

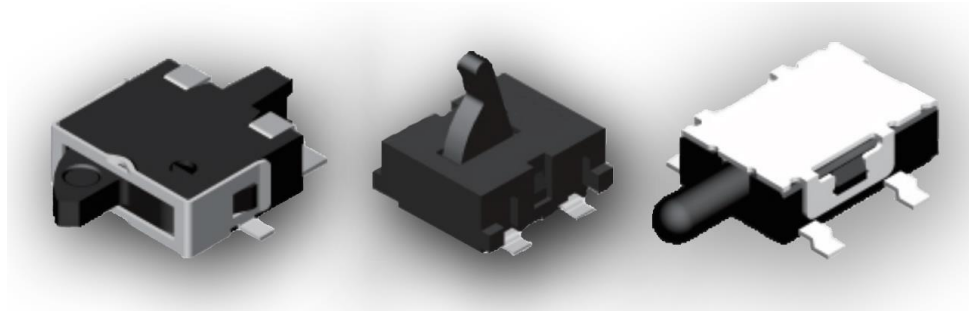
Applications

- Automotive
- Instrumentation
- White goods
- Telecommunications

Benefits

- RoHS Compliant
- Halogen and Lead Free
- Sharp detection feeling
- Compact Size

JJ Series – Detector Switches




TE Connectivity is pleased to introduce its JJ Series of Detector Switches, suitable for a wide variety of applications given their several presentations ranging from horizontal or vertical actuated options as well as Gull-winged, J-leded and Through-Hole mounting possibilities.

The Detector Switches will be offered in a wide range of sizes giving the possibility for countless applications going from automotive to telecommunications.

JJ Series – Family Classification

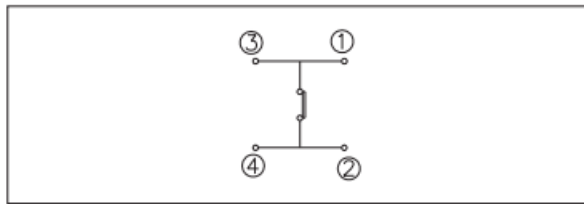
| Series | Body Size |
|--------|------------------------------|
| JJA | 3.5x2.8 mm |
| JJB | 3.5x2.98 mm |
| JJC | 3.5x3.3 mm |
| JJD | 4.2x3.6 mm |
| JJE | 4.7x3.5 mm |
| JJF | 4.7x3.8 mm |
| JJG | 5.7x4.0 mm (High-Rating) |
| JJH | 5.7x4.0 mm (Standard-Rating) |
| JJI | 5.0x4.4 mm |
| JJJ | 6.0x4.85 mm / 5.5x4.7 mm |
| JJK | 6.3x3.0 mm |
| JJL | 6.5x3.9 mm |
| JJM | 5.7x4.0 mm |
| JJN | 5.7x4.0 mm (Wedge) |
| JJO | 10.0x3.8 mm |
| JJP | 10.6x10.0 mm |

