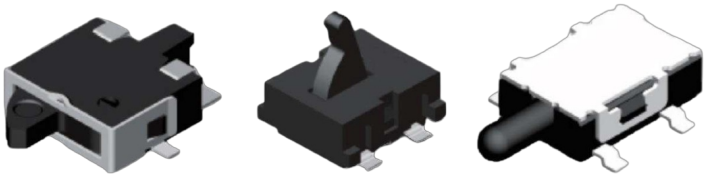
TE JJ Series Detector Switches Instruction Manual

August 19, 2025

Contents [hide]

TE JJ Series Detector Switches



Specifications

- **Contact Rating:** 1mA, 5VDC Max.
- **Contact Resistance:** Max.
- **Insulation Resistance:** Min. 100VDC
- **Dielectric Strength:** Max.
- **Operating Temperature:** -10°C to 60°C
- **Storage Temperature:** -20°C to 70°C

Product Information

TE Connectivity introduces the JJ Series of Detector Switches suitable for various applications such as automotive, instrumentation, white goods, and telecommunications. The switches are RoHS compliant, halogen and lead-free, providing a sharp detection feeling in a compact size. The JJ Series offers different body sizes ranging from 3.5×2.8 mm to 10.6×10.0 mm, catering to a wide range of mounting possibilities including Gull-winged, J-leaded, and Through-Hole options.

Applications

- Automotive
- Instrumentation
- White goods
- Telecommunications

Benefits

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

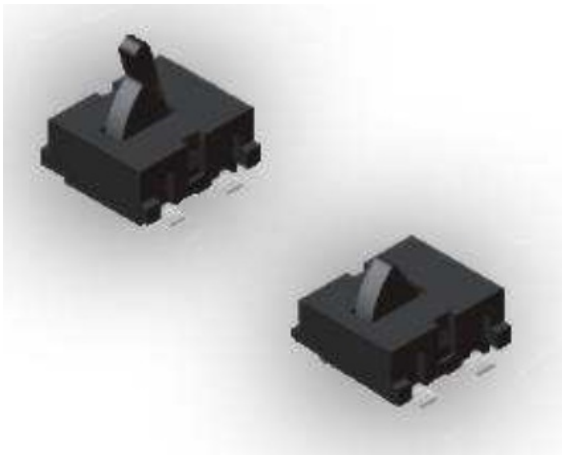
TE Connectivity is pleased to introduce its JJ Series of Detector Switches, suitable for a wide variety of applications given their several presentations ranging from horizontal or vertical actuated options as well as Gull-winged, J-leaded and Through-Hole mounting possibilities.

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	3.5×2.8 mm
JJB	3.5×2.98 mm
JJC	3.5×3.3 mm
JJD	4.2×3.6 mm
JJE	4.7×3.5 mm
JJF	4.7×3.8 mm
JJG	5.7×4.0 mm (High-Rating)
JJH	5.7×4.0 mm (Standard-Rating)
JJI	5.0×4.4 mm
JJJ	6.0×4.85 mm / 5.5×4.7 mm
JJK	6.3×3.0 mm
JJL	6.5×3.9 mm
JJM	5.7×4.0 mm
JJN	5.7×4.0 mm (Wedge)
JJO	10.0×3.8 mm
JJP	10.6×10.0 mm

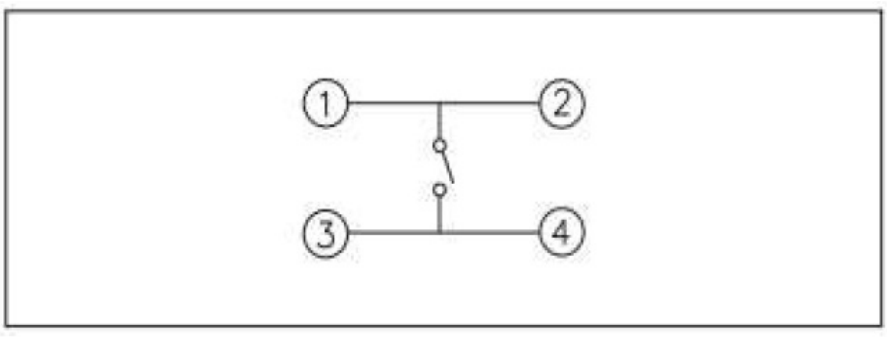
JJF Family – 4.7×3.8 mm



Contact Rating	1mA, 5VDC Max.
Contact Resistance	1Ω Max.
Insulation Resistance	100MΩ Min. 100VDC
Dielectric Strength	100VAC/1 minute
Operating Force	40gF Max.
Travel	5.30mm Stem–3.9mm 3.80mm Stem–2.6mm
Operating Life	100,000 cycles
Operating Temperature	-10˚C to 60˚C
Storage Temperature	-20˚C to 70˚C

