
Notes:
LED not included. For LED information, see page 9.

8020 Series

Snap-acting Momentary Pushbutton Switches

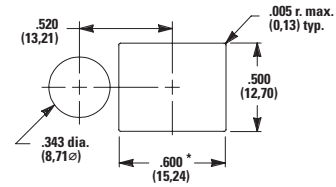


J84 Snap-in with Frame for LED, Flush Cap



Notes:
LED not included. For LED information, see page 29.

Panel Mounting



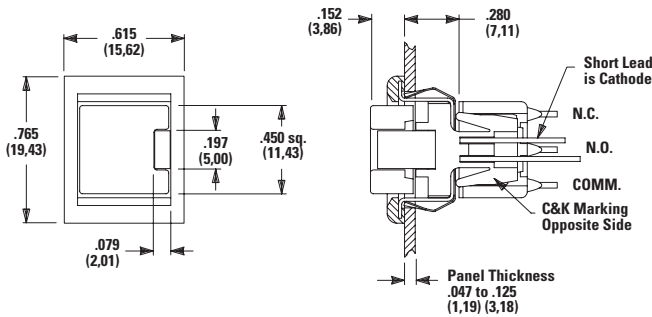
* Increase this DIM. to .620/.625 (15.75/15.88) for .091/.125 (2.31/3.18) thk. panels.

Option Code	Cap and Frame Color
2	Black
NONE	No Frame Color (J80 option)
1	White
3	Red
4	Orange
5	Yellow
6	Green
7	Blue
9	Gray

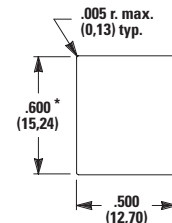
Notes:
Other colors available, consult Customer Service Center. Cap and Frame Finish: Matte. Available with C, W-W4, Z or Z3 terminations and SPDT and DPDT models only. Caps and frames available separately.

8121J85ZGE223 SPST

J85 Snap-in with Frame and LED



Panel Mounting



* Increase this DIM. to .620/.625 (15.75/15.88) for .091/.125 (2.31/3.18) thk. panels.

Option Code	Cap and Frame Color
2	Black
1	White
3	Red
4	Orange
5	Yellow
6	Green
7	Blue
9	Gray

Notes:
Available with C, W-W4, Z or Z3 terminations and SPDT models only. For LED information see page 9. Caps & frames available separately.

Option Code	LED Color
3	Red
5	Yellow
6	Green

Notes:
For LED information see page 9.

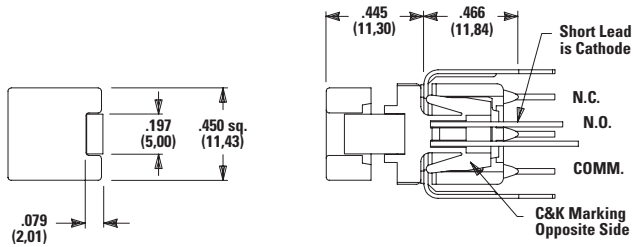
8020 Series

Snap-acting Momentary Pushbutton Switches

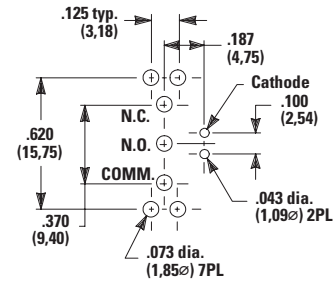


Actuator - PC Mount 8121J95V3GE23 SPST

J95 PC with V-Bracket and LED



PC Mounting



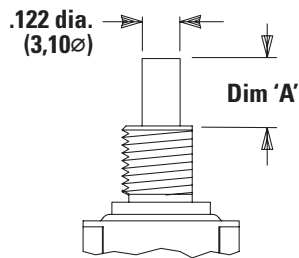
Option Code	Cap and Frame Color
2	Black
1	White
3	Red
4	Orange
5	Yellow
6	Green
7	Blue
9	Gray

Option Code	LED Color
3	Red
5	Yellow
6	Green

Notes:
For LED information see page 9. Caps available separately. Available with V3 terminations and SPDT models only.

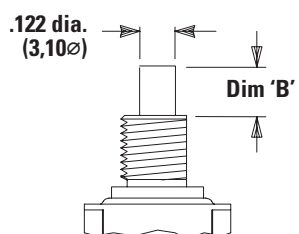
Plunger

S Plunger



None No Plunger Choice
Required (JXX Actuators)

L Plunger



Available Bushings	DIM 'A' for C, W-W4, Z & Z3 Terminations	DIM 'A' for A, A2, A3, A4, A6, AV-A3, R & R2 Terminations	DIM 'A' for V3-V61 Terminations
D, D9	0.244 (6.20)	0.228 (5.79)	0.224 (5.69)
H, H9	0.218 (5.54)	0.202 (5.13)	0.198 (5.03)
Y, Y9	0.203 (5.16)	0.187 (4.75)	0.183 (4.65)
Y3	(5.54)	(5.13)	(5.03)
Y4	0.185 (4.70)	0.169 (4.29)	0.165 (4.19)
D2, D8	N/A	0.232 (5.89)	0.228 (5.79)
D3	N/A	0.162 (4.11)	0.158 (4.01)

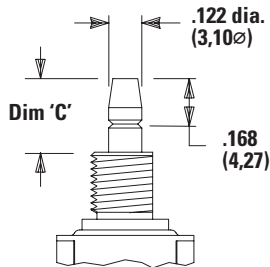
Available Bushings	DIM 'B' for C, W-W4, Z & Z3 Terminations	DIM 'B' for A, A2, A3, A4, A6, AV-A3, R & R2 Terminations	DIM 'B' for V3-V61 Terminations
Y, Y9	0.178 (4.52)	0.162 (4.11)	0.158 (4.01)
Y4	0.090 (2.29)	0.074 (1.88)	0.070 (1.78)

8020 Series

Snap-acting Momentary Pushbutton Switches



M Snap-Fitting Plunger



Available Bushings	DIM 'A' for C, W-W4, Z & Z3 Terminations	DIM 'A' for A, A2, A3, A4, A6, AV-A3, R & R2 Terminations	DIM 'A' for V3-V61 Terminations
D, D9	0.297 (7.54)	0.281 (7.14)	0.277 (7.04)
H, H9	0.267 (6.78)	0.251 (6.38)	0.247 (6.27)
Y, Y9	0.259 (6.58)	0.243 (6.17)	0.239 (6.07)
Y3	(6.78)	(6.37)	(6.27)
Y4	0.259 (6.58)	0.243 (6.17)	0.239 (6.07)
D2, D8	N/A	0.273 (6.93)	0.269 (6.83)
D3	N/A	0.361 (9.17)	0.357 (9.07)

Notes: When selecting plunger option, bushing selection must also be made, see next page. No plunger option is required when any JXX actuator option is selected. Additional plunger lengths are available on SPDT and DPDT models, consult Customer Service Center. Not all plunger lengths sufficient for use with caps.

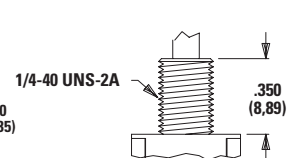
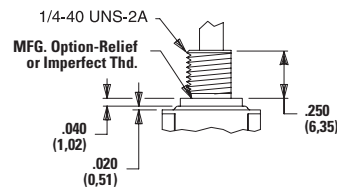
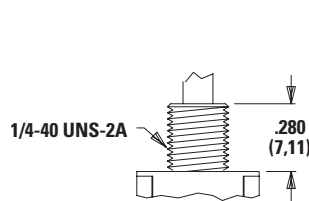
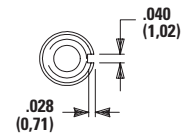
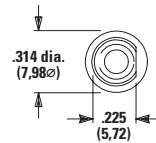
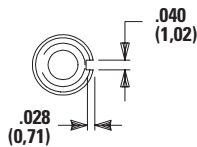
Bushing

None No Bushing Choice Required (JXX Actuators)

D .280" High Threaded, Keyway
D9 0.28034" High Unthreaded, Keyway

H 0.250" 34 High Threaded, Flat
H9 0.250" 34 High Unthreaded, Flat

D 0.280" High Threaded, Keyway
D9 0.28034" High Unthreaded, Keyway



Notes:

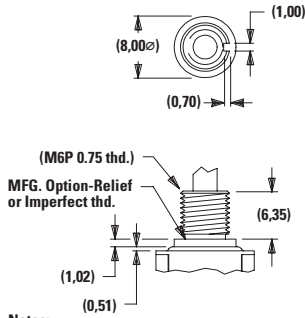
D9 bushing standard with A-A6, R, R2 AV-AV3 terminations. H bushing standard with C, W-W4, Z or Z3 terminations. H, H9 bushings not available on single pole models with A3-A6, R, R2 terminations. Will withstand 12 in./lbs. of torque with no distortion.