JJD Family – 4.2x3.6 mm

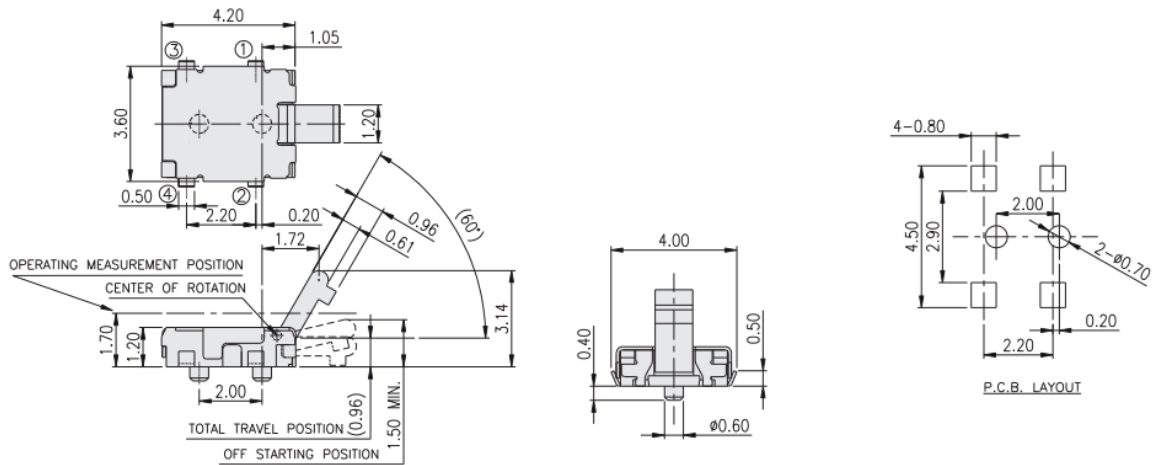
| JJDVDUJ314 | | |
|---|-----------------------|------------------------------------|
|  | Contact Rating | 100µA, 3VDV min. 1mA, 5VDC Max. |
| | Contact Resistance | 3Ω Max. |
| | Insulation Resistance | 100MΩ min. 100VDC |
| | Dielectric Strength | 100VAC/1 minute |
| | Operating Force | 35gF Max. |
| | Travel | 2.50mm |
| | Operating Life | 50,000 cycles |
| | Operating Temperature | -40°C to 85°C |
| | Storage Temperature | -20°C to 70°C |

| Features | Applications |
|--|--|
| <ul style="list-style-type: none"> • Compact Sized • Sharp detection feeling | <ul style="list-style-type: none"> • Consumer Electronics • Safety control devices • Heat energy regulators |

Circuit



Diagram



1. Style

“Detector Switches” are mainly used as signal switches of electric devices, with the general requirements of mechanical and electrical characteristic.

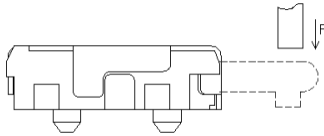
1.1 Operating Temperature Range: -40°C to 85°C

1.2 Storage Temperature Range: -20°C to 70°C

2. Current Range: Min. 100µA 3VDC // Max. 1mA 5VDC

3. Type of Actuation: Momentary

4. Test Sequence:

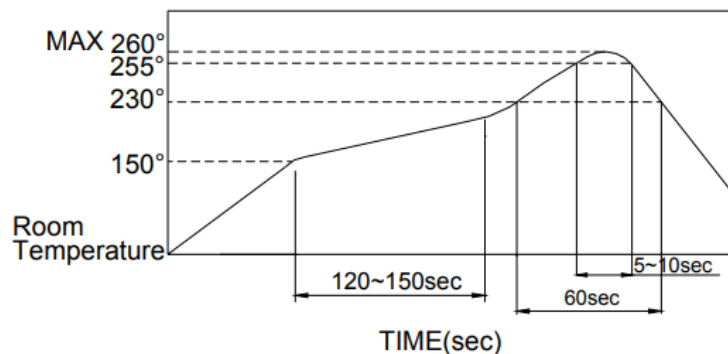
| | Item | Description | Test Conditions | Requirements |
|------------------------|------|---------------------------------|---|---|
| Appearance | 1 | Visual Examination | Physical inspection without applying any external forces. | There shall be no defects that affect the serviceability of the product. |
| Electric Performance | 2 | Contact Resistance | Actuate the switch (0.15mm) and measure contact resistance using a micro-Ohmmeter. | 3Ω Max. (initial) |
| | 3 | Insulation Resistance | Measurements shall be made at 100VDC potential between terminals and cover. | 100MΩ Min. |
| | 4 | Dielectric Withstanding Voltage | Apply 100V AC (50Hz or 60 Hz 2mA) between terminals and cover for 1 minute. | There shall be no breakdown or flashover |
| Mechanical Performance | 5 | Operation Force | As the specification shows operating force is measured | 35gF Max. (.34N Max.) |
| | 6 | ON/OFF start position | ----- | As the specification shows ON/OFF start position |
| | 7 | Control Strength | Placing the switch such that the direction of switch operation is vertical, a static load of 204.1gf(2.0N) shall be applied in the direction of stem operation for a period of 15 seconds  | As shown in item 2 to 6 |
| | 8 | Solder Heat Resistance | (See chart below) | 1) Shall be free from pronounced backlash and falling-off or breakage terminals 2) As shown in item 2 to 6 |
| | 9 | Solderability | 1) Soldering Temperature : 245±5°C Lead-Free solder : M705E JIS Z 3282 A (Tin 96.5%, Silver 3%, Copper 0.5%) 2) Flux: 5-10 sec. 3) Duration of solder mmmersion:5±1sec. | No anti-soldering and the coverage of dipping into solder must more than 75% was requested. |



