TACT SWITCH SPECIFICATION

1.GENERAL

1-1 Switch action : PUSH - ON type S.P.S.T

1-2 Switch rating : DC 12V, 50 ㎃ Max

1-3 Operation temperature range : - 20℃ ~ 70℃

1-4 Preservative temperature range : - 30℃ ~ 80℃

1-5 Appearance and dimensions : See outside drawing page

1-6 Standard conditions : Unless otherwise specified, the test and measurements shall be carried out as follows:

Ambient temperature : 5 ~ 35℃

Relative humidity : 45 ~ 85% RH

Air pressure : 86 ~ 106 kPa (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.

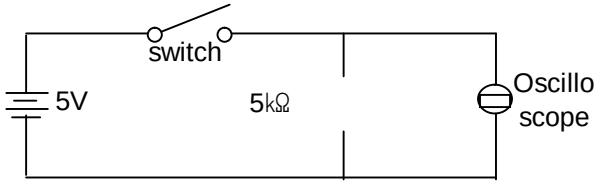
Ambient temperature : 20±2℃

Relative humidity : 65± 5 % RH

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

2.PERFORMANCE

2-1 Electrical characteristics

NO	ITEM	TEST CONDITIONS	PERFORMANCE
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.	100 mΩ max
2.1.2	Insulation resistance	Measurements shall be made following application of DC 100 V potential across terminals and across terminals and frame for one minute.	100 MΩ min
2.1.3	Dielectric withstanding votage	AC 250 V(50Hz or 60Hz) shall be applied across terminals and 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". 	10 msec max

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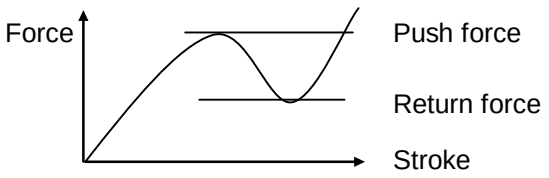
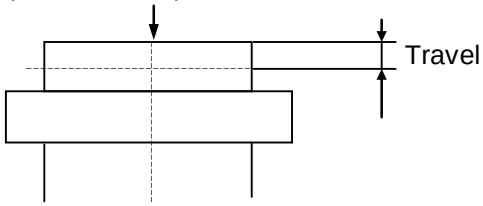
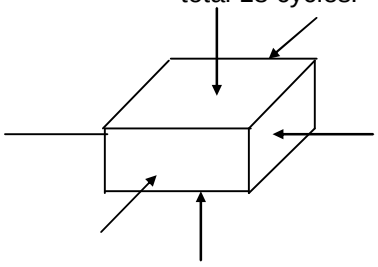
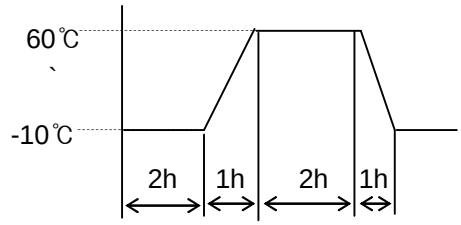
2-2 Mechanical characteristics

NO	ITEM	TEST CONDITIONS	PERFORMANCE
2.2.1	Operation force	Push by recommended operating condition  	Push force : 180, 250 ± 50 gf Return force : 40gf min
2.2.2	Travel	Push by recommended operating condition F = (Operation force) ×2  	0.25 ±0.1mm
2.2.3	Stop strength	Astatic load of 3 kgf shall be applied in the direction of stem operation for a period of 60 seconds.	No damage (Electrical and mechanical)
2.2.4	Stem strength	The maximum force to withstand a pull applied opposite to the direction of stem operation shall be measured.	1 kgf min
2.2.5	Vibration test	1)Amplitude : 1.5mm 2)Sweep rate :10-55-10Hz for 1 minute. 3)Sweep method : Logarithmic 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)Cycles of test : 3 cyles 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 (Electrical and mechanical)

