

# SSSS7 2(H)mm, 2mm-travel Type

Compact general purpose type  
with specifiable soldering method



## Typical Specifications



| Items                                                        |              | Specifications             |
|--------------------------------------------------------------|--------------|----------------------------|
| Rating (max.)/(min.)<br>(Resistive load)                     |              | 0.3A 4V DC / 50μA 3V DC    |
| Contact resistance<br>(Initial performance / After lifetime) |              | 70mΩ max. / 130mΩ max.     |
| Operating force                                              |              | Refer to the dimensions.   |
| Operating life                                               | Without load | 10,000 cycles              |
|                                                              | With load    | 10,000 cycles (0.3A 4V DC) |

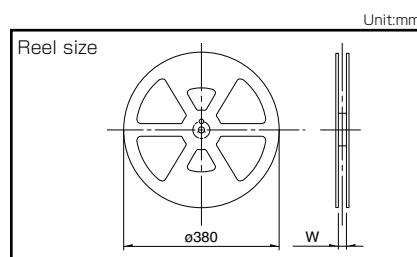
## Product Line

| Travel<br>(mm) | Actuator<br>direction | Actuator<br>length (mm) | Poles | Positions | Changeover<br>timing | Soldering | Operation | Minimum order unit (pcs.) |        | Products No.      | Drawing<br>No. |
|----------------|-----------------------|-------------------------|-------|-----------|----------------------|-----------|-----------|---------------------------|--------|-------------------|----------------|
|                |                       |                         |       |           |                      |           |           | Japan                     | Export |                   |                |
| 2              | Horizontal            | 2                       | 1     | 2         | Not specified        | Manual    | Standard  | 10,000                    | 50,000 | <b>SSSS710100</b> | 1              |
|                |                       |                         |       |           |                      | Reflow    |           | 2,000                     | 8,000  | <b>SSSS710607</b> | 2              |
|                |                       |                         |       | 3         | Non shorting         | Manual    |           | 8,000                     | 40,000 | <b>SSSS711100</b> | 3              |
|                |                       |                         |       |           |                      | Reflow    |           | 2,000                     | 8,000  | <b>SSSS711403</b> | 4              |

## Packing Specifications

### Taping

| Product No.       | Number of packages (pcs.) |               |                        | Reel width<br>W (mm) | Tape width<br>(mm) | Export package<br>measurements (mm) |
|-------------------|---------------------------|---------------|------------------------|----------------------|--------------------|-------------------------------------|
|                   | 1 reel                    | 1 case /Japan | 1 case /export packing |                      |                    |                                     |
| <b>SSSS710607</b> | 2,000                     | 4,000         | 8,000                  | 17.4                 | 16                 | 417×409×139                         |
| <b>SSSS711403</b> |                           |               |                        | 25.4                 | 24                 | 406×406×190                         |



### Bulk

| Product No.       | Number of packages (pcs.) |                        | Export package<br>measurements (mm) |
|-------------------|---------------------------|------------------------|-------------------------------------|
|                   | 1 case /Japan             | 1 case /export packing |                                     |
| <b>SSSS710100</b> | 10,000                    | 50,000                 | 400×270×290                         |
| <b>SSSS711100</b> | 8,000                     | 40,000                 |                                     |

## ■ Dimensions

Unit:mm

| No. | Photo                                    | Style                                                                                   | PC board mounting hole dimensions<br>(Viewed from direction A) |
|-----|------------------------------------------|-----------------------------------------------------------------------------------------|----------------------------------------------------------------|
| 1   | <b>1-pole, 2-position</b><br>            | <p>Operating force with detent : 1.5N</p>                                               |                                                                |
| 2   | <b>1-pole, 2-position<br/>Reflow</b><br> | <p>Operating force with detent : 1.5N</p>                                               |                                                                |
| 3   | <b>1-pole, 3-position</b><br>            | <p>Operating force with detent : a → b<br/>c → b } 1.75N<br/>b → a<br/>b → c } 2.5N</p> |                                                                |
| 4   | <b>1-pole, 3-position<br/>Reflow</b><br> | <p>Operating force with detent : a → b<br/>c → b } 1.75N<br/>b → a<br/>b → c } 2.5N</p> |                                                                |