Features	**Applications**
• Guiding post for easy orientation • 3.80 & 5.30mm stem height	• DSC • Detection of disc loading

Circuit



How To Order

JJF – V0 – U – G – ☐ – NO – ☐ – ☐ – R - TR

Family: JJF

Orientation:
V0 – Vertical (Push)

Grounding:
U - Ungrounded

Mounting:
G – Gull-winged

Height:
380 – 3.80mm
530 – 5.30mm

Packaging:
TR – Tape and Reel

Contact/Terminal Plating:
R – Silver Plating

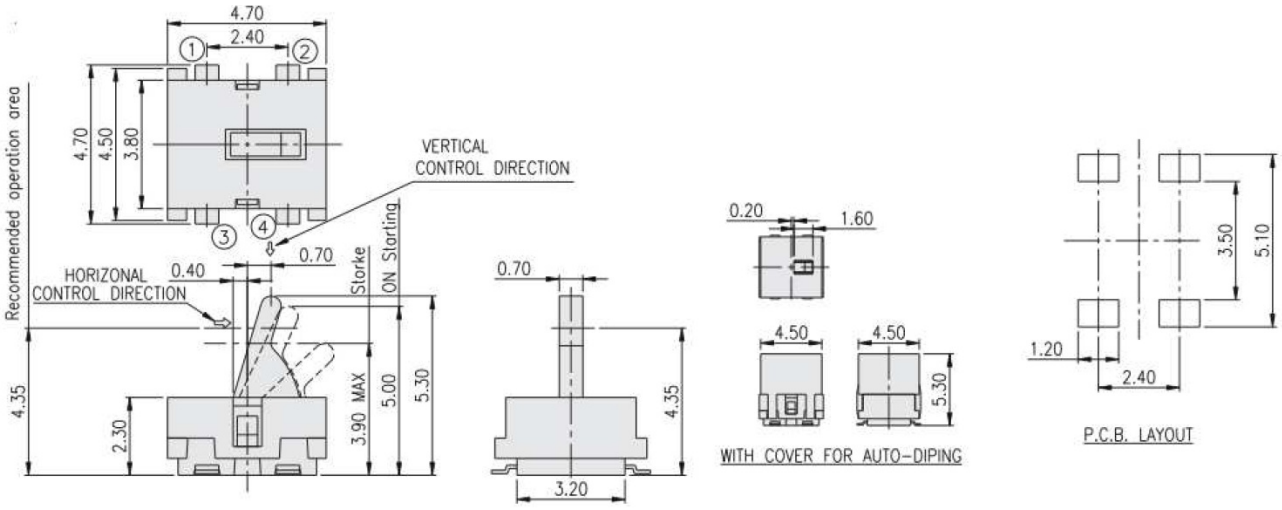
Cover:
P – Plastic Cover
M – Metal Cover

