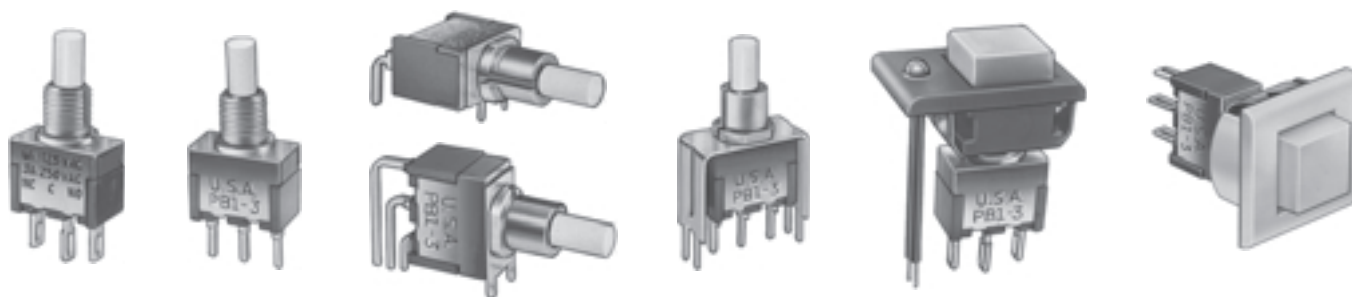


# PB SERIES - MINIATURE MOMENTARY PUSHBUTTON SWITCHES



## FEATURES

- Dry circuit through power ratings .
- Rugged construction SPDT momentary models with numerous options.
- Panel, panel & p.c. and p.c. mounting models, lighted and unlighted.

## SPECIFICATIONS

|  |   |
|--|---|
| <b>Contact ratings (resistive loads):</b>  | (Q) power models - coin silver: 6 Amps at 125 VAC, 3 Amps at 250 VAC or 7 Amps at 30 VDC.<br>(B) dry circuit models - gold over nickel over brass: 0.4 VA max. at 20 V max.<br>UL models - coin silver: 6 Amps at 125 VAC or 3 Amps at 250 VAC (75% power factor). UL file no. E66367. CSA models - coin silver: same ratings as UL models. CSA file no. LR54592-1. |
| <b>Initial contact resistance:</b>         | 5 milliohms max. at 3 VDC, 0.1 Amp.   |
| <b>Insulation resistance:</b>              | Greater than 200,000 megohms between terminals & case ground.   |
| <b>Dielectric strength:</b>                | Greater than 2000 VAC for 1 minute between terminals & case ground.   |
| <b>Electrical life (resistive loads):</b>  | 100,000 cycles min. at full load.   |
| <b>Operating temperature range:</b>        | -30°C to +85°C  |
| <b>Total travel &amp; operating force:</b> | .065" (1.6mm) & 19 oz. (approximate values ).   |

## MATERIALS

|                                 |  |
|---------------------------------|--|
| <b>Contacts:</b>                | Coin silver for power, UL & CSA models. Gold over nickel over brass for dry circuit models.  |
| <b>Actuator:</b>                | Glass filled polyester, color white  |
| <b>Bushing:</b>                 | Nickel plated brass  |
| <b>Strap:</b>                   | Stainless steel  |
| <b>Case:</b>                    | Melamine phenolic, color red   |
| <b>Terminal seal:</b>           | Epoxy (optional)   |
| <b>Support bracket:</b>         | Brass or steel, tin plated   |
| <b>Spring mounting bracket:</b> | Stainless steel  |
| <b>Bezel &amp; cap:</b>         | Nylon. Available in black, red or white. Consult factory for other colors.   |
| <b>Hardware:</b>                | See 'Miscellaneous' section.   |
| <b>LED:</b>                     | Intensity: 2.0 mcd at 10 mA. Forward voltage: 2.0V (3.0V max.). Max. continuous forward current: 15 mA for red, 30 mA for green & 20 mA for yellow. Red is standard. Yellow & green are optional. Specifications are subject to change without notice - consult factory. |

## AGENCY RECOGNITION



UL, & CSA. Marking: Switches ordered with 'UL' added at end of model no. are supplied with recognition marked. Switches ordered with 'CSA' added at end of model no. are supplied with recognition marked.

