

DATA SHEET

SUNGMUN CODE : STP-1126W

DESCRIPTION : TACT SWITCH

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ELECTRONICS

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| SPECIFICATION FOR APPROVAL | | | | Specification NO. J.SPC.50.18-026 |
| 품 목 | TACT SWITCH | 품 명 | STP-1126W | 1/9 |

1. General Specification

1.1 Scope This specification covers the requirements for single key switches which have no key top(TACT SWITCHES:MECHANICAL CONTACT).

1.2 Operating Temperature Range
-40 to+85°C(normal humidity, normal press.)

1.3 Storage Temperature Range
-40 to+85°C(normal humidity, normal press.)

1.4 Test Conditions

Tests and measurements shall be made in the following standard conditions unless otherwise specified:

Normal temperature (temperature 5 to 35°C)

Normal humidity (relative humidity 45 to85%)

Normal pressure (pressure 860 to 1060 mbars)

In case any question arises from the judgment made, tests shall be conducted in the following conditions:

Temperature (20±2°C)

Relative humidity (65±5%)

Pressure (860 to 1060 mbars)

2. Type Of Actuation

Tactile feedback

3. Contact Arrangement 1 poles 1 throws

(Details of contact arrangement are given in the assembly drawings.)

4. Maximum Ratings DC 12 V 50 mA

DC 1 V 10 μ A

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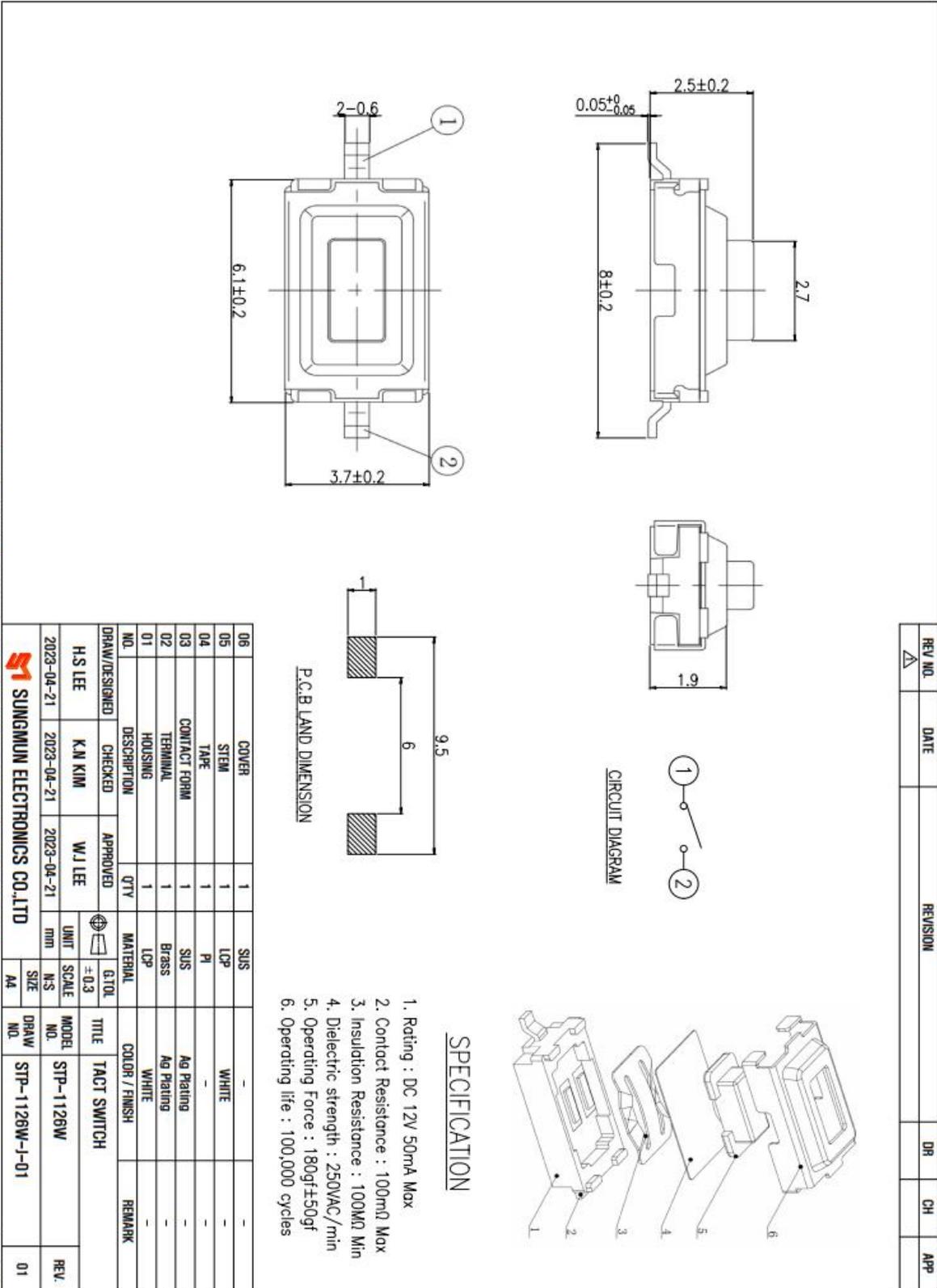
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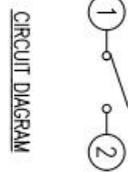
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5.5. DRAWING:

