Features/Benefits
• Sealed against solder & cleaning processes
• Thru-hole and surface mount models
• Snap-fitting actuator accepts standard caps
• Tape & reel packaging available
• RoHS compliant models available

Specifications
CONTACT RATING: B contact material: 0.4 VA max. @ 20 V AC or DC max. See page A-13 for additional ratings.
CONTACT RESISTANCE: Below 20 mΩ typ. @ 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: –30ºC to 85ºC.
SOLDERABILITY: Per MIL-STD-202F method 208D, or EIA RS-186E method 9 (1 hour steam aging).
DEGREE OF PROTECTION: IP57; Protection against harmful dust deposit, full-scale voltage protection, temporary immersion.
PACKAGING: Surface mount switches standard in anti-static tape and reel packaging per EIA 481-3, see page A-14 for drawings and reel information. Tape and cover strip are conductive for use near statically sensitive components, consult Customer Service Center.

Materials
PLUNGER: Thermoplastic polyester or glass filled nylon (UL 94V-0), with internal o-ring seal. SA surface mount: High temperature material, glass filled LCP (UL 94V-0).
SWITCH SUPPORT: Brass, matte-tin plated.
CONTACTS & TERMINALS: B contact material: Copper alloy, with gold plate over nickel plate. See page A-13 for additional contact materials.
TERMINAL SEAL: Epoxy.

Build-A-Switch
To order, simply select desired option from each category and place in the appropriate box. Available options are shown and described on pages A-10 thru A-14. For additional options not shown in catalog, consult Customer Service Center. All models are process sealed to withstand machine soldering temperatures and pressure wash cleaning methods.
## EP Series
Sealed Tiny Pushbutton Switches

### SWITCH FUNCTION

<table>
<thead>
<tr>
<th>NO. POLES</th>
<th>MODEL NO.</th>
<th>SWITCH FUNCTION</th>
<th>CONNECTED TERMINALS</th>
<th>SCHEMATIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>SP</td>
<td>EP1</td>
<td>OFF</td>
<td>MOM.</td>
<td>OPEN</td>
</tr>
<tr>
<td></td>
<td>EP12</td>
<td>ON</td>
<td>MOM.</td>
<td>2-1, 2-3</td>
</tr>
</tbody>
</table>

### SPDT

- **Part number shown:** EP12SD1CBE
- **Omit terminal 2 for EP11 models.**

### DP

<table>
<thead>
<tr>
<th>NO. POLES</th>
<th>MODEL NO.</th>
<th>SWITCH FUNCTION</th>
<th>CONNECTED TERMINALS</th>
<th>SCHEMATIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>DP</td>
<td>EP21</td>
<td>OFF</td>
<td>MOM.</td>
<td>OPEN</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1-3-4-6</td>
<td></td>
</tr>
</tbody>
</table>

### DPST

- **Part number shown:** EP21SD1CBE

### PLUNGER

- **S**: .215" HIGH
- **S1**: .110" HIGH
- **S2**: .465" HIGH
- **FP**: FLUSH PLUNGER
- **R**: SNAP-FITTING

S1 & S2 actuators are not available with EP12 & EP21 models.

FP & R actuators are not available with EP21 model.

**NOTE:** Caps available for plunger options, see page A-14.

### BUSHING

- **D1**: UNTHEREDED

**NOTE:** Internal actuator o-ring standard.

---

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

www.ckswitches.com
Sealed Tiny Pushbutton Switches

EP Series

TERMINATIONS

C  PC THRU-HOLE

SP

EPOXY SEAL
0.30 (0,76)
0.020 THK. (0,51)
0.100 TYP. (2,54)

EP11 - Omit center hole.

