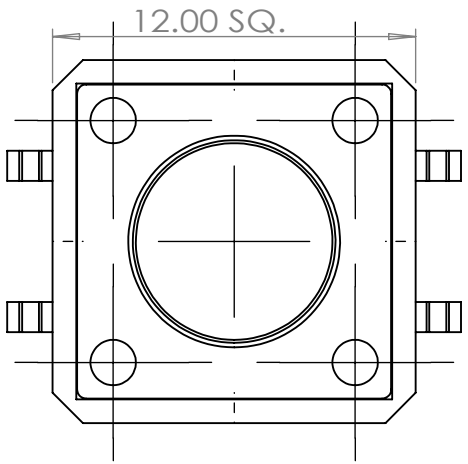
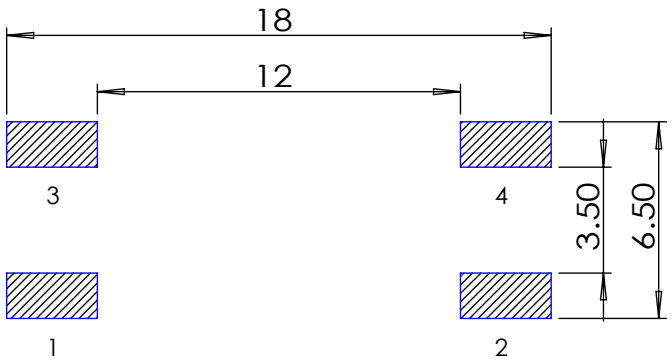
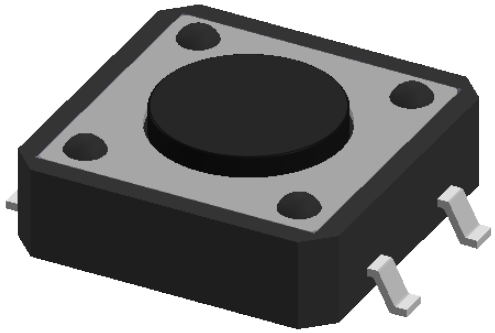
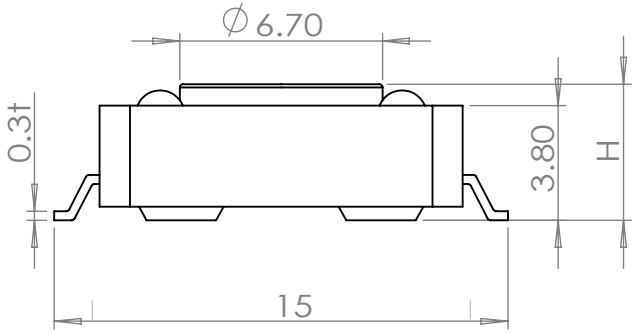
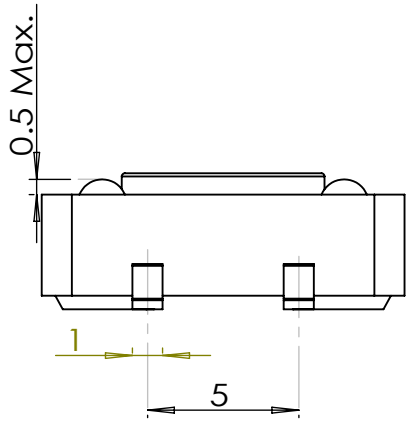


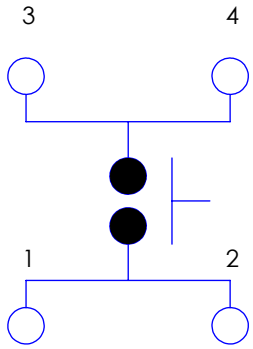






P.C.B. LAYOUT





CIRCUIT DIAGRAM

NOTES:

1. ALL DIMENSIONS IN MM
2. GENERAL TOLERANCE : ±0.3
3. TERM. NOS. FOR REFERENCE ONLY.
4. RATING : 12VDC, 50mA
5. OPERATING FORCE : 160±50 gf
6. TRAVEL : 0.30mm±0.15mm
7. CONTACT RESISTANCE : 100 MILLI OHMS MAX. (INITIAL)
8. MECHANICAL/ELECTRICAL LIFE 50,000 CYCLES MIN.

