

SPVQA Water-proof Type

Fork terminals allow connection without solder



Detector

Slide

Push

Rotary

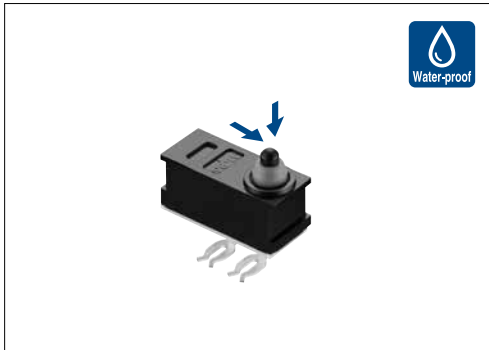
Power

Dual-in-line
Package Type

General-
purpose Type

Water-proof
Type

Fast Switching
Type



Typical Specifications

| Items | | Specifications |
|--|--------------|-----------------------------|
| Rating (max.)/(min.) (Resistive load) | | 0.1A 12V DC / 50μA 5V DC |
| Contact resistance (Initial / After operating life) | | 500mΩ max. / 1Ω max. |
| Operating force | | 1±0.5N |
| Operating life | Without load | 300,000cycles |
| | With load | 300,000cycles (0.1A 12V DC) |

Product Line

| Poles | Positions | Change over timing | Operating part shape | Terminal type | Main body form | Minimum order unit (pcs) | | Product No. | Drawing No. | |
|-------|-----------|--------------------|----------------------|--------------------------------------|---|--------------------------|--------|---------------------|-------------------|---|
| | | | | | | Japan | Export | | | |
| 1 | 1 | Non shorting | Push | Press fit (Without terminal No.3) | Without boss L type | 1,200 | 4,800 | SPVQA10103 | 1 | |
| | | | | | Without boss R type | | | SPVQA10203 | 2 | |
| | | | | Press fit (Without terminal No.2) | Without boss L type | | | SPVQA10302 | 3 | |
| | | | | | Without boss R type | | | SPVQA10402 | 4 | |
| | 2 | | | 1 | Press fit | | | Without boss L type | SPVQA10504 | 5 |
| | | | | | | | | Without boss R type | SPVQA10604 | 6 |
| | 2 | | | 2 | For PC board (Without terminal No.3) For PC board | | | Without boss | SPVQA20103 | 7 |
| | | | | | | | | | SPVQA20203 | 8 |

Note

This unit cannot be used in water (IP67 rating, except for terminal).

Packing Specifications

Tray

| Number of packages (pcs.) | | Export package measurements (mm) |
|---------------------------|------------------------|-------------------------------------|
| 1 case /Japan | 1 case /export packing | |
| 1,200 | 4,800 | 540×360×270 |

Dimensions

Unit:mm

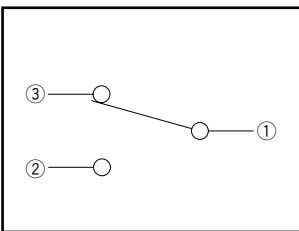
| No. | Style | No. | Style |
|-----|-------|-----|-------|
| 1 | | 2 | |

■ Dimensions

Unit:mm

| No. | Style | No. | Style |
|-----|-------|-----|-------|
| 3 | | 6 | |
| 4 | | 7 | |
| 5 | | 8 | |

■ Circuit Diagram



Detector
Slide
Push
Rotary
Power
Dual-in-line Package Type
General-purpose Type
Water-proof Type
Fast Switching Type

