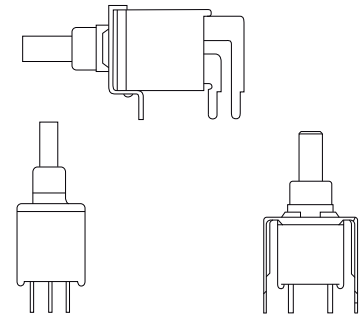


# SW-ES40P Series Sub-Miniature Pushbutton Switches, sealed

| Specifications            |  |
|---------------------------|--|
| Contact rating            | 0.4 VA max. @ 20 V AC / DC                               |
| Durability                | 30000 cycles at full load                                |
| Contact resistance        | 20 mΩ max. initial @ 3 VDC, 100 mA                       |
| Insulator resistance      | 1000 MΩ min.   |
| Dielectrical withstanding | 1500 VAC   |
| Degree of protection      | IP67   |
| Operation temperature     | -30 °C to +85 °C   |
| Materials                 |  |
| Case and bushing          | Glass filled nylon 6/6, UL94V-0                          |
| Plunger                   | Glass filled nylon or polyester, UL94V-0                 |
| Contact and terminal      | Copper alloy, plating: see order code and table (page 3) |
| Switch support            | Copper alloy, plating: tin                               |
| Terminal seal             | Epoxy  |



## Straight type - part numbering guide

**S** **W** - **E** **S** - **2** **1** - **C** **V** - **1** - **C** **R** - **A** **5** **S** - **H**

| Switches Function |               | Cap |      | Cap Color |        | Plunger |             | Terminal               |                  | Vertical Support Bracket |                     |
|-------------------|---------------|-----|------|-----------|--------|---------|-------------|------------------------|------------------|--------------------------|---------------------|
| ES-21             | SPST off-mom. | CV  | 5.08 | 1         | white  | (none)  | 5.46 (std.) | C                      | straight type    | (none)                   |                     |
| ES-22             | SPDT on-mom.  | CV1 | 7.62 | 2         | black  | SP      | 3.00        |                        |                  | A5S                      | snap-in type (std.) |
|                   |               |     |      | 3         | red    | FP      | flush type  |                        |                  | A5                       | straight type       |
|                   |               |     |      | 4         | orange |         |             | <b>Contact Plating</b> |                  | <b>RoHS Code</b>         |                     |
|                   |               |     |      | 5         | yellow |         |             | Q                      | silver           | H = RoHS Compliant       |                     |
|                   |               |     |      | 6         | green  |         |             | R                      | gold             |                          |                     |
|                   |               |     |      | 7         | blue   |         |             | G                      | gold over silver |                          |                     |
|                   |               |     |      | 9         | gray   |         |             | K                      | gold / tin       |                          |                     |

## Right angle type - part numbering guide

**S** **W** - **E** **S** - **2** **1** **A** - **C** **V** - **2** - **R** - **S** - **H**

| Right Angle Horizontal |  | Right Angle Vertical |  | Switches Function |     | Cap  |   | Cap color |                        | Plunger          |                    | Support Bracket Option |                     |
|------------------------|--|----------------------|--|-------------------|-----|------|---|-----------|------------------------|------------------|--------------------|------------------------|---------------------|
| ES-21A                 |  | ES-21B               |  | SPST off-mom.     | CV  | 5.08 | 1 | white     | (none)                 | 5.46 (std.)      |                    | S                      | snap-in type (std.) |
| ES-22A                 |  | ES-22B               |  | SPDT on-mom.      | CV1 | 7.62 | 2 | black     | SP                     | 3.00             |                    |                        |                     |
|                        |  |                      |  |                   |     |      | 3 | red       | FP                     | flush type       | <b>RoHS Code</b>   |                        |                     |
|                        |  |                      |  |                   |     |      | 4 | orange    |                        |                  | H = RoHS Compliant |                        |                     |
|                        |  |                      |  |                   |     |      | 5 | yellow    | <b>Contact Plating</b> |                  |                    |                        |                     |
|                        |  |                      |  |                   |     |      | 6 | green     | Q                      | silver           |                    |                        |                     |
|                        |  |                      |  |                   |     |      | 7 | blue      | R                      | gold             |                    |                        |                     |
|                        |  |                      |  |                   |     |      | 9 | gray      | G                      | gold over silver |                    |                        |                     |
|                        |  |                      |  |                   |     |      |   |           | K                      | gold / tin       |                    |                        |                     |

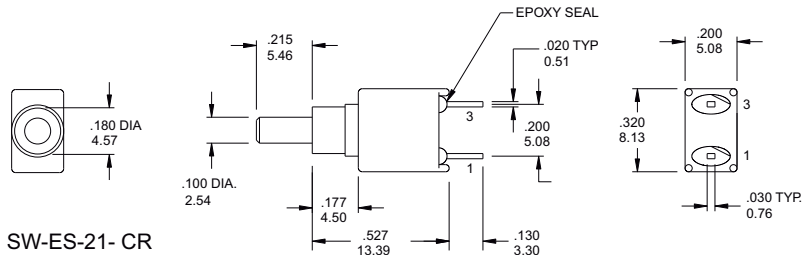
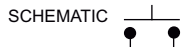


