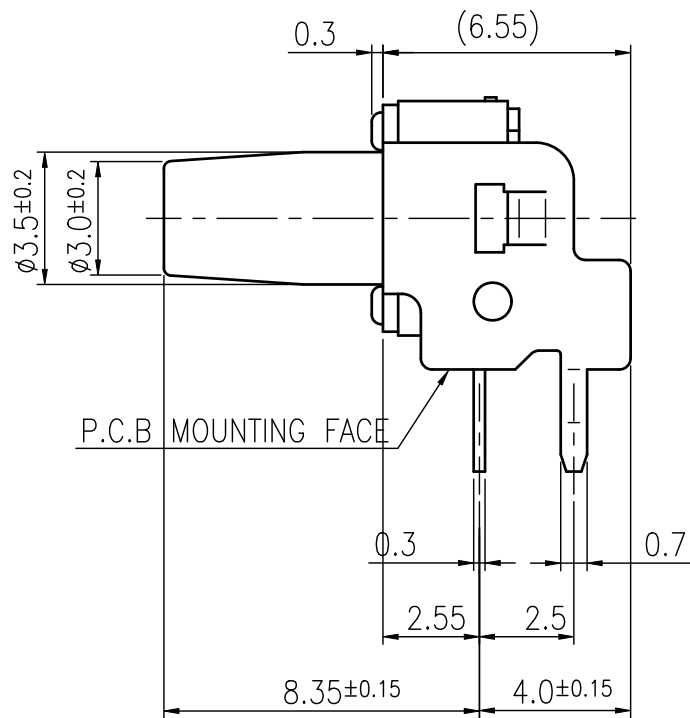
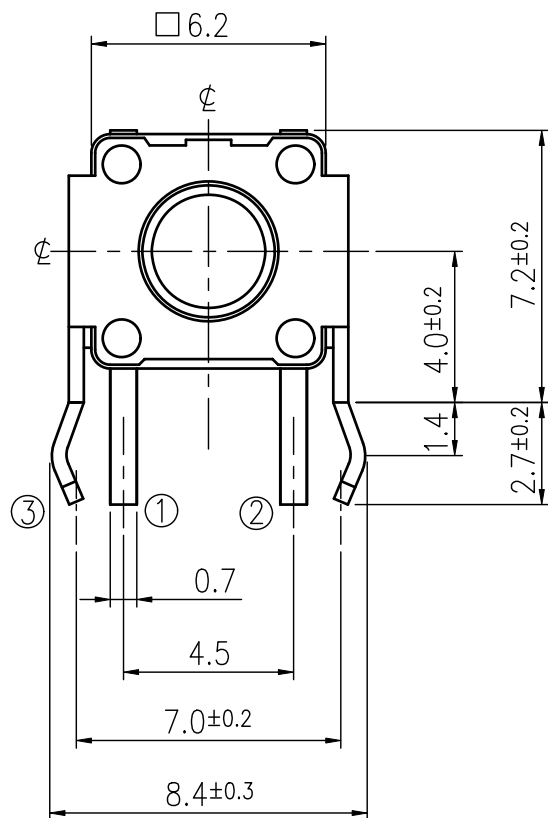
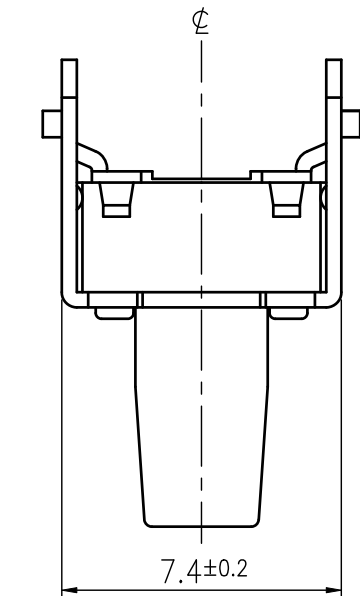


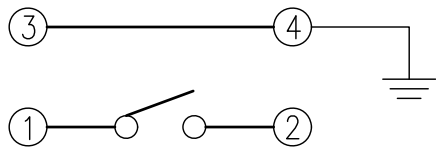
RoHS Compliant



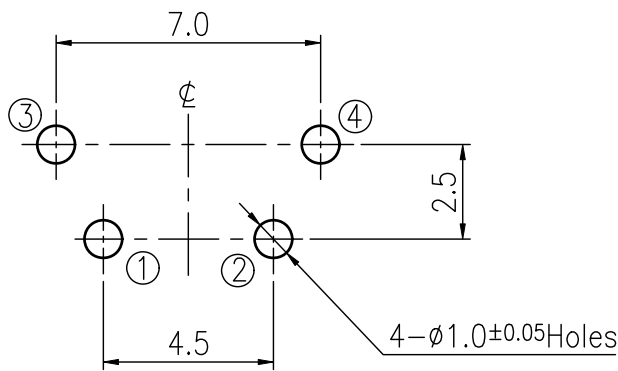
REVISIONS							
Rev	DESCRIPTION	DATE	DRAWER	Rev	DESCRIPTION	DATE	DRAWER
A	Initial Drawing	2018.10.01	Jane Shen	C			
B				D			