2-3 Climatic characteristics

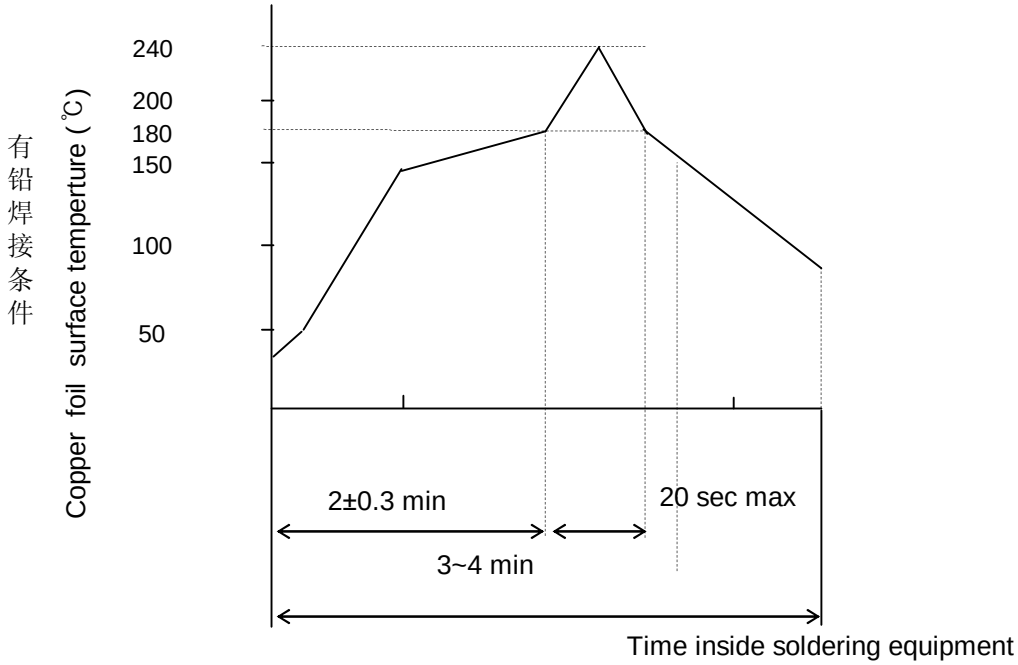
NO	ITEM	TEST CONDITIONS	PERFORMANCE
2.3.1	Cold test	1) Temperature : -30±2℃ 2) Duration of test : 96 hours 3) Take off a drop water 4) Standard condition after test : 1 hour	Contact resistance : 200mΩ Max No2.1.2 to 2.1.4 and 2.2.1 to 2.2.2 shall be satisfied.
2.3.2	Heat test	1) Temperature : 80±2℃ 2) Duration of test : 96 hours 3) Standard 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.
2.3.3	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) Cycles of operation : 30,000 cycles	Contact resistance : 200mΩ max Bounce : 20 m 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) Density : 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 : 200 mΩ 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) Density : 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 : 200 mΩ max No 2.1.2 to 2.1.4 and 2.2.1 to 2.2.2 shall be satisfied.