| | | | | |
|-------------------------|----|---------------------|---|---|
| Durability | 10 | Life Test | <p>Tested as follows:</p> <ol style="list-style-type: none"> 1) 10mA,5V DC resistive load 2) Apply a static load in the direction of operation equal to the operating force to the center of the stem. 3) Rate of Operation: 20 to 25 operations per minute 4) Cycle of Operation: 50,000 cycles Min. | <ol style="list-style-type: none"> 1)As shown in item 4 to 5 2)Contact Resistance: 5Ω Max. 3)Insulation Resistance: 10MΩ Min. |
| Environmental Endurance | 11 | Vibration | <p>Shall be vibrated in accordance with Method 201A of MIL-STD-202F</p> <ol style="list-style-type: none"> 1) Frequency: 10-55-10 Hz 1 minute/cycle. 2) Direction: 3 vertical directions including the direction of operation. 3) Test Time: 2 hours each direction. 4) Swing distance=1.5mm | As shown in item 2 to 5 |
| | 12 | Shock | <p>Shall be shocked in accordance with Method 213B condition A of MIL-STD-202F</p> <ol style="list-style-type: none"> 1) Acceleration: 50G. 2) Action Time: 11±1 m sec. 3) Testing Direction: 6 sides. 4) Test cycle: 3 times in each direction | As shown in item 2 to 5 |
| | 13 | Cold Resistance | <p>Following the test set forth below the sample shall be left in normal temperature and humidity conditions for an hour before measurements are made:</p> <ol style="list-style-type: none"> 1) Temperature: -40°C±2°C. 2) Time: 96 hours | <ol style="list-style-type: none"> 1)As shown in item 4 to 7 2)Contact resistance: Less than 5Ω 3)Value insulation resistance: More than 10MΩ. |
| | 14 | Heat Resistance | <p>Following the test set forth below the sample shall be left in normal temperature and humidity conditions for an hour before measurements are made:</p> <ol style="list-style-type: none"> 1) Temperature: 85°C±2°C 2) Time: 96 hours | <ol style="list-style-type: none"> 1)As shown in item 4 to 7 2)Contact resistance: Less than 5Ω 3)Value insulation resistance: More than 10MΩ. |
| | 15 | Humidity Resistance | <p>Following the test set forth below the sample shall be left in normal temperature and humidity conditions for an hour before measurements are made:</p> <ol style="list-style-type: none"> 1) Temperature: 40°C±2°C 2) Relative Humidity :90% to 95% 3) Time: 96 hours | <ol style="list-style-type: none"> 1)As shown in item 4 to 7 2)Contact resistance: Less than 5Ω 3)Value insulation resistance: More than 10MΩ. |

5. Soldering Conditions:

■ Recommended Soldering Profile for the JJD Series



■ The temperatures defined above are the temperatures measured on the surface of the Printed Circuit Board. There are cases where the printed circuit board's temperature differs greatly from the temperature of the switch. Critical note: the switch's surface temperature must not exceed 260°C.

■ Manual Soldering

Soldering Temperature: Max. 350°C

Continuous Soldering Time: Max. 5 seconds

■ Precautions in Handling

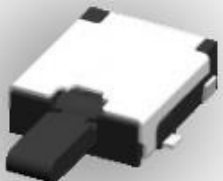
1. Care must be taken to ensure excess flux on the top surface of the printed circuit board does not adhere to the switch.
2. Do not wash the switch.

■ Recommended storage conditions:

Store the products in the original packaging material. After opening the package, the remaining products must be stored in the appropriate moisture-proof & airtight environment.