## ABOUT THIS SERIES

The material in this series is organized in the following sequence:

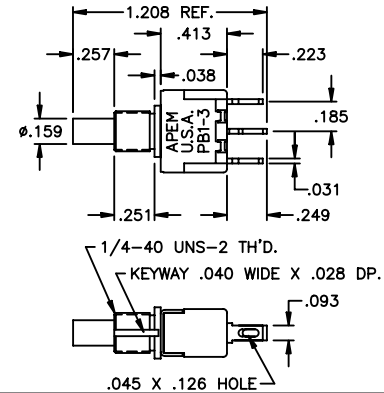
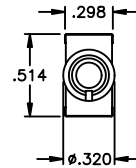
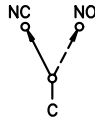
- Completely specified switch models
- 'build your own switch' order format
- Miscellaneous
- Option drawings & information
- Panel cut-outs & miscellaneous

# PB SERIES - MINIATURE MOMENTARY PUSHBUTTON SWITCHES

## Solder lug terminals - panel mounting



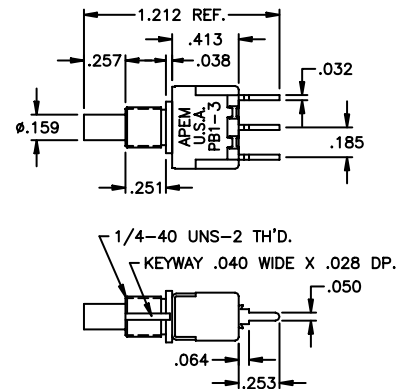
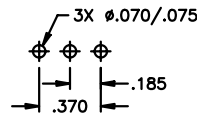
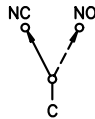
|                         |                       |
|-------------------------|-----------------------|
| POWER CKT.<br>MODEL NO. | DRY CKT.<br>MODEL NO. |
| PB1-3P2Y1ZQ             | PB1-3P2Y1ZB           |



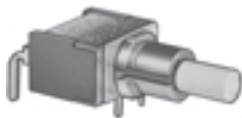
## P.C. or wirewrap terminals - panel or p.c. mounting



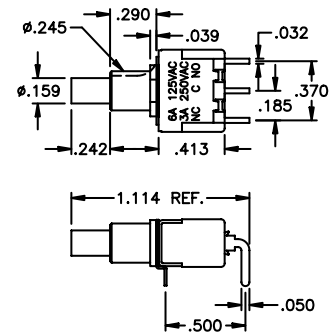
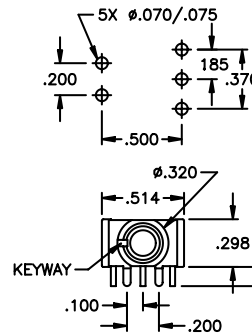
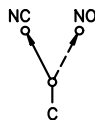
|                         |                       |
|-------------------------|-----------------------|
| POWER CKT.<br>MODEL NO. | DRY CKT.<br>MODEL NO. |
| PB1-3P2Y1CQ             | PB1-3P2Y1CB           |



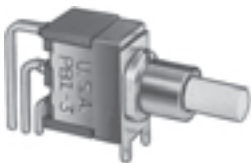
## Horizontal right angle p.c. terminals - p.c. mounting



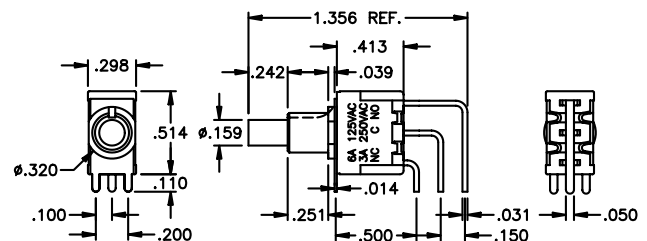
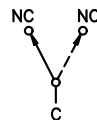
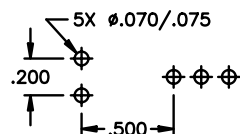
|                         |                       |
|-------------------------|-----------------------|
| POWER CKT.<br>MODEL NO. | DRY CKT.<br>MODEL NO. |
| PB1-3P2Y2A-1Q           | PB1-3P2Y2A-1B         |



