8020 Series
Snap-acting Momentary Pushbutton Switches

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

Typical Applications
- Instrumentation
- Computer peripherals
- Telecommunications equipment

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. See page A-43 for additional ratings.

ELECTRICAL LIFE: 60,000 make-and-break cycles at full load.
CONTACT RESISTANCE: Below 50 mΩ, typ.
OPERATING TEMPERATURE: 8X2X MODELS: –30ºC to 75ºC. U8X1 MODELS: –30ºC to 65ºC.
CAP INSTALLATION FORCE: 10 lbs. max. permissible.
SOLDERABILITY: Per MIL-STD-202F method 208D, or EIA RS-186E method 9 (1 hour steam aging).

NOTE: Any models supplied with B, P, R, 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.

Build-A-Switch
To order, simply select desired option from each category and place in the appropriate box. Available options are shown on pages A-30 thru A-45. 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
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

Actuator or Plunger
A Right angle, PC thru-hole
AV1 Vertical right angle, PC thru-hole
C PC Thru-hole
Z Solder lug
A2 Right angle, PC thru-hole
A3 Right angle, snap-in, PC thru-hole
B Plunger
M Snap-fitting plunger

Bushing
D9 Snap-in
J80 Snap-in
J81 Snap-in w/frame
J82 Snap-in w/frame w/ flush cap
J83 Snap-in w/frame & flush cap
J84 Snap-in w/frame for LED, flush cap
J85 Snap-in w/frame & LED
J96 PC w/V-bracket & LED
L Plunger
M Snap-fitting plunger

Contact Material
B Gold
P Gold, matte-tin
G Gold over silver
R Gold over silver, matte-tin

Frame Color
2 Black
3 Red
5 Yellow
6 Green
9 Gray

LED Color
E Epoxied base

Cap Color
2 Black
3 Red
4 Orange
5 Yellow
6 Green
7 Blue
8 Red
9 Gray

Seal
Epoxy
Epoxy potted

Terminals
A Right angle, PC thru-hole
AV2 Vertical right angle, PC thru-hole
C PC Thru-hole
Z Solder lug
A2 Right angle, PC thru-hole
A3 Right angle, snap-in, PC thru-hole
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
R Right angle with PCB
R2 Right angle with PCB, reversed terminals

Materials
CASE: Glass filled nylon 6/6 or diallyl phthalate (DAP), flame retardant (UL 94V-0).
PLUNGER: Glass filled nylon or glass filled polyester (PBT) (UL 94V-0).
CAP & FRAME: Nylon, black, standard.
BUSHING: Brass or zinc, nickel plated.
HOUSING: Stainless steel.
SWITCH SUPPORT: Brass or steel, matte-tin plated.
N.O. & N.C. CONTACTS: 8X21, U8X1 MODELS: B 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 CONTACT & 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.

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

www.ck-components.com
A-29
# 8020 Series
Snap-acting Momentary Pushbutton Switches

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

---

### SWITCH FUNCTION

<table>
<thead>
<tr>
<th>NO. POLES</th>
<th>MODEL NO.</th>
<th>UL/CSA* MODEL NO.</th>
<th>CONNECTED TERMINALS</th>
<th>SCHMATIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>SP</td>
<td>8121</td>
<td>U811</td>
<td>ON MOM.</td>
<td>SPDT</td>
</tr>
<tr>
<td></td>
<td>8125</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DP</td>
<td>8221</td>
<td>U821</td>
<td>ON MOM.</td>
<td>DPDT</td>
</tr>
<tr>
<td></td>
<td>8225</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3P</td>
<td>8321</td>
<td>U831</td>
<td>ON MOM.</td>
<td>3PDT</td>
</tr>
<tr>
<td></td>
<td>8325</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Example:**
- For SPDT, the connected terminals are 1-3 and 1-2.
- For DPDT, the connected terminals are 1-4-6 and 2-5.

---

### Terminal Numbers

- **Part number shown:** 8121SHZGE
- **Part number shown:** 8221SHZGE
- **Part number shown:** 8321SHZGE

---

MOM. = Momentary

*U811 thru U841 model numbers with all options (except R, R2 terminations) when ordered with G or R contact material.