Guiding post:
N – No Post
P - Post

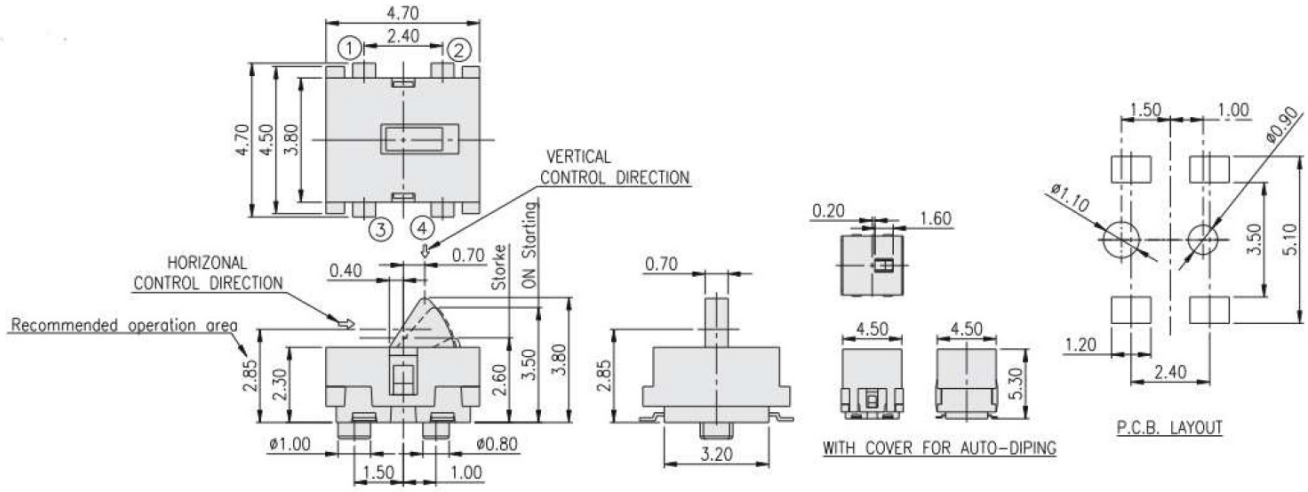
Circuit:
NO – Normal Open

Diagrams

-5.30mm



-3.80mm



PN List

Smart PN	Orientation	Grounding	Mounting	Height	Circuit	Guide Post	Cover	Plating	Packaging	MOQ	TE PN
JJFV0UG530NOPMRTR	Vertical Push	Ungrounded	Gull-winged	5.30 mm	NO	Post	Metal	Silver	Tape and Reel	900	2331364-1
JJFV0UG530NOPPRTR	Vertical Push	Ungrounded	Gull-winged	5.30 mm	NO	Post	Plastic	Silver	Tape and Reel	900	2331365-1
JJFV0UG530NONMRTR	Vertical Push	Ungrounded	Gull-winged	5.30 mm	NO	No Post	Metal	Silver	Tape and Reel	900	2331366-1

JJFV0UG530NONPRTR	Vertical Push	Ungrounded	Gull-winged	5.30 mm	NO	No Post	Plastic	Silver	Tape and Reel	900	2331367-1
JJFV0UG380NOPMRTR	Vertical Push	Ungrounded	Gull-winged	3.80 mm	NO	Post	Metal	Silver	Tape and Reel	900	2331368-1
JJFV0UG380NOPPRTR	Vertical Push	Ungrounded	Gull-winged	3.80 mm	NO	Post	Plastic	Silver	Tape and Reel	1,000	2331369-1
JJFV0UG380NONMRTR	Vertical Push	Ungrounded	Gull-winged	3.80 mm	NO	No Post	Metal	Silver	Tape and Reel	900	2331370-1
JJFV0UG380NONPRTR	Vertical Push	Ungrounded	Gull-winged	3.80 mm	NO	No Post	Plastic	Silver	Tape and Reel	1,000	2331372-1

Style

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

- Operating Temperature Range: -10℃ to 60℃
- Storage Temperature Range: -20℃ to 70℃
- The shelf life of product is within 6 months.
- Current Range: 1mA, 5 VDC
- Type of Actuation: Tactile feedback

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 4.35mm(5.30mm Stem); 2.85mm (3.80mm Stem) 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	100 VAC (50Hz or 60Hz) shall be applied across terminals and cover for 1 minute	There shall be no breakdown or flashover
	5	Capacitance	Capacitance shall be measured at 1 MHzbetween terminals.	5 pF Max.
	6	Operating Force	As the specification shows operating force is measured	40gF Max(.4N Max)

<table>
<tr><td rowspan="5">Mechanica</td><td>7</td><td>Contact (On) point</td><td colspan="4">————————————</td><td>As the specification s hows ON start positio n</td></tr>
<tr><td>8</td><td>Stop Str ength</td><td colspan="4">Apply vertical static load o f 1KgF(9.8N) shall be appl ied in the direction of stem operation for a period of 6 0 seconds</td><td>As shown in items 2 t hrough 7.</td></tr>
<tr><td>9</td><td>Solder H eat Resi stance</td><td colspan="4">(See chart below)ON start ing before reflow:
5.30mm St em | 3.80mm Ste m
5.00 +0.2 -0.3 | 3.50 +0.2 -0.3</td><td>1. Shall be free from p ronounced backlas h and falling-off or breakage terminals
2. As shown in items 2 through 8.</td></tr>
<tr><td>10</td><td>Vibration</td><td colspan="4">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 dire ctions including the dire ctions of operation
4. Test time: 2 hours each direction</td><td>As shown in items 2 t hrough 8.</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
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l Performance	11	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	As shown in items 2 through 8.
	12	Solderability	1. Temperature: 245±3°CLead-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.	No anti-soldering and the coverage of dipping into solder must more than 75% was requested.