SPECIFICATIONS			
RATING	DC12V 50mA	TIMING	
CONTACT RESISTANCE	100mΩ MAX.	OPERATION (TORQUE)	160±50gf
INSULATION RESISTANCE	DC500V - 100MΩ MIN.	STROKE (ANGLE)	0.25 ^{+0.2} _{-0.1} mm
WITHSTAND VOLTAGE	AC250V - 1 MINUTE.	LIFE	1,000,000 CYCLES
REMARKS:			

SCHEMATIC

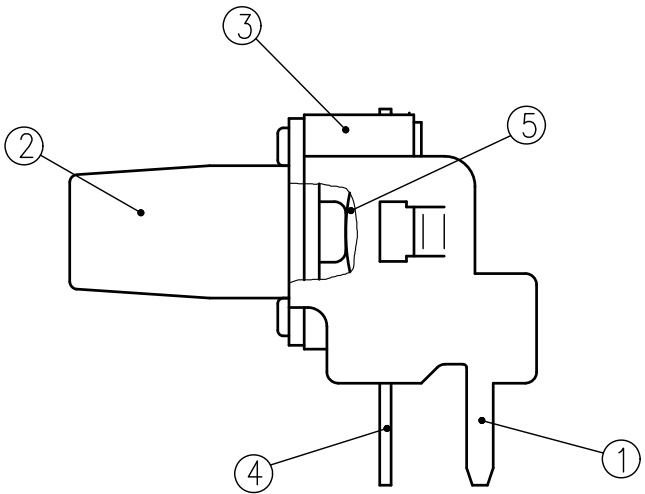


P.C.B. LAYOUT



TOLERANCES UNLESS OTHERWISE SPECIFIED ±0.1			SIGNATURES		DATE	MODEL
			DRAWER	Jane Shen	2018.10.01	TACT SWITCH
			CHECKED	<i>Landy Su</i>	2018.10.01	
	UNIT mm	SCALE 5/1	REVIEWED			NO. NTCX304-APD-C16001
			APPROVALS		<i>Dennis Hung</i> 2018.10.01	

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5	CONTACT PLATE	1	STAINLESS STEEL PLATE	Ag PLATING		
4	TERMINAL	2	COPPER ALLOY	Ag PLATING OVER Ni PLATING		
3	FRAME	1	POLYHTHALAMIDE	BLACK COLOR		
2	STEM	1	LIQUID CRYSTAL POLYMER	BLACK COLOR		
1	BRACKET	1	CARBON STEEL PLATE	MATTE Sn PLATING OVER Ni PLATING		
NO.	PART NAME	Q'TY	MATERIAL	SPECIFICATION		
				SIGNATURES	DATE	M O D E L
				DRAWN Jane Shen	2018.10.01	TITLE TACT SWITCH
				CHK'D Landry Su	2018.10.01	
				REV'D		NO. NTCX304-APD-C16001
				APP'D Dennis Hung	2018.10.01	
SYM	DESCRIPTION		DATE	APPROVED		DWG NO. TCX304-011
TAIWAN MISAKI ELECTRONICS CO.,LTD.						

SPECIFICATIONS FOR TACT SWITCH

RoHS Compliant

Model: NTCX304-APD Series

1. Test condition:

Standard test conditions shall be 5~35°C in temperature, 45~85%RH in humidity and 86~106Kpa in atmospheric pressure.
Should any doubt arise in judgment, tests shall be conducted at 20±2°C in temperature, 60~70% RH in Humidity and 86~106 kpa in atmospheric pressure.

2. Operating temperature range: -40 ~ +85°C

Storage temperature range: -40 ~ +85°C

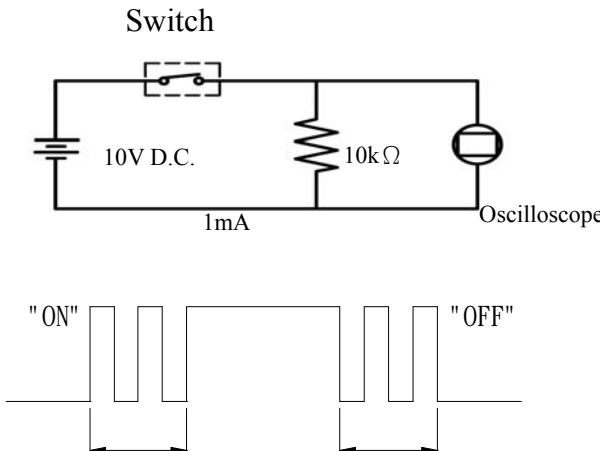
3. Construction:

3.1 Shape and dimension are subject to attached drawing regulation.

3.2 Appearance: Whole should be a good completion, no rust, no crack and good plating.

4. Rating: 12V D.C. , 50mA.

5. Electrical Performance:

No.	Items	Test conditions	Specifications
5.1	Contact Resistance	Shall be measure at 1kHz±200Hz (MAX. 20mV, MAX. 50mA.) or 1 A, 5V D.C. By voltage drop method.	100mΩ Max.
5.2	Insulation Resistance	Shall be measured by applying 500V D.C. Between all terminals and between the terminals and the frame for 1 minute ± 5 seconds.	100 MΩ Min.
5.3	Withstand Voltage	250V A.C. (50~60Hz 2mA) shall be applied between all terminals and between the terminals and the frame for 1 minute.	No dielectric breakdown shall be occurred.
5.4	Bounce	<p>Lightly striking the center of the stem at a rate Encountered in normal use (3 to 4 operations per sec.)</p> 	<p>ON: 10m sec Max. OFF: 10m sec Max.</p>

APPROVED BY

REVIEWED BY

CHECKED BY

DESIGNED BY

SPEC NO.

Dennis Hung

Jane Shen
2016.10.19

SE-TC02

PAGINATE

A NEW RELEASE

SYM DISCRIPTION

DATE

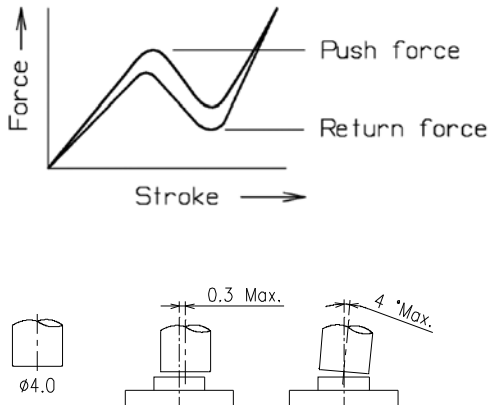
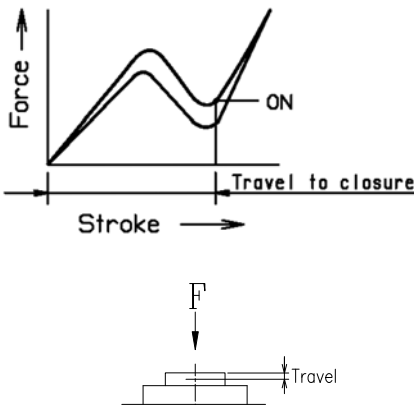
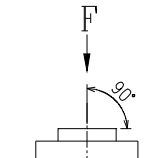
1/4

TAIWAN MISAKI ELECTRONICS CO., LTD.

SPECIFICATIONS FOR TACT SWITCH

RoHS Compliant

6. Mechanical Performance:

No.	Items	Test conditions	Specifications
6.1	Operating Force	<p>Placing the switch such that the direction of switch operation is vertical and then gradually increasing the load applied to the center of the stem the maximum load required for the switch to come to a stop shall be measured.</p> 	<p>Push force: 160 +/-50 gf</p>
6.2	Travel	<p>Placing the switch such that the direction of switch operation is vertical and then applying a below static load to the center of the stem, the travel distance for the switch to come to a stop shall be measured.</p> 	<p>0.25 +0.2/-0.1 mm.</p>
6.3	Push Strength	<p>Placing the switch such that the direction of switch operation is vertical and then a below station load shall be applied in the direction of stem operation.</p> <p>3kgf for 60 seconds.</p> 	<p>The terminals must not fall off and no structure is damaged.</p> <p>Item 5.1~5.4 shall be satisfied. Item 6.1~6.2 shall be satisfied.</p>

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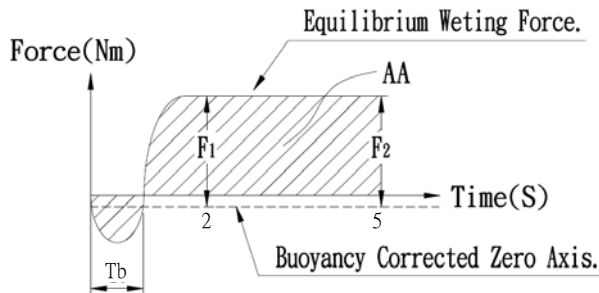
SYM DISCRIPTION