## Vertical right angle p.c. terminals - p.c. mounting



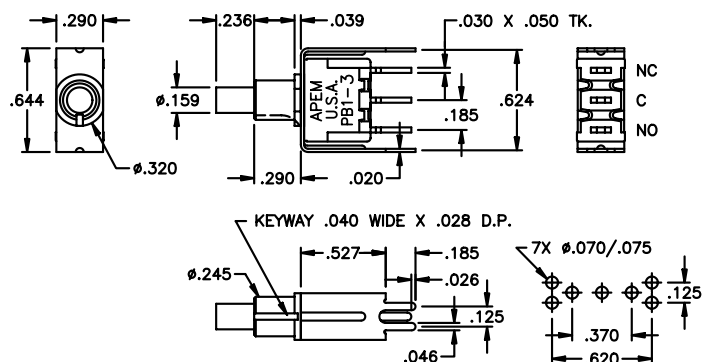
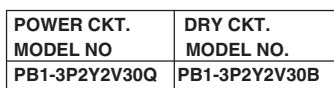
|                         |                       |
|-------------------------|-----------------------|
| POWER CKT.<br>MODEL NO. | DRY CKT.<br>MODEL NO. |
| PB1-3P2Y2V-1Q           | PB1-3P2Y2V-1B         |



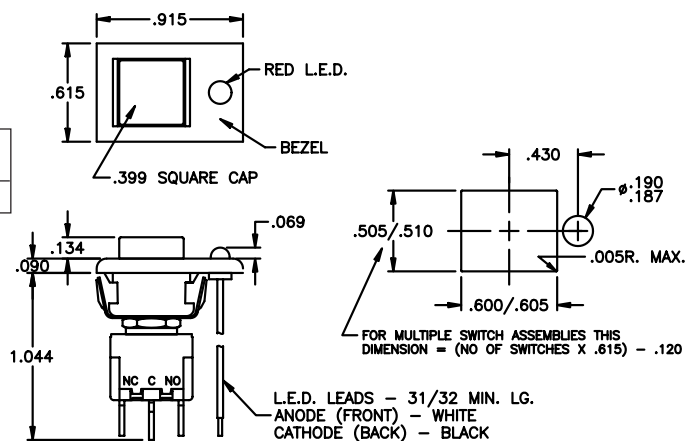
SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

## C

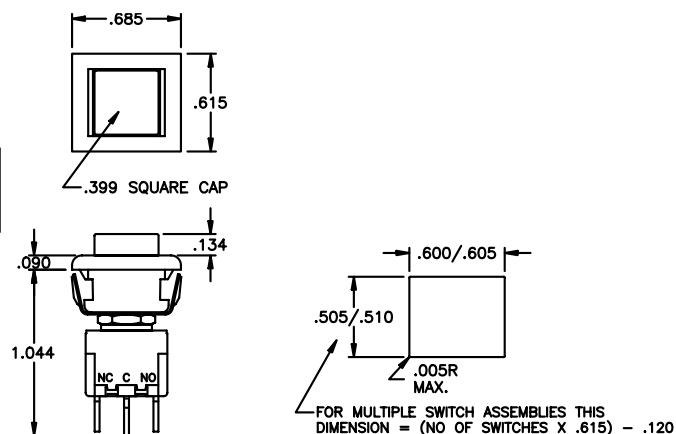
**SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE**



|                         |                       |
|-------------------------|-----------------------|
| POWER CKT.<br>MODEL NO. | DRY CKT.<br>MODEL NO. |
| PB1-3P2Y1ZQJ6168        | PB1-3P2Y1ZBJ6168      |

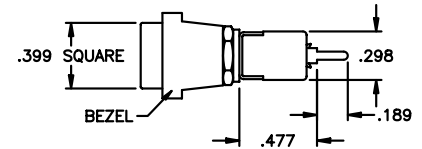
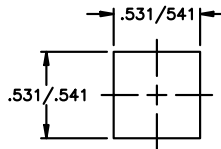
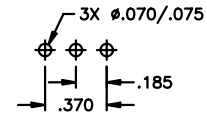
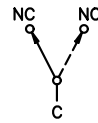


|                         |                       |
|-------------------------|-----------------------|
| POWER CKT.<br>MODEL NO. | DRY CKT.<br>MODEL NO. |
| PB1-3P2Y1ZQJ8182        | PB1-3P2Y1ZBJ8182      |

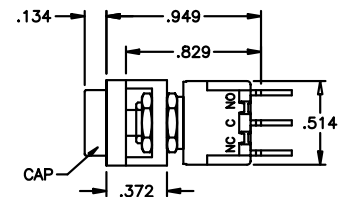
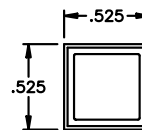