Detector

Slide

Push

Rotary

Power

Dual-in-line
Package Type

General-
purpose Type

Waterproof
Type

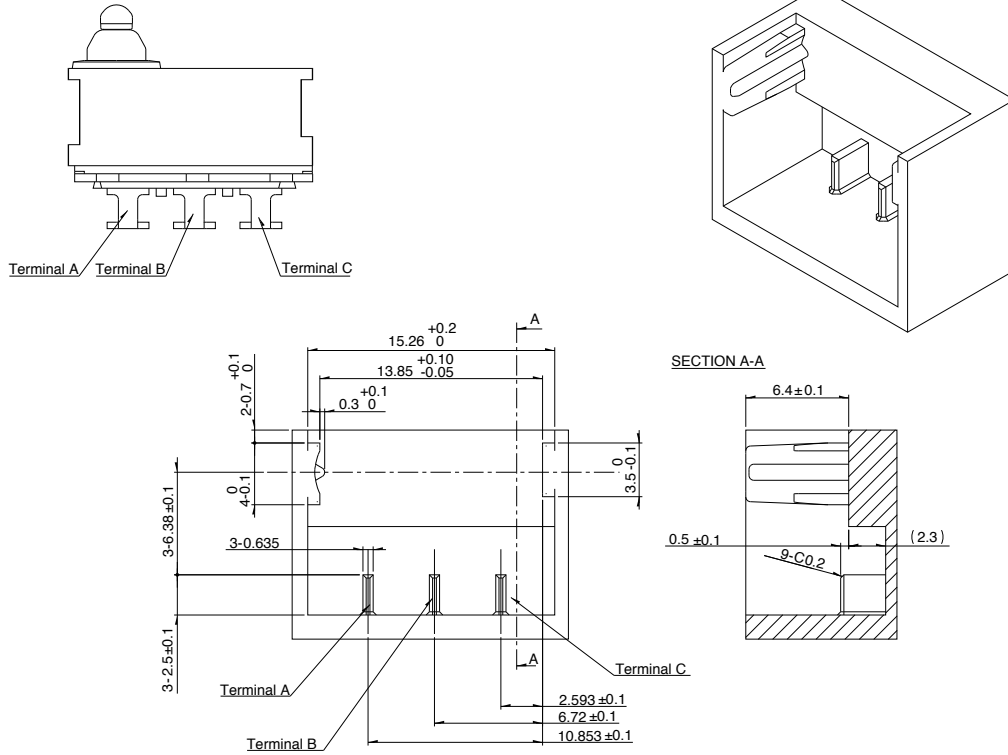
Fast Switching
Type











Reference Drawing for Unit Terminals

Unit:mm

Style

SPVQA10504



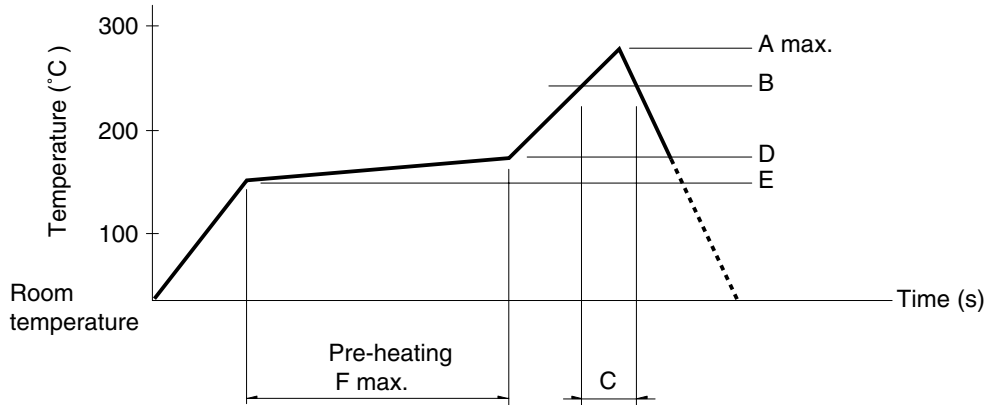
| Series | | Water-proof Type | | | Fast Switching Type | |
|-----------------------------------|---|---|---|---|---|---|
| | | SPVQ8 | SPVQA | SSCN | SPVQ9 | SPVQC |
| Photo | |  |  |  |  |  |
| Operation type | | Two-way | | | | |
| Dimensions (mm) | W | 8.3 | 15.2 | 13 | 15.4 | 15.4 |
| | D | 5.3 | 6.4 | 5 | 8.4 | 7.4 |
| | H | 6.5 | 7.95 | 15 | 7.5 | |
| Operating temperature range | | -40°C to +85°C | | | | |
| Automotive use | | ● | ● | ● | ● | ● |
| Life cycle (availability) | |  |  |  |  |  |
| Poles / Positions | | 1/1 | 1/1 1/2 | 1/2 | 2/2 | |
| Rating (max.) (Resistive load) | | 0.1A 12V DC | | | 50mA 26V DC | 50mA 18V DC |
| Rating (min.) (Resistive load) | | 50μA 5V DC | | 100μA 5V DC | 50μA 5V DC | |
| Durability | Operating life without load | 300,000cycles 1Ω max. or 1,000,000cycles 3Ω max. | 300,000cycles 1Ω max. | 100,000cycles 1Ω max. | 300,000cycles 200mΩ max. | — |
| | Operating life with load Rating (max.) (Resistive load) | 300,000cycles 1Ω max. or 1,000,000cycles 3Ω max. | 300,000cycles 1Ω max. | 100,000cycles 1Ω max. | 300,000cycles 200mΩ max. | |
| Electrical performance | Initial contact resistance | 500mΩ max. | | | 75mΩ max. | |
| | Insulation resistance | 100MΩ min. 500V DC | | | | 100MΩ min. 250V DC |
| | Voltage proof | 500V AC for 1minute | | | | 250V AC for 1minute |
| Mechanical performance | Terminal strength | 3N for 1minute (with terminal) Wire strength 30N for 1minute (with wire) | 3N for 1minute | | | |
| | Actuator strength | 20N | | 10N | 20N | |
| Environmental performance | Cold | -40°C 500h | | | | |
| | Dry heat | 85°C 500h | | | | |
| | Damp heat | 60°C, 90 to 95% RH 500h | | | | |
| Operation force | | 1±0.5N | | 2N max. | 1±0.5N | |
| Page | | 55 | 60 | 63 | 64 | 65 |

