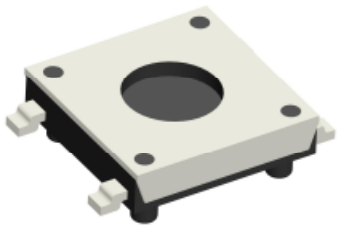
SONG HUEI ELECTRIC CO.,LTD

Tact Switch Series (6.2x6.2mm)

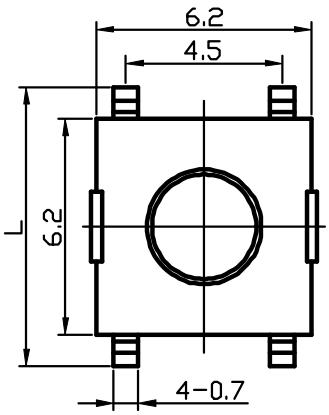
TS6617□

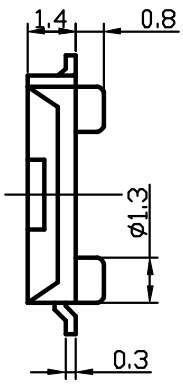


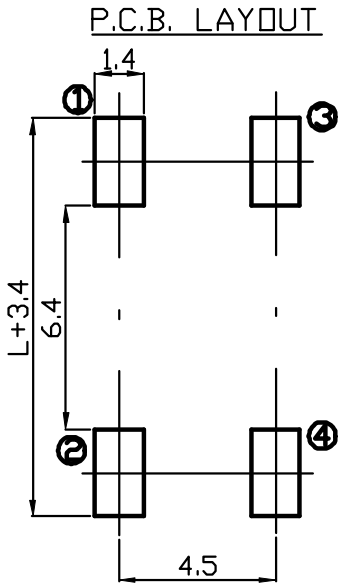
Part Number

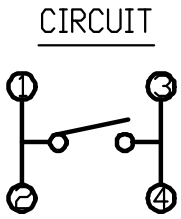
Model No.	High (L)
TS6617A	10.0

Dimensions









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Tact Switch Series (6.2x6.2mm)

TACTING SWITCH SPECIFICATION	PART NO.	TS6617

1、 Induction：

This specification intends to provides a guideline for the engineering qualification and summarize the results of standard “Tact Switch”. All dimension here in millimeter unless indicated otherwise. All the tests and measurements shall be made in the following standard conditions unless otherwise specified.

Normal temperature	Temperature 5 to 35℃
Normal humidity	Relative humidity 45 to 85%
Normal pressure	Pressure 860 to 1060 m bars

2、 Electrical performance

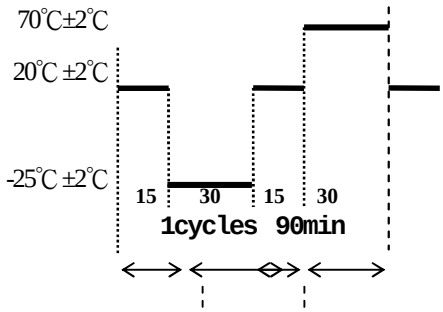
Item	Test Condition	Specification
2.1 Contact Resistance	To be measure with AC 1K Hz ±200 Hz.(Max 20mV, Max 50mA) or 10mA,5V DC. Applying a static load twice the operation force to the center of the stem.	Max 50 mΩ
2.2 Insulation Resistance	To be measured with an insulation measuring device of 500V DC between all the terminals and between the terminals and the frame for 1 minute ±5 seconds.	Min 100 MΩ
2.3 Dielectric Breakdown Voltage	AC 250V（50 - 60Hz, 2mA current） being applied between all the adjacent terminals and between the terminal and frame for 1 minute.	No breakdown insulation.
2.4 Switch capacitance	To measured with frequency 1 MHz ± 10 KHz applied between adjacent terminal and circuit.	Max 5PF
2.5 Bounce	Lightly striking the center of the stem at a rate encountered in normal use (3 to 4 operations per sec) bounce shall be tested at “on” and “off”.	10m sec Max