**8X25 models must be ordered with B or P contact material.**

**8X21 and U8X1 models must be ordered with G or R contact material.**

---

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

---

C&K marking on opposite side

---

www.ck-components.com
8020 Series
Snap-acting Momentary Pushbutton Switches

**SWITCH FUNCTION**

<table>
<thead>
<tr>
<th>NO. POLES</th>
<th>MODEL NO.</th>
<th>UL/CSA* MODEL NO.</th>
<th>CONNECTED TERMINALS</th>
<th>SCHEMATIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>4P</td>
<td>8421 U841</td>
<td></td>
<td>ON MOM.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>8425</td>
<td></td>
<td>ON MOM.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>4PDT</th>
</tr>
</thead>
</table>

Part number shown: 8421SHZGE

MOM. = Momentary

* U811 thru U841 model numbers with all options (except R, R2 terminations) when ordered with G or R contact material.

ACTUATOR—SNAP-IN FRONT MOUNT

<table>
<thead>
<tr>
<th>OPTION CODE</th>
<th>CAP AND FRAME COLOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>BLACK</td>
</tr>
<tr>
<td>NONE</td>
<td>No Frame Color (J80 option)</td>
</tr>
<tr>
<td>1</td>
<td>WHITE</td>
</tr>
<tr>
<td>3</td>
<td>RED</td>
</tr>
<tr>
<td>4</td>
<td>ORANGE</td>
</tr>
<tr>
<td>5</td>
<td>YELLOW</td>
</tr>
<tr>
<td>6</td>
<td>GREEN</td>
</tr>
<tr>
<td>7</td>
<td>BLUE</td>
</tr>
<tr>
<td>9</td>
<td>GRAY</td>
</tr>
</tbody>
</table>


NOTE: Caps and frames available separately, see pages A-44 and A-45.


NOTE: No frame color choice required.

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

J80 SNAP-IN

J81 SNAP-IN WITH FRAME

NOTE: Available with G, W-W4, Z or Z3 terminations and SPDT and DPDT models only.

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

Dimensions are shown: Inches (mm)
Specifications and dimensions subject to change
8020 Series
Snap-acting Momentary Pushbutton Switches

ACTUATOR—SNAP-IN FRONT MOUNT

J83 SNAP-IN WITH FRAME AND FLUSH CAP

J82 SNAP-IN WITH FRAME FOR LED

J84 SNAP-IN WITH FRAME FOR LED, FLUSH CAP

LED not included.
For LED information, see page A-45.

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.

NOTE: Caps and frames available separately, see pages A-44 and A-45.

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

www.ck-components.com

A-32
8020 Series
Snap-acting Momentary Pushbutton Switches

ACTUATOR—SNAP-IN FRONT MOUNT

J85
SNAP-IN WITH FRAME AND LED

Available with C, W-W4, Z or Z3 terminations and SPDT models only. For LED information see page A-45.

NOTE: Caps & frames available separately, see pages A-44 and A-45.

<table>
<thead>
<tr>
<th>OPTION CODE</th>
<th>CAP AND FRAME COLOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>BLACK</td>
</tr>
<tr>
<td>1</td>
<td>WHITE</td>
</tr>
<tr>
<td>3</td>
<td>RED</td>
</tr>
<tr>
<td>4</td>
<td>ORANGE</td>
</tr>
<tr>
<td>5</td>
<td>YELLOW</td>
</tr>
<tr>
<td>6</td>
<td>GREEN</td>
</tr>
<tr>
<td>7</td>
<td>BLUE</td>
</tr>
<tr>
<td>9</td>
<td>GRAY</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OPTION CODE</th>
<th>LED COLOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>RED</td>
</tr>
<tr>
<td>5</td>
<td>YELLOW</td>
</tr>
<tr>
<td>6</td>
<td>GREEN</td>
</tr>
</tbody>
</table>

For LED information see page A-45.

ACTUATOR—PC MOUNT

J95
PC WITH V-BRACKET AND LED

Available with V3 terminations and SPDT models only. For LED information see page A-45.

NOTE: Caps available separately, see page A-44.

