

DATA SHEET

SUNGMUN CODE : STP-1212F
DESCRIPTION : TACT SWITCH

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SPECIFICATION FOR APPROVAL			Specification NO. J.SPC.50.52-090
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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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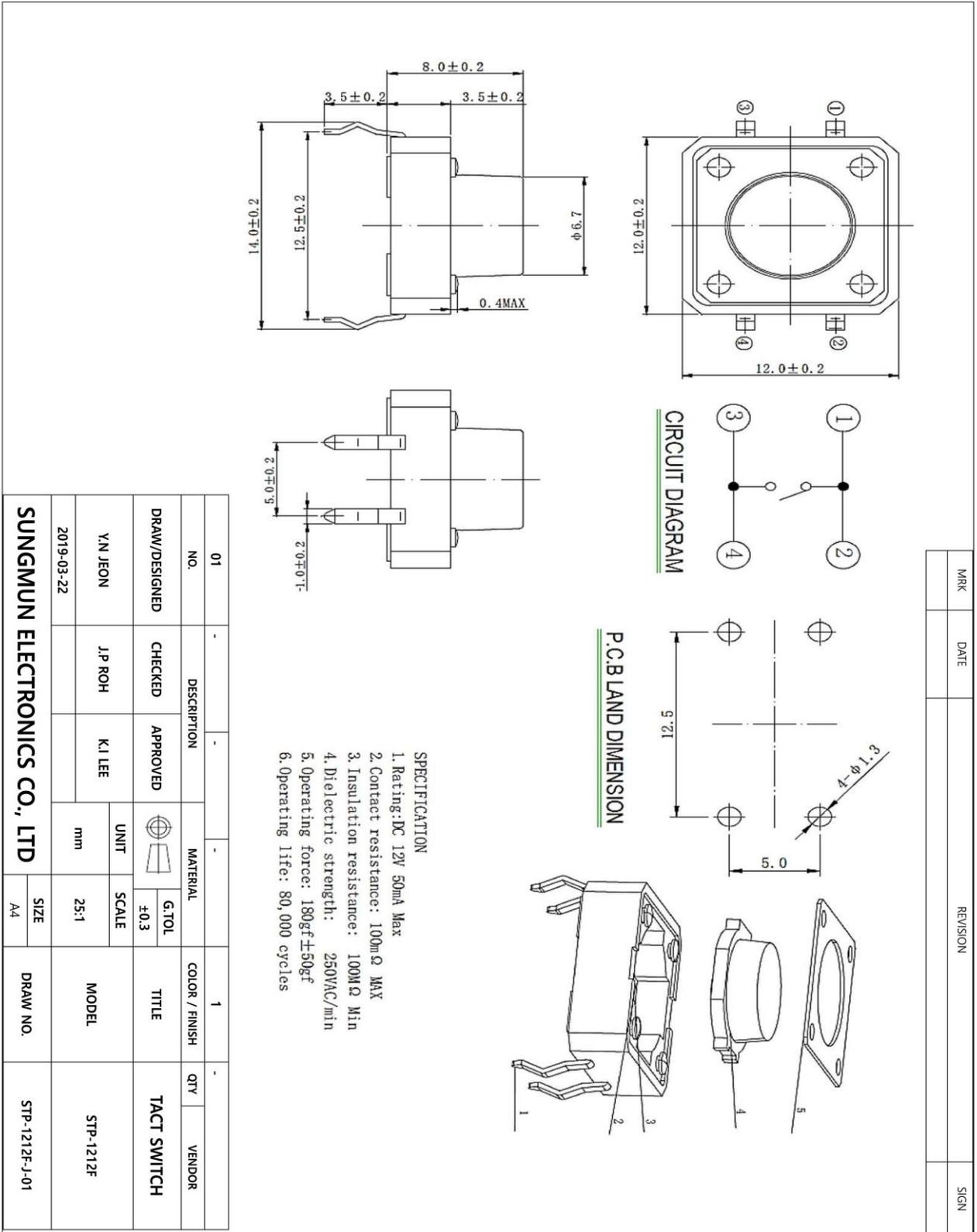
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5.5. DRAWING:

5.1 OUTLINE



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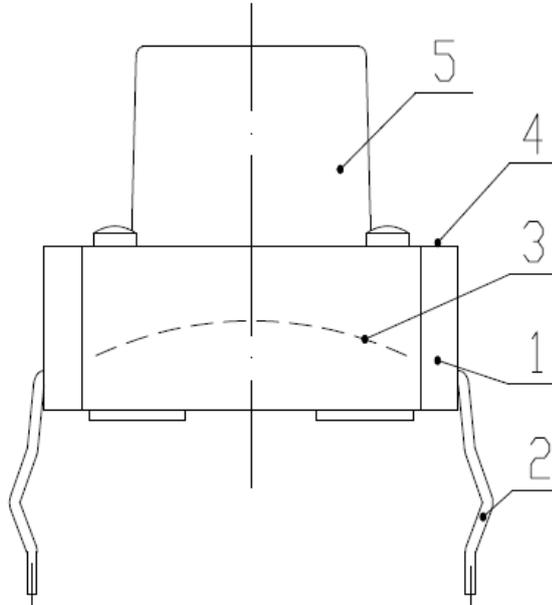
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5.2



NO	PART NAME	QT'Y	MATERIAL	PLATING	REMARKS
1	BASE	1	PA66		
2	TERMINAL	1	BRASS	Ag plating	
3	CONTACT	1	PHOSPHOR BRONZE	Ag plating	
4	COVER	1	COLD PRESSED STEEL PLATE		
5	STEM	1	PA66		
6					
7					
8					