5.1 OUTLINE



| REV. NO. | DATE | REVISION | DR | CH | APP |
|----------|------|----------|----|----|-----|
| | | | | | |



SPECIFICATION

1. Rating : DC 12V 50mA Max
2. Contact Resistance : 100mΩ Max
3. Insulation Resistance : 100MΩ Min
4. Dielectric strength : 250VAC/min
5. Operating Force : 180gf±50gf
6. Operating life : 100,000 cycles

| NO. | DESCRIPTION | QTY | MATERIAL | COLOR / FINISH | REMARK |
|-----|--------------|-----|----------|----------------|--------|
| 06 | COVER | 1 | SUS | - | - |
| 05 | STEM | 1 | LCP | WHITE | - |
| 04 | TAPE | 1 | PI | - | - |
| 03 | CONTACT FORM | 1 | SUS | Ag Plating | - |
| 02 | TERMINAL | 1 | BRASS | Ag Plating | - |
| 01 | HOUSING | 1 | LCP | WHITE | - |

| DRAW/DESIGNED | CHECKED | APPROVED | UNIT | SCALE | MODEL NO. | TITLE |
|---------------|---------|----------|------|-------|-----------|-------------|
| H.S LEE | K.M KIM | W.J LEE | mm | ±0.3 | STP-1126W | TACT SWITCH |

| DATE | DATE | DATE | UNIT | SCALE | MODEL NO. | TITLE |
|------------|------------|------------|------|-------|-----------|-------------|
| 2023-04-21 | 2023-04-21 | 2023-04-21 | mm | N.S | STP-1126W | TACT SWITCH |

| AA | SIZE | DRAW NO. | REV. |
|----|------|----------------|------|
| AA | SIZE | STP-1126W-1-01 | 01 |

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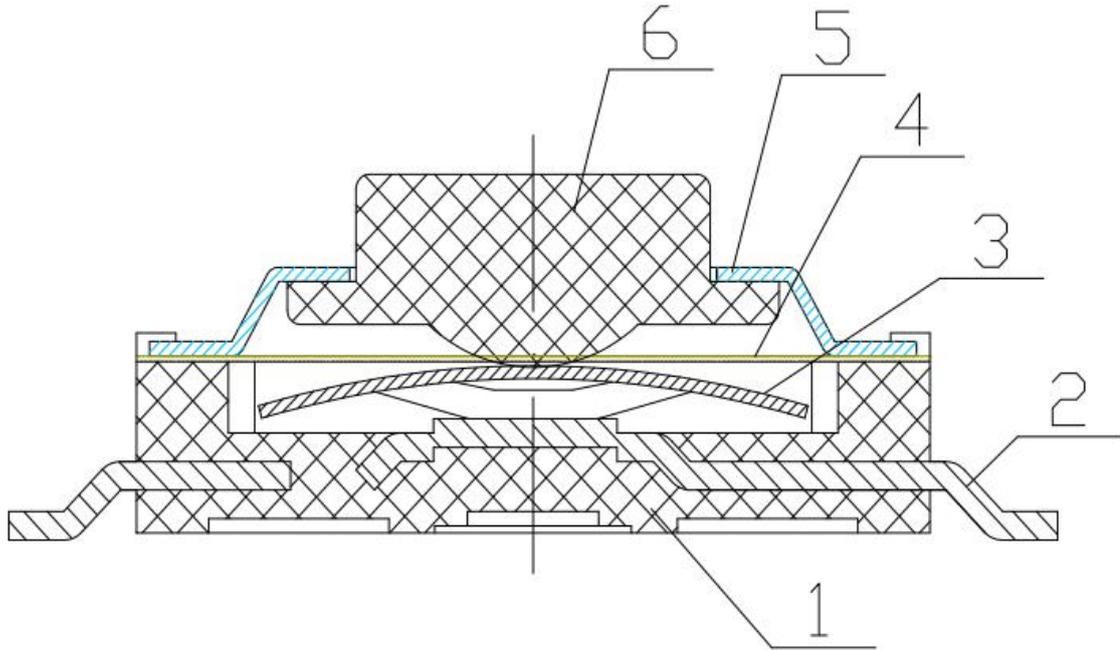
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5.2