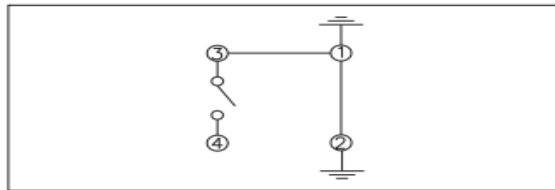
Do not store the switch in the following environment or it may affect performance and solderability:

1. temperatures below -10° C to 40°C & humidity at 85% (min)
2. environment with corrosive gas
3. storage over 6 months
4. place in direct sunlight

| JJDVUU□305 | | |
|---|-----------------------|------------------------------------|
|  | Contact Rating | 50µA, 3VDV min. 10mA, 5VDC Max. |
| | Contact Resistance | 1Ω Max. |
| | Insulation Resistance | 100MΩ min. |
| | Dielectric Strength | 100VAC/1 minute |
| | Operating Force | 40gF Max. |
| | Travel | 60° |
| | Operating Life | 50,000 cycles |
| | Operating Temperature | -10°C to 60°C |
| | Storage Temperature | -20°C to 70°C |

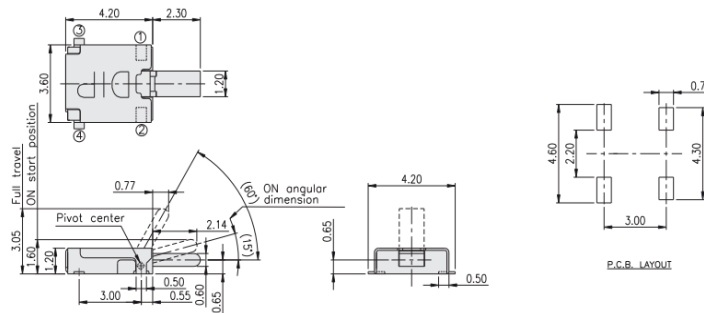
| Features | Applications |
|---|--|
| <ul style="list-style-type: none"> Gull-winged and J-bend mounting Long travel type | <ul style="list-style-type: none"> Consumer Electronics Safety control devices Heat energy regulators |

Circuit

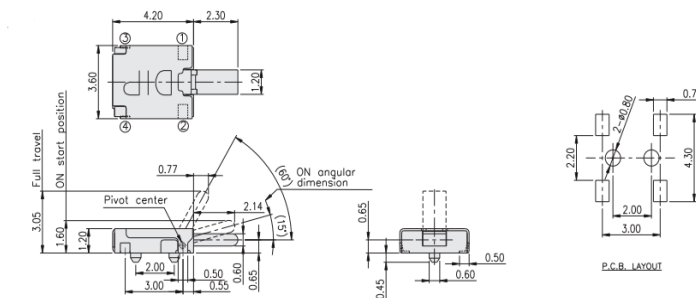


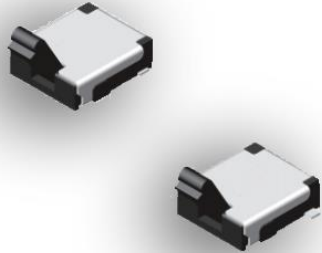
Diagrams

-Gull-winged



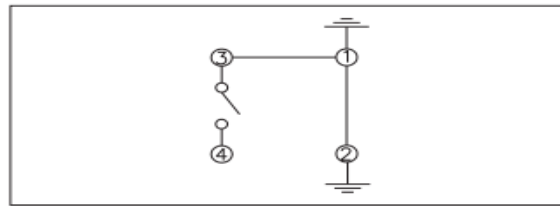
-J-Bend



| JJVDVU□305 | | |
|---|-----------------------|------------------------------------|
|  | Contact Rating | 50μA, 3VDV Min. 10mA, 5VDC Max. |
| | Contact Resistance | 1Ω Max. |
| | Insulation Resistance | 100MΩ Min. |
| | Dielectric Strength | 100VAC/1 Minute |
| | Operating Force | 40gF Max. |
| | Travel | 60° |
| | Operating Life | 50,000 cycles |
| | Operating Temperature | -10°C to 60°C |
| Storage Temperature | -20°C to 70°C | |