8020 Series

Snap-acting Momentary Pushbutton Switches

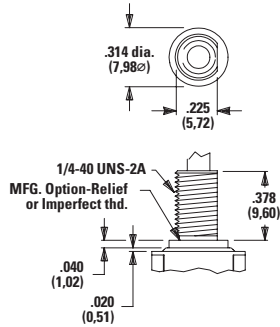


Y3 6.35mm, Threaded, Keyway

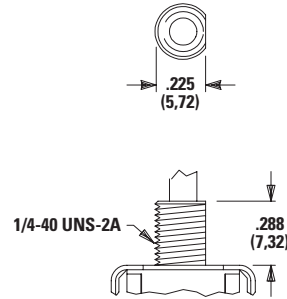


Notes:
Y3 & Y4 bushings not available on single pole models with A3-A6, R, R2 terminations. Will withstand 12 in./lbs. of torque with no distortion.

Y4 0.378" High Threaded, Flat

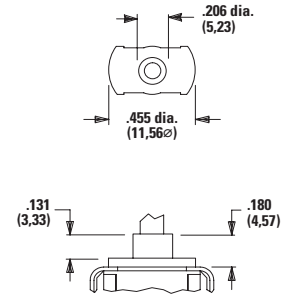


D2 0.288" High Threaded Flat, D8 0.288" High Unthreaded, Flat



Notes:
D2, D8 bushings not available with C, W-W4, Z, Z3 terminations.

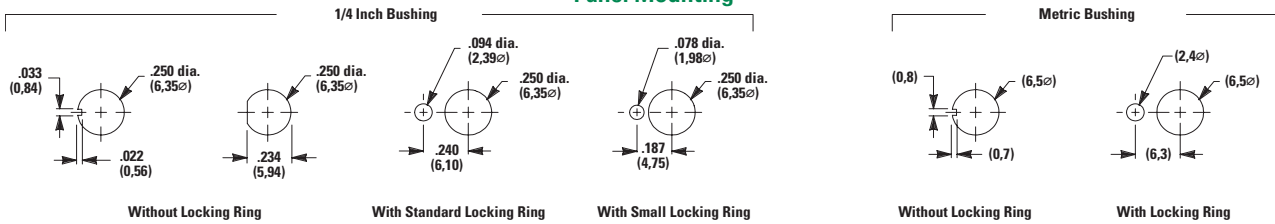
D3 0.180" High Unthreaded



Notes:
D3 bushing available with A, A2, A3, AV, AV2, AV3 and V2-V61 terminations only.

Notes:
No bushing option choice required when JXX actuator option is selected. When selecting bushing option, plunger selection must also be made, see previous page. Plunger lengths vary with bushing and termination options selected.

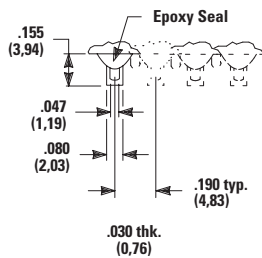
Panel Mounting



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

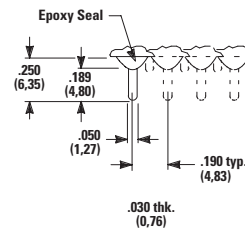
Terminations

Z Solder Lug SPDT thru 4PDT

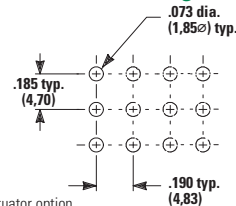


Note: Not available with J95 actuator, P or R contact material.

C PC Thru-hole SPDT thru 4PDT



PC Mounting



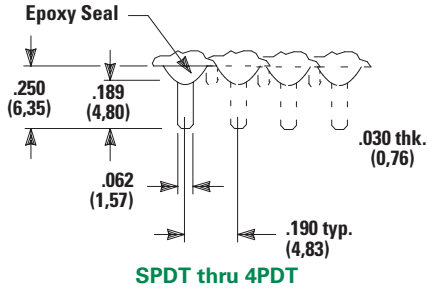
Note: Not available with J95 actuator option.

8020 Series

Snap-acting Momentary Pushbutton Switches



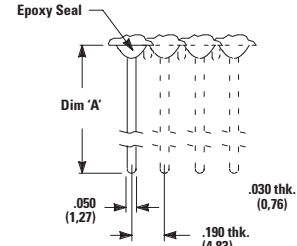
Z3 Quick Connect



SPDT thru 4PDT

Notes: Not available with J95 actuator, P or R contact material. Mating quick connector available, order part number 530100000.

W W1, W3, W4 Wire Wrap

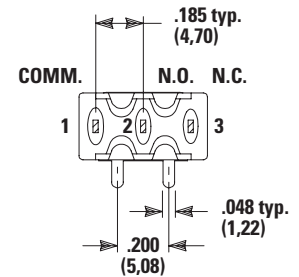
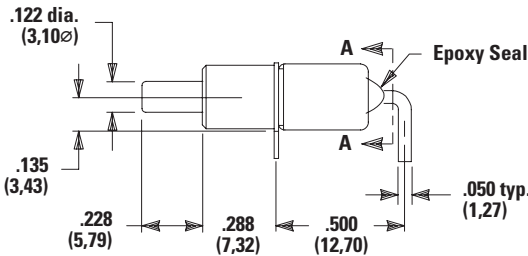
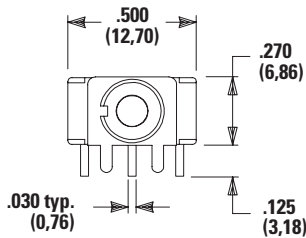


SPDT thru 4PDT

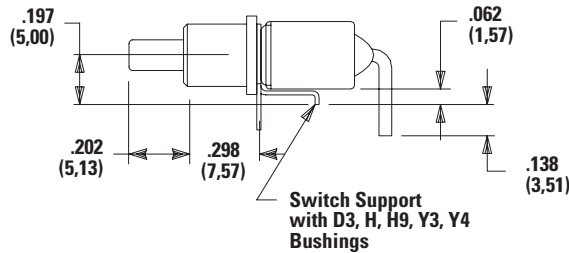
Option Code	LED Color
W	0.750 (19.05)
W1	0.964 (24.49)
W3	0.425 (10.80)
W4	1.062 (26.97)

Notes: Not available with J95 actuator option.

A Right Angle, PC Thru-hole 8121SD9AGE SPDT



Section A-A
Terminal Nos.
for Reference Only.

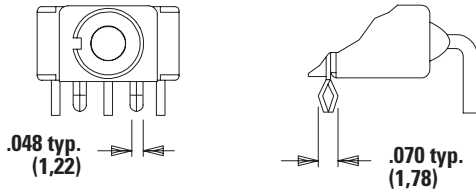


8020 Series

Snap-acting Momentary Pushbutton Switches

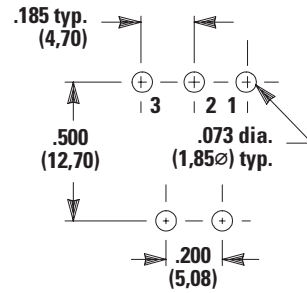


A3 Right Angle, Snap-in, PC Thru-hole

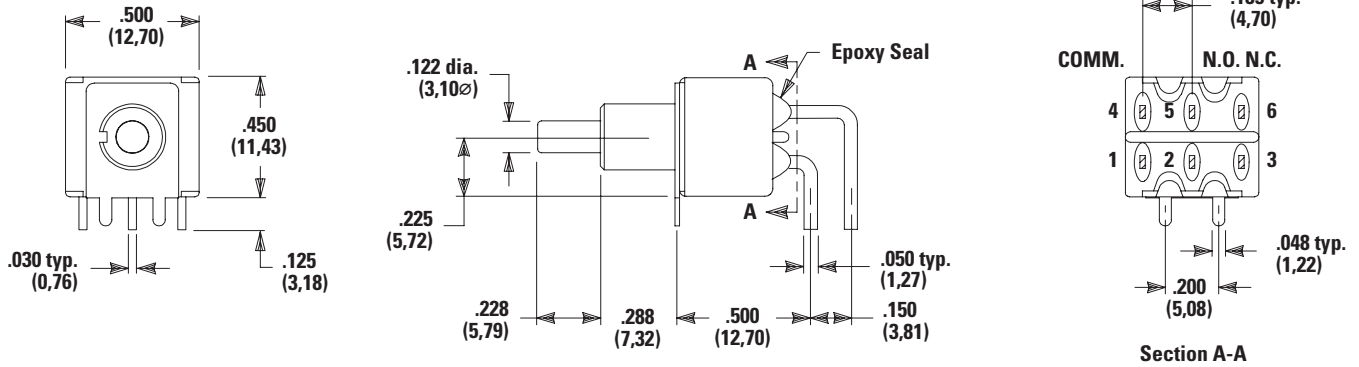


Notes:
Not available with JXX actuators and I seal. Terminal bend radii and lead-in manufacturing option.