# SSSS7 2(H)mm, 2mm-travel Type

Detector

Slide

Push

Rotary

Power

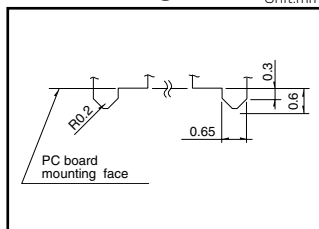
Dual-In-line  
Package Type

Small size  
General Use Type

Big size  
General Use Type

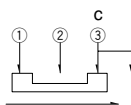
## Detail of ①

Unit:mm

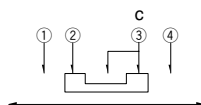


## Circuit Diagram (Viewed from Direction A)

**1-pole, 2-position**  
**Drawing No.1, 2**



**1-pole, 3-position**  
**Drawing No.3, 4**



# Slide Switches

## List of Varieties

| Series                            |                                          | SSAJ                                                                              | SSAH                                                                              | SSSS8                                                                             | SSAL                                                                                | SSAG                                                                                | SSSS7                                                                               |                          |
|-----------------------------------|------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------|
| Photo                             |                                          |  |  |  |   |  |  |                          |
| Actuator direction                | Horizontal                               | ●                                                                                 | ●                                                                                 | ●                                                                                 | ●                                                                                   | ●                                                                                   | ●                                                                                   |                          |
|                                   | Vertical                                 | —                                                                                 | —                                                                                 | ●                                                                                 | —                                                                                   | —                                                                                   | —                                                                                   |                          |
| Poles-positions                   | 1-2                                      | ●                                                                                 | —                                                                                 | ●                                                                                 | ●                                                                                   | —                                                                                   | ●                                                                                   |                          |
|                                   | 1-3                                      | —                                                                                 | ●                                                                                 | ●                                                                                 | —                                                                                   | ●                                                                                   | ●                                                                                   |                          |
|                                   | 1-4                                      | —                                                                                 | —                                                                                 | —                                                                                 | —                                                                                   | —                                                                                   | —                                                                                   |                          |
|                                   | 2-2                                      | —                                                                                 | —                                                                                 | ●                                                                                 | —                                                                                   | —                                                                                   | —                                                                                   |                          |
|                                   | 2-3                                      | —                                                                                 | —                                                                                 | ●                                                                                 | —                                                                                   | —                                                                                   | —                                                                                   |                          |
|                                   | 2-4                                      | —                                                                                 | —                                                                                 | —                                                                                 | —                                                                                   | —                                                                                   | —                                                                                   |                          |
|                                   | 4-2                                      | —                                                                                 | —                                                                                 | —                                                                                 | —                                                                                   | —                                                                                   | —                                                                                   |                          |
| Travel (mm)                       |                                          | 1.4                                                                               | 1.5                                                                               | 1.5, 2                                                                            | 2                                                                                   | 1.5                                                                                 | 2                                                                                   |                          |
| Operating temperature range       |                                          | −10℃ to +60℃                                                                      | −30℃ to +60℃                                                                      | −40℃ to +85℃                                                                      | −10℃ to +60℃                                                                        |                                                                                     | −40℃ to +85℃                                                                        |                          |
| Automotive use                    |                                          | —                                                                                 | —                                                                                 | —                                                                                 | —                                                                                   | —                                                                                   | —                                                                                   |                          |
| Life cycle                        |                                          |  |  |  |  |  |  |                          |
| Rating (max.)<br>(Resistive load) |                                          | 10mA 5V DC                                                                        | 1mA 5V DC                                                                         | 0.3A 5V DC                                                                        | 10mA 5V DC                                                                          |                                                                                     | 0.3A 4V DC                                                                          |                          |
| Rating (min.)<br>(Resistive load) |                                          | 50μA 3V DC                                                                        |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                          |
| Durability                        | Operating life without load              | 10,000 cycles<br>500mΩ max.                                                       | 10,000 cycles<br>300mΩ max.                                                       | 10,000 cycles<br>100mΩ max.                                                       | 100,000 cycles<br>10Ω max.                                                          | 30,000 cycles<br>(Lock side)<br>100,000 cycles<br>(Recoil side)<br>500mΩ max.       | 10,000 cycles<br>100mΩ max.                                                         |                          |
|                                   | Operating life with load Load: as rating |                                                                                   |                                                                                   | 10,000 cycles<br>130mΩ max.                                                       |                                                                                     |                                                                                     | 10,000 cycles<br>130mΩ max.                                                         |                          |
| Electrical performance            | Initial contact resistance               | 300mΩ max.                                                                        | 200mΩ max.                                                                        | 70mΩ max.                                                                         | 10Ω max.                                                                            | 200mΩ max.                                                                          | 70mΩ max.                                                                           |                          |
|                                   | Insulation resistance                    | 100MΩ min. 100V DC                                                                |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 100MΩ min.<br>500V DC                                                               |                          |
|                                   | Voltage proof                            | 100V AC for 1minute                                                               |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 500V AC for<br>1minute                                                              |                          |
| Mechanical performance            | Terminal strength                        |                                                                                   | 3N for 1minute                                                                    |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                          |
|                                   | Actuator strength                        | Operating direction                                                               | 10N                                                                               |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                          |
|                                   |                                          | Pulling direction                                                                 |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                          |
| Environmental performance         | Cold                                     |                                                                                   | −40℃ 96h                                                                          |                                                                                   | −40℃ 500h                                                                           | −40℃ 96h                                                                            |                                                                                     | −20℃ 500h                |
|                                   | Dry heat                                 |                                                                                   | 85℃ 96h                                                                           |                                                                                   | 85℃ 500h                                                                            | 85℃ 96h                                                                             |                                                                                     | 85℃ 500h                 |
|                                   | Damp heat                                |                                                                                   | 40℃, 90 to 95%RH<br>96h                                                           | 60℃, 90 to 95%RH<br>240h                                                          | 60℃, 90 to 95%RH<br>500h                                                            | 40℃, 90 to 95%RH<br>96h                                                             |                                                                                     | 60℃, 90 to 95%RH<br>500h |
| Page                              |                                          | 70                                                                                | 72                                                                                | 74                                                                                | 77                                                                                  | 79                                                                                  | 82                                                                                  |                          |