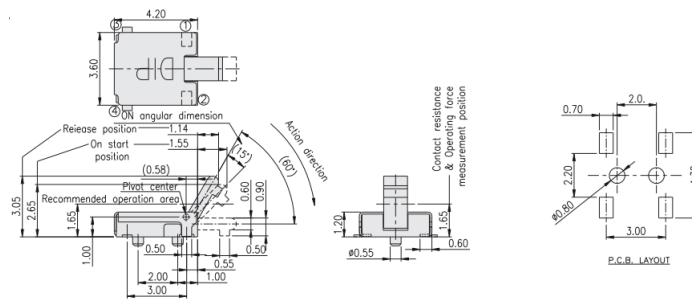
| Features | Applications |
|---|--|
| <ul style="list-style-type: none"> Gull-winged and J-bend mounting Long travel type | <ul style="list-style-type: none"> Consumer Electronics Safety control devices Heat energy regulators |

Circuit

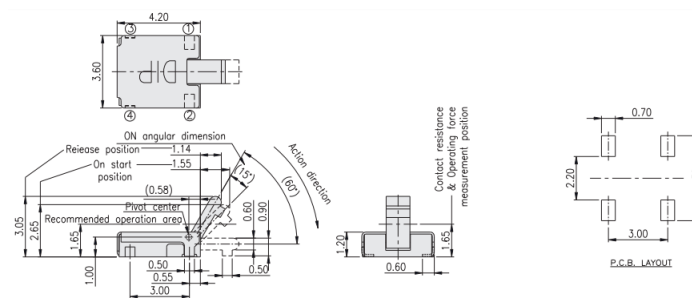


Diagrams

-Gull-winged



-J-Bend





1. Style

“Detector Switches” are mainly used as signal switches of electric devices, with the general requirements of mechanical and electrical characteristic.

1.1 Operating Temperature Range: -10 °C to 60°C

1.2 Storage Temperature Range: -20°C to 70°C

2. Current Range: Min. 50µA 3VDC // Max. 10mA 5VDC

3. Type of Actuation: Momentary

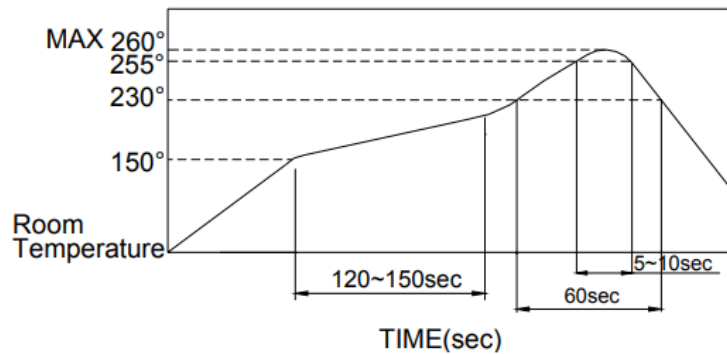
4. Test Sequence:

| | Item | Description | Test Conditions | Requirements |
|------------------------|------|---------------------------------|---|---|
| Appearance | 1 | Visual Examination | Physical inspection without applying any external forces. | There shall be no defects that affect the serviceability of the product. |
| Electric Performance | 2 | Contact Resistance | Actuate the switch (1.65mm) and measure contact resistance using a micro-Ohmmeter. | 1Ω Max. |
| | 3 | Insulation Resistance | Measurements shall be made at 100 VDC potential between terminals and cover. | 100MΩ Min. |
| | 4 | Dielectric Withstanding Voltage | Apply 100 VAC (50Hz or 60Hz) between terminals and cover for 1 minute. | There shall be no breakdown or flashover |
| | 5 | Capacitance | Capacitance shall be measured at 1 MHz between terminals. | 5 pF Max. |
| | 6 | Operation Force | As the specification shows operating force is measured. | 40gf Max (.4N Max) |
| Mechanical Performance | 7 | ON start position | ----- | As the specification shows ON start position |
| | 8 | Stop strength | Apply vertical static load of 1kgf (9.8N) the direction of stem operation for a period of 60 seconds. | As shown items 2 to 7 |
| | 9 | Solder Heat Resistance | (See chart below) | 1) Shall be free from pronounced backlash and falling-off or breakage terminals 2) As shown in item 2 to 7 |