<table>
<thead>
<tr>
<th>OPTION CODE</th>
<th>CAP AND FRAME COLOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>BLACK</td>
</tr>
<tr>
<td>1</td>
<td>WHITE</td>
</tr>
<tr>
<td>3</td>
<td>RED</td>
</tr>
<tr>
<td>4</td>
<td>ORANGE</td>
</tr>
<tr>
<td>5</td>
<td>YELLOW</td>
</tr>
<tr>
<td>6</td>
<td>GREEN</td>
</tr>
<tr>
<td>7</td>
<td>BLUE</td>
</tr>
<tr>
<td>9</td>
<td>GRAY</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OPTION CODE</th>
<th>LED COLOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>RED</td>
</tr>
<tr>
<td>5</td>
<td>YELLOW</td>
</tr>
<tr>
<td>6</td>
<td>GREEN</td>
</tr>
</tbody>
</table>

For LED information see page A-45.
# 8020 Series
## Snap-acting Momentary Pushbutton Switches

### PLUNGER

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>D, D9</td>
<td>.244 (6,20)</td>
<td>.228 (5,79)</td>
<td>.224 (5,69)</td>
<td></td>
</tr>
<tr>
<td>H, H9</td>
<td>.218 (5,44)</td>
<td>.202 (5,2)</td>
<td>.198 (5,0)</td>
<td></td>
</tr>
<tr>
<td>Y, Y9</td>
<td>.203 (5,2)</td>
<td>.187 (4,75)</td>
<td>.183 (4,65)</td>
<td></td>
</tr>
<tr>
<td>Y3</td>
<td>(5,54)</td>
<td>(5,13)</td>
<td>(5,03)</td>
<td></td>
</tr>
<tr>
<td>Y4</td>
<td>.185 (4,70)</td>
<td>.169 (4,29)</td>
<td>.135 (4,19)</td>
<td></td>
</tr>
<tr>
<td>D2, D8</td>
<td>N/A</td>
<td>.232 (5,89)</td>
<td>.228 (5,79)</td>
<td></td>
</tr>
<tr>
<td>D3</td>
<td>N/A</td>
<td>.162 (4,11)</td>
<td>.158 (4,01)</td>
<td></td>
</tr>
</tbody>
</table>

### L PLUNGER

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Y, Y9</td>
<td>.178 (4,52)</td>
<td>.162 (4,11)</td>
<td>.158 (4,01)</td>
<td></td>
</tr>
<tr>
<td>Y4</td>
<td>.090 (2,29)</td>
<td>.074 (1,88)</td>
<td>.070 (1,78)</td>
<td></td>
</tr>
</tbody>
</table>

### M SNAP-FITTING PLUNGER

<table>
<thead>
<tr>
<th>M SNAP-FITTING PLUNGER</th>
<th>AVAILABLE BUSHINGS</th>
<th>DIM. 'C' FOR C, W-W4, Z &amp; Z3 TERMINATIONS</th>
<th>DIM. 'C' FOR A, A2, A3, A4, A6, AV-A3, R &amp; R2 TERMINATIONS</th>
<th>DIM. 'C' FOR V3-V61 TERMINATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>D, D9</td>
<td>.297 (7,54)</td>
<td>.281 (7,14)</td>
<td>.277 (7,04)</td>
<td></td>
</tr>
<tr>
<td>H, H9</td>
<td>.267 (6,78)</td>
<td>.251 (6,38)</td>
<td>.247 (6,27)</td>
<td></td>
</tr>
<tr>
<td>Y, Y9</td>
<td>.259 (6,58)</td>
<td>.243 (6,17)</td>
<td>.239 (6,07)</td>
<td></td>
</tr>
<tr>
<td>Y3</td>
<td>(6,78)</td>
<td>(6,37)</td>
<td>(6,27)</td>
<td></td>
</tr>
<tr>
<td>Y4</td>
<td>.259 (6,58)</td>
<td>.243 (6,17)</td>
<td>.239 (6,07)</td>
<td></td>
</tr>
<tr>
<td>D2, D8</td>
<td>N/A</td>
<td>.273 (6,93)</td>
<td>.269 (6,83)</td>
<td></td>
</tr>
<tr>
<td>D3</td>
<td>N/A</td>
<td>.361 (9,17)</td>
<td>.357 (9,07)</td>
<td></td>
</tr>
</tbody>
</table>