# PB SERIES - MINIATURE MOMENTARY PUSHBUTTON SWITCHES

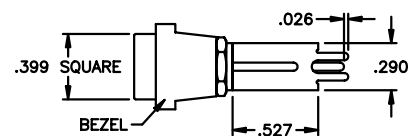
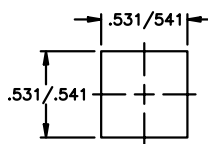
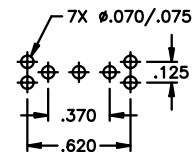
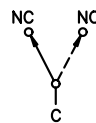
## Straight p.c. terminals - p.c. mounting bezel



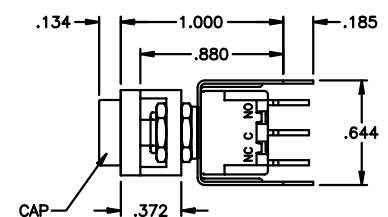
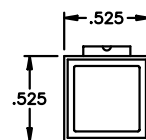
| POWER CKT.<br>MODEL NO. | DRY CKT.<br>MODEL NO. |
|-------------------------|-----------------------|
| PB1-3P2Y1CQJ8488        | PB1-3P2Y1CBJ8488      |



## Straight p.c. terminals with bracket - p.c. mounting bezel



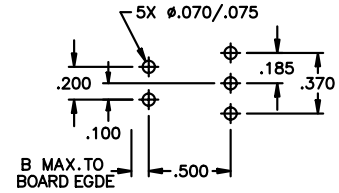
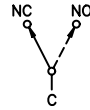
| POWER CKT.<br>MODEL NO. | DRY CKT.<br>MODEL NO. |
|-------------------------|-----------------------|
| PB1-3P2Y1V30QJ8488      | PB1-3P2Y1V30BJ8488    |



SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

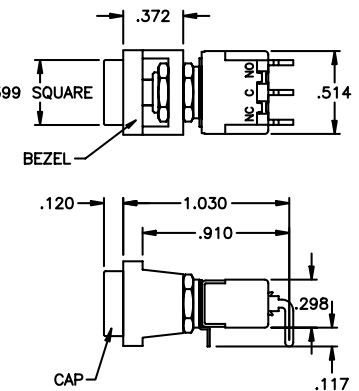
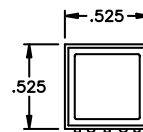
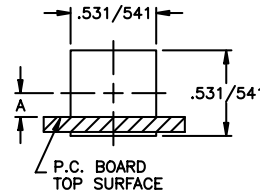
# PB SERIES - MINIATURE MOMENTARY PUSHBUTTON SWITCHES

## Horizontal right angle p.c. terminals - p.c. mounting bezel

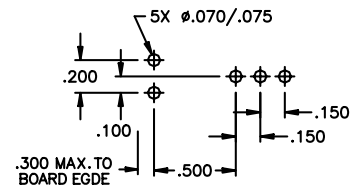
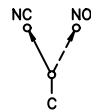
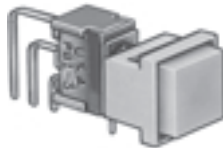


|                         |                       |
|-------------------------|-----------------------|
| POWER CKT.<br>MODEL NO. | DRY CKT.<br>MODEL NO. |
| PB1-3P2Y1A-1QJ8488      | PB1-3P2Y1A-1BJ8488    |

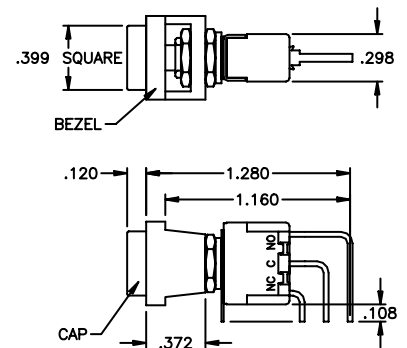
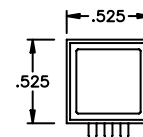
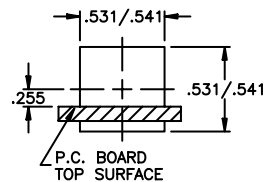
| Option | Dim. A | Dim. B    |
|--------|--------|-----------|
| A      | .148   | .045 max. |
| A-1    | .164   | .095 max. |



## Vertical right angle p.c. terminals - p.c. mounting bezel



|                         |                       |
|-------------------------|-----------------------|
| POWER CKT.<br>MODEL NO. | DRY CKT.<br>MODEL NO. |
| PB1-3P2Y1V-1QJ8488      | PB1-3P2Y1V-1BJ8488    |