| | | | | |
|------------------------|----|---------------------|---|--|
| Mechanical Performance | 10 | Vibration | <p>Test per Method 201A of MIL-STD-202F</p> <p>1) Swing distance=1.5mm 2) Frequency: 10-55-10 Hz 1 minute/cycle. 3) Direction: 3 vertical directions including the direction of operation. 4) Test Time: 2 hours each direction.</p> | As shown in item 2 to 7 |
| | 11 | Shock | <p>Test per Method 213B condition A of MIL-STD-202F</p> <p>1) Acceleration: 50G. 2) Action Time: 11 ± 1 m sec. 3) Testing Direction: 6 sides. 4) Test cycle: 3 times in each direction</p> | As shown in item 2 to 7 |
| | 12 | Solderability | <p>1) JJD305 Soldering Temperature: 245±3°C Lead-Free solder: M705E JIS Z 3282 A (Tin 96.5%, Silver 3%, Copper 0.5%). 2) Flux: 5-10 sec. 3) Duration of solder Immersion:3±0.5sec.</p> | No anti-soldering and the coverage of dipping into solder must more than 75% was requested. |
| Durability | 13 | Operating Life | <p>Tested as follows:</p> <p>1) 10mA,5V DC resistive load 2) Apply a static load in the direction of operation equal to the operating force to the center of the stem. 3) Rate of Operation: 20 to 25 operations per minute. 4) Cycle of Operation: 50,000 cycles Min.</p> | <p>1) As shown in item 4 to 5 2) Insulation Resistance: 10MΩ Min 3) Contact Resistance: 2Ω Max</p> |
| Weather Proof | 14 | Cold Resistance | <p>Following the test set forth below the sample shall be left in normal temperature and humidity conditions for 1 hour before measurements are made:</p> <p>1) Temperature: -40°C±2°C. 2) Time: 96 hours</p> | As shown in item 2 to 7 |
| | 15 | Heat Resistance | <p>Following the test set forth below the sample shall be left in normal temperature and humidity conditions for 1 hour before measurements are made:</p> <p>1) Temperature: 85°C±2°C 2) Time: 96 hours</p> | As shown in item 2 to 7 |
| | 16 | Humidity Resistance | <p>Following the test set forth below the sample shall be left in normal temperature and humidity conditions for 1 hour before measurements are made:</p> <p>1) Temperature: 40°C±2°C 2) Relative Humidity :90 to 95% 3) Time: 96 hours</p> | <p>1) As shown in item 4 to 7 2) Insulation Resistance: 10MΩ Min</p> |

5. Soldering Conditions:

■ Recommended Soldering Profile for the JJD Series



■ The temperatures defined above are the temperatures measured on the surface of the Printed Circuit Board. There are cases where the printed circuit board's temperature differs greatly from the temperature of the switch. Critical note: the switch's surface temperature must not exceed 260°C.

■ Manual Soldering

Soldering Temperature: Max. 350°C
 Continuous Soldering Time: Max. 5 seconds

■ Precautions in Handling

1. Care must be taken to ensure excess flux on the top surface of the printed circuit board does not adhere to the switch.
2. Do not wash the switch.