Type	H(mm)
1103S	4.3
1103SB	7.5
1103SFH	8.5
1103SF	9.5
1103SD	12.0
1103SA	12.0
1103ST	7.3

TITLE JST 1103S Series

DWG. NO.

JAESANG electronics co., ltd

Tact Switch Specialized Manufacturing Company
www.jsswitch.co.kr

DATE 10/1/2018

MODEL JST1103S_Series

A4

SCALE: 4:1

SHEET 1 of 1

(JSQP-704-08 (Rev.0)

TITLE	PRODUCT SPECIFICATIONS	
MODEL No.	TACT SWITCHES (1103S)	PAGE 1/4

1. General

1.1 Switch rating DC 12V, 50mA

1.2 Operating temperature range -20℃ ~ 70℃

1.3 Preservative temperature range -40℃ ~ 80℃

1.4 Apperance and dimensions See outside drawing page

1.5 Standard conditions Unless otherwise specified, the test and measurements shall be carried out as follows:

Ambient temperature : 5~35℃

Relative humidity : 45~85%

Air pressure : 86~106kPa (860~1060mbar)

However, if doubt arises on the decision based on the measured values under the above-mentioned conditions, the following conditions shall be employed.

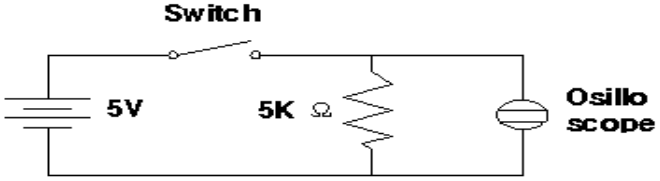
Ambient temperature : 20±2℃

Relative humidity : 60±5%RH

Air pressure : 86~106kPa (860~1060mbar)

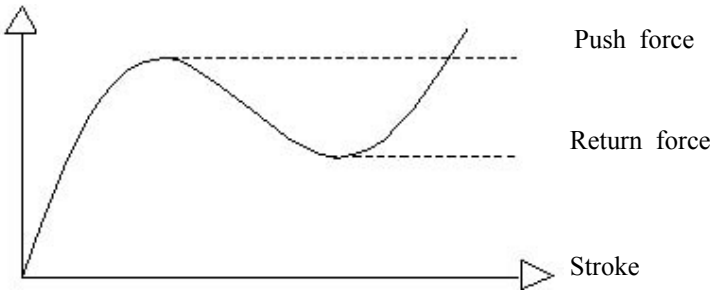
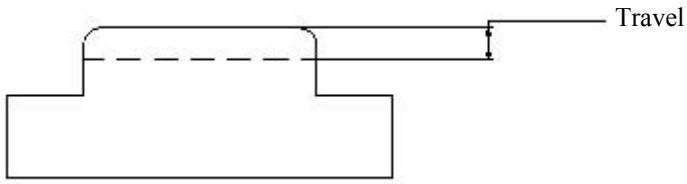
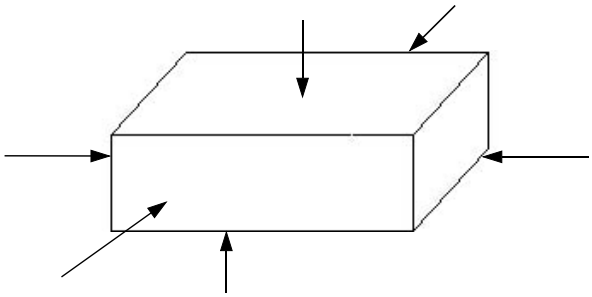
2. Performance

