

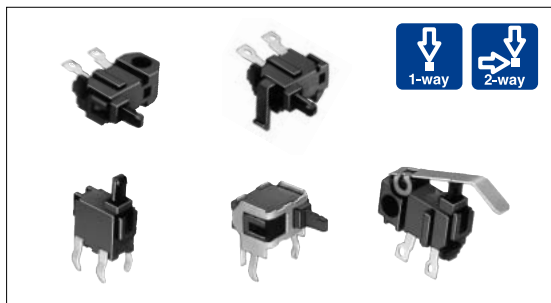
# Detector Switch General-purpose Type

SPPB Series



A wide variety of detector switches available for various Digital AV devices.

- Detector
- Push
- Slide
- Rotary
- Encoders
- Power



## Typical Specifications

| Items   |              | Specifications              |
|---|--------------|-----------------------------|
| Rating (max. ) (min. )<br>( Resistive load )            |              | 0.1A 30V DC/50μA 3V DC      |
| Contact resistance<br>( Initial /After operating life ) |              | 1 max./2 max.               |
| Operating force   |              | 0.35N max.                  |
| Operating life  | Without load | 50,000cycles                |
|   | With load    | 50,000cycles( 0.1A 30V DC ) |

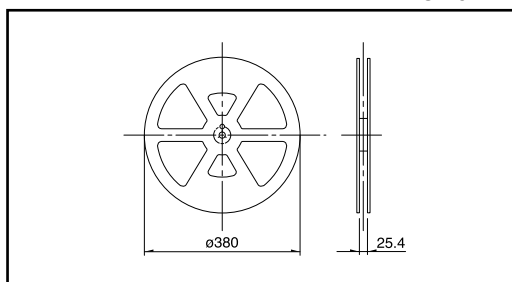
## Product Line

| Poles | Positions | Operating part shape | Operating direction | Terminal type           | Packaging style | Minimum order unit ( pcs ) | Product No. | Drawing No. |            |                      |        |            |            |
|-------|-----------|----------------------|---------------------|-------------------------|-----------------|----------------------------|-------------|-------------|------------|----------------------|--------|------------|------------|
| 1     | 1         | Push                 | Horizontal          | Lead                    | Bulk            | 10,000                     | SPPB110300  | 1           |            |                      |        |            |            |
|       |           |                      |                     |                         |                 |                            | SPPB120200  | 2           |            |                      |        |            |            |
|       |           |                      |                     |                         |                 |                            | SPPB310400  | 7           |            |                      |        |            |            |
|       |           | Actuator A           | Horizontal          | Lead                    |                 | Bulk                       | 5,000       | SPPB1A0100  | 3          |                      |        |            |            |
|       |           |                      |                     |                         |                 |                            |             | SPPB1A0101  | 4          |                      |        |            |            |
|       |           |                      |                     |                         |                 |                            |             | SPPB2A0100  | 5          |                      |        |            |            |
|       |           | Actuator C           | Horizontal          | Lead                    |                 | Bulk                       | 5,000       | SPPB2A0101  | 6          |                      |        |            |            |
|       |           |                      |                     |                         |                 |                            |             | Push        | Vertical   | For PC board ( Dip ) | 20,000 | SPPB512300 | 9          |
|       |           |                      |                     |                         |                 |                            |             |             | Horizontal |                      |        | 10,000     | SPPB610400 |
|       |           | Actuator A           | Vertical            | For PC board ( Dip )    | Bulk            | 5,000                      | SPPB5A0100  | 10          |            |                      |        |            |            |
|       |           |                      | Horizontal          |                         |                 |                            | SPPB6A0100  | 15          |            |                      |        |            |            |
|       |           | Push                 | Horizontal          | For PC board ( Reflow ) | Taping          | 5200                       | SPPB6A0400  | 16          |            |                      |        |            |            |
|       |           |                      |                     |                         |                 |                            | Vertical    | 6000        | SPPB530701 | 11                   |        |            |            |
|       |           |                      |                     |                         |                 |                            |             | 2400        | SPPB530601 | 12                   |        |            |            |
|       |           | Horizontal           | Vertical            | For PC board ( Reflow ) | Taping          | 5200                       | SPPB630101  | 17          |            |                      |        |            |            |
|       |           |                      |                     |                         |                 |                            | SPPB640201  | 18          |            |                      |        |            |            |