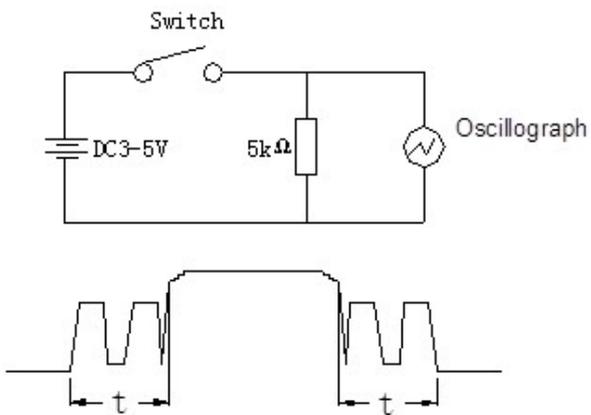


| NO | PART NAME | QT'Y | MATERIAL | PLATING | REMARKS |
|----|-----------|------|----------|------------|---------|
| 1 | BASE | 1 | LCP | | WHITE |
| 2 | TERMINAL | 1 | BRASS | Ag plating | |
| 3 | CONTACT | 1 | SUS | Ag plating | |
| 4 | TAPE | 1 | PI | | |
| 5 | COVER | 1 | SUS | | |
| 6 | STEM | 1 | LCP | | WHITE |
| 7 | | | | | |
| 8 | | | | | |

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6. General Specification

6.1 Electrical performance

| Item | | Test Condition | Requirements |
|-------|---------------------------------|---|------------------------------|
| 6.1.1 | Contact Resistance | Applying static load twice the actuating force to the center of the stem, measurements shall be made with a 1 kHz small-current contact resistance meter. | 100m Ω BELOW |
| 6.1.2 | Insulation Resistance | Measurements shall be made following application of DC100V potential between terminals and between individual terminals and frame for one minute. | 100M Ω MORE THAN |
| 6.1.3 | Dielectric withstanding voltage | AC 250 V (50Hz or60Hz) shall be applied between terminals and between individual terminals and frame for one minute. | There shall be no breakdown. |
| 6.1.4 | Bounce | <p>Lightly striking the center of the stem at a rate encountered in normal use (3 to 4 operations per sec), Bounce shall be tested when “ON” and “OFF”.</p>  | 5mS BELOW |

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| 6.2 Mechanical performance | | | | |
| Item | | Test Condition | Requirements | |
| 6.2.1 | Actuating Force | Place the switch such that the direction of switch operation is vertical and then gradually increase the load applied to the center of the stem, the maximum load required for the stem to come to a stop shall be measured. | <u>180</u> ± <u>50</u> gf | |
| 6.2.2 | Travel | Place the switch such that the direction of switch operation is vertical and then apply a static load twice the actuating force to the center of the stem, the travel distance for the stem to come to a stop shall be measured. | <u>0.25</u> ± <u>0.10</u> mm | |
| 6.2.3 | Return Force | The sample switch is installed such that the direction of switch operation is vertical and, upon depression of the stem in its center the whole travel distance, the force of the stem to return to its free position shall be measured. | <u>30</u> gf min | |
| 6.2.4 | Static Strength | Placing the switch such that the direction of switch operation is vertical, a static load of <u>3K</u> gf shall be applied in the direction of stem operation for a period of <u>60</u> seconds. | There shall be no sign of damage mechanically and electrically. | |

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| 6.3 Durability | | | | |
| Item | | Test Condition | Requirements | |
| 6.3.1 | Operating Life | Measurements shall be made following the test set forth below: (1)DC 5V 5mA resistive load. DC 5V 5mA (2)Rate of operation:2 to 3 operations per second (3)Depression: <u>270</u> gf (4)Cycles of operation: 10×10^4 cycles | Contact resistance: <u>200</u> mΩ Max. Insulation resistance : <u>50</u> MΩ Min. Actuating force: + <u>30 %</u> or - <u>30%</u> of initial force. Item 6.1.3 Item 6. 2.2 | |
| 6.3.2 | Moisture Resistance | Following the test set forth below the sample shall be left in normal temperature and humidity conditions for one hour before measurements are made: (1) Temperature: $60 \pm 2^\circ\text{C}$ (2) Relative humidity: 90 to 95% (3) Time: 96 hours Water drops shall be removed. | Contact resistance: <u>200</u> mΩ Max. Insulation resistance : <u>50</u> MΩ Min. Item 6.1.3、6.1.4 Item 6. 2.1~6.2.3 | |
| 6.3.3 | Low Temperature Resistance | Following the test set forth below the sample shall be left in normal temperature and humidity conditions for one hour before measurements are made: (1) Temperature: $-40 \pm 2^\circ\text{C}$ (2) Time: 96 hours Water drops shall be removed. | Contact resistance: <u>200</u> mΩ Max. Insulation resistance : <u>50</u> MΩ Min. Item 6.1.3、6.1.4 Item 6. 2.1~6.2.3 | |
| 6.3.4 | Heat Resistance | Following the test set forth below the sample shall be left in normal temperature and humidity conditions for one hour before measurements are made: (1) Temperature: $85 \pm 2^\circ\text{C}$ (2) Time: 96 hours | Contact resistance: <u>200</u> mΩ Max. Insulation resistance : <u>50</u> MΩ Min. Item 6.1.3、6.1.4 Item 6. 2.1~6.2.3 | |

