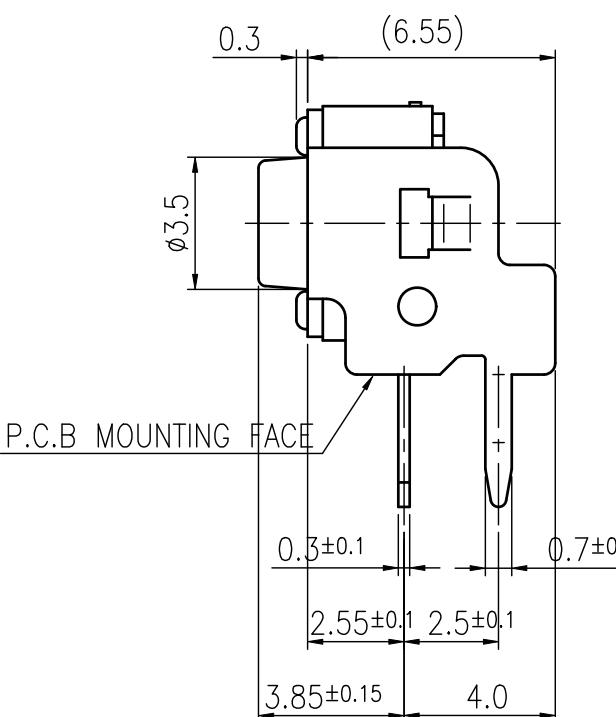
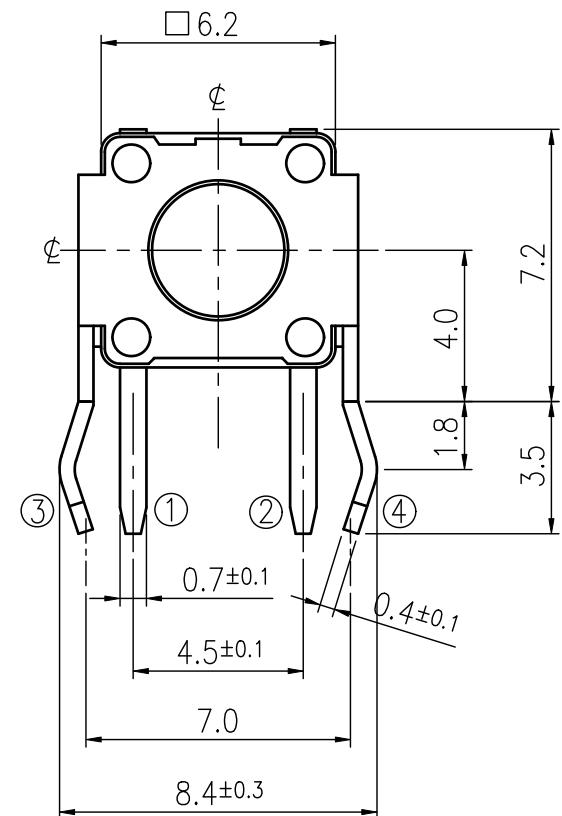
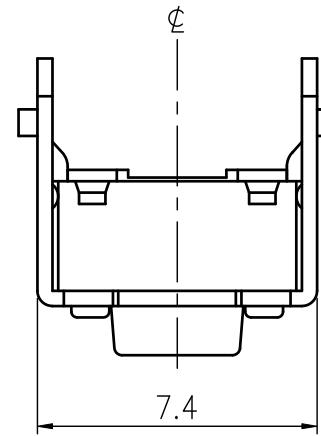
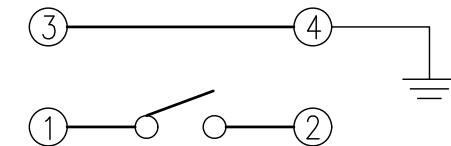