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6. General Specification

6.1 Electrical performance

Item	Test Condition	Requirements
6.1.1	<p>Contact Resistance</p> <p>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.</p>	100m Ω BELOW
6.1.2	<p>Insulation Resistance</p> <p>Measurements shall be made following application of DC100V potential between terminals and between individual terminals and frame for one minute.</p>	100M Ω MORE THAN
6.1.3	<p>Dielectric withstanding voltage</p> <p>AC 250 V (50Hz or60Hz) shall be applied between terminals and between individual terminals and frame for one minute.</p>	There shall be no breakdown.
6.1.4	<p>Bounce</p> <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> <div style="text-align: center;"> </div> <div style="text-align: center;"> </div>	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>3</u> kgf 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	<p>Measurements shall be made following the test set forth below:</p> <p>(1)DC 5V 5mA resistive load. DC 5V 5mA</p> <p>(2)Rate of operation:2 to 3 operations per second</p> <p>(3)Depression: <u>270</u> gf</p> <p>(4)Cycles of operation: 8×10^4 cycles</p>	<p>Contact resistance: <u>200</u> m Ω Max.</p> <p>Insulation resistance : <u>50</u> M Ω Min.</p> <p>Actuating force: + <u>30</u> %or- <u>30</u>%of initial force.</p> <p>Item 6.1.3 Item 6. 2.2</p>	
6.3.2	Moisture Resistance	<p>Following the test set forth below the sample shall be left in normal temperature and humidity conditions for one hour before measurements are made:</p> <p>(1) Temperature: $60 \pm 2^\circ\text{C}$</p> <p>(2) Relative humidity: 90 to 95%</p> <p>(3) Time: 96 hours</p> <p>Water drops shall be removed.</p>	<p>Contact resistance: <u>200</u> m Ω Max.</p> <p>Insulation resistance : <u>50</u> M Ω Min.</p> <p>Item 6.1.3、6.1.4 Item 6. 2.1~6.2.3</p>	
6.3.3	Low Temperature Resistance	<p>Following the test set forth below the sample shall be left in normal temperature and humidity conditions for one hour before measurements are made:</p> <p>(1) Temperature: $-40 \pm 2^\circ\text{C}$</p> <p>(2) Time: 96 hours</p> <p>Water drops shall be removed.</p>	<p>Contact resistance: <u>200</u> m Ω Max.</p> <p>Insulation resistance : <u>50</u> M Ω Min.</p> <p>Item 6.1.3、6.1.4 Item 6. 2.1~6.2.3</p>	
6.3.4	Heat Resistance	<p>Following the test set forth below the sample shall be left in normal temperature and humidity conditions for one hour before measurements are made:</p> <p>(1) Temperature: $85 \pm 2^\circ\text{C}$</p> <p>(2) Time: 96 hours</p>	<p>Contact resistance: <u>200</u> m Ω Max.</p> <p>Insulation resistance : <u>50</u> M Ω Min.</p> <p>Item 6.1.3、6.1.4 Item 6. 2.1~6.2.3</p>	

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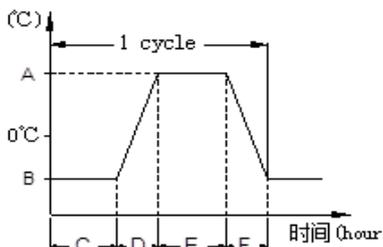
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Item	Test Condition	Requirements
6.3.5	<p>Change of Temperature</p>	<p>Following ten cycles of high temperature test .The Sample shall be Placed in Normal temperature and humidity Conditions for one hour before measurements are made. During this test, 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>
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.

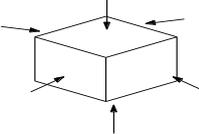
Contact resistance: 200
mΩ Max.

Insulation resistance :
50 MΩ Min.

Item 6.1.3、6.1.4
Item 6. 2.1~6.2.3

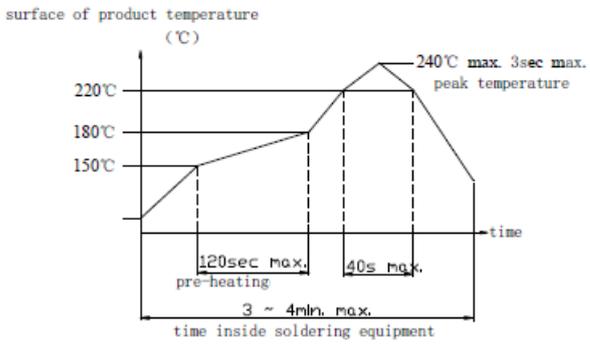
Item 6.1
Item 6. 2.1、6.2.2

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Item	Test Condition	Requirements
6.3.7	Impact Shock Resistance 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: $\leq 3\text{ S}$ (3) Capacity of soldering iron: $\leq 60\text{ W}$

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 240°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.

- (3) Please have the products keep in close status and the storage time is 90 days guaranty after delivering the goods at most.

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9. General

9.1 Scope

This specification covers the requirements for 12.0×12.0 series type of tact switches.

9.2 Packaging Material

ITEM	SUBSTANCE
CARTON BOX	CORRUGATED PAPER
PACKING CTN	CORRUGATED PAPER
PLASTIC BAG	NORMAL PLASTIC

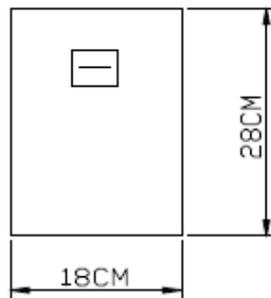
9.3 Packing Unit

9.3.1 The capacity of packing ctn.

Every carton box contains 20 packing box at most.

9.3.2 Every packing carton contains 500 pcs goods at most.

9.4 Every plastic bag contains 500 pcs



Pulling-out direction

9.5 The shape and dimension of packing carton