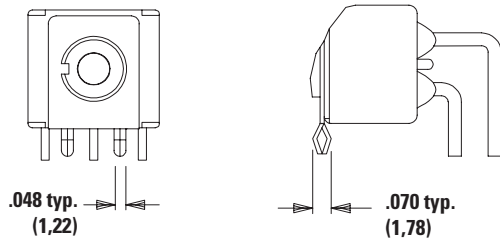
PC Mounting



A Right Angle, PC Thru-hole
8221SD9AGE DPDT

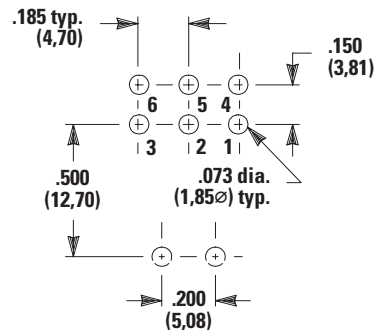


A3 Right Angle, Snap-in, PC Thru-hole



Notes:
Not available with JXX actuators and I seal. Terminal bend radii and lead-in manufacturing option.

PC Mounting

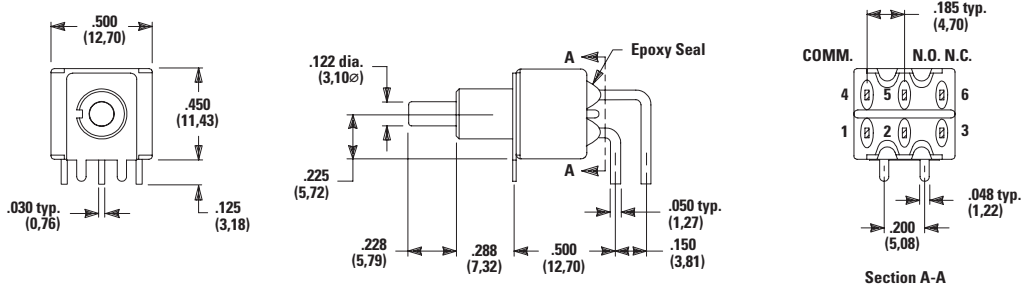


8020 Series

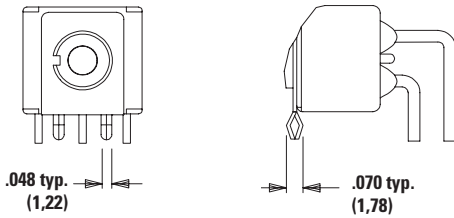
Snap-acting Momentary Pushbutton Switches



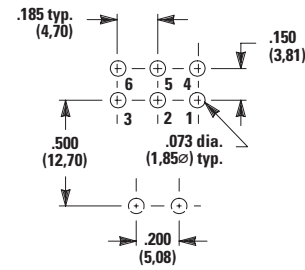
A Right Angle, PC Thru-hole 8221SD9AGE DPDT



A3 Right Angle, Snap-in, PC Thru-hole

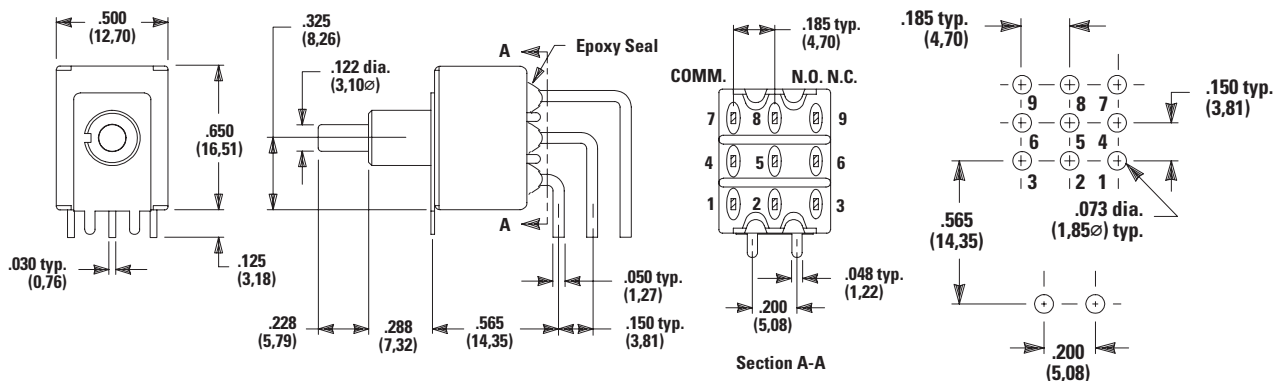


PC Mounting



Notes:
Not available with JXX actuators and I seal. Terminal bend radii and lead-in manufacturing option.

A Right Angle, PC Thru-hole 8321SD9AGE 3PDT



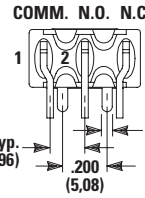
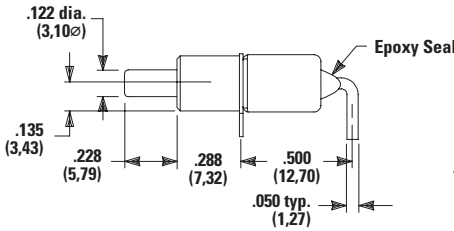
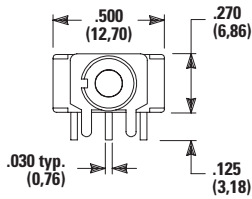
Notes:
Not available with JXX actuators and I seal. Terminal bend radii and lead-in manufacturing option.

8020 Series

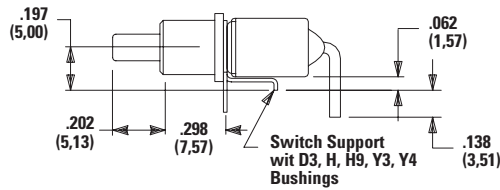
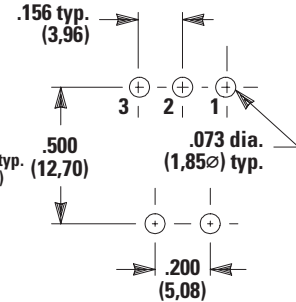
Snap-acting Momentary Pushbutton Switches



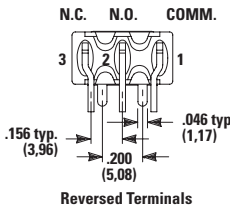
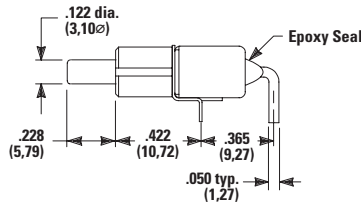
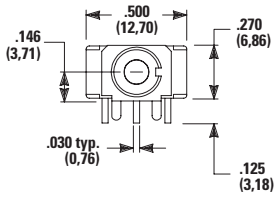
A2 Right Angle, PC Thru-hole 8121SD9A2GE SPDT



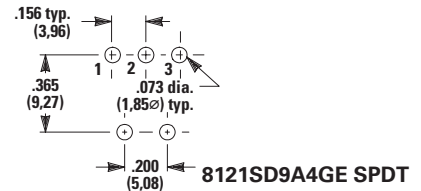
PC Mounting



A4 Right Angle, PC Thru-hole, Reversed Terminals



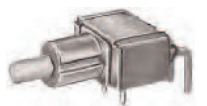
PC Mounting



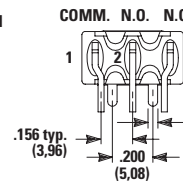
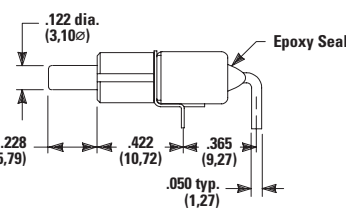
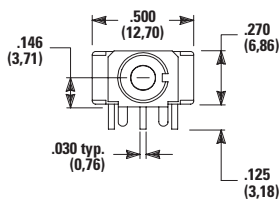
Notes:

Not available with JXX actuators, D3, H, H9, Y3, Y4 bushings and I seal. Terminal bend radii and lead-in manufacturing option. The A4 and R2 termination options are functionally identical and fit the same PC mounting pattern. The switches, however, are shifted relative to the mounting holes. The PC pattern must clear the switch support legs. Unlike the R2, the A4 option is available with UL/CSA.