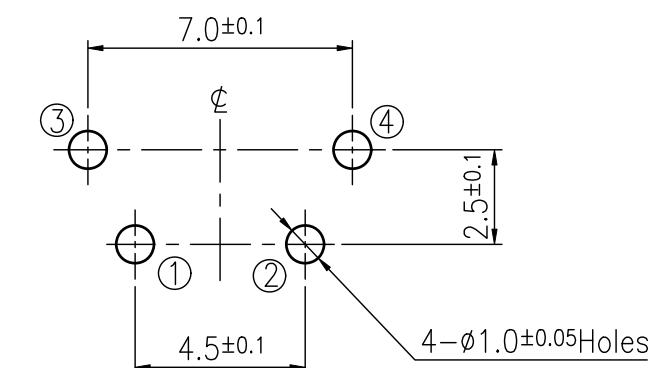
RoHS Compliant



SCHEMATIC



P.C.B. LAYOUT

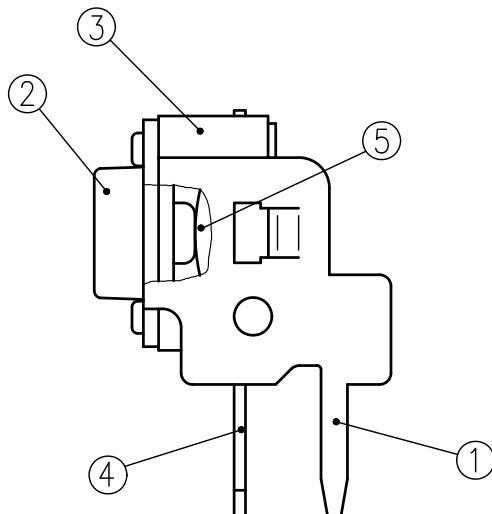


MODEL NO.	STEM COLOR
NTCV304-APD-B260-BK	BLACK
NTCV304-APD-B260-BL	BLUE

TOLERANCES UNLESS OTHERWISE SPECIFIED ±0.2			SIGNATURES	DATE	MODEL	
			DRAWER	Jane Shen	TITLE TACT SWITCH	
CHECKED			REVIEWED			
⊕	UNIT mm	SCALE 5/1	APPROVALS	Dennis Hung		
				2018.09.03	See Model No.	

TAIWAN MISAKI ELECTRONICS CO., LTD.

RoHS Compliant



NO.	PART NAME	Q'TY	MATERIAL		SPECIFICATION		
5	CONTACT PLATE	1	STAINLESS STEEL PLATE		Ag PLATING Ag:0.5um		
4	TERMINAL	2	COPPER ALLOY		Ag PLATING OVER Ni PLATING Ni:0.15um,Ag:0.4um		
3	FRAME	1	POLYHTALAMIDE		BLACK COLOR		
2	STEM	1	LIQUID CRYSTAL POLYMER		<input type="checkbox"/> BK:BLACK, <input checked="" type="checkbox"/> BL:BLUE COLOR		
1	BRACKET	1	CARBON STEEL PLATE		MATTE Sn PLATING OVER Ni PLATING		
SYM	DESCRIPTION	DATE	APPROVED	SIGNATURES	DATE	MODEL	
				DRAWN Jane Shen	208.09.03	TITLE TACT SWITCH	
				CHK'D			
				REV'D		NO. NTCV304-APD-B260-BL	
				APP'D Dennis Hung	2018.09.03		
							DWG NO. TCV304-02
TAIWAN MISAKI ELECTRONICS CO., LTD.							

