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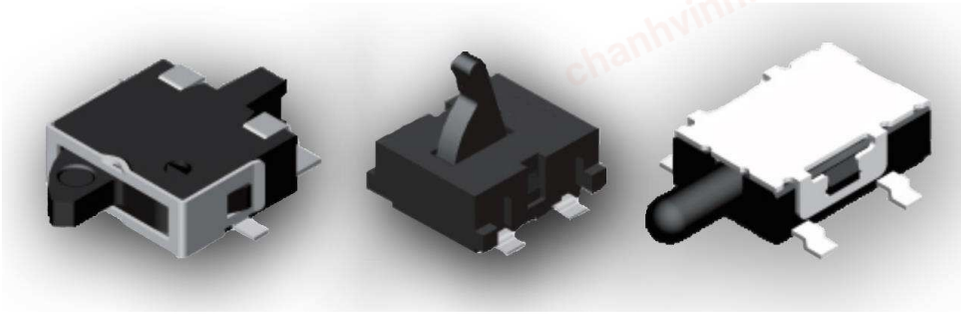
Applications

- 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-leaded and Through-Hole mounting possibilities.

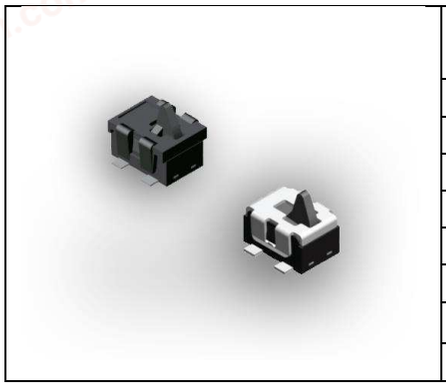
The Detector Switches will be offered in a wide range of sizes giving the possibility for countless applications going from automotive to telecommunications.

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

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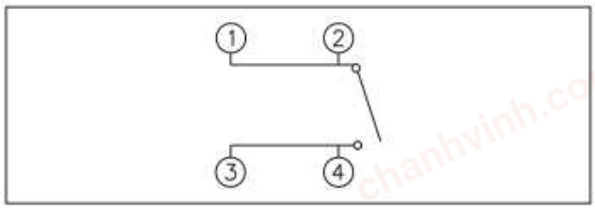
JJB Family – *3.5x2.98 mm*



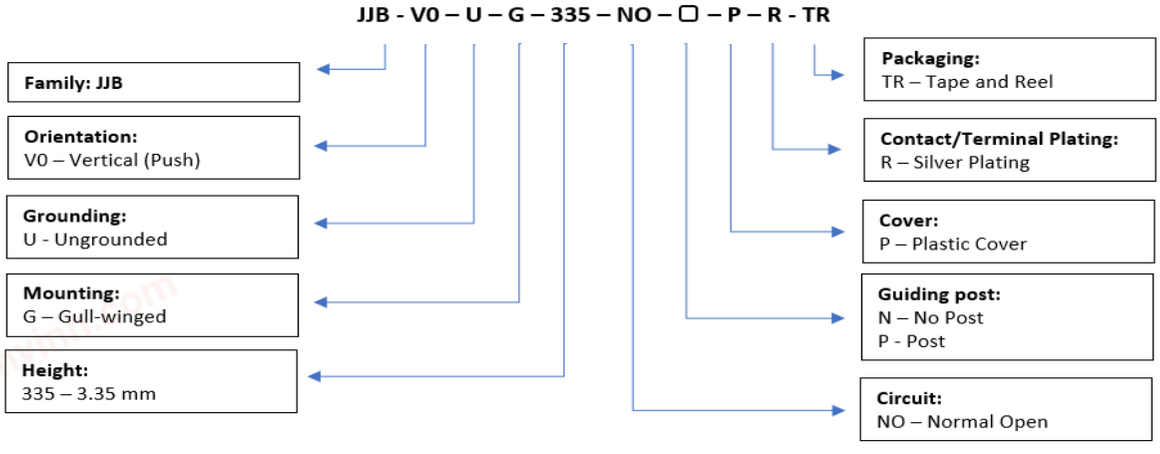
Contact Rating	0.1mA to 100mA, 20mV to 5VDC
Contact Resistance	500mΩ max.
Insulation Resistance	100MΩ min. 250VDC
Dielectric Strength	250VAC/1 minute
Operating Force	35gF max.
Travel	1.05mm
Operating Life	80,000 cycles
Operating Temperature	-15˚C to 70˚C
Storage Temperature	-40˚C to 85˚C

Features	Applications
• Easy orientation offered by guiding post. • Operation force: 35gf max.	• Notebooks • Smart Phones

Circuit



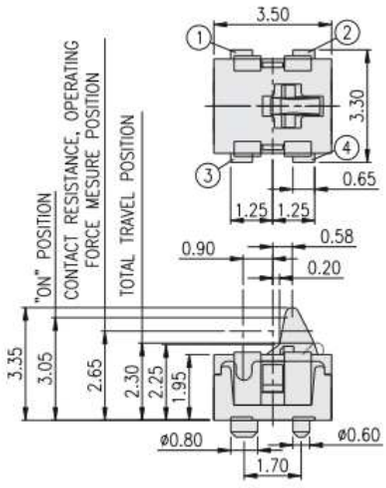
How To Order

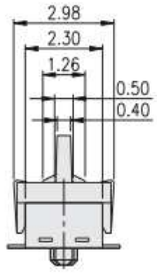


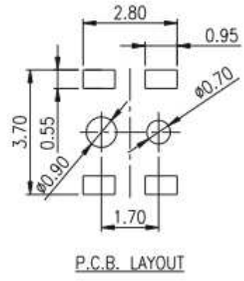
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Diagrams