2.1 Electrical characteristics

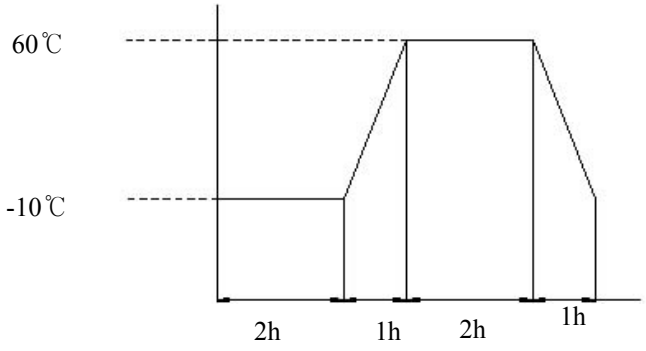
	Items	Test conditions	Criteria
2.1.1	Contact resistance	Applying a static load twice the actuating force to the center of the stem, measurements shall be made with a 1kHz small-current contact resistance meter.	100mΩ MAX
2.1.2	Insulation resistance	Measurements shall be made following application of DC 100V potential across terminals and frame for one minute.	100MΩ MIN
2.1.3	Dielectric withstandin voltage	AC 250V (50Hz or 60Hz) shall be applied across terminals and frame for one minute.	There shall be no breakdown
2.1.4	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' 	

							APPD.	CHKD.	DSGD.
PAGE	MARK	REVISION	DATE	APPD	CHKD	DSGD			

2.2. Mechanical characteristics

	Items	Test conditions	Criteria
2.2.1	Operating force	Push by recommended operating condition 	Refer to individual product drawing.
2.2.2	Travel	Push by recommended operating condition F = (Operation force) × 2 	0.25mm
2.2.3	Stop strength	A static load of 3kgf shall be applied in the direction of stem operation for a period of 60 seconds.	No damage (Electrical and mechanical)
2.2.5	Vibration test	(1) Amplitude : 1.5mm (2) Sweep rate : 10-55-10Hz for 1 minute. (3) Sweep method : Logarthmic frequency sweep rate. (4) Vibration direction : X.Y.Z (3 directions) (5) Time : Each direction 2 hours (Total 6 hours)	No 2.1 and 2.2.1 to 2.2.2 shall be satisfied.
2.2.6	Impact shock test	(1) Acceleration : 80G (2) Cycle of test : 3 cycles each in 6 directions for a total 18 cycles 	No 2.1 and 2.2.1 to 2.2.2 shall be satisfied.
2.2.7	Soldering heat test	Soldering area : t/2 of P.W.B thickness (P.W.B : t = 1.6) Soldering temperature : 260±5℃ Soldering time : 5±1 sec	No damage (Electical and mechanical)