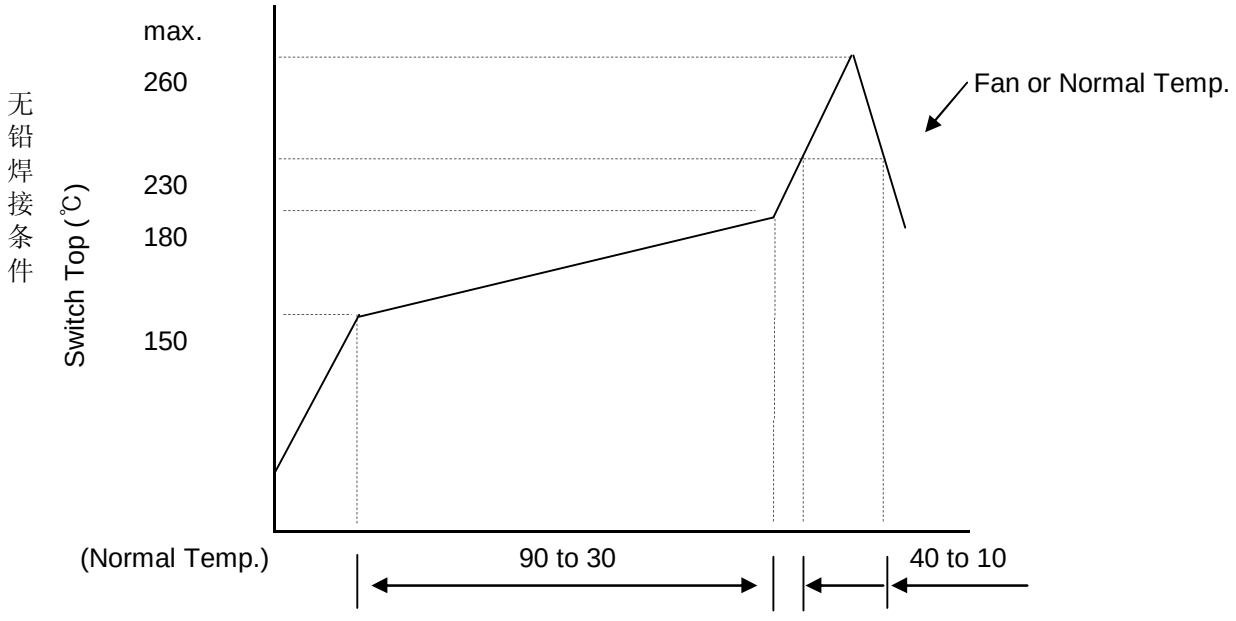
3. SOLDERING

Reflow soldering conditions

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

Soldering heat : Temperature on the 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

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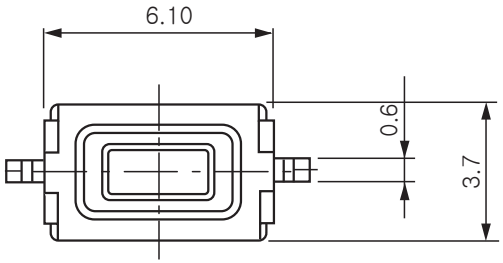
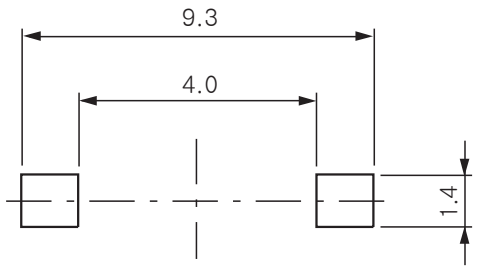
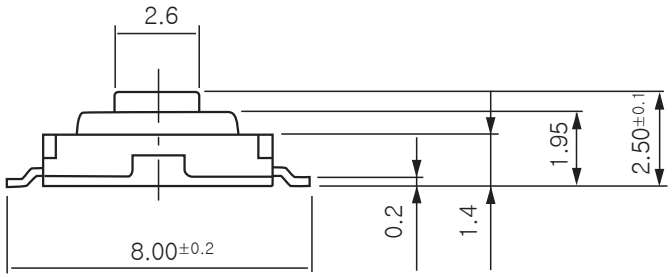
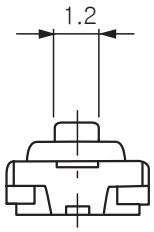


P.C.B MOUNTING DIMENSIONS

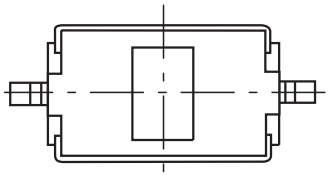






NO	PART NAME	Q'TY	MATERIAL	REMARK
1	CASE	1	ARLEN	
2	STEM	1	ARLEN	
3	COVER	1	SUS 301	
4	TERMINAL	1	C268OR-EH	Ag0.5u
5	CONACT	1	SUS 301	Ag0.5u
6	TAPE	1	PIFE FILM	

1. OPERATING FORCE : 180 ±20gf , 250 ±20gf
2. TRAVEL : 0.25 ± 0.2/-0.1mm
3. CONTACT RESISTANCE : 100mmΩ MAX
4. RATING : DC12V 50mA MAX
5. OPERATING LIFE : 100,000 CYCLES
6. GENERAN TOLERANCE : ±0.3



CIRCUIT DIAGRAM

NO	TITLE	MATERIAL	TREATMENT	SPECIFICATION	EA	REFERENCE

MARK	DATE	CHECK	DESIGN				
4				UNIT MM	SCALE 5/1	TITLE	TACT SWITCH
3							
2				APPROVAL	CHECK / DESIGN	PART NAME	DHT-1163S
1					99.11.24 PARK SANG JIN	DRAWG.NO	