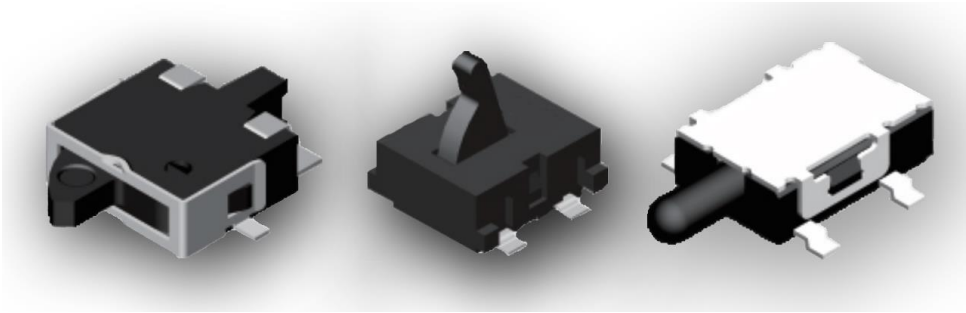
Applications

- 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

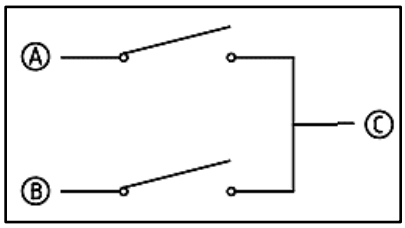
Series	Body Size
JJA	3.5x2.8 mm
JJB	3.5x2.98 mm
JJC	3.5x3.3 mm
JJD	4.2x3.6 mm
JJE	4.7x3.5 mm
JJF	4.7x3.8 mm
JJG	5.7x4.0 mm (High-Rating)
JJH	5.7x4.0 mm (Standard-Rating)
JJI	5.0x4.4 mm
JJJ	6.0x4.85 mm / 5.5x4.7 mm
JJK	6.3x3.0 mm
JJL	6.5x3.9 mm
JJM	5.7x4.0 mm
JJN	5.7x4.0 mm (Wedge)
JJO	10.0x3.8 mm
JJP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

JJP Family – *10.6x10.0 mm*

Contact Rating	100mA, 5VDC
Contact Resistance	500mΩ Max.
Insulation Resistance	100MΩ Min. 100VDC
Dielectric Strength	100VAC/1 minute
Operating Force	50gF Max.
Travel	1.8±0.15mm
Operating Life	50,000 cycles
Operating Temperature	-10˚C to 60˚C
Storage Temperature	-30˚C to 80˚C

Features	Applications
• Easy orientation provided by guiding posts • Snap-in mounting	• Automotive. • Telecommunications. • Measurement instrumentations.