**NOTE:** 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, see page A-44.

### BUSHING

<table>
<thead>
<tr>
<th>NONE NO BUSHING CHOICE REQUIRED (JXX ACTUATORS)</th>
<th>AVAILABLE BUSHINGS</th>
<th>DIM. 'D' FOR C, W-W4, Z &amp; Z3 TERMINATIONS</th>
<th>DIM. 'D' FOR A, A2, A3, A4, A6, AV-A3, R &amp; R2 TERMINATIONS</th>
<th>DIM. 'D' FOR V3-V61 TERMINATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>D, D9 .240 thread, keyway</td>
<td>.297 (7,54)</td>
<td>.281 (7,14)</td>
<td>.277 (7,04)</td>
<td></td>
</tr>
<tr>
<td>H, H9 .267 thread, flat</td>
<td>.267 (6,78)</td>
<td>.251 (6,38)</td>
<td>.247 (6,27)</td>
<td></td>
</tr>
<tr>
<td>Y, Y9 .259 thread, keyway</td>
<td>.259 (6,58)</td>
<td>.243 (6,17)</td>
<td>.239 (6,07)</td>
<td></td>
</tr>
<tr>
<td>Y3 .6,78 thread, flat</td>
<td>(6,37)</td>
<td>(6,27)</td>
<td>(6,27)</td>
<td></td>
</tr>
<tr>
<td>Y4 .259 thread, keyway</td>
<td>.243 (6,17)</td>
<td>.239 (6,07)</td>
<td>.239 (6,07)</td>
<td></td>
</tr>
<tr>
<td>D2, D8</td>
<td>N/A</td>
<td>.273 (6,93)</td>
<td>.269 (6,83)</td>
<td></td>
</tr>
<tr>
<td>D3</td>
<td>N/A</td>
<td>.361 (9,17)</td>
<td>.357 (9,07)</td>
<td></td>
</tr>
</tbody>
</table>

# 8020 Series

**Snap-acting Momentary Pushbutton Switches**

## BUSHING

<table>
<thead>
<tr>
<th>Y3</th>
<th>Y4</th>
<th>D2</th>
<th>D3</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.35mm THREADED, KEYWAY</td>
<td>.378&quot; HIGH THREADED, FLAT</td>
<td>.288&quot; HIGH THREADED, FLAT</td>
<td>.180&quot; HIGH UNTHEREASD</td>
</tr>
</tbody>
</table>

### 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.

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

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

### NOTE:

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

<table>
<thead>
<tr>
<th>1/4 INCH BUSHING</th>
<th>METRIC BUSHING</th>
</tr>
</thead>
</table>

| 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. |

### NOTE:

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**

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

### Z3

**QUICK CONNECT**

**SPDT thru 4PDT**

Not available with J95 actuator, P or R contact material. Mating quick connector available, order part number 530100000, page A-44.

### C

**PC THRU-HOLE**

**SPDT thru 4PDT**

Not available with J95 actuator option.

### W

**W1, W3, W4**

**WIRE WRAP**

Not available with J95 actuator option.

---

Dimensions are shown: Inches (mm) Specifications and dimensions subject to change
8020 Series
Snap-acting Momentary Pushbutton Switches

TERMINATIONS

A
RIGHT ANGLE, PC THRU-HOLE

8121SD9AGE
SPDT

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

8221SD9AGE
DPDT

A
RIGHT ANGLE, PC THRU-HOLE

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

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

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

www.ck-components.com
## 8020 Series
Snap-acting Momentary Pushbutton Switches

### TERMINATIONS

<table>
<thead>
<tr>
<th>A</th>
<th>RIGHT ANGLE, PC THRU-HOLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>.320&quot; TYP. (8, 0.81)</td>
<td>.125&quot; (3, 0.18)</td>
</tr>
<tr>
<td>.229&quot; (5, 1.32)</td>
<td>.208&quot; (5, 1.07)</td>
</tr>
<tr>
<td>.095&quot; TYP. (0, 0.02)</td>
<td>.165 TYP. (4, 0.65)</td>
</tr>
<tr>
<td>.185 TYP. (4, 0.70)</td>
<td>.280&quot; (7, 0.96)</td>
</tr>
<tr>
<td>.565&quot; (14, 3.95)</td>
<td>.150 TYP. (3, 0.61)</td>
</tr>
</tbody>
</table>

### PC MOUNTING

**SECTION A-A**

**SEC**

8321SD9AGE 3PDT

<table>
<thead>
<tr>
<th>A4</th>
<th>RIGHT ANGLE, PC THRU-HOLE, REVERSED TERMINALS</th>
</tr>
</thead>
</table>

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.