## Taping Specifications (Taping Packaging)

Reel Size

Unit:mm



| Product No.              | Number of packages( pcs. ) |               |                        | Tape width ( mm ) |
|--------------------------|----------------------------|---------------|------------------------|-------------------|
|                          | 1 reel                     | 1 case /Japan | 1 case /export packing |                   |
| SPPB530701               | 1,500                      | 3,000         | 6,000                  | 24                |
| SPPB530601               | 600                        | 1,200         | 2,400                  |                   |
| SPPB630601<br>SPPB640201 | 1,300                      | 2,600         | 5,200                  |                   |

## Note

Please place purchase orders per minimum order unit(integer).

**Detector**

Push

Slide

Rotary

Encoders

Power

Dual-in-line  
 Package Type

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| Dimensions |       | Unit:mm |   |
|------------|-------|---------|---|
| No.        | Photo | Style   | PC board mounting hole dimensions (Viewed from direction A) |
| 1          |       |         |   |
| 2          |       |         |   |
| 3          |       |         |   |
| 4          |       |         |   |

Dimensions

Unit:mm

Detector

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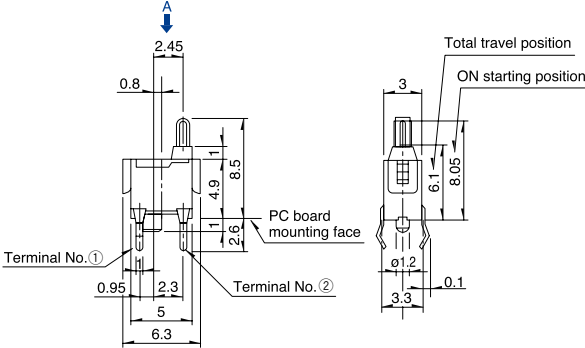
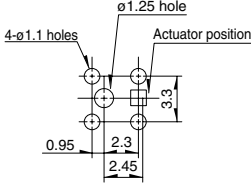
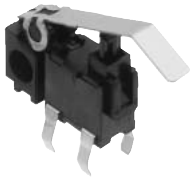
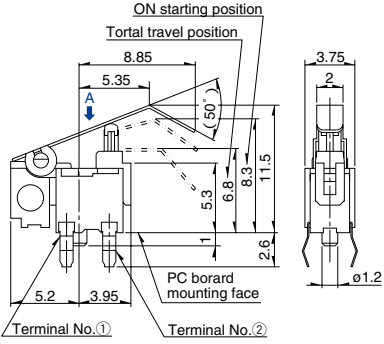
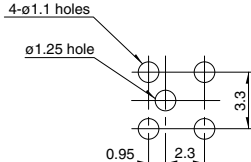

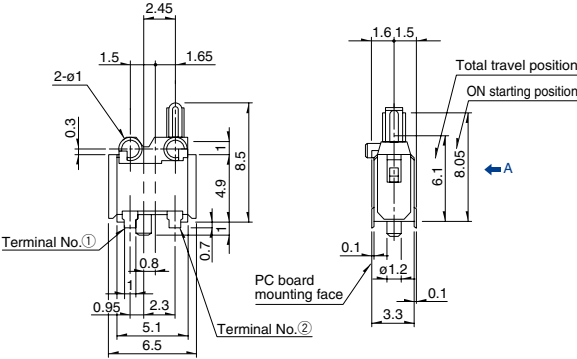
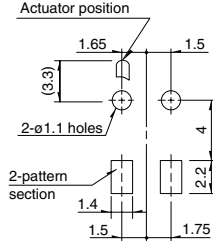