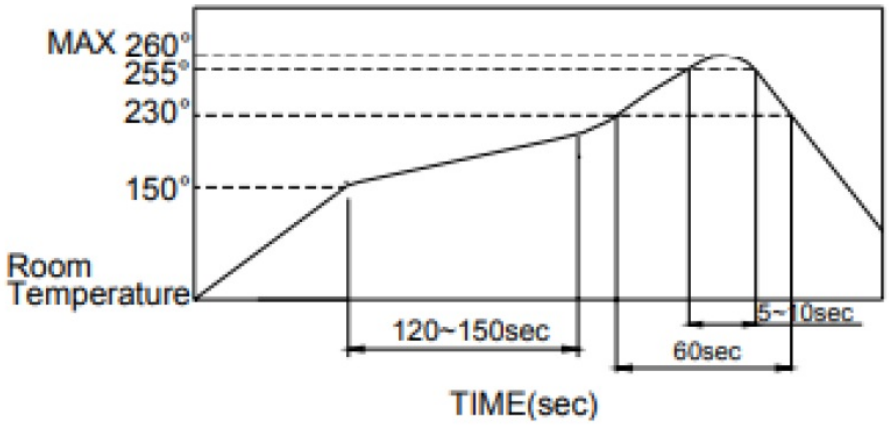
Durability	13	Operating Life	Measurements shall be made following the test forth below: 1. 1mA,5 VDC resistive load 2. Apply a static load in the direction of operation equal to the operating force to the center of the stem. 3. Rate of Operation: 20 to 25 operations per minute. 4. Cycle of Operation: 100,000 cycles Min.	1. As shown in items 4 to 5 2. Insulation Resistance: 10MΩ Min. 3. Contact Resistance: 2Ω Max.

	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±2°C 2. Time: 96 hours	As shown in items 2 to 8.

Weather-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±2℃ 2. Time: 96 hours	
	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±2℃ 2. Relative Humidity: 90 to 95 % 3. Time: 96 hours	1. As shown in items 4 to 8. 2. Insulation Resistance: 10MΩ Min.

Soldering Conditions

- Recommended Soldering Profile for the JJF 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 Max.
  - Continuous Soldering Time: 5 second 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

Dimensions in millimetres unless otherwise specified

Dimensions Shown for reference purposes only. Specifications subject to change

For Email, phone or live chat, go to: www.te.com/help

FAQ

What is the operating temperature range for the Detector Switches?

The operating temperature range is -10°C to 60°C.

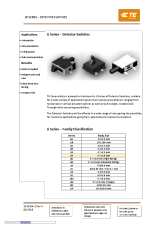
What is the shelf life of the product?

The shelf life of the product is within 6 months.

Are the Detector Switches RoHS compliant?

Yes, the Detector Switches are RoHS compliant.

Documents / Resources

	TE JJ Series Detector Switches [pdf] Instruction Manual JJFV0UG530NOPMRTR, JJFV0UG530NOPPRTR, JJFV0UG530NONMRTR, JJFV0UG530NONPRTR, JJFV0UG380NOPMRTR, JJFV0UG380NOPPRTR, JJFV0UG380NONMRTR, JJFV0UG380NONPRTR, JJ Series Detector Switches, JJ Series, Detector Switches, Switches

References

- User Manual

TE

Detector Switches, JJ Series, JJ Series Detector Switches, JJFV0UG380NONMRTR, JJFV0UG380NONPRTR, JJFV0UG380NOPMRTR, JJFV0UG380NOPPRTR, JJFV0UG530NONMRTR, JJFV0UG530NONPRTR, JJFV0UG530NOPMRTR, JJFV0UG530NOPPRTR, Switches, TE

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