---

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

www.ck-components.com
8020 Series
Snap-acting Momentary Pushbutton Switches

TERMINATIONS

A6  RIGHT ANGLE, PC THRU-HOLE

8121SD9A6GE
SPDT

Not available with JXX actuators, D3, H, H9, Y3, Y4 bushings and I seal.
Terminal bend radii and lead-in manufacturing option.

R  RIGHT ANGLE WITH PCB

8121SD9RGE
SPDT

Not available with JXX actuators, D3, H, H9, Y3, Y4 bushings, I seal option.
R termination not UL/CSA approved.

R2  RIGHT ANGLE WITH PCB, REVERSED TERMINALS

8121SD9R2GE
SPDT

Not available with JXX actuators, D3, H, H9, Y3, Y4 bushings, I seal option.
R2 termination not UL/CSA approved.

AV  VERTICAL RIGHT ANGLE, PC THRU-HOLE, .100" PITCH

8121SD9AVGE
SPDT

The A6 and R 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 R, the A6 option is available with UL/CSA.
Snap-acting Momentary Pushbutton Switches

8020 Series

TERMINATIONS

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

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

AV1  VERTICAL RIGHT ANGLE, EXTENDED, PC THRU-HOLE, .150" PITCH

TERMINATIONS

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

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

AV1  VERTICAL RIGHT ANGLE, EXTENDED, PC THRU-HOLE, .150" PITCH

8121SD9AV2GE SPDT

8221SD9AV2GE DPDT

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

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

www.ck-components.com
# 8020 Series
## Snap-acting Momentary Pushbutton Switches

### TERMINATIONS

**AV2**  
VERTICAL RIGHT ANGLE, PC THRU-HOLE, 150° PITCH

**AV3**  
VERTICAL RIGHT ANGLE, SNAP-IN, PC THRU-HOLE, 150° PITCH

**AV1**  
VERTICAL RIGHT ANGLE, EXTENDED, PC THRU-HOLE, 150° PITCH

---

**8321SD9AV2GE**  
3PDT

**8421SD9AV2GE**  
4PDT

---

**AV2**  
VERTICAL RIGHT ANGLE, PC THRU-HOLE, 150° PITCH

**AV3**  
VERTICAL RIGHT ANGLE, SNAP-IN, PC THRU-HOLE, 150° PITCH

**AV1**  
VERTICAL RIGHT ANGLE, EXTENDED, PC THRU-HOLE, 150° PITCH

---

**V2, V6, V7, V8**  
VERTICAL MOUNT, V-BRACKET

**V61**  
VERTICAL MOUNT, V-BRACKET, SNAP-IN

---

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

---

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

---

**Dimensions are shown: Inches (mm)**

**Specifications and dimensions subject to change**

---

**www.ck-components.com**

---

**www.ck-components.com**
8020 Series
Snap-acting Momentary Pushbutton Switches

TERMINATIONS

V2, V6, V7, V8  VERTICAL MOUNT, V-BRACKET

V61  VERTICAL MOUNT, V-BRACKET, SNAP-IN

Not available with JXX actuators and I seal.

V2, V7, V8  VERTICAL MOUNT, V-BRACKET

PC MOUNTING

Not available with JXX actuators and I seal.

V2, V7, V8  VERTICAL MOUNT, V-BRACKET

PC MOUNTING

Not available with JXX actuators and I seal.