Circuit

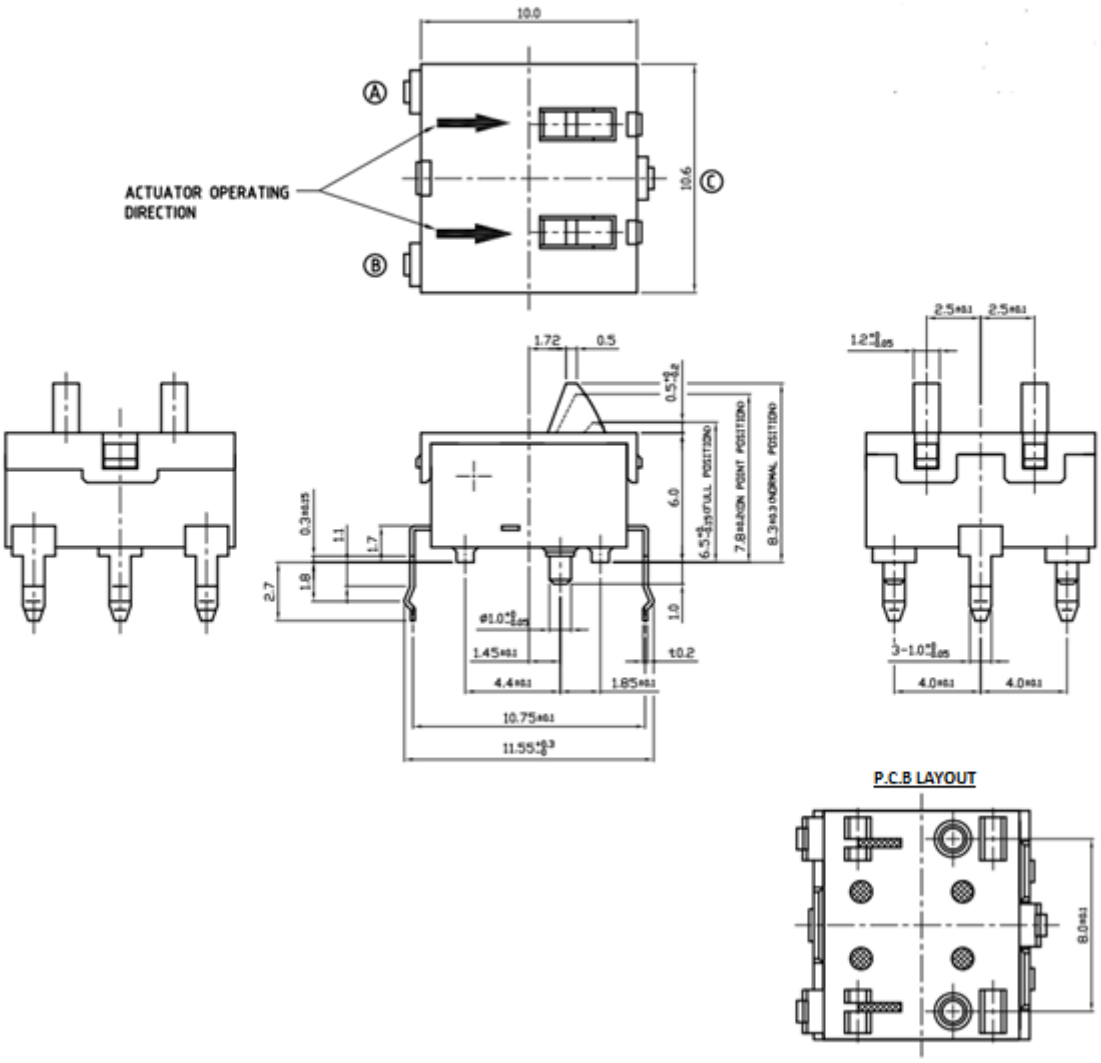


How To Order

JJP – H0 – U – S – 830 – NO – P – P – R - LO

- **Family:** JJP
- **Orientation:** H0 – Horizontal (Push)
- **Grounding:** U – Ungrounded
- **Mounting:** S – Snap-in
- **Height:** 830 – 8.30mm
- **Packaging:** LO – Tray
- **Contact/Terminal Plating:** R – Silver Plating
- **Cover:** P – Plastic Cover
- **Guiding post:** P – Post
- **Circuit:** NO – Normal Open

Diagrams



PN List

Smart PN	Orientation	Grounding	Mounting	Height	Circuit	Guiding Post	Cover	Plating	Packaging	MOQ	TE PN
JJPH0US830NOPPRLO	Horizontal (Push)	Ungrounded	Snap-In	8.30mm	NO	Post	Plastic	Silver	Tray	1,600	2331331-1

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℃ to 60℃

1.2 Storage Temperature Range: -30℃ to 80℃

1.3 The shelf life of product is within 6 months.

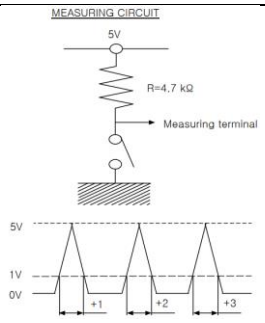
2. Current Range: 100mA, 5VDC

3. Type of Actuation: Auto Return

4. Test Sequence:

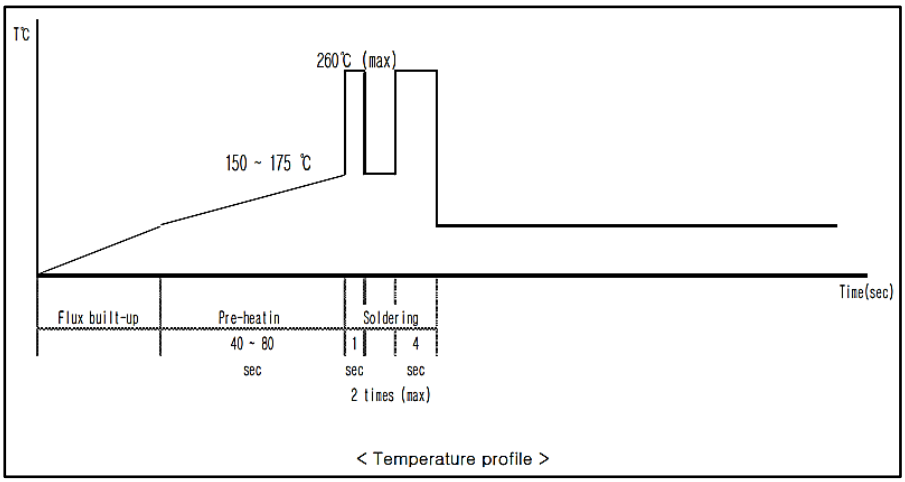
	Item	Description	Test Conditions	Requirements
Appearance	1	Visual Examination	Physical inspection without applying any external forces.	There shall be no defects that affect the serviceability of the product.
Electric Performance	2	Contact Resistance	Actuate the switch (6.8mm) and measure contact resistance using a micro-Ohmmeter.	1) Initial: 500mΩ Max. 2) After each test: 1Ω Max.
	3	Insulation Resistance	Measurements shall be made at 500 VDC potential between terminals and cover.	1) Initial: 100MΩ Max. 2) After moisture resistance test: 1MΩ Min.
	4	Dielectric Withstanding Voltage	Apply 300 VAC (50Hz or 60Hz) between terminals and cover for 1 minute.	There shall be no breakdown or flashover