Detector Switches Soldering Conditions 66
 Detector Switches Cautions 67

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) 3s max. | B (°C) | C (s) | D (°C) | E (°C) | F (s) |
|----------------------|----------------|--------|-------|--------|--------|-------|
| SPPB | 250 | 230 | 40 | 180 | 150 | 120 |
| SPVE | 260 | | 40 | | | |
| SPVL | | | | | | |
| SPVM | | | | | | |
| SPVN | | | | | | |
| SPVR | | | | | | |
| SPVS | | | | | | |
| SPVT | | | | | | |
| SSCM | | | | | | |
| SSCQ | | | | | | |
| SPVQC | 250 | | | | | |

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, surface 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 |
|--|-----------------------|----------------|
| SPVS, SPVN, SPVT, SPVM, SPVR, SPVE, SSCQ, SSCM, SPVL, SSCT, SPVQC | 350±5°C | 3s max. |
| SPVQ1, SPVQ3, SPVQ6, SPVQ7, SPVQ8, SPVQ9, SSCN, SPVQA | 300±10°C | 3 + 1 / 0s |
| SPPB (Reflow) | 300±5°C | 5s max. |
| SSCF, SPPB (For Lead, Dip) | 350±10°C | 3 + 1 / 0s |

Reference for Dip Soldering (For PC board terminal types)

| Series | Items | | Dip soldering | |
|--|------------------------|-----------------|-----------------------|-----------------------|
| | Preheating temperature | Preheating time | Soldering temperature | Duration of immersion |
| SSCT, SPVQ1, SPVQ3, SPVQ6, SPVQ7, SPVQ8, SPVQ9, SPVQA | 100±10°C | 60s max. | 260±5°C | 5±1s |
| SPPW8, SPPB | 100°C max. | 60s max. | 255±5°C | 5±1s |
| SSCF | — | | 260±5°C | 5±1s |

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

Мы предлагаем:

- Конкурентоспособные цены и скидки постоянным клиентам.
- Специальные условия для постоянных клиентов.
- Подбор аналогов.
- Поставку компонентов в любых объемах, удовлетворяющих вашим потребностям.
- Приемлемые сроки поставки, возможна ускоренная поставка.
- Доставку товара в любую точку России и стран СНГ.
- 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.

В составе нашей компании организован Конструкторский отдел, призванный помогать разработчикам, и инженерам.

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.



Тел: +7 (812) 336 43 04 (многоканальный)

Email: org@lifeelectronics.ru