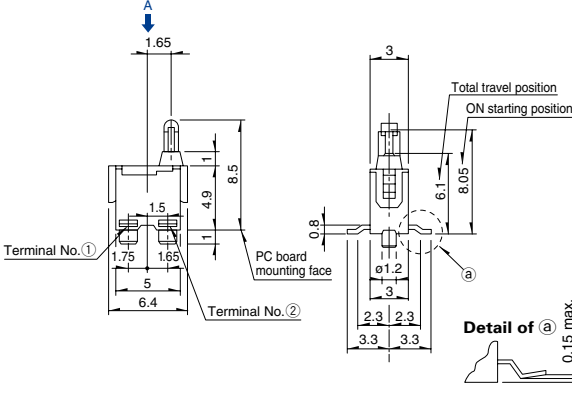
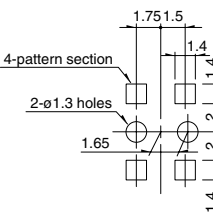
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| No. | Photo | Style | PC board mounting hole dimensions<br>(Viewed from direction A) |
|-----|-------|-------|--|
| 5   |       |       |  |
| 6   |       |       |  |
| 7   |       |       |  |
| 8   |       |       |  |

Dimensions

Unit:mm

| No. | Photo  | Style  | PC board mounting hole and land dimensions (Viewed from direction A)                  |
|-----|--|--|---|
| 9   |  <p>Push</p>        |    |    |
| 10  |  <p>Actuator A</p> |    |   |
| 11  |  <p>Push</p>      |    |  |
| 12  |  <p>Push</p>      |  <p>Detail of (a)<br/>0.15 max.<br/>0.3 max.</p> |  |

Detector

Push

Slide

Rotary

Encoders

Power

Dual-in-line  
Package Type

TACT Switch™

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Products

### Dimensions

Unit:mm

#### Detector

Push

Slide

Rotary

Encoders

Power

Dual-in-line  
Package Type

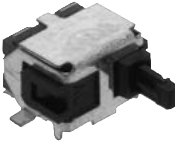
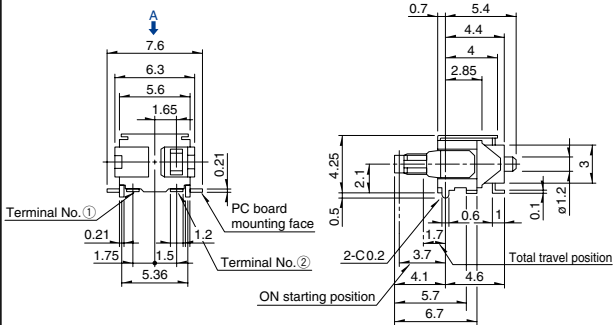
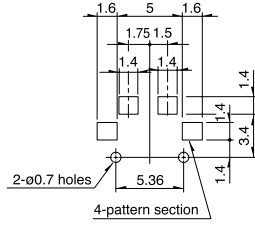

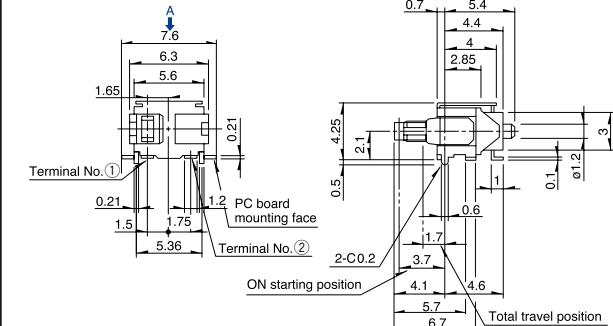
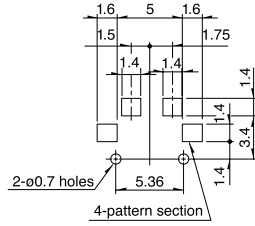
TACT Switch™

Custom-  
Products

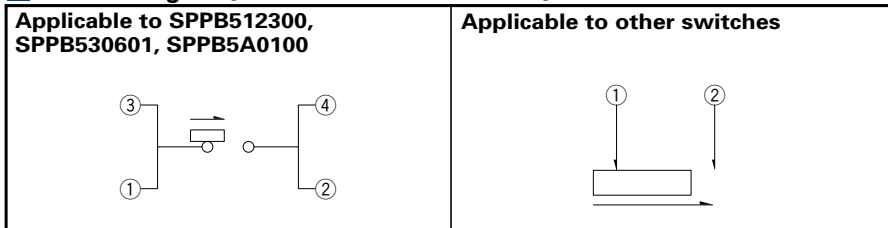
| No. | Photo | Style | PC board mounting hole and land dimensions (Viewed from direction A) |
|-----|-------|-------|--|
| 13  |       |       |  |
| 14  |       |       |  |
| 15  |       |       |  |
| 16  |       |       |  |