PC MOUNTING

W  WIRE WRAP

SP

EPOXY SEAL
0.30 (0,76)
0.020 THK. (0,51)

DP

EPOXY SEAL
0.30 (0,76)
0.020 THK. (0,51)

SP and DP

TERMINATIONS

EPOXY SEAL
0.30 (0,76)
0.020 THK. (0,51)

A  RIGHT ANGLE, PC THRU-HOLE

PC MOUNTING

EP12SD1ABE

SPDT

AV  VERTICAL RIGHT ANGLE, PC THRU-HOLE

EP12SD1AVBE

SPDT

EP21SD1ABE

DPST

NOTE: Terminal bend radii and lead-in manufacturing option.
EP Series
Sealed Tiny Pushbutton Switches

TERMINATIONS

AV  VERTICAL RIGHT ANGLE, THRU-HOLE

EP21SD1AVBE
DPST

PC MOUNTING

TERMINATIONS CONNECTED
2-12 -3
ON MOM
POS.1 POS.2

YY/WW
0.4VA MAX
(2,54)
.100
(2,54)
.051
(1,04)
.041
(1,04)
(10,41)

SA1 RIGHT ANGLE, SURFACE MOUNT

EP12SD1SA1BE
SPDT

PC MOUNTING

TERMINAL NOS.
12 3
FOR REF. ONLY

SA  RIGHT ANGLE, SURFACE MOUNT

EP12SD1SAPE
SPDT

Available with P contact material only.
Not Available on DPST models.

AV3  VERTICAL RIGHT ANGLE, SNAP-IN, PC THRU-HOLE

EP12SD1AV3BE
SPST

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

PC MOUNTING


SA1 is only available with B and P contact materials.
Not Available on DPST models.

Third Angle Projection

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

www.ckswitches.com
**TERMINATIONS**

**V3** VERTICAL MOUNT, V-BRACKET

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

---

**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 5</td>
<td>POWER</td>
</tr>
<tr>
<td>Q</td>
<td>SILVER 4.5</td>
<td>SILVER 5</td>
<td>LOW LEVEL/DRY CIRCUIT OR POWER</td>
</tr>
<tr>
<td>S</td>
<td>SILVER 5</td>
<td>MATTE-TIN 5</td>
<td>POWER</td>
</tr>
<tr>
<td>R</td>
<td>GOLD OVER SILVER 2.3</td>
<td>GOLD 3</td>
<td>LOW LEVEL/DRY CIRCUIT OR POWER</td>
</tr>
</tbody>
</table>

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

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

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**EPOXY SEAL**

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**EP Series**

Sealed Tiny Pushbutton Switches

---

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

C&K Switches

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EP Series
Sealed Tiny Pushbutton Switches

AVAILABLE HARDWARE

<table>
<thead>
<tr>
<th>Cap</th>
</tr>
</thead>
<tbody>
<tr>
<td>PART NO.</td>
</tr>
<tr>
<td>508101000</td>
</tr>
<tr>
<td>Material: Nylon</td>
</tr>
<tr>
<td>Finish: Gloss</td>
</tr>
<tr>
<td>Not for use on S1 plunger</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cap</th>
</tr>
</thead>
<tbody>
<tr>
<td>PART NO.</td>
</tr>
<tr>
<td>465801000</td>
</tr>
<tr>
<td>Material: Nylon</td>
</tr>
<tr>
<td>Finish: Gloss</td>
</tr>
<tr>
<td>Not for use on S1 plunger</td>
</tr>
</tbody>
</table>

| PART NO. |
| 585A01000 | 585A02000 | 585A03000 |
| Material: Nylon |
| Finish: Gloss |

| PART NO. |
| 785A01000 | 785A02000 | 785A03000 |
| Material: Nylon |
| Finish: Gloss |

NOTE: Other colors available, consult Customer Service Center.

TAPE & REEL

For part number EPXX-SA/SA1

FEED DIRECTION

REEL INFORMATION

<table>
<thead>
<tr>
<th>OUTSIDE DIAMETER</th>
<th>PILOT HOLE</th>
<th>QUANTITY PER REEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>15.00 (381.0)</td>
<td>1.18 (30.0)</td>
<td>600</td>
</tr>
</tbody>
</table>

Dimensions are shown: Inches (mm)
Specifications and dimensions subject to change
www.ckswitches.com