-Posted







PN List

Smart PN	Orientation	Grounding	Mounting	Height	Circuit	Guiding Post	Cover	Plating	Packaging	MOQ	TE PN
JJBV0UG335NOPPRTR	Vertical Push	Ungrounded	Gull-winged	3.35mm	NO	Post	Plastic	Silver	Tape and Reel	2,000	2331378-1
JJBV0UG335NONPRTR	Vertical Push	Ungrounded	Gull-winged	3.35mm	NO	No Post	Plastic	Silver	Tape and Reel	2,000	2331379-1

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1. Style

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

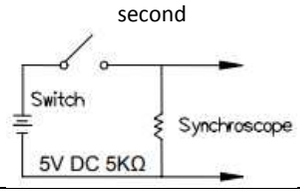
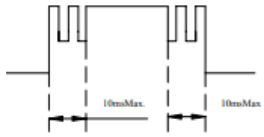
1.1 Operating Temperature Range: -15°C to 70°C

1.2 Storage Temperature Range: -40°C to 85°C

2. Current Range: 0.1mA to 100mA, 20mVDC to 5 VDC

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 (2.65±0.2mm) and measure contact resistance using a micro-Ohmmeter.	500mΩ Max.
	3	Insulation Resistance	Measurements shall be made at 250 VDC potential between terminals and cover.	100MΩ Min.
	4	Dielectric Withstanding Voltage	Apply 250 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	Bounce	3 to 4 operations at a rate of 1 cycles per second 	10 m seconds Max. 

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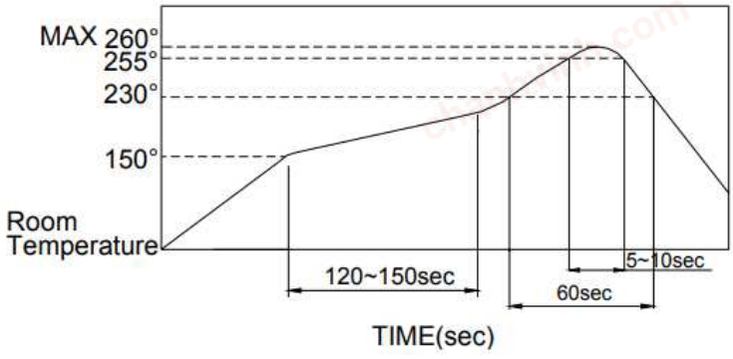
Mechanical Performance	7	Operating Force	Applying force to the center of the stem for 2.65±0.2mm (0.120±.008in.)	35gF Max. (.34N Max.)
	8	Contact (On) point	Measure contact resistance with a micro-Ohmmeter while gradually applying force to the top of the stem. Record distance when switch changes state.	0.15mm Min. (0.006in. Min.)
	9	Stop Strength	Apply vertical static load of 300gF (2.94N) for 15 seconds and 1kgF (9.8N) horizontal static load for 15 seconds.	As shown in items 2 through 7 above.
	10	Solder Heat Resistance	(See chart below)	1) Shall be free from pronounced backlash and falling-off or breakage terminals 2) As shown in items 4 and 5 above 3) Contact Resistance: 1Ω Max. 4) Insulation Resistance: 10MΩ Min.
	11	Vibration	Test per Method 201A of MIL-STD-202F 1) Swing distance=1.5mm 2) Frequency: 10-55-10Hz in 1-min/cycle. 3) Direction: 3 vertical directions including the directions of operation 4) Test time: 2 hours each direction	1) As shown in items 4 to 7. 2) Contact Resistance: 1Ω Max. 3) Insulation Resistance: 10MΩ Min.
	12	Shock	Test per Method 213B Condition A of MIL-STD-202F 1) Acceleration; 50G 2) Action time:11±1m seconds 3) Testing Direction: 6 sides 4) Test Cycle: 3 times in each direction	1) As shown in items 4 to 7. 2) Contact Resistance: 1Ω Max. 3) Insulation Resistance: 10MΩ Min.
Durability	13	Operating Life	Tested as follows: 1) 100mA,5 VDC 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: 80,000 cycles min.	1) As shown in items 4 to 5 2) Operating force: ±50% of initial force. 3) Contact Resistance: 1Ω Max. 4) Insulation Resistance: 10MΩ Min. 5) Bounce: 20 m seconds Max.

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Weather Proof	14	Resistance Low Temperature	Following the test set forth below the sample shall be left in normal temperature and humidity conditions for 1 hour before the measurements are made: 1) Temperature: -40°C±2°C 2) Time: 96 hours	1) As shown in items 4 to 7. 2) Contact Resistance: 1Ω Max. 3) Insulation Resistance: 10MΩ Min.
Water-Proof	15	Heat Resistance	Following the test set forth below the sample shall be left in normal temperature and humidity conditions for 1 hour before the measurements are made: 1) Temperature:85°C±2°C 2) Time: 96 hours	1) As shown in items 4 to 7. 2) Contact Resistance: 1Ω Max. 3) Insulation Resistance: 10MΩ Min
	16	Humidity Resistance	Following the test set forth below the sample shall be left in normal temperature and humidity conditions for 1 hour before the measurements are made: 1) Temperature:40°C±2°C 2) Relative Humidity: 90 to 95% 3) Time: 96 hours	1) As shown in items 4 to 7. 2) Contact Resistance: 1Ω Max. 3) Insulation Resistance: 10MΩ Min

5. Soldering Conditions:

■ Recommended Soldering Profile for the JJB 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: 350°C±5°C
Continuous Soldering Time: 3±0.5 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.

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■ 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