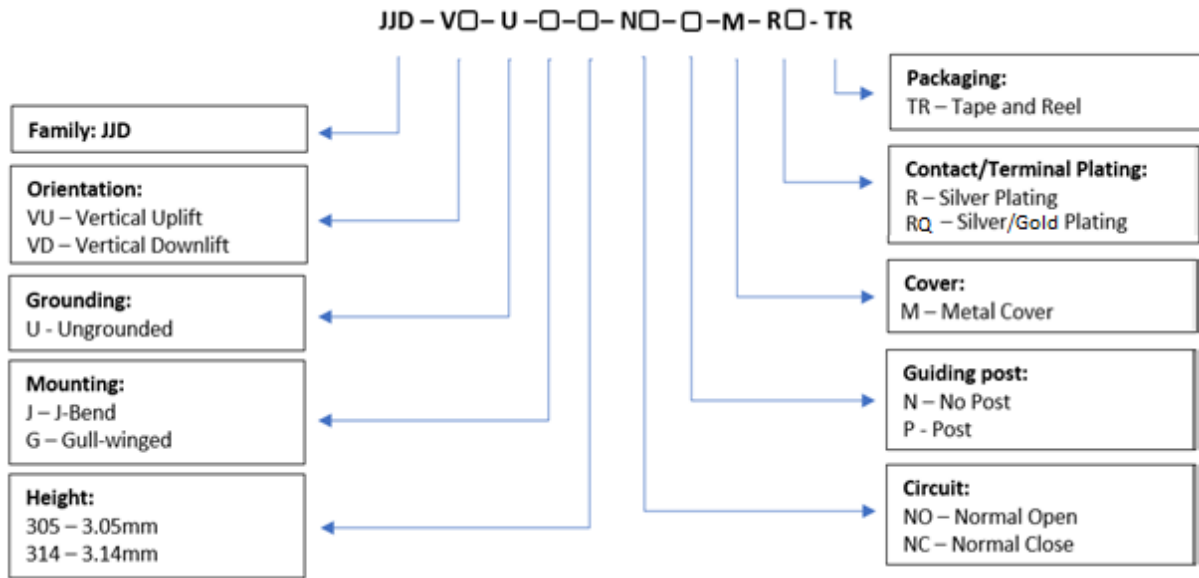
■ Recommended storage conditions:

Store the products in the original packaging material. After opening the package, the remaining products must be stored in the appropriate moisture-proof & airtight environment.

Do not store the switch in the following environment or it may affect performance and solderability:

1. temperatures below -10° C to 40°C & humidity at 85% (min)
2. environment with corrosive gas
3. storage over 6 months
4. place in direct sunlight

How to order



PN List

| Smart PN | Orientation | Grounding | Mounting | Height | Circuit | Guiding Post | Cover | Plating /Term. | Packaging | MOQ | TE PN |
|--------------------|-------------------|------------|-------------|--------|---------|--------------|-------|----------------|---------------|-------|-----------|
| JJDVDUJ314NCPMRTR | Vertical Uplift | Ungrounded | J-Bend | 3.14mm | NC | Post | Metal | Silver | Tape and Reel | 2,000 | 2331389-1 |
| JJDVUUG305NOPMRTR | Vertical Downlift | Ungrounded | Gull-winged | 3.05mm | NO | Post | Metal | Silver | Tape and Reel | 3,600 | 2331408-1 |
| JJDVUUJ305NOPMRTR | Vertical Downlift | Ungrounded | J-Bend | 3.05mm | NO | Post | Metal | Silver | Tape and Reel | 3,600 | 2331409-1 |
| JJDVUUG305NONMRTR | Vertical Downlift | Ungrounded | Gull-winged | 3.05mm | NO | No Post | Metal | Silver | Tape and Reel | 3,600 | 2331410-1 |
| JJDVUUJ305NONMRTR | Vertical Downlift | Ungrounded | J-Bend | 3.05mm | NO | No Post | Metal | Silver | Tape and Reel | 3,600 | 2331411-1 |
| JJDVDUG305NOPMRQTR | Vertical Uplift | Ungrounded | Gull-winged | 3.05mm | NO | Post | Metal | Silver/Gold | Tape and Reel | 2,000 | 2331412-1 |
| JJDVDUJ305NOPMRQTR | Vertical Uplift | Ungrounded | J-Bend | 3.05mm | NO | Post | Metal | Silver/Gold | Tape and Reel | 2,000 | 2331413-1 |
| JJDVDUG305NONMRQTR | Vertical Uplift | Ungrounded | Gull-winged | 3.05mm | NO | No Post | Metal | Silver/Gold | Tape and Reel | 2,000 | 2331414-1 |
| JJDVDUJ305NONMRQTR | Vertical Uplift | Ungrounded | J-Bend | 3.05mm | NO | No Post | Metal | Silver/Gold | Tape and Reel | 2,000 | 2331415-1 |

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.



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Email: org@lifeelectronics.ru