**Dimensions**

Unit:mm

| No. | Photo  | Style   | PC board mounting hole and land dimensions (Viewed from direction A)                 |
|-----|--|---|--|
| 17  |   |   |   |
| 18  |  |  |  |

**Circuit Diagram (Viewed from Direction A)**



Detector

Push

Slide

Rotary

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Dual-in-line  
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## List of Varieties ( General-purpose Type )

| Series                         | General-purpose Type   |   |   |   |  |   |   |   |  |
|--------------------------------|--|---|---|---|--|---|---|---|--|
|                                | SPPB   | SPVE  | SPPW8   | SPVM  | SPVR   | SPVF  | SSCU  | SSCT  |  |
| Photo                          |   |  |  |  |  |  |  |  |  |
| Operation type                 | <br> |  |  |  |   |  |  |  |  |
| Operating temperature range    | -40 to +85   |   | -10 to +60  |   | -40 to +85   |   | -40 to +85  |   |  |
| Rating (max.) (Resistive load) | 0.1A 30V DC  |   |   | 1mA 5V DC   |  |   | 0.1A 12V DC   |   |  |
| Rating (min.) (Resistive load) | 50μA 3V DC   |   | 100μA 3V DC   | 50μA 3V DC  | 100μA 3V DC  | 50μA 3V DC  |   |   |  |
| Electrical performance         | Initial contact resistance   | 1 max.  | 500m max.   | 1 max.  | 2 max.   | 3 max.  | 500m max.   | 70m max. 20m max.   |  |
|                                | Insulation resistance  | 100M min. 100V DC   |   |   |  |   |   | 100M min. 250V DC   |  |
|                                | Voltage proof  | 100V AC for 1 minute  |   |   |  |   |   | 250V AC for 1 minute  |  |
| Mechanical performance         | Terminal strength  | 3N for 1 minute   | 0.5N for 1 minute   | 3N for 1 minute   | 1N for 1 minute  | 0.5N for 1 minute   | 3N for 30s  | 3N for 1 minute   |  |
|                                | Actuator strength  | 10N   | 5N  | 10N   | 5N   | 2N  | 1N  | 5N 10N  |  |
| Durability                     | Operating life without Load  | 50,000cycles 2 max.   | 50,000cycles 1 max.   | 100,000cycles 2 max.  | 50,000cycles 5 max.  |   | 100,000cycles 1 max.  | 10,000cycles 100m max. 40m max.   |  |
|                                | Operating life with Load   | (0.1A 30V DC) 50,000cycles 2 max.   | (0.1A 30V DC) 50,000cycles 1 max.   | (0.1A 30V DC) 100,000cycles 2 max.  | (1mA 5V DC) 50,000cycles 5 max.  |   | (1mA 5V DC) 100,000cycles 1 max.  | (0.1A 12V DC) 10,000cycles 150m max. 60m max.                                       |  |
| Environmental performance      | Cold   | -20 ± 2 for 96h   |   |   |  |   | -40 ± 2 for 96h   | -20 ± 2 for 96h   |  |
|                                | Dry heat   | 85 ± 2 for 96h  |   |   |  |   |   |   |  |
|                                | Damp heat  | 40 ± 2 , 90 to 95%RH for 96h  |   |   |  |   |   |   |  |
| Dimensions (mm)                | W  | 6.3   | 3.4   | 5   | 2.8  | 3.6   | 9   | 11 12.5   |  |
|                                | D  | 3   |   | 4   | 3.5  | 4.2   | 3.5   | 5.8 5   |  |
|                                | H  | 4.9   | 2.3   |   | 1.5  | 1.2   | 4.5   | 7 11.5  |  |
| Soldering                      | Manual soldering   | 300 ± 5 , 5s max.   |   | 350 ± 5 , 3s max.   |  |   | 300 ± 10 , 3 ± 1s   | 350 ± 5 , 3s max.   |  |
|                                | Dip soldering  | 260 ± 5 , 5 ± 1s  |   | 255 ± 5 , 5 ± 1s  |  |   | 245 ± 5 , 5 ± 1s  | 260 ± 5 , 5 ± 1s  |  |
|                                | Reflow soldering   | Please see P.79   |   |   |  |   |   |   |  |
| Number of poles                | 1  |   |   |   |  | 1.2   | 1   |   |  |
| Operation force                | 0.35N max.   | 0.3N max.   |   | 0.4N max.   | 0.35N max.   | 0.3N max.   | 0.5N max.   | 0.7 ± 0.3N  |  |
| Page                           | 28   | 34  | 36  | 38  | 40   | 41  | 44  | 45  |  |