# SW-ES40P Series Sub-Miniature Pushbutton Switches, sealed

## SPST



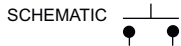
| Model No.   | Switching position |     |
|-------------|--------------------|-----|
| ES-21       | Off                | Mom |
| Term. Comm. | open               | 1-3 |



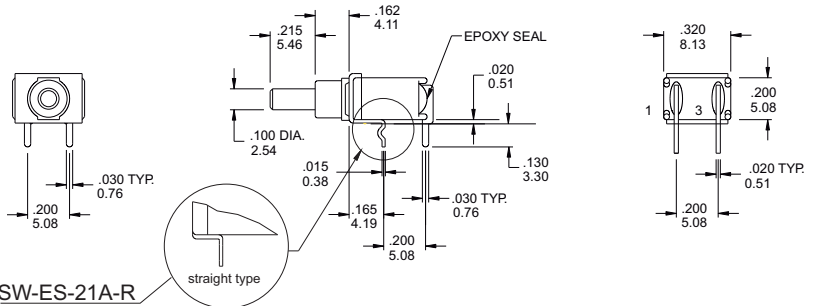
## SPST



| Model No.   | Switching position |     |
|-------------|--------------------|-----|
| ES-21A      | Off                | Mom |
| Term. Comm. | open               | 1-3 |



SW-ES-21A-R-S / SW-ES-21A-R



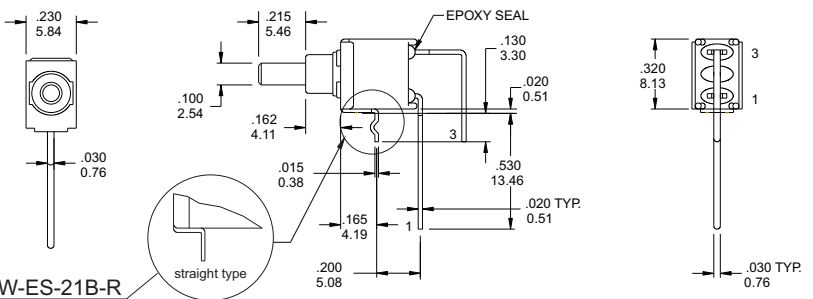
## SPST



| Model No.   | Switching position |     |
|-------------|--------------------|-----|
| ES-21B      | Off                | Mom |
| Term. Comm. | open               | 1-3 |



SW-ES-21B-R-S / SW-ES-21B-R



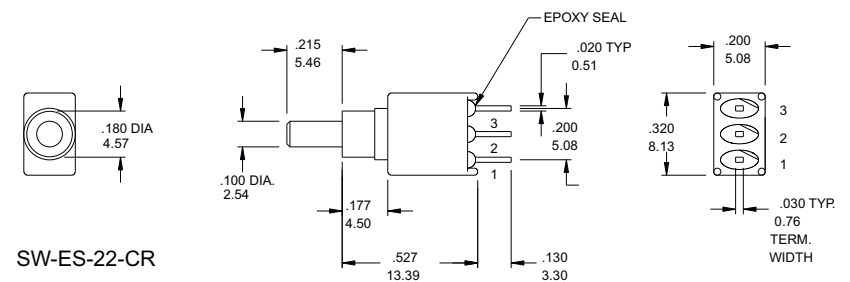
## SPDT



| Model No.   | Switching position |     |
|-------------|--------------------|-----|
| ES-22       | On                 | Mom |
| Term. Comm. | 2-1                | 2-3 |



SW-ES-22-CR



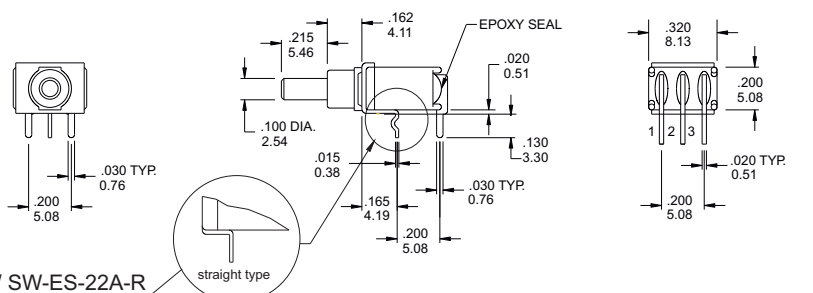
## SPDT



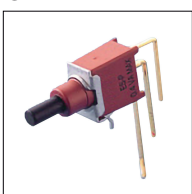
| Model No.   | Switching position |     |
|-------------|--------------------|-----|
| ES-22A      | On                 | Mom |
| Term. Comm. | 2-1                | 2-3 |