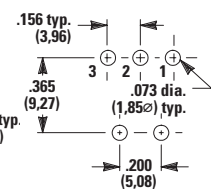
A6 Right Angle, PC Thru-hole



8121SD9A6GE SPDT



PC Mounting



Notes:

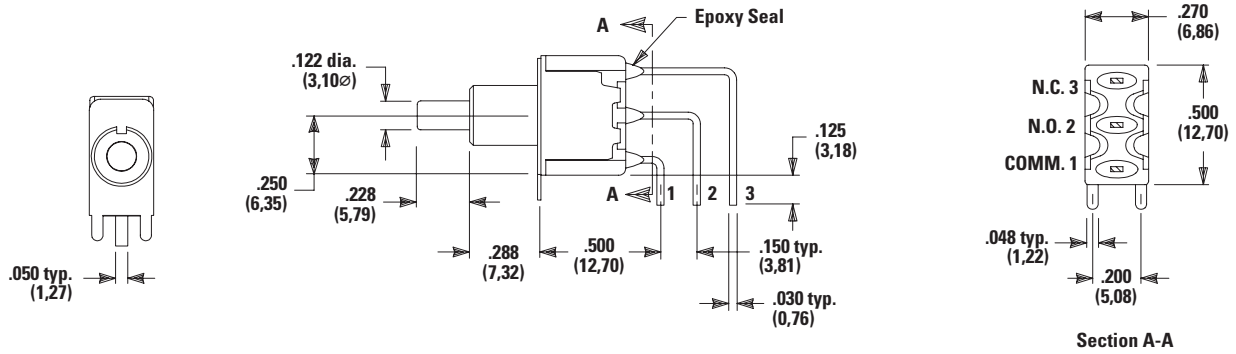
Not available with JXX actuators, D3, H, H9, Y3, Y4 bushings and I seal. Terminal bend radii and lead-in manufacturing option. The A4 and R2 termination options are functionally identical and fit the same PC mounting pattern. The switches, however, are shifted relative to the mounting holes. The PC pattern must clear the switch support legs. Unlike the R2, the A4 option is available with UL/CSA.

8020 Series

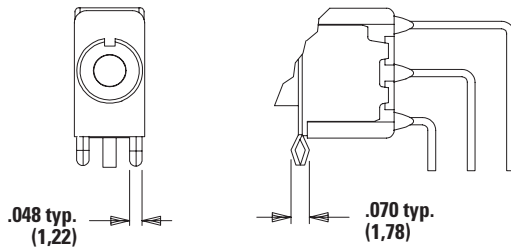
Snap-acting Momentary Pushbutton Switches



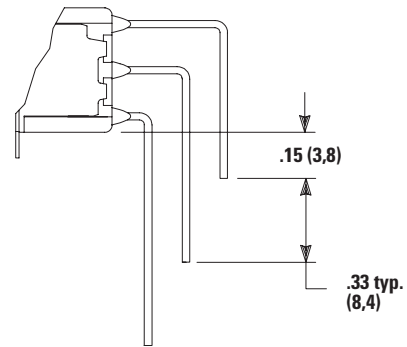
AV2 Vertical Right Angle, PC Thru-hole, 0.150" Pitch
8121SD9AV2GE 3PDT



AV3 Vertical Right Angle, Snap-in, PC Thru-hole, 0.150" Pitch

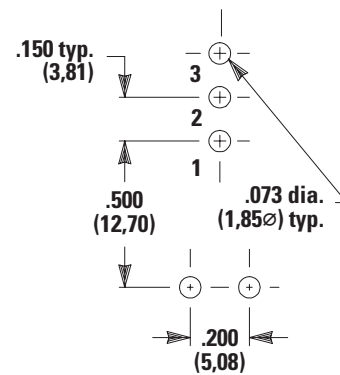


AV1 Vertical Right Angle, Extended, PC Thru-hole, 0.150" Pitch



Notes:
 Not available with JXX actuators and I seal. Terminal bend radii and lead-in manufacturing option.

PC Mounting

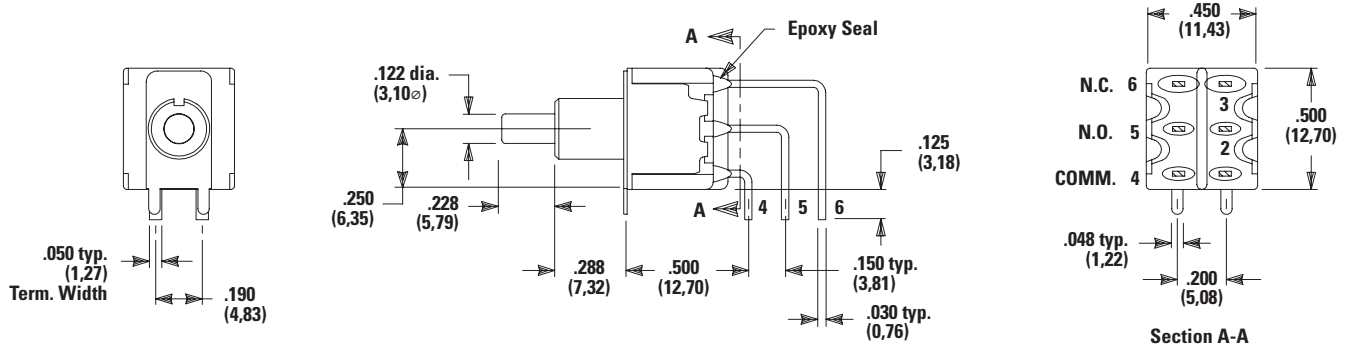


8020 Series

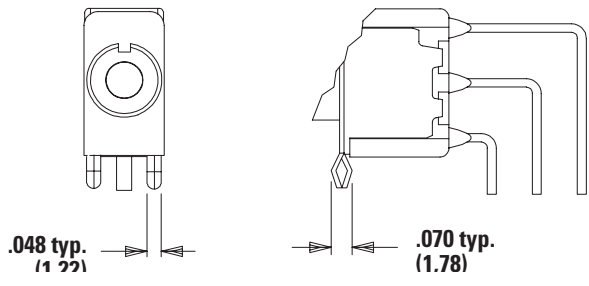
Snap-acting Momentary Pushbutton Switches



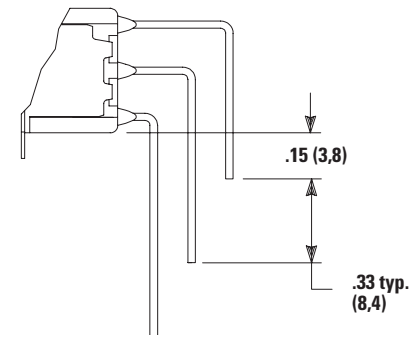
AV2 Vertical Right Angle, PC Thru-hole, 0.150" Pitch
8221SD9AV2GE DPDT



AV3 Vertical Right Angle, Snap-in, PC Thru-hole, 0.150" Pitch

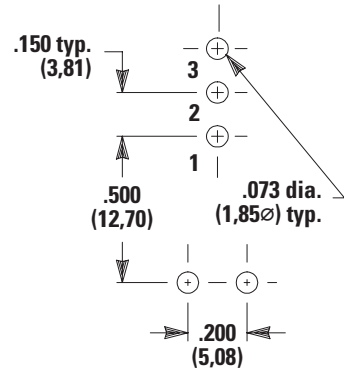


AV1 Vertical Right Angle, Extended, PC Thru-hole, 0.150" Pitch



Notes:
 Not available with JXX actuators and I seal. Terminal bend radii and lead-in manufacturing option.