Detector

Push

Slide

Rotary

Encoders

Power

Dual-in-line Package Type

TACT Switch™

Custom-Products

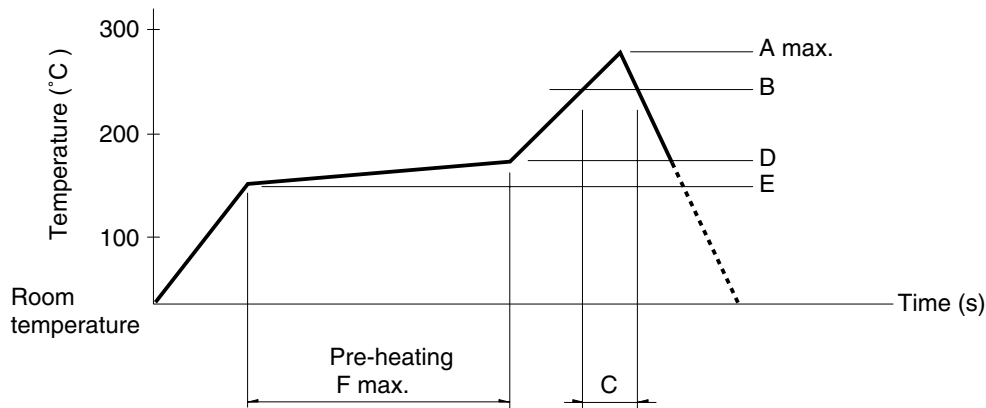
Detector Switches Soldering Conditions .....79

Detector Switches Cautions .....80

# Soldering Conditions

## Example of Reflow Soldering Condition

1. Heating method: Double heating method with infrared heater.
2. Temperature measurement: Thermocouple 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



**Detector**

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Products

| Series( Reflow type ) | A( )<br>3s max. | B( ) | C(s) | D( ) | E( ) | F(s) |
|-----------------------|-----------------|------|------|------|------|------|
| SPPB                  | 250             | 230  | 40   |      |      |      |
| SPPW8                 |                 | 200  | 20   |      |      |      |
| SPVE                  | 260             | 230  | 40   | 180  | 150  | 120  |
| SPVG                  |                 |      |      |      |      |      |
| SPVL                  |                 |      |      |      |      |      |
| SPVM                  |                 |      |      |      |      |      |
| SPVN                  |                 |      |      |      |      |      |
| SPVP                  |                 |      |      |      |      |      |
| SPVR                  |                 |      |      |      |      |      |
| SPVS                  |                 |      |      |      |      |      |
| SSCM                  |                 |      |      |      |      |      |
| SPPY5                 |                 |      |      |      |      |      |

**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.



Компания «Life Electronics» занимается поставками электронных компонентов импортного и отечественного производства от производителей и со складов крупных дистрибьюторов Европы, Америки и Азии.

С конца 2013 года компания активно расширяет линейку поставок компонентов по направлению коаксиальный кабель, кварцевые генераторы и конденсаторы (керамические, пленочные, электролитические), за счёт заключения дистрибьюторских договоров

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- Подбор аналогов.
- Поставку компонентов в любых объемах, удовлетворяющих вашим потребностям.
- Приемлемые сроки поставки, возможна ускоренная поставка.
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- Комплексную поставку.
- Работу по проектам и поставку образцов.
- Формирование склада под заказчика.
- Сертификаты соответствия на поставляемую продукцию (по желанию клиента).
- Тестирование поставляемой продукции.
- Поставку компонентов, требующих военную и космическую приемку.
- Входной контроль качества.
- Наличие сертификата ISO.

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Конструкторский отдел помогает осуществить:

- Регистрацию проекта у производителя компонентов.
- Техническую поддержку проекта.
- Защиту от снятия компонента с производства.
- Оценку стоимости проекта по компонентам.
- Изготовление тестовой платы монтаж и пусконаладочные работы.



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