3、 Mechanical Characteristic

Item	Test Conditions	Specification
3.1 Operating Force	Placing the switch such that the direction of switch operation is vertical and then gradually increasing the load applied to the center of stem, the maximum load required for the stem to come to a stop shall be measured.	• 100 gf ± 30 gf • 160gf ± 30 gf • 250gf ± 50gf
3.2 Stop strength	Measurement is made with a static load applied to the foot of the control unit in the operating vertical direction. A static force of 3K gf being applied in one direction on the tip of the terminal for 1 minute. One times each terminal.	No bending or deflection experienced. The terminal may be bent, but shall not break or damage the insulation material.
3.3 Traveling stroke	Placing the switch such that the direction of switch operation is vertical and then applying a static load twice the operating force to the center of stem, the travel distance for the stem to come to a stop shall be measured.	0.25±0.1mm
3.4 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 to the stem to return to its free position shall be measured.	50 gf Min

3.5 Vibration test	The range of vibration : 10 ~ 55 Hz Total width of vibration : 1.5mm The proportion of vibration : 10 ~ 55~ 10(Hz) approx. 1minute. The variation of the number of vibration: Logarithmic or approximately straight line. The directions:3 vertical directions including operation direction. Duration : 2 hours each {total 6 hours}	Contact resistance (2.1)Max 50mΩ Insulation resistance (2.2)Min 100mΩ Dielectric breakdown voltage (2.3) AC250V 1 minute no breakdown insulation operating force (3.1): meet original spec. traveling stroke 0.25±0.1mm. As per individual specifications no physical. Appearance or mechanical functions.
3.6 Impact shock	Measurements shall be made following the test set forth below: (1) Acceleration:50G. (2) Action time:11±1m. (3) Cycles of test: 3 cycles each in 6 directions, for a total of 18 cycles.	

4、 Reliability

Item	Test Conditions	Specification
4.1 Cold resistance	Switch for testing being kept in the conditions at –30±2℃in temperature for 96 hours, and in a normal ambient condition for one hour, then to be measured within one hour. (Drops of water being taken away)	Contact resistance (2.1)Max 50 mΩ Insulation resistance(2.2)Min 100 MΩ Dielectric breakdown voltage: AC 250V 1 minute no breakdown insulation Operating force(3.1):Meet original spec. There shall be no defects in appearance or in the mechanical functions.
4.2 Dry heat resistance	Switch for testing being kept in the conditions at 70±2℃in temperature for 96 hours, and in a normal ambient condition for one hour, then to be measured within one hour.	
4.3 Resistance to humidity	Switch for testing being kept in the conditions at 40±2℃in temperature and 90~95%RH for 96 hours, and in a normal ambient condition for one hour, then measured within one hour.	Contact resistance(2.1)Max 200 mΩ Insulation resistance(2.2) Min 10 MΩ Dielectric breakdown voltage: AC250 V 1 minute no breakdown insulation Operating force(3.1):Meet original spec. There shall be no defects in appearance or in the mechanical functions
4.4 Salt-spray test	The sample is allowed to stand in the test chamber controlled to 35 ±2℃ in temperature and 5±1% (weight ratio)salt-water concentration for 24 ±1 hours and is subjected to test. Then, salt deposits attached to the sample are washed away with water.	Shall be free from functionally harmful rust.
4.5 Temperature cycle test	After 5 cycles testing under the following conditions, the sample is allowed to stand under normal temperature and humidity conditions for 1 hour, and measurement is made within 1 hour after that. Water drops should be eliminated. 	Contact resistance (2.1)Max 50 mΩ Insulation resistance(2.2) Min 100 MΩ Dielectric breakdown voltage: AC 250V 1 minute no breakdown insulation Operating force(3.1):meet original spec there shall be no defects in appearance or in the mechanical functions.

5. Durability

Item	Test conditions	Specification
5.1 Operation life	Measurements shall be made following the test set forth below: (1).DC 12V 50mA resistive load (2) Rate of operation: 2 to 3 operations per Second (3) Depression: Twice the operation force (4) Cycle of operation: • 100,000 cycles • 500,000 cycles • 1,000,000 cycles	Contact resistance:500m ohm Max Insulation resistance:10 M ohm Min Bounce 10 m sec Max operation force :initial force ±30% Item 3.3,4.3:original spec.