PC Mounting



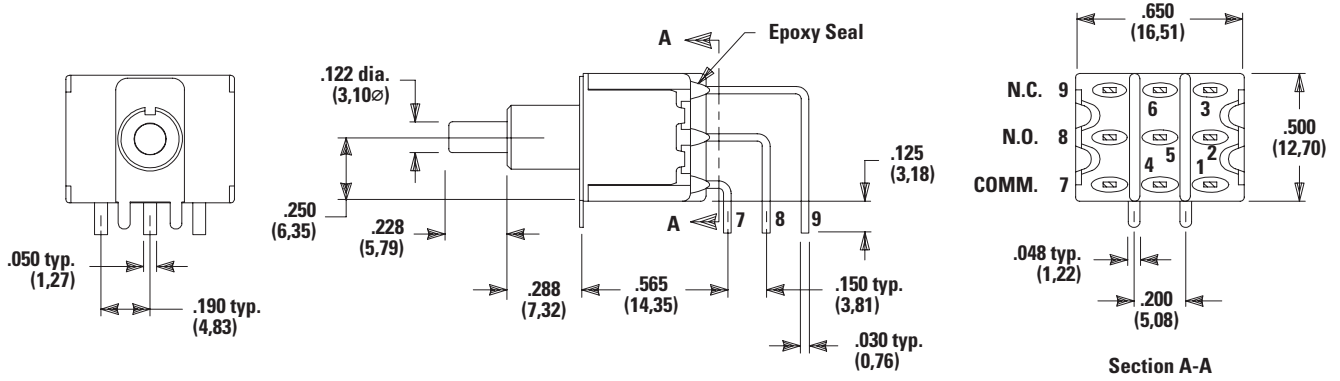
8020 Series

Snap-acting Momentary Pushbutton Switches

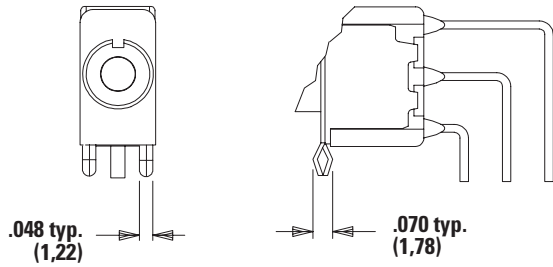


AV2 Vertical Right Angle, PC Thru-hole, 0.150" Pitch

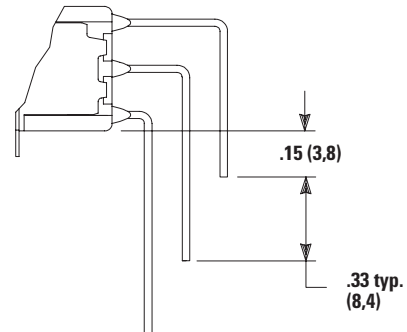
8321SD9AV2GE 3PDT



AV3 Vertical Right Angle, Snap-in, PC Thru-hole, 0.150" Pitch

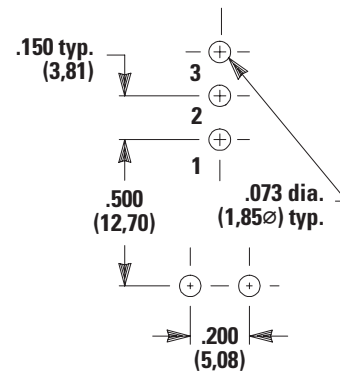


AV1 Vertical Right Angle, Extended, PC Thru-hole, 0.150" Pitch



Notes:
Not available with JXX actuators and I seal. Terminal bend radii and lead-in manufacturing option.

PC Mounting

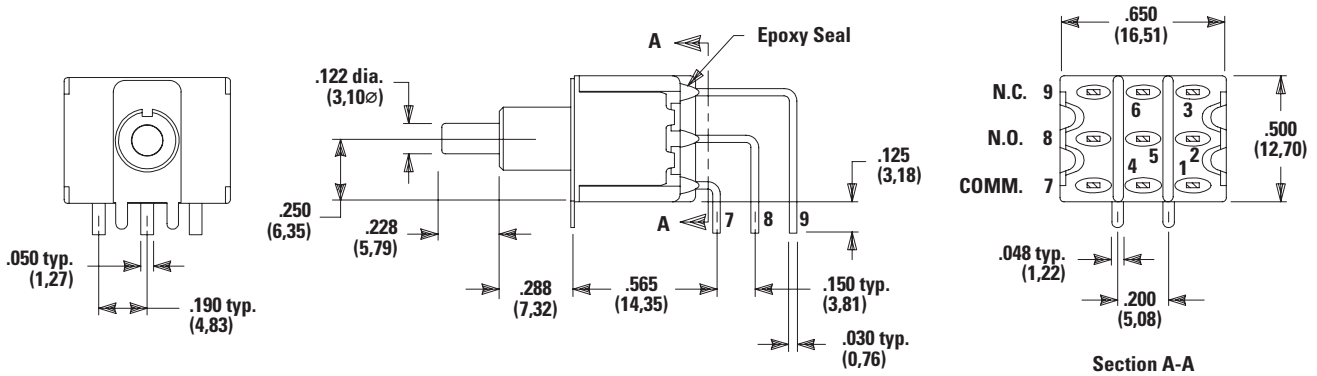


8020 Series

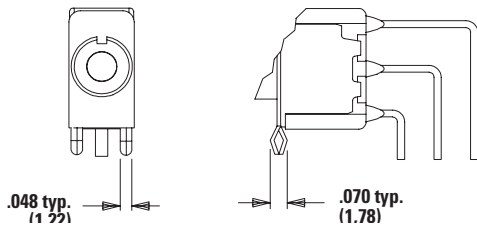
Snap-acting Momentary Pushbutton Switches



AV2 Vertical Right Angle, PC Thru-hole, 0.150" Pitch
8421SD9AV2GE 4PDT

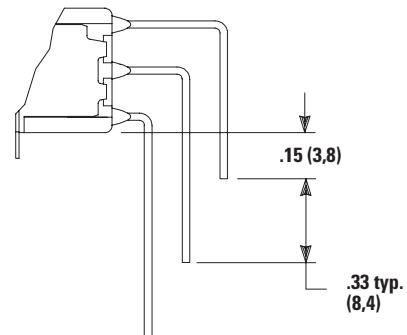


AV3 Vertical Right Angle, Snap-in, PC Thru-hole, 0.150" Pitch

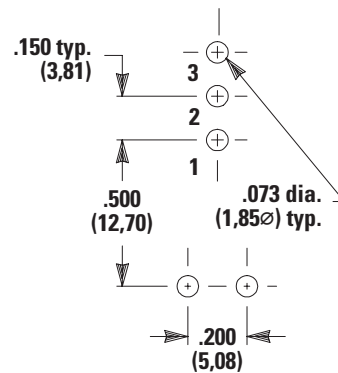


Notes:
 Not available with JXX actuators and I seal. Terminal bend radii and lead-in manufacturing option.

AV1 Vertical Right Angle, Extended, PC Thru-hole, 0.150" Pitch



PC Mounting

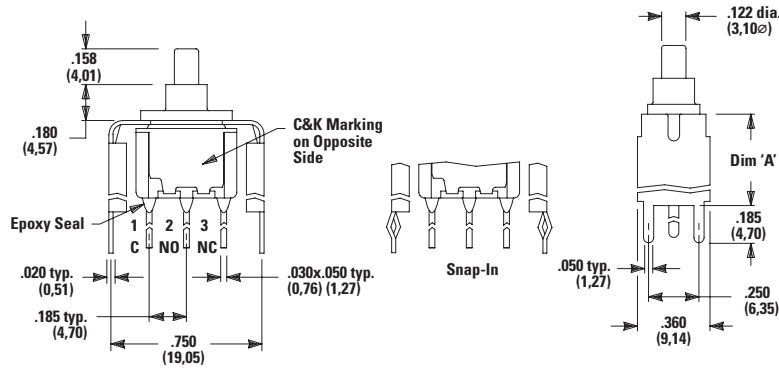


8020 Series

Snap-acting Momentary Pushbutton Switches

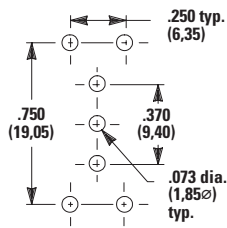


V2, V6, V7, V8 Vertical Mount, V-Bracket, V61 Vertical Mount, V-Bracket, Snap-in 8121SD3_GE SPDT



Notes:
Not available with JXX actuators and I seal.