Mechanical Performance	5	Operating Force	Applying force to the center of the stem for 6.8mm	50gF Max. (0.49N Max.)
	6	Terminal Strength	A static load of 4.9N (500gF) shall be applied to the tip of terminal in the desired direction for 15 sec.	1) Shall be free from terminal looseness and damage terminal may be bent. 2) Electrical characteristics of Items 2 to 4 shall be satisfied.
	7	Control Strength	1) A static load of 9.8N (1KgF) shall be applied in the operating direction of the control unit for 15 seconds. 2) A static load of 2.94N (0.3KgF) shall be applied in the vertical direction of operation for 15 seconds.	1) Shall be free from mechanical and electrical abnormalities. 2) Electrical characteristics of Items 2 to 4 shall be satisfied.
	8	Solderability	Test each sample switch under the following conditions: 1) Solder bath temperature 230±5℃ 2) Dipping time 3±0.5 sec	*90% or more of immersion area shall be covered with new solder.
	9	Vibration	1) Vibration frequency range: 10 to 50Hz 2) Total amplitude: 1.5mm 3) Sweep ratio: 1min This motion shall be applied for a period of 2 hours in each of 3 mutually perpendicular axes.	1) Electrical characteristics: As shown on item 2 to 4 2) Mechanical characteristics: As shown on item 5 to 7
Durability	10	Operating Life	Tested as follows: 1) Without load: 100,000 cycles operations at a rate of 31.5mm/sec (15 cycles per minute) for Max. stroke without load. 2) With load: 100,000 cycles operations at a rate of 15 to 20 cycles per minute for max stroke with load of rated voltage and current (5VDC 1mA).	
Weather-proof	11	Temperature cycling	The switch shall be subjected to 10 successive changes of temperature cycles. Then leave the switch at normal temperature and humidity for 2 hours after which measurement shall be made within 1 hour. 1) -30±3℃ for 30 min. 2) Normal temperature 10 to 15 Min. 3) 70±2℃ for 30 min. 4) Normal temperature 10 to 15 min.	

Weather-proof	12	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: -30±3℃ 2) Time: 168 hours Water drops shall be removed.	1) Electrical characteristics: As shown on item 2 to 4 2) Mechanical characteristics: As shown on item 5 to 7
	13	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±2℃ 2) Time: 168 hours Water drops shall be removed.	
	14	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:60±2℃ 2) Relative Humidity: 90 to 95% 3) Time: 168 hours Water drops shall be removed.	
	15	Salt mist	Switch shall be checked after the following test: 1) Temperature: 35±2℃ 2) Salt saturation: 5±1%(Solids by weight) 3) Duration: 22 hours 4) After the test, salt deposit shall be removed in running water not warmer than 37.8℃ 5) The testing repeat is 3 cycles.	No remarkable corrosion shall be recognised in metal part.
Mechanical Performance	16	Resistance to Soldering Heat	Test each sample switch under the following conditions. 1) Reflow soldering: -The switch shall be stored at a temperature of 150±2℃ for 3 min and stored at a temperature of 230±2℃ for 1 min. -The switch is maintained at ordinally temperature and measurement shall be made. 1) Manual soldering: -Bit temperature 350 ℃ -Application time 3sec Max.	1) Electrical characteristics: As shown on item 2 to 4 2) Mechanical characteristics: As shown on item 5 to 7
	17	Chattering (Bounce)	 Several times of operation to the total travel position shall be performed at a speed of 10mm/sec Chattering (Bouncing) shall be applied to the voltage change time more than 1V.	Chattering t1 and t3 shall be less then 8msec. Bouncing t2 shall be less than 8msec. In the case of two or more bounces, the total time of bounces shall be less then 8msec.

5. Soldering Conditions:

■ Recommended Soldering Profile for the JJP Series



< Temperature profile >

■ ■ 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℃.

■ Auto Soldering

Preheat: 150℃ to 175℃, 40 to 80 (sec)
Soldering area temperature: 260℃, 1 to 4 (sec), 2 times Max.

■ 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

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TE Connectivity:

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