SW-ES-22A-R-S / SW-ES-22A-R



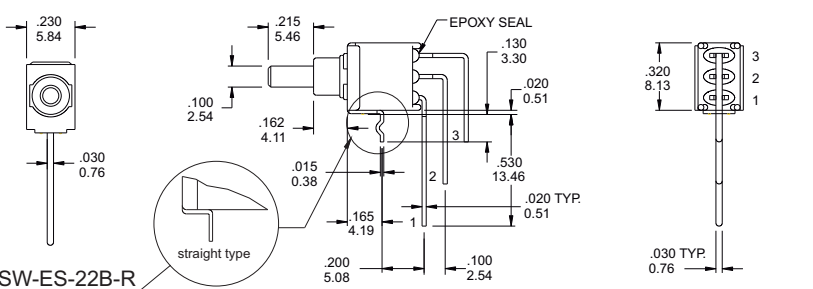
## SPDT



| Model No.   | Switching position |     |
|-------------|--------------------|-----|
| ES-22B      | On                 | Mom |
| Term. Comm. | 2-1                | 2-3 |

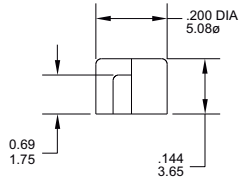


SW-ES-22B-R-S / SW-ES-22B-R

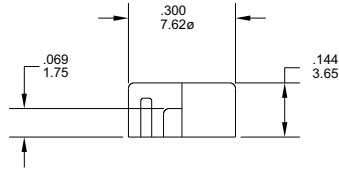


Cap option

CV



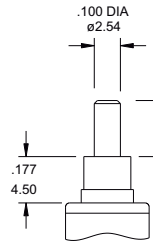
CV1



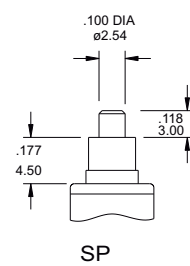
Cap color option

| Color code |              |
|------------|--------------|
| 1          | White        |
| 2          | Black (Std.) |
| 3          | Red          |
| 4          | Orange       |
| 5          | Yellow       |
| 6          | Green        |
| 7          | Blue         |
| 9          | Gray         |

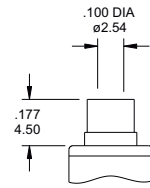
Plunger option



(none) std.



SP



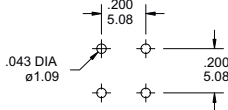
FP flush type

Recommended P.C.B. layout

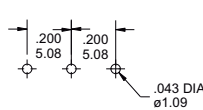
ES-21



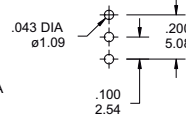
ES-21A



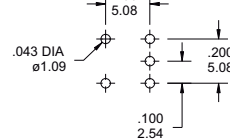
ES-21B



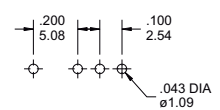
ES-22



ES-22A



ES-22B

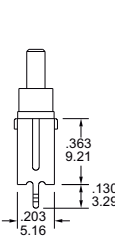


Contact material option

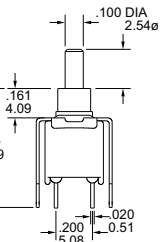
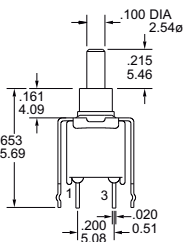
| Code | Contact material               | Terminal material              | Rating  |
|------|--------------------------------|--------------------------------|---|
| Q    | Silver plated                  | Silver plated                  | 1 A @ 120V AC or 28 V DC;                                   |
| R    | Gold plated over nickel plated | Gold plated over nickel plated | 0.4VA MAX @ 20 V AC or DC MAX                               |
| G    | Gold plated over silver plated | Gold plated over silver plated | 0.4 VA MAX @ 20 V AC or DC MAX or 1 A @ 120V AC or 28 V DC; |

Vertical support bracket option for SW-ES-21 / SW-ES-22 only

A5S

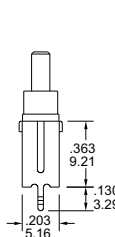
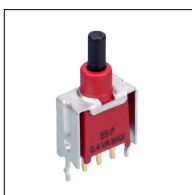


SW-ES-21-CR-A5S (std.) snap-in type

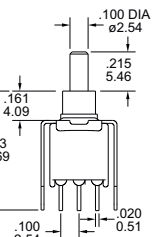
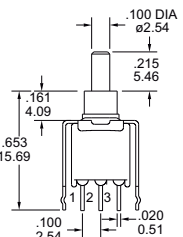


A5 straight type

A5S



SW-ES-22-CR-A5S (std.) snap-in type



A5 straight type