2.3 Climatic characteristics

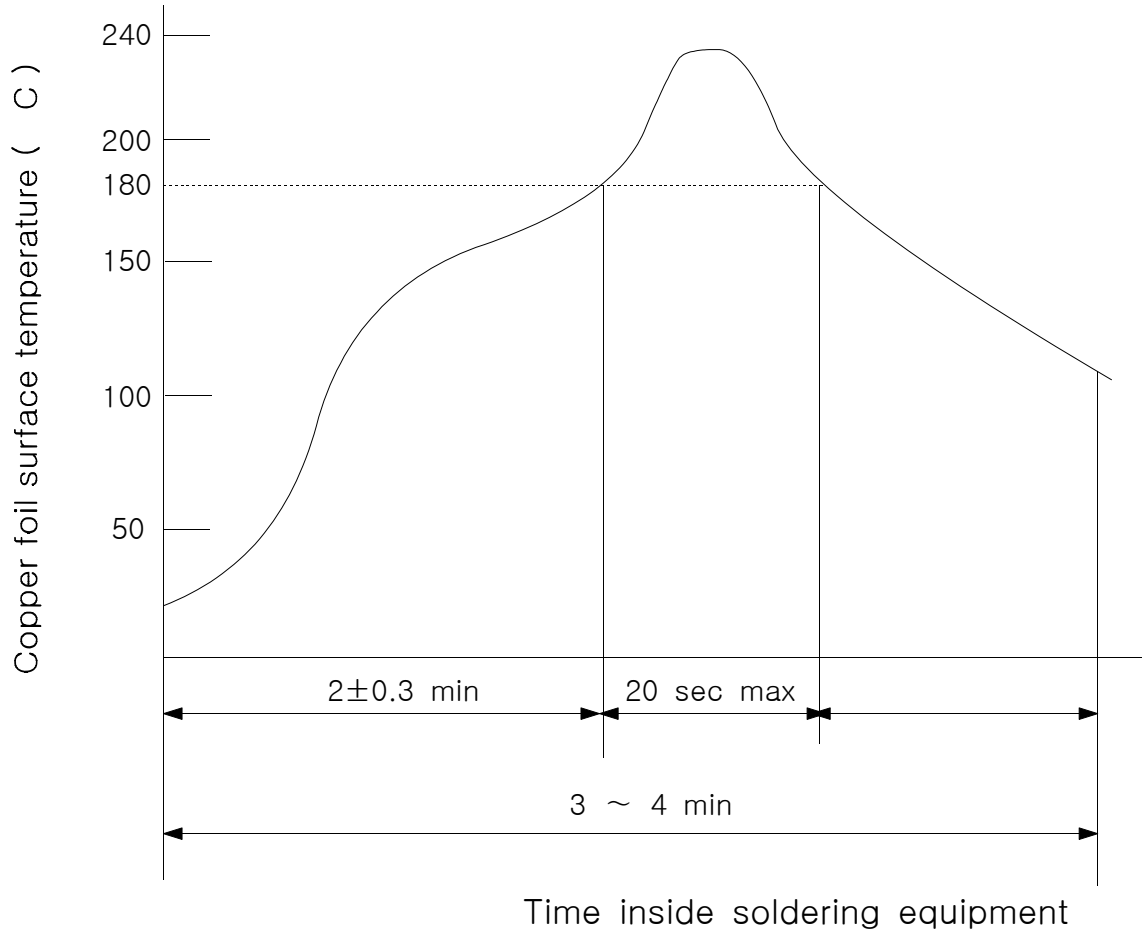
	Items	Test conditions	Criteria
2.3.1	Cold test	(1) Temperature : -30±2℃ (2) Duration of test : 96 hours (3) Take off a drop water (4) Standard condition after test : 1 hour	Contact resistance :200mΩ max No 2.1.2 to 2.1.4 and 2.2.1 to 2.2.2 shall be satisfied.
2.3.2	Heat test	(1) Temperature : 80±2℃ (2) Duration of test : 96 hours (3) Standard condition after test : 1 hour	Contact resistance :200mΩ max No 2.1.2 to 2.1.4 and 2.2.1 to 2.2.2 shall be satisfied.
2.3.3	Temperature cycle	(1) Test cycles : 5 cycles (2) Standard conditions after test : 1 hour (3) 1 cycle  	Contact resistance : 200mΩ max No 2.1.2 to 2.1.4 and 2.2.1 to 2.2.2 shall be satisfied.
2.3.4	Humidity test	(1) Temperature : 60±2℃ (2) Relative humidity : 90～95% (3) Duration of test : 96 hours (4) Take off a drop water (5) Standard conditions after test : 1 hour	Contact resistance : 200mΩ max No 2.1.2 to 2.1.4 and 2.2.1 to 2.2.2 shall be satisfied.
2.3.5	Operating life test	(1) DC 5V, 5mA resistance load (2) Operation speed : 2～3 cycles/sec (3) Push force : maximum value of operation force (4) Cycle of operation : 100,000 cycles	Contact resistance : 200mΩ max Bounce : 20m sec max Actuating force : ±30% initial force No 2.1.2 to 2.1.3 and 2.2.2 shall be satisfied.
2.3.6	Withstand H_2S	(1) Denslty : 3±1 ppm (2) Temperature : 40±2℃ (3) Relative humidity : 90～95% (4) Duration of test : 24 hours (5) Standard conditions after test : 1 hour	Contact resistance : 200mΩ max No 2.1.2 to 2.1.4 and 2.2.1 to 2.2.2 shall be satisfied.
2.3.7	Withstand SO_2	(1) Denslty : 10±2 ppm (2) Temperature : 40±2℃ (3) Relative humidity : 90～95% (4) Duration of test : 24 hours (5) Standard conditions after test : 1 hour	Contact resistance : 200mΩ max No 2.1.2 to 2.1.4 and 2.2.1 to 2.2.2 shall be satisfied.

3. Soldering

Reflow soldering conditions

Preheat : temperature on the copper foil surface should reach 180℃, 2±0.3 minutes after the P.W.P entered into the soldering equipment.

Soldering heat : Temperature on ther copper foil surface should reach the peak temperature of 240℃ within 20 seconds after the P.W.B entered into soldering heat zone.



Temperature Profile