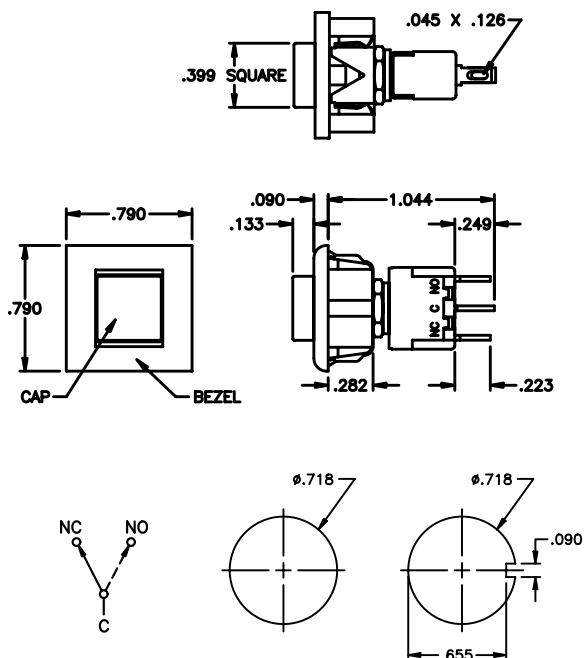
# PB SERIES - MINIATURE MOMENTARY PUSHBUTTON SWITCHES

## Solder lug terminals - snap-in bezel for round hole mounting

Self-keying against rotation



| POWER CKT.<br>MODEL NO. | DRY CKT.<br>MODEL NO. |
|-------------------------|-----------------------|
| PB1-3P2Y1ZQJ9688        | PB1-3P2Y1ZBJ9688      |



**Additional ordering information:** Commonly ordered models are shown above and on prior pages with complete model numbers and specifications. Below is an order format that enables you to 'build your own switch' and specify the correct switch model number by simply selecting from all available options shown and filling in the boxes.

## 'BUILD YOUR OWN SWITCH' ORDER FORMAT

Fill in boxes with selections shown for **Model Structure**, then add **Options** selections for complete model number.

Allowable options are shown below each respective box with brief description - see option dwgs. & info. following.

Note: 'NONE' indicates box may be left empty.

### Model Structure:

| Series  | Actuators  | Bushings  | Terminations   | Contact materials  |
|---|--|---|--|--|
| <b>P</b> <b>B</b> <b>1</b> - <b>3</b>   | <input type="text"/>                                     | <input type="text"/>  | <input type="text"/>   | <input type="text"/>   |
| <p>Note:<br/>When bezel is specified,<br/>specify P2 actuator and<br/>Y1 bushing.</p> | <p><b>P</b> Long<br/><b>P 2</b> Short<br/>(standard)</p> | <p><b>Y</b> 1/4" thd'd.<br/><b>Y 1</b> Short 1/4" thd'd.<br/>(standard)<br/><b>D</b> 1/4" thd'd. w/'D' flat<br/><b>Y 2</b> Non-threaded</p> | <p><b>Z</b> Solder lug<br/><b>C</b> Printed circuit<br/><b>W</b> Wirewrap<br/><b>W 1</b> Lg. wirewrap<br/><b>W 3</b> Sht. wirewrap<br/><b>X</b> Extra lg. wirewrap<br/>Horiz. right angle p.c.<br/>terminals:<br/><b>A</b><br/><b>A - 1</b><br/>Vertical right angle<br/>p.c. terminals:<br/><b>V</b><br/><b>V - 1</b><br/><b>V - 2</b><br/>Straight p.c. terminals w/brkt.:<br/><b>V 3 0 or V 4 1</b><br/><b>V 4 0 or V 4 1</b><br/><b>V 7 0</b><br/><b>V 8 0</b><br/><b>V 7 1</b><br/><b>V 8 1</b></p> | <p><b>B</b> Gold<br/><b>Q</b> Coin silver<br/><b>G</b> Gold over<br/>coin silver<br/><b>N</b> Economy<br/>gold<br/><b>T</b> Economy<br/>silver</p> |

### Options:

| Bezel & cap  | Bezel color  | cap color  | Approvals   |
|--|--|--|---|
| <input type="text"/>   | <input type="text"/>   | <input type="text"/>   | <input type="text"/>                              |
| <p>(NONE)<br/><b>J 6 1</b> Snap-in w/LED<br/><b>J 8 1</b> Snap-in no LED<br/><b>J 8 4</b> P.C. style<br/><b>J 9 6</b> Snap-in (round<br/>hole)</p> | <p>(NONE)<br/><b>2</b> Black<br/><b>6</b> Red<br/><b>8</b> White<br/>Consult factory for other colors.</p> | <p>(NONE)<br/><b>2</b> Black<br/><b>6</b> Red<br/><b>8</b> White</p> | <p>(NONE)<br/><b>/ U L</b><br/><b>/ C S A</b></p> |

Although most combinations of options are available, some may result in incompatibilities. Consult factory if there is any question.