DIM 'A'

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)

DIM 'A'

OPTION CODE  DIM 'A'

V2  0.555 (14.10)
V7  0.630 (16.00)
V8  0.953 (24.21)

DIM 'A'

OPTION CODE  DIM 'A'

V2  0.555 (14.10)
V7  0.630 (16.00)
V8  0.953 (24.21)

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

www.ck-components.com
8020 Series
Snap-acting Momentary Pushbutton Switches

**TERMINATIONS**

**V3, V4, V9**  VERTICAL MOUNT, V-BRACKET

**V31**  VERTICAL MOUNT, V-BRACKET, SNAP-IN

---

**V3, V4, V9**  VERTICAL MOUNT, V-BRACKET

**V31**  VERTICAL MOUNT, V-BRACKET, SNAP-IN

---

**V4, V9**  VERTICAL MOUNT, V-BRACKET

---

Not available with JXX actuators and I seal.

---

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

www.ck-components.com
8020 Series
Snap-acting Momentary Pushbutton Switches

TERMINATIONS

V4, V9  VERTICAL MOUNT, V-BRACKET

**CONTACT MATERIAL**

<table>
<thead>
<tr>
<th>OPTION CODE</th>
<th>CONTACT MATERIAL</th>
<th>TERMINAL PLATING</th>
<th>RATINGS</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>GOLD 1</td>
<td>GOLD 1</td>
<td>LOW LEVEL/DRY CIRCUIT</td>
</tr>
<tr>
<td>P</td>
<td>GOLD 1</td>
<td>MATTE-TIN 4</td>
<td>8x25 MODELS ONLY: 0.4 MAX. @ 20 V AC OR DC MAX.</td>
</tr>
<tr>
<td>G</td>
<td>GOLD OVER SILVER 2,3</td>
<td>GOLD 3</td>
<td>LOW LEVEL/DRY CIRCUIT OR POWER</td>
</tr>
<tr>
<td>R</td>
<td>GOLD OVER SILVER 2,3</td>
<td>MATTE-TIN 4</td>
<td>8X21, U8X1 MODELS ONLY: 0.4 VA MAX @ 20 V AC OR DC MAX. OR 1 AMP @ 120 V AC OR 28 V DC.</td>
</tr>
</tbody>
</table>

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

1 ALL 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 TERMINALS: Copper alloy, with matte-tin over nickel plate.

**SEAL**

<table>
<thead>
<tr>
<th>SEAL</th>
<th>DIM 'A'</th>
</tr>
</thead>
<tbody>
<tr>
<td>E</td>
<td>0.380 (10.11)</td>
</tr>
<tr>
<td>I</td>
<td>0.980 (25.00)</td>
</tr>
</tbody>
</table>

**NOTES:**
- Any models supplied with B, P, R or G contact material are RoHS compliant.
- U811-U841 models with all options (except R, R2 terminations) when ordered with mandatory G or R contact material.
- 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.
- Available with C, W-W4, Z, Z3 terminations only.

Specifications and dimensions subject to change.

www.ck-components.com
8020 Series
Snap-acting Momentary Pushbutton Switches

AVAILABLE HARDWARE

Cap

A

PART NO.
708901000  WHITE
708902000  BLACK
708903000  RED
708904000  ORANGE
708905000  YELLOW
708906000  GREEN
708907000  BLUE
708909000  GRAY

Material: Nylon
Finish: Gloss

PART NO.
752701000  WHITE
752702000  BLACK
752703000  RED
752704000  ORANGE
752705000  YELLOW
752706000  GREEN
752707000  BLUE
752709000  GRAY

Material: Nylon
Finish: Gloss

PART NO.
801801000  WHITE
801802000  BLACK
801803000  RED
801804000  ORANGE
801805000  YELLOW
801806000  GREEN
801807000  BLUE
801809000  GRAY

Material: Nylon
Finish: Gloss

PART NO.
452D01000  WHITE
452D02000  BLACK
452D03000  RED
452D04000  ORANGE
452D05000  YELLOW
452D06000  GREEN
452D07000  BLUE
452D09000  GRAY

Material: Nylon
Finish: Gloss

PART NO.
752701000  WHITE
752702000  BLACK
752703000  RED
752704000  ORANGE
752705000  YELLOW
752706000  GREEN
752707000  BLUE
752709000  GRAY