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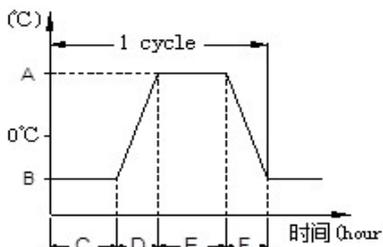
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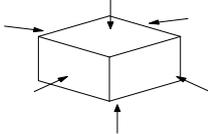
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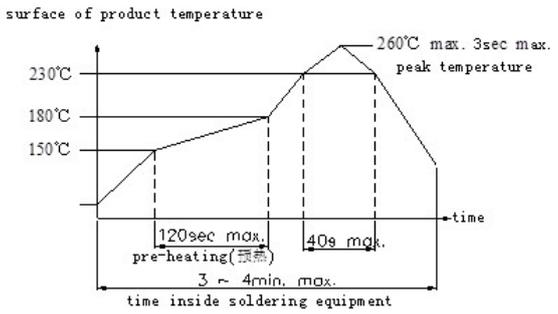
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| Item | Test Condition | Requirements |
|-------|--|--|
| 6.3.5 | <p>Change of Temperature</p> <p>Following ten cycles of high temperature test .The Sample shall be Placed in Normal temperature and humidity Conditions for one hour before measurements are made. During this test, water drops shall be removed.</p>  <p style="text-align: center;"> A: $+85 \pm 2^{\circ}\text{C}$ B: $-40 \pm 2^{\circ}\text{C}$ C: 2 hour D: 1 hour E: 2 hour F: 1 hour Cycling: Five cycles </p> | <p>Contact resistance: <u>200</u> mΩ Max.</p> <p>Insulation resistance : <u>50</u> MΩ Min.</p> <p>Item 6.1.3、6.1.4 Item 6. 2.1~6.2.3</p> |
| 6.3.6 | <p>Vibration Resistance</p> <p>Measurements shall be made following the test set forth below:</p> <ol style="list-style-type: none"> (1)Range of oscillation: 10 to 55Hz (2)Amplitude,pk-to-pk:1.5 mm (3)Cycle of sweep: 10-55-10Hz in one minute, approx. (4)Mode of sweep: Logarithmically sweep or uniform sweep. (5)Direction of oscillation: Three mutually perpendicular directions, including the direction of stem travel. (6)2 hours each ,for a total of 6hours. | <p>Item 6.1 Item 6. 2.1、6.2.2</p> |

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| Item | Test Condition | Requirements |
|-------|---|--------------------------------|
| 6.3.7 | Measurements shall be made following the test set forth below: (1) Acceleration: 80g (2) Cycles of test : 3 cycles each in 6 directions, for a total of 18 cycles <div style="text-align: center;">  </div> | Item 6.1 Item 6. 2.1、 6.2.2 |

7. Welding condition:

| Item | Recommended conditions |
|------|--|
| 7.1 | Hand soldering Please practice according to bellow conditions: (1) Soldering temperature : $\leq 350^{\circ}\text{C}$ (2) Continuous soldering time: ≤ 3 S (3) Capacity of soldering iron: ≤ 60 W |
| 7.2 | Wave soldering Type solder according to the following conditions <div style="text-align: center;">  </div> <p>Caution: the condition mentioned above is a temperature on the PWB surface on which parts are mounted. There are cases where PWB temperature greatly differs from switch's surface temperature depending on PWB material, size, thickness, etc. The switch's surface temperature shall not allowed to exceed 260°C</p> |

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8. Other Precautions

- (1) Following the soldering process, do not try to clean the switch with a solvent or the like.
- (2) Safeguard the switch assembly against flux penetration from its topside.