PC Mounting



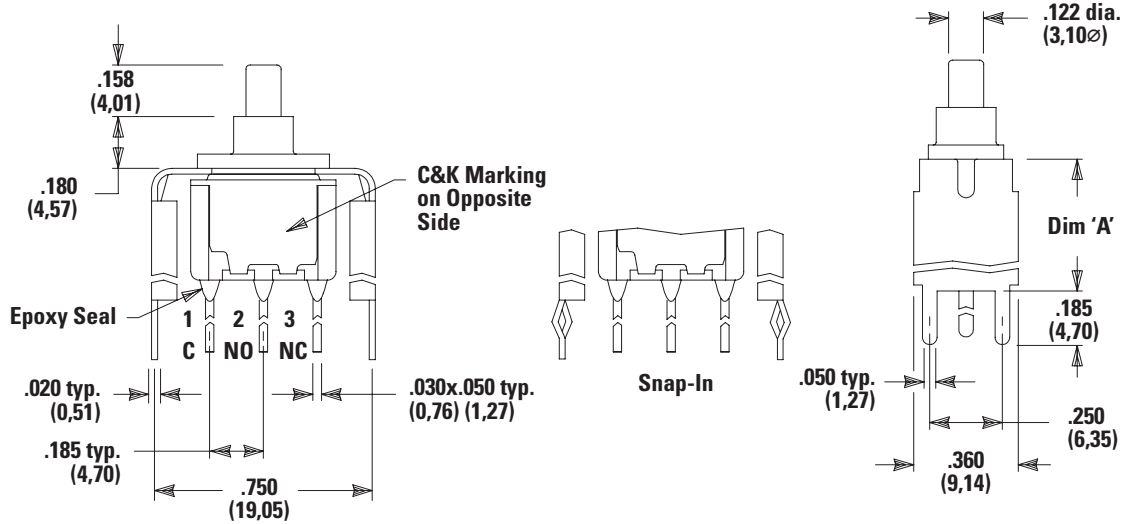
Option Code	DIM 'A'
V2	0.555 (14.10)
V6, V61	0.460 (11.68)
V7	0.630 (16.00)
V8	0.953 (24.21)

8020 Series

Snap-acting Momentary Pushbutton Switches

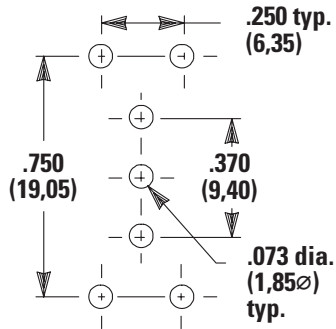


V2, V6, V7, V8 Vertical Mount, V-Bracket, V61 Vertical Mount, V-Bracket, Snap-in
8221SD3_GE DPDT



Notes:
Not available with JXX actuators and I seal.

PC Mounting



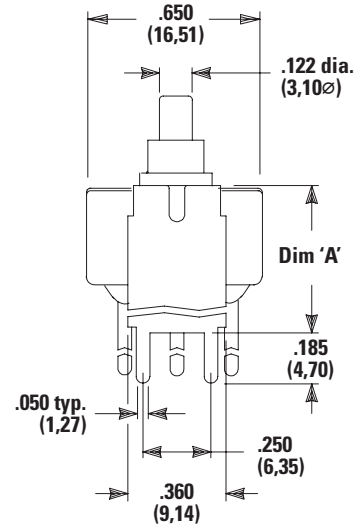
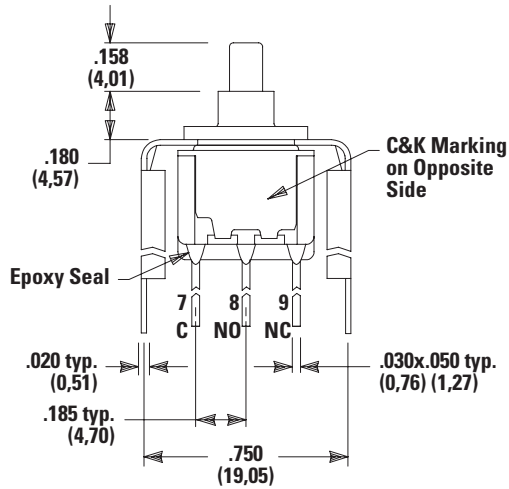
Option Code	DIM 'A'
V2	0.555 (14.10)
V6, V61	0.460 (11.68)
V7	0.630 (16.00)
V8	0.953 (24.21)

8020 Series

Snap-acting Momentary Pushbutton Switches

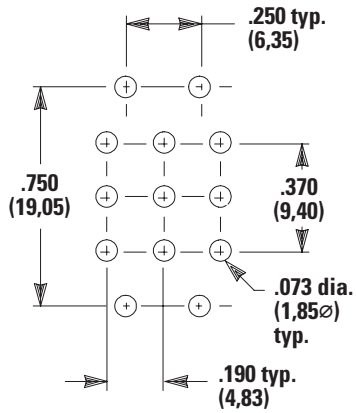


V2, V7, V8 Vertical Mount 8321SD3_GE 3PDT



Notes:
Not available with JXX actuators and I seal.

PC Mounting



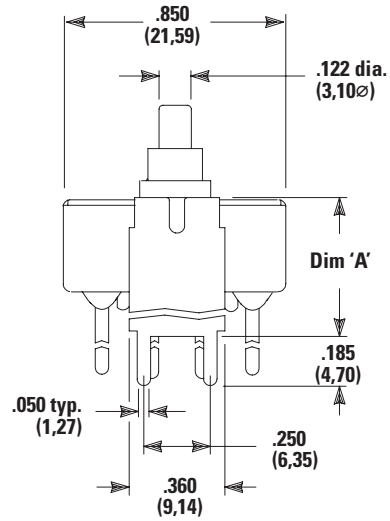
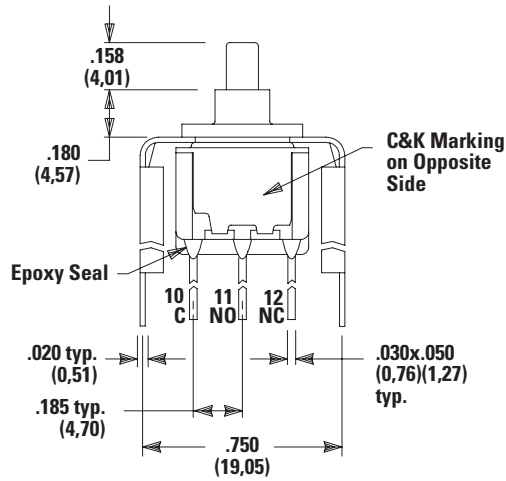
Option Code	DIM 'A'
V2	0.555 (14.10)
V7	0.630 (16.00)
V8	0.953 (24.21)

8020 Series

Snap-acting Momentary Pushbutton Switches

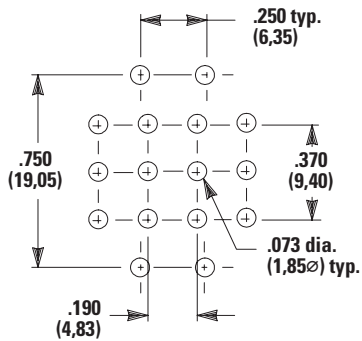


V2, V7, V8 Vertical Mount 8421SD3_GE 4PDT



Notes:
Not available with JXX actuators and I seal.

PC Mounting



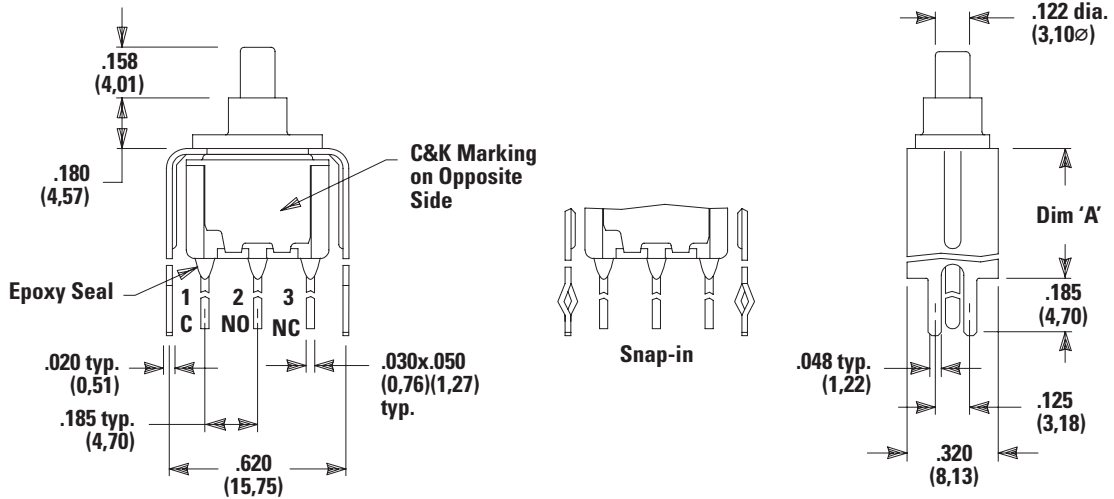
Option Code	DIM 'A'
V2	0.555 (14.10)
V7	0.630 (16.00)
V8	0.953 (24.21)

8020 Series

Snap-acting Momentary Pushbutton Switches

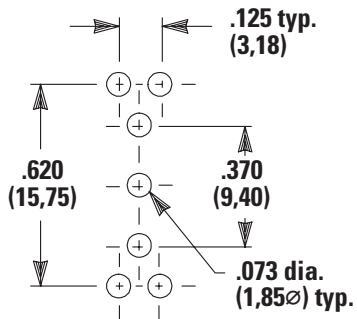


V3, V4, V9 Vertical Mount, V-Bracket, V31 Vertical Mount, V-Bracket, Snap-in 8121SD3_GE SPDT



Notes:
Not available with JXX actuators and I seal.