Material: Nylon
Finish: Gloss

PART NO.
801801000  WHITE
801802000  BLACK
801803000  RED
801804000  ORANGE
801805000  YELLOW
801806000  GREEN
801807000  BLUE
801809000  GRAY

Material: Nylon
Finish: Gloss

PART NO.
484601000  WHITE
484602000  BLACK
484603000  RED
484604000  ORANGE
484605000  YELLOW
484606000  GREEN
484607000  BLUE
484609000  GRAY

Material: Nylon
Finish: Gloss

PART NO.
476801000  WHITE
476802000  BLACK
476803000  RED
476804000  ORANGE
476805000  YELLOW
476806000  GREEN
476807000  BLUE
476809000  GRAY

Material: Nylon
Finish: Gloss

PART NO.
798201000  WHITE
798202000  BLACK
798203000  RED
798204000  ORANGE
798205000  YELLOW
798206000  GREEN
798207000  BLUE
798209000  GRAY

Material: Nylon
Finish: Matte

PART NO.
459701000  WHITE
459702000  BLACK
459703000  RED
459704000  ORANGE
459705000  YELLOW
459706000  GREEN
459707000  BLUE
459709000  GRAY

Material: Nylon
Finish: Gloss

PART NO.
459701000  WHITE
459702000  BLACK
459703000  RED
459704000  ORANGE
459705000  YELLOW
459706000  GREEN
459707000  BLUE
459709000  GRAY

Material: Nylon
Finish: Gloss

PART NO.
615602263  BLACK

Material: Nylon
Finish: Matte

PART NO.
613302263  BLACK

Material: Nylon
Finish: Matte

PART NO.
530100000

Available in loose pieces.

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.

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

www.ck-components.com
8020 Series
Snap-acting Momentary Pushbutton Switches

AVAILABLE HARDWARE

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.

<table>
<thead>
<tr>
<th>PART NO.</th>
<th>.047&quot; (1,19) PANEL THK.</th>
<th>.062&quot; (1,57) PANEL THK.</th>
<th>.090&quot; (2,29) PANEL THK.</th>
<th>.125&quot; (3,18) PANEL THK.</th>
</tr>
</thead>
<tbody>
<tr>
<td>432502263</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>432602263</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>432702263</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>432802263 BLACK</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

TYPICAL APPLICATION

For part numbers 4325xxxx, 4326xxxx.

<table>
<thead>
<tr>
<th>PART NO.</th>
<th>.056 R, (0,14) MAX. TYP.</th>
<th>.495 ± .505 (15,77 ± 12,83)</th>
<th>.595 ± .605 (15,11 ± 15,37)</th>
</tr>
</thead>
<tbody>
<tr>
<td>432502263</td>
<td>6.00 ± 0.02</td>
<td>6.00 ± 0.02</td>
<td>6.00 ± 0.02</td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>PANEL INSERT WITH HOLE FOR LED</th>
<th>BLANK PANEL INSERT WITHOUT HOLE FOR LED</th>
</tr>
</thead>
<tbody>
<tr>
<td>PART NO. 894902000</td>
<td>PART NO. 476602000 BLACK</td>
</tr>
</tbody>
</table>

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:

<table>
<thead>
<tr>
<th>OPTION CODE</th>
<th>COLOR</th>
<th>TYP. INTENSITY</th>
<th>TYP. FORWARD VOLTAGE</th>
<th>TYP. FORWARD CURRENT</th>
<th>MAX RATINGS AT 25°C AMBIENT TEMPERATURE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>CONTINUOUS FORWARD CURRENT</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2.5 V</td>
</tr>
<tr>
<td>6</td>
<td>Green</td>
<td>1.0 mcd</td>
<td>2.1 V</td>
<td>20 mA</td>
<td>10 mA</td>
</tr>
<tr>
<td>3</td>
<td>Red*</td>
<td>0.5 mcd</td>
<td></td>
<td></td>
<td>20 mA</td>
</tr>
<tr>
<td>5</td>
<td>Yellow</td>
<td>4.0 mcd</td>
<td></td>
<td></td>
<td>20 mA</td>
</tr>
</tbody>
</table>

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.

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

LED Snap-acting, Momentary Switches

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

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