SPECIFICATIONS FOR TACT SWITCH

RoHS Compliant

Model: NTCV304 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:

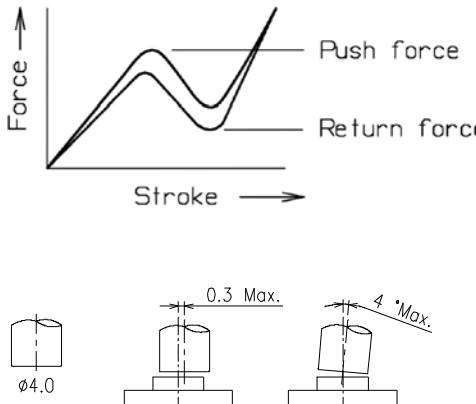
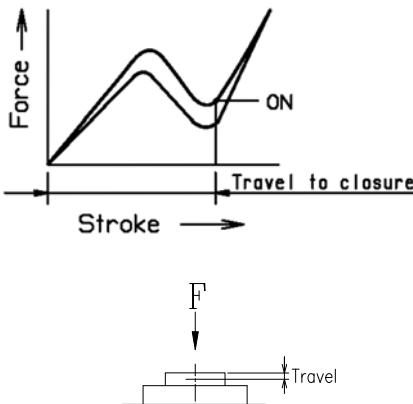
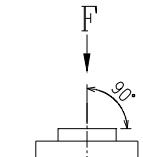
No.	Items	Test conditions	Specifications
5.1	Contact Resistance	Shall be measure at 1kHz±200Hz (MAX. 20mV, MAX. 50mA.) or 1 A, 5V D.C. By voltage drop method.	100mΩ Max.
5.2	Insulation Resistance	Shall be measured by applying 500V D.C. Between all terminals and between the terminals and the frame for 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>Switch</p> <p>10V D.C.</p> <p>1mA</p> <p>Oscilloscope</p> <p>"ON" </p>	<p>ON: 10m sec Max. OFF:10m sec Max.</p>

		APPROVED BY	REVIEWED BY	CHECKED BY	DESIGNED BY	SPEC NO.
		Dennis Hung	James_Hung	Jamie Li	Jane Shen	SE-TC02
		2011.06.02	2011.06.02	2011.06.02	2011.06.02	PAGINATE
A	NEW RELEASE					
SYM	DISCRIPTION	DATE				1/4

SPECIFICATIONS FOR TACT SWITCH

RoHS Compliant

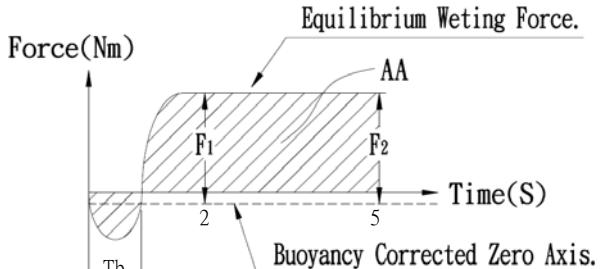
6. Mechanical Performance:

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: 260 +/-50 gf</p> <p>Return force: 30 gf min.</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> 	0.25 +/-0.1 mm.
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.</p> <p>Item 6.1~6.2 shall be satisfied.</p>

		APPROVED BY	REVIEWED BY	CHECKED BY	DESIGNED BY	SPEC NO.
		Dennis Hung	James Hung	Jamie Li	Jane Shen	SE-TC02
		2011.06.02	2011.06.02	2011.06.02	2011.06.02	PAGINATE
A	NEW RELEASE					
SYM	DISCRIPTION	DATE				2/4