PC Mounting



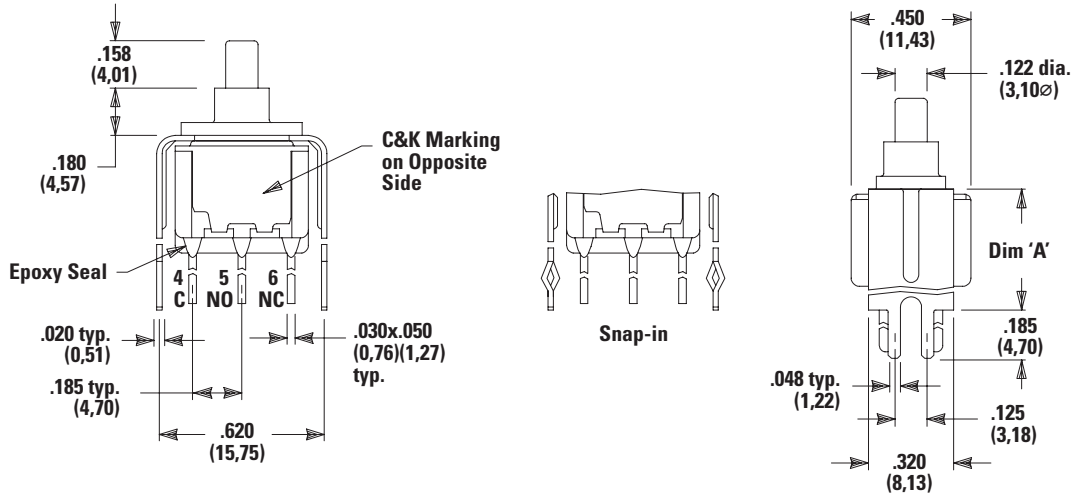
Option Code	DIM 'A'
V3, V31	0.460 (11.68)
V4	0.630 (16.00)
V9	1.150 (29.21)

8020 Series

Snap-acting Momentary Pushbutton Switches

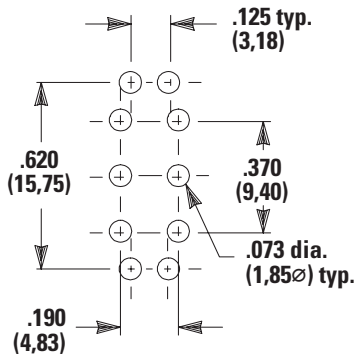


V3, V4, V9 Vertical Mount, V-Bracket, V31 Vertical Mount, V-Bracket, Snap-in 8221SD3_GE DPDT



Notes:
Not available with JXX actuators and I seal.

PC Mounting



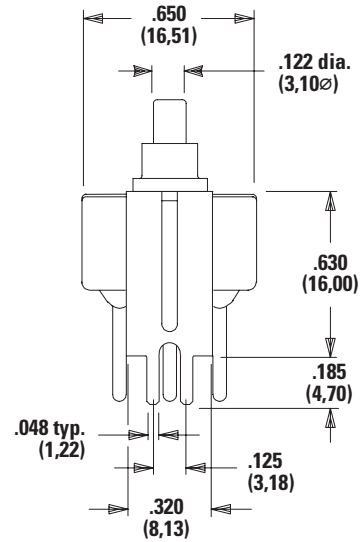
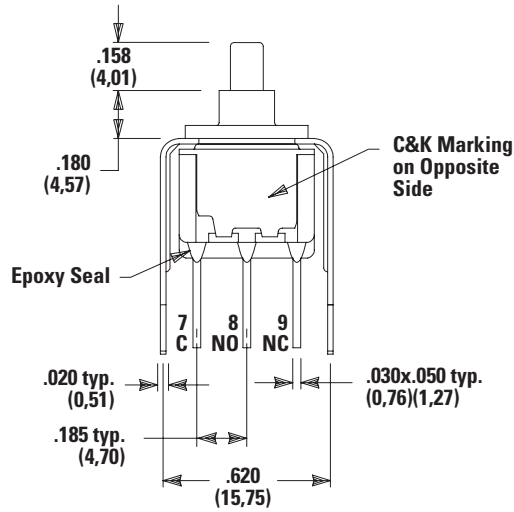
Option Code	DIM 'A'
V3, V31	0.460 (11.68)
V4	0.630 (16.00)
V9	1.150 (29.21)

8020 Series

Snap-acting Momentary Pushbutton Switches

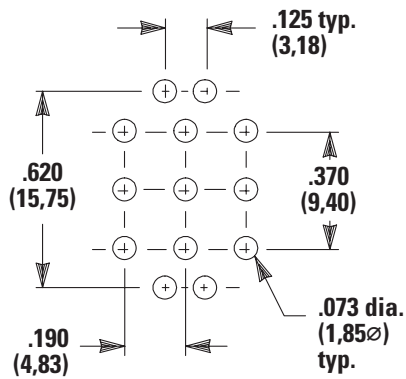


V4, V9 Vertical Mount, V-Bracket 8321SD3V4GE 3PDT



Notes:
Not available with JXX actuators and I seal.

PC Mounting



Option Code	DIM 'A'
V4	0.630 (16.00)
V9	1.150 (29.21)

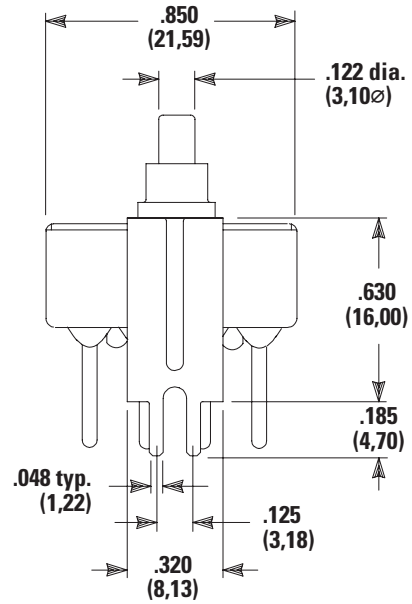
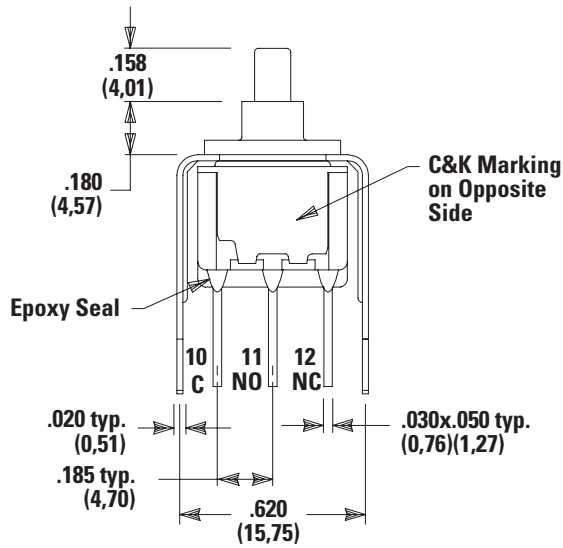
8020 Series

Snap-acting Momentary Pushbutton Switches



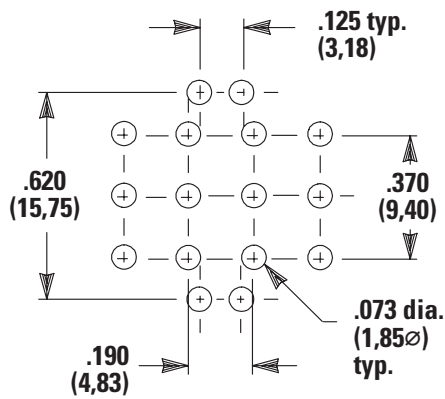
V4, V9 Vertical Mount, V-Bracket

8421SD3V4GE 4PDT



Notes:
Not available with JXX actuators and I seal.

PC Mounting



Option Code	DIM 'A'
V4	0.630 (16.00)
V9	1.150 (29.21)

8020 Series

Snap-acting Momentary Pushbutton Switches



Contact Material

Option Code	Contact Material	Terminal Plating	Ratings	
B	Gold ¹	Gold ¹	Low Level/Dry Circuit	8x25 Models Only: 0.4 VA max. @ 20 V AC or DC max.
P		Matte-Tin ⁴		
G	Gold over Silver ^{2,3}	Gold ³	Low Level/Dry Circuit or Power	8x21 Models Only: 0.4 VA max @ 20 V AC or DC max. or 1 amp @ 120 V AC or 28 V DC.
R		Matte-Tin ⁴		

Notes:

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. N.O. and N.C. Contacts: Coin silver, with gold plate over nickel plate.