DATE

2/4

SPECIFICATIONS FOR TACT SWITCH

RoHS Compliant

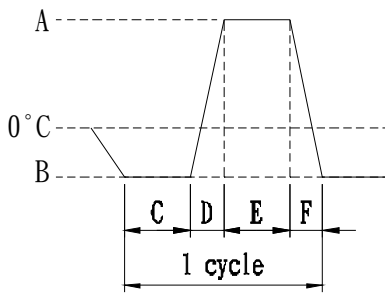
No.	Items	Test conditions	Specifications																
6.4	Solderability	<div>Test Temperature : 235 ± 5℃ Immersion Angle : 90° Immersion Speed : 1 mm/sec. Immersion Depth : 0.1mm Dwell Time : 5 seconds</div> <div></div> <table><tr><th>Para.</th><th>Criteria</th></tr><tr><td>Tb</td><td>≤ 1 second</td></tr><tr><td>F1</td><td>50% of maximum theoretical wetting force at or before two seconds</td></tr><tr><td>F2</td><td>No less than 90% of the F1 Value</td></tr><tr><td>AA</td><td>Area calculated using sample buoyancy and 50% maximum theoretical force</td></tr></table>	Para.	Criteria	Tb	≤ 1 second	F1	50% of maximum theoretical wetting force at or before two seconds	F2	No less than 90% of the F1 Value	AA	Area calculated using sample buoyancy and 50% maximum theoretical force	Conform to the criteria in the left table.						
Para.	Criteria																		
Tb	≤ 1 second																		
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F2	No less than 90% of the F1 Value																		
AA	Area calculated using sample buoyancy and 50% maximum theoretical force																		
6.5	Solder Heat Resistance	<div>MANUAL SOLDERING</div> <table><tr><th></th><th>Temperature</th><th>Time</th></tr><tr><td>Manual Soldering Temperature</td><td>350℃ max.</td><td>3 Sec. max.</td></tr></table> <div>WAVE SOLDERING</div> <table><tr><th>Parameters</th><th>Lead-Free Specification*</th></tr><tr><td>Preheating Time</td><td>60 sec. max.</td></tr><tr><td>Preheating Temperature</td><td>110℃ max.</td></tr><tr><td>Continuous Dipping Time</td><td>5 sec. max.</td></tr><tr><td>Soldering Temperature</td><td>260℃ max.</td></tr></table>		Temperature	Time	Manual Soldering Temperature	350℃ max.	3 Sec. max.	Parameters	Lead-Free Specification*	Preheating Time	60 sec. max.	Preheating Temperature	110℃ max.	Continuous Dipping Time	5 sec. max.	Soldering Temperature	260℃ max.	Shall be free form pronounced deforming in appearance. Item 5.1~5.4 shall be satisfied. Item 6.1~6.2 shall be satisfied.
	Temperature	Time																	
Manual Soldering Temperature	350℃ max.	3 Sec. max.																	
Parameters	Lead-Free Specification*																		
Preheating Time	60 sec. max.																		
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						2016.10.19	PAGINATE
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SYM	DISCRIPTION	DATE					3/4

SPECIFICATIONS FOR TACT SWITCH

RoHS Compliant

7. Weather Performance:

No.	Items	Test conditions	Specifications
7.1	Humidity Test	(1) Temperature: $60\pm 2^{\circ}\text{C}$. (2) Relative humidity: 90~95% (3) Duration of test: 500 Hour. (4) Take off drop water. (5) Standard conditions after test: 1 Hour.	Contact resistance: 500mΩ Max Item 5.2~5.4 shall be satisfied. Item 6.1~6.2 shall be satisfied.
7.2	Heat Test	(1) Temperature: $85\pm 2^{\circ}\text{C}$. (2) Duration of test: 500 Hour. (3) Standard conditions after test: 1 Hour.	
7.3	Cold Test	(1) Temperature: $-40\pm 2^{\circ}\text{C}$. (2) Duration of test: 500 Hour. (3) Take off drop water. (4) Standard conditions after test: 1 Hour.	Contact resistance: 500mΩ Max Item 5.2~5.4 shall be satisfied. Item 6.1~6.2 shall be satisfied.
7.4	Temperature cycle	(1) Test cycle: 20 cycles. (2) Standard conditions after test: 1 Hour.  <p>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</p>	

8. Durability:

No.	Items	Test conditions	Specifications
8.1	Life Test	(1) 5V D.C. , 5mA Resistance load. (2) Operating speed: 120 cycles/minute. (3) Push force: Maximum value of operation force. (4) Operating force: 1,000,000 times.	Contact Resistance: 2Ω MAX. Bounce: 20m sec Max.(ON,OFF) Operating Force: Within $\pm 30\%$ of specifications. Item 5.2 shall be satisfied. Item 6.2 shall be satisfied.

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