Example of completely specified  
model number:  
**PB1-3P2Y1ZQJ9622/UL/CSA**

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

# PB SERIES - MINIATURE MOMENTARY PUSHBUTTON SWITCHES

## MISCELLANEOUS

### HARDWARE SUPPLIED

(See Hardware section of catalog)

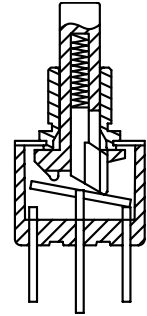
Switches with Y option bushings are supplied with (2) A112 Hex Nuts, (1) A115 Lockwasher and (1) A107 Anti-rotate Ring.

Switches with D option bushings are supplied with (2) A112 Hex Nuts and (1) A115 Lockwasher.

Switches with Y1 option bushings are supplied with (1) A112 Hex Nut and (1) A115 Lockwasher.

Note: Switches with non-threaded bushings or bezels supplied without hardware.

**TYPICAL  
SWITCH  
CROSS  
SECTION**

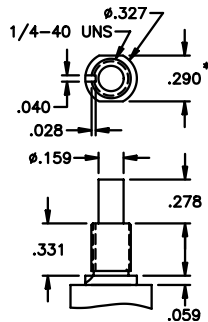


## ACTUATOR/BUSHING OPTIONS

Drawings reflect allowable actuator/bushing combinations.

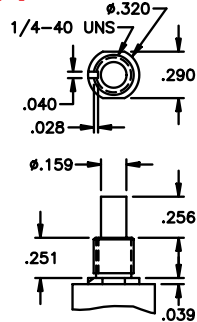
Note for drawings P2Y1 & P2Y2:  
Asterisk indicates .290 flats are supplied with options A, V, V30, V40, V70, V71, V80 & V81.  
For other options, .320 Dia. with no flats may be supplied

**PY**



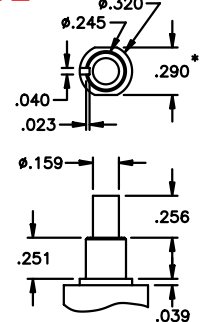
THREADED

**P2Y1**



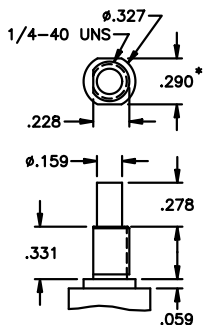
THREADED

**P2Y2**



NON-THREADED

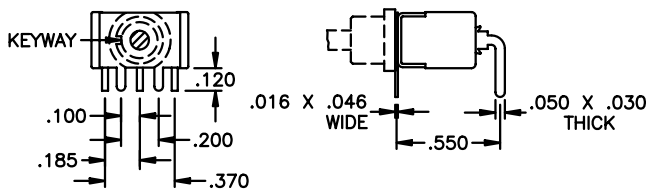
**PD**



THREADED

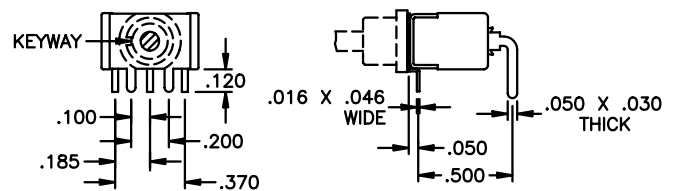
## TERMINATION OPTIONS

**A**



HORIZONTAL P.C. MOUNTING

**A-1**



HORIZONTAL P.C. MOUNTING

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

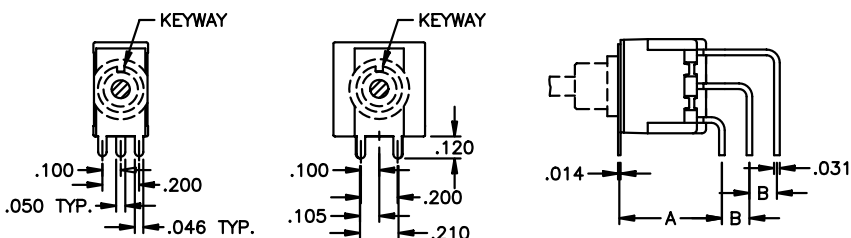
**C**

# PB SERIES - MINIATURE MOMENTARY PUSHBUTTON SWITCHES

## TERMINATION OPTIONS (CONT'D.)

### V, V-1 & V-2

| Option | Dim. A | Dim. B |
|--------|--------|--------|
| V      | .550   | .150   |
| V-1    | .500   | .150   |
| V-2    | .500   | .100   |