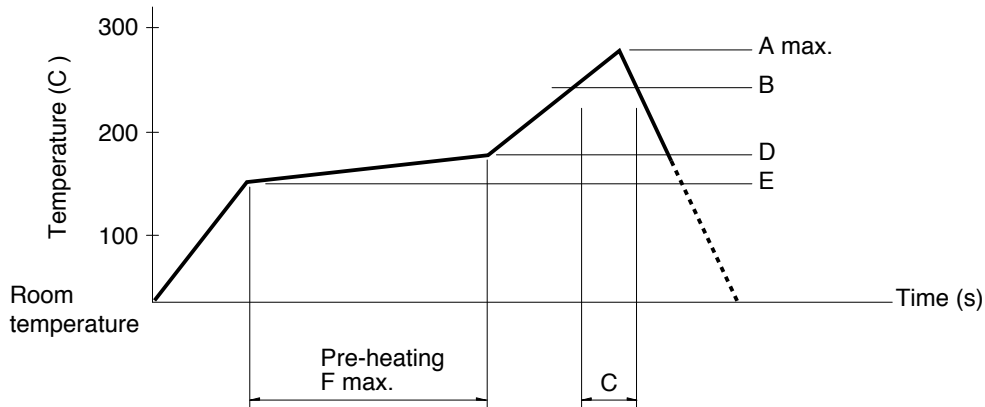
|                                     |     |
|-------------------------------------|-----|
| Slide Switches Soldering Conditions | 106 |
| Slide Switches Cautions             | 107 |

### Note

● Indicates applicability to all products in the series.

## Example of Reflow Soldering Condition

1. Heating method: Double heating method with infrared heater.
2. Temperature measurement: Thermocouple  $\phi$  0.1 to 0.2 CA (K) or CC (T) at soldering portion (copper foil surface).  
A heat resisting tape should be used for fixed measurement.
3. Temperature profile



| Series (Reflow type)          |            |                                                                | A (°C)<br>3s max. | B (°C) | C (s) | D (°C) | E (°C) | F (s) |
|-------------------------------|------------|----------------------------------------------------------------|-------------------|--------|-------|--------|--------|-------|
| SSSS2                         | Vertical   | 1-pole, 3-position                                             | 260               | 230    | 40    | 180    | 150    | 120   |
|                               | Horizontal | 1-pole, 2-position<br>1-pole, 3-position<br>2-pole, 3-position |                   |        |       |        |        |       |
|                               | Vertical   | 1-pole, 2-position                                             | 250               |        |       |        |        |       |
| SSSS7                         |            |                                                                | 260               |        |       |        |        |       |
| SSAH, SSAG, SSAJ, SSAL, SSSS8 |            |                                                                | 260               |        |       |        |        |       |

## Notes

1. The condition mentioned above is the temperature on the mounting surface of a PC board. There are cases where the PC board's temperature greatly differs from that of the switch, depending on the PC board's material, size, thickness, etc.  
The above-stated conditions shall also apply to switch surface temperatures.
2. Soldering conditions differ depending on reflow soldering machines. Prior verification of soldering condition is highly recommended.

## Reference for Hand Soldering

| Series                 | Soldering temperature | Soldering time |
|------------------------|-----------------------|----------------|
| SSSF, SSSU             | 350±10°C              | 3+1/0s         |
| SSSS2                  | 350±10°C              | 4s max.        |
| SSSS9                  | 350±10°C              | 3s max.        |
| SSAH, SSAG, SSAJ, SSAL | 350±5°C               | 3s max.        |
| SSSS8                  | 330±5°C               | 3s max.        |
| SSSS7                  | 320±5°C               | 3s max.        |
| SSAC                   | 300±10°C              | 2s max.        |

## Reference for Dip Soldering

(For PC board terminal types)

| Series     | Items                  |                 | Dip soldering         |                       |
|------------|------------------------|-----------------|-----------------------|-----------------------|
|            | Preheating temperature | Preheating time | Soldering temperature | Duration of immersion |
| SSSS2      | 100°C max.             | 60s max.        | 260±5°C               | 3±1s                  |
| SSSS9      | 120°C max.             | 60s max.        | 260±5°C               | 5+0/-1s (2 times)     |
| SSSF, SSSU | 100°C max.             | 60s max.        | 260±5°C               | 10±1s/5±1s            |
| SSAC       | 100°C max.             | 60s max.        | 260±5°C               | 5±1s                  |