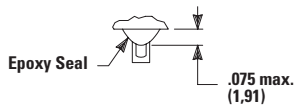
3. Common Contacts & All Terminals: Copper alloy, with gold plate over nickel plate.

4. Copper alloy, with matte tin over nickel plate.

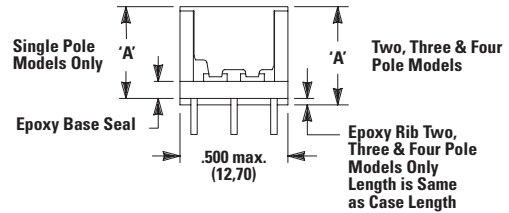
Any models supplied with B, P, R or G contact material are RoHS compliant. U811-U841 models **are not** with all options (except R, R2 terminations) when ordered with mandatory G or R contact material. **are not** for 120Vac, 1A only. B or P contact material must be ordered with 8X25 models. G or R contact material must be ordered with 8X21, U8X1 models. P or R contact material not available with Z, Z3 terminations.

Seal

E Epoxy Seal



E Epoxy Seal



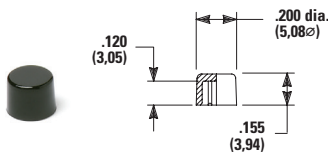
Notes:

Available with C, W-W4, Z, Z3 terminations only.

Option Code	DIM 'A'
SP	0.410 (10.41)
DP	0.440 (11.18)
3P	0.505 (12.83)
4P	0.505 (12.83)

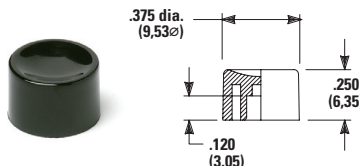
Available Hardware

Cap



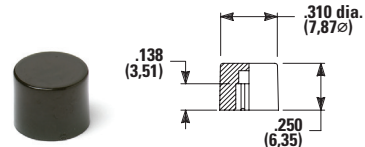
- Part No.**
 708901000 White
 708902000 Black
 708903000 Red
 708904000 Orange
 708905000 Yellow
 708906000 Green
 708907000 Blue
 708909000 Gray
Material: Nylon
Finish: Gloss

Cap



- Part No.**
 752701000 White
 752702000 Black
 752703000 Red
 752704000 Orange
 752705000 Yellow
 752706000 Green
 752707000 Blue
 752709000 Gray
Material: Nylon
Finish: Gloss

Cap



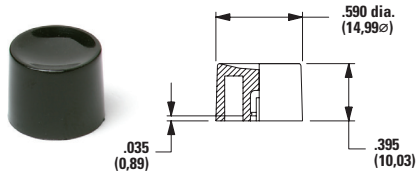
- Part No.**
 801801000 White
 801802000 Black
 801803000 Red
 801804000 Orange
 801805000 Yellow
 801806000 Green
 801807000 Blue
 801809000 Gray
Material: Nylon
Finish: Gloss

8020 Series

Snap-acting Momentary Pushbutton Switches

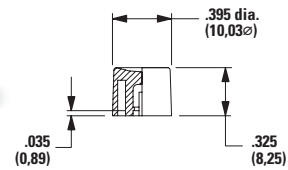


Cap, Snap Fitting Plunger



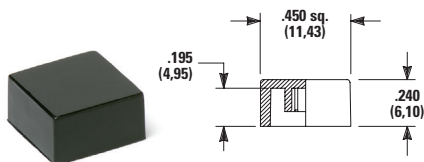
Part No.
 452D01000 White
 452D02000 Black
 452D03000 Red
 452D04000 Orange
 452D05000 Yellow
 452D06000 Green
 452D07000 Blue
 452D09000 Gray
Material: Nylon
Finish: Gloss

Cap, Snap Fitting Plunger



Part No.
 894101000 White
 894102000 Black
 894103000 Red
 894104000 Orange
 894105000 Yellow
 894106000 Green
 894107000 Blue
 894109000 Gray
Material: Nylon
Finish: Gloss

Cap, J80, J81, J82, J83 & J84 options only



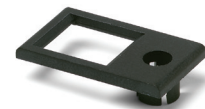
Part No. 484601000 White 484602000 Black 484603000 Red 484604000 Orange 484605000 Yellow 484606000 Green 484607000 Blue 484609000 Gray Material: Nylon Finish: Gloss	Part No. 798201000 White 798202263 Black 798203000 Red 798204000 Orange 798205000 Yellow 798206000 Green 798207000 Blue 798209000 Gray Material: Nylon Finish: Matte
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Frame



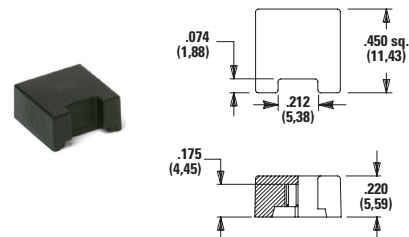
Part No.
6156022263 Black
Material: Nylon
Finish: Matte

Frame



Part No.
613302263 Black
Material: Nylon
Finish: Matte

Cap, J85, J95 Options Only



Part No.
 459701000
 459702000
 459703000
 459704000
 459705000
 459706000
 459707000
 459709000 Black
Material: Nylon
Finish: Matte

Fits Z3 Termination Female Connector



Part No.
530100000
Available in loose pieces.

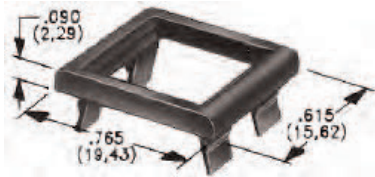
Notes: Additional nuts, locking rings and lockwashers available separately, see section "Technical Data and Additional Hardware". Other cap & frame colors available, consult Customer Service Center.

8020 Series

Snap-acting Momentary Pushbutton Switches



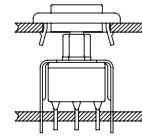
Frames snap into panel opening and are independent from switch mounting. Accurate positioning of the PC mounted switch relative to the panel opening is necessary to provide proper clearance between actuator and frame. Available in two basic styles and four panel thicknesses 0.047-0.125 in. Material: Nylon. Finish: Matte.



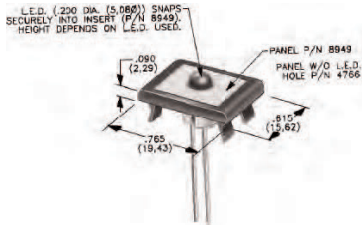
0.090" (2,29) PANEL THK.
PART NO. 432702263

0.125" (3,18) PANEL THK.
PART NO. 432802263
 BLACK

Typical Application

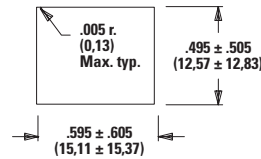


Panel Inserts

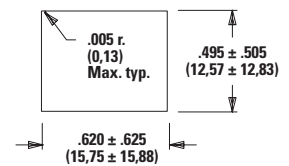


Panel Mounting

For Part Numbers
 4325xxxxx, 4326xxxxx



For Part Numbers
 4327xxxxx, 4328xxxxx



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
PART NO. 894902000

BLANK PANEL INSERT
 WITHOUT HOLE FOR LED
PART NO. 476602000
 BLACK

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

8020 Series

Snap-acting Momentary Pushbutton Switches



LED Information

Switches with LED supplied: J85, J95 OPTIONS: Rectangular LEDs are supplied on 8020 Series pushbutton switches with J85 and J95 options. These LEDs are factory installed and are not replaceable. The following specifications apply:

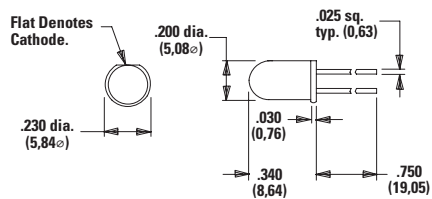
Option Code	Color	Typ. Intensity	Typ. Forward Voltage	Typ. Forward Current	Max Rating at 25°C Ambient Temperature		
					Forward Voltage	Continuous Forward Current	Power Dissipation
6	Green	1.0 mcd	2.1 V	20 mA	2.5 V	50 mA	125 mW
3	Red ¹	0.5 mcd	2.1 V	10 mA	2.5 V	30 mA	75 mW
5	Yellow	4.0 mcd	2.1 V	20 mA	2.5 V	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.

Notes:

1. 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.