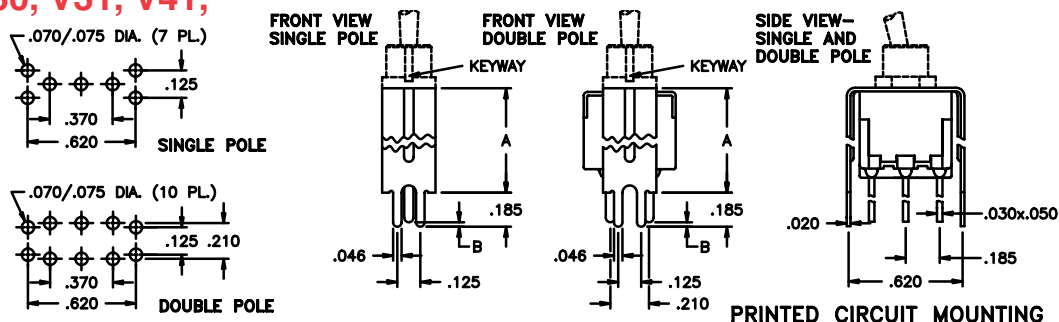


VERTICAL P.C. MOUNTING

### V30, V40, V70, V80, V31, V41, V71 & V81

PANEL LAYOUT  
V30, V31, V40 & V41

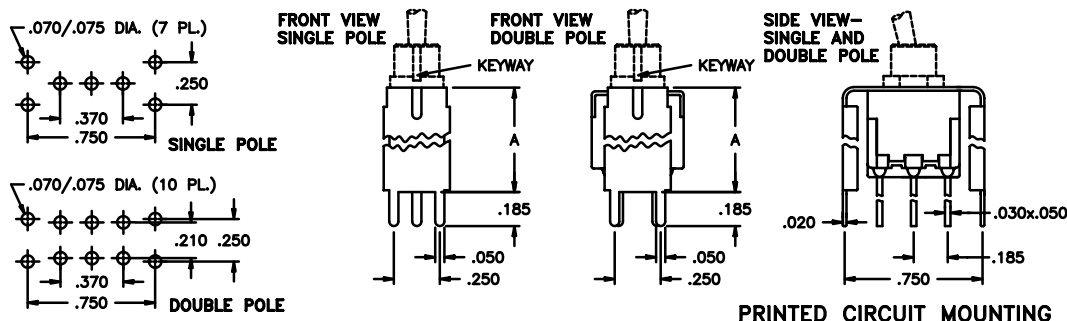
| Option  | Dim. A | Dim. B |
|---------|--------|--------|
| V30-V31 | .527   | .024   |
| V40-V41 | .647   | .048   |



PRINTED CIRCUIT MOUNTING

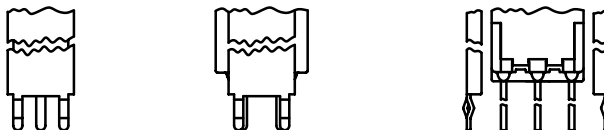
PANEL LAYOUT  
V70, V71,  
V80 & V81

| Option  | Dim. A |
|---------|--------|
| V70-V71 | .630   |
| V80-V81 | .953   |

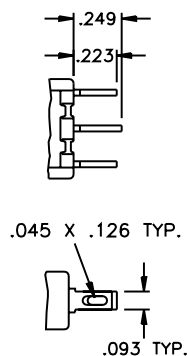


PRINTED CIRCUIT MOUNTING

V31, V41, V71 & V81 ARE THE SAME AS V30, V40, V70 & V80 RESPECTIVELY, EXCEPT WITH CRIMPED LEG DESIGN FOR P.C. BOARD RETENTION, AS SHOWN TO RIGHT.

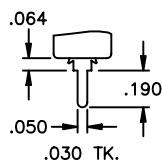


### Z



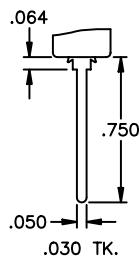
SOLDER LUG

### C



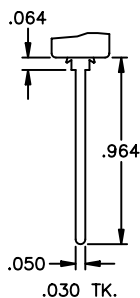
PRINTED CIRCUIT

### W



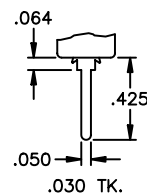
WIREWRAP

### W1



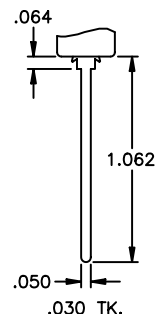
LONG WIREWRAP

### W3



SHORT WIREWRAP

### X



EXTRA LG. WIREWRAP



# PB SERIES - MINIATURE MOMENTARY PUSHBUTTON SWITCHES

## CONTACT MATERIAL OPTIONS

|          |   |
|----------|---|
| <b>B</b> | Dry circuit - gold over nickel over brass.<br>RATING: 0.4 Volt-Amps (VA) max. at 20 V max.<br>ELECTRIC LIFE: 60,000 cycles minimum. MECHANICAL LIFE: 500,000 cycles minimum.  |
| <b>Q</b> | Power circuit - coin silver.<br>RATING: 6 Amps at 125 VAC, 3 Amps at 250 VAC or 7 Amps at 30 VDC (resistive loads).<br>ELECTRIC LIFE: 60,000 cycles minimum at full load.   |
| <b>G</b> | Dry circuit or power circuit - gold over nickel over coin silver.<br>RATINGS & ELECTRIC LIFE: Same as B & Q above - i.e. - can be used in either dry circuit or power circuit, however once used in power circuit, switch cannot be re-used in dry circuit. This option satisfies those customers who have both dry circuit and power circuit requirements, but prefer to inventory only one switch for both. |
| <b>N</b> | Dry circuit - gold over nickel over brass. Note- less gold than B option.<br>RATING: 0.4 Volt-Amps (VA) max. at 20 V max.<br>ELECTRIC LIFE: 10,000 cycles min. at 13 cycles per minute.   |
| <b>T</b> | Power circuit - Silver plate over brass.<br>RATING: 1 Amp at 125 VAC or 0.5 Amps at 250 VAC (resistive loads).<br>ELECTRIC LIFE: 10,000 cycles min. at 13 cycles per minute.  |

Solder dipped terminals and custom contact plating available - contact factory.

## UL & CSA OPTIONS

|            |  |
|------------|--|
| <b>UL</b>  | For power circuits - coin silver<br>RATING: 6 Amps at 125 VAC or 3 Amps at 250 VAC (75% power factor).<br>Underwriter Laboratories file no. E66367. Note - applicable only to terminations with coin silver contacts (Q or G options).   |
| <b>CSA</b> | For power circuits - coin silver<br>RATING: 6 Amps at 125 VAC or 3 Amps at 250 VAC (75% power factor).<br>Canadian Standards Association file no. LR54592-1. Note - applicable only to terminations with coin silver contacts (Q or G options) as CSA recognizes switches for power applications only. |

## EPOXY SEALING OPTION

|          |   |
|----------|---|
| <b>E</b> | Space between terminals and case hole is completely epoxy sealed to prevent flux and contaminant entry. |
|----------|---|

## REVERSE ACTION OPTION

|           |   |
|-----------|---|
| <b>/R</b> | To reverse the <b>NO</b> and <b>NC</b> terminals, add <b>/R</b> to the switch model number. |
|-----------|---|

## PANEL CUT-OUTS

Cut-outs that accept all 1/4-40 threaded bushings:

|                |                            |                            |                |                              |  |
|----------------|----------------------------|----------------------------|----------------|------------------------------|--|
|                |                            |                            |                |                              |  |
| Without keying | With A107 anti-rotate ring | With A158 anti-rotate ring | With D bushing | With slotted keyway bushings | Accepts all 1/4" non-threaded bushings |

## MISCELLANEOUS

**QUICK-CONNECT RECEPTACLES** that are compatible with solder lug or p.c. terminals are commercially available. Consult factory.

**FRONT PANEL SEAL:** Silicone rubber boots for front panel sealing of the switch against high pressure water or other contaminants are available. See Waterproof Switch Sealing Boots section in catalog.

**SWITCH CAPS** for switches without bezels also available - see Hardware section of catalog

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

C

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