SPECIFICATIONS FOR TACT SWITCH

RoHS Compliant

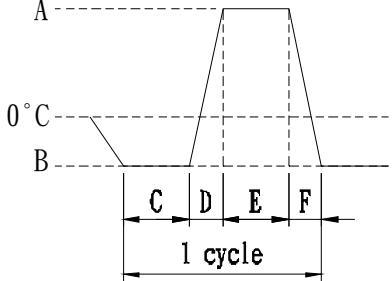
No.	Items	Test conditions	Specifications																
6.4	Solderability	<p>Test Temperature : $235 \pm 5^\circ\text{C}$ Immersion Angle : 90° Immersion Speed : 1 mm/sec. Immersion Depth : 0.1mm Dwell Time : 5 seconds</p>  <table border="1"> <thead> <tr> <th>Para.</th><th>Criteria</th></tr> </thead> <tbody> <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> </tbody> </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																		
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																		
6.5	Solder Heat Resistance	<p>MANUAL SOLDERING</p> <table border="1"> <thead> <tr> <th></th><th>Temperature</th><th>Time</th></tr> </thead> <tbody> <tr> <td>Manual Soldering Temperature</td><td>350°C max.</td><td>3 Sec. max.</td></tr> </tbody> </table> <p>WAVE SOLDERING</p> <table border="1"> <thead> <tr> <th>Parameters</th><th>Lead-Free Specification*</th></tr> </thead> <tbody> <tr> <td>Preheating Time</td><td>60 sec. max.</td></tr> <tr> <td>Preheating Temperature</td><td>110°C max.</td></tr> <tr> <td>Continuous Dipping Time</td><td>5 sec. max.</td></tr> <tr> <td>Soldering Temperature</td><td>260°C max.</td></tr> </tbody> </table>		Temperature	Time	Manual Soldering Temperature	350°C max.	3 Sec. max.	Parameters	Lead-Free Specification*	Preheating Time	60 sec. max.	Preheating Temperature	110°C max.	Continuous Dipping Time	5 sec. max.	Soldering Temperature	260°C max.	Shall be free from 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°C max.	3 Sec. max.																	
Parameters	Lead-Free Specification*																		
Preheating Time	60 sec. max.																		
Preheating Temperature	110°C max.																		
Continuous Dipping Time	5 sec. max.																		
Soldering Temperature	260°C max.																		

			APPROVED BY	REVIEWED BY	CHECKED BY	DESIGNED BY	SPEC NO.
			Dennis Hung	James_Hung	Jamie Li	Jane Shen	SE-TC02
			2011.06.02	2011.06.02	2011.06.02	2011.06.02	PAGINATE
A	NEW RELEASE						
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: $60\pm2^{\circ}\text{C}$. (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: $85\pm2^{\circ}\text{C}$. (2) Duration of test: 500 Hour. (3) Standard conditions after test: 1 Hour.	
7.3	Cold Test	(1) Temperature: $-40\pm2^{\circ}\text{C}$. (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.  A: $+85\pm2^{\circ}\text{C}$ B: $-40\pm2^{\circ}\text{C}$ C: 2 hour D: 1 hour E: 2 hour F: 1 hour	

8. Durability:

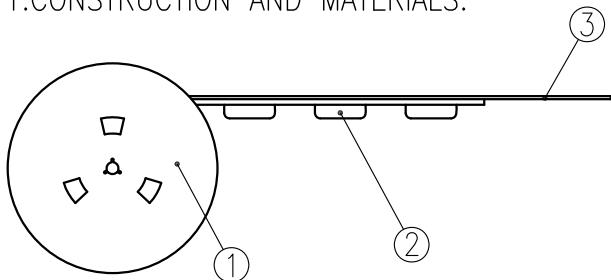
No.	Items	Test conditions	Specifications
8.1	Life Test	(1) 5V D.C. , 5mA Resistance load. (2) Operating speed: 120 cycles/minute. (3) Push force: Maximum value of operation force. (3) Operating force: 200,000 times.	Contact Resistance: 2Ω MAX. Bounce: 20m sec Max.(ON,OFF) Operating Force: Within $\pm30\%$ of specifications. Item 5.2 shall be satisfied. Item 6.2 shall be satisfied.

			APPROVED BY	REVIEWED BY	CHECKED BY	DESIGNED BY	SPEC NO.
			Dennis Hung	James Hung	Jamie Li	Jane Shen	SE-TC02
			2011.06.02	2011.06.02	2011.06.02	2011.06.02	PAGINATE
A	NEW RELEASE						
SYM	DISCRIPTION	DATE					4/4

THE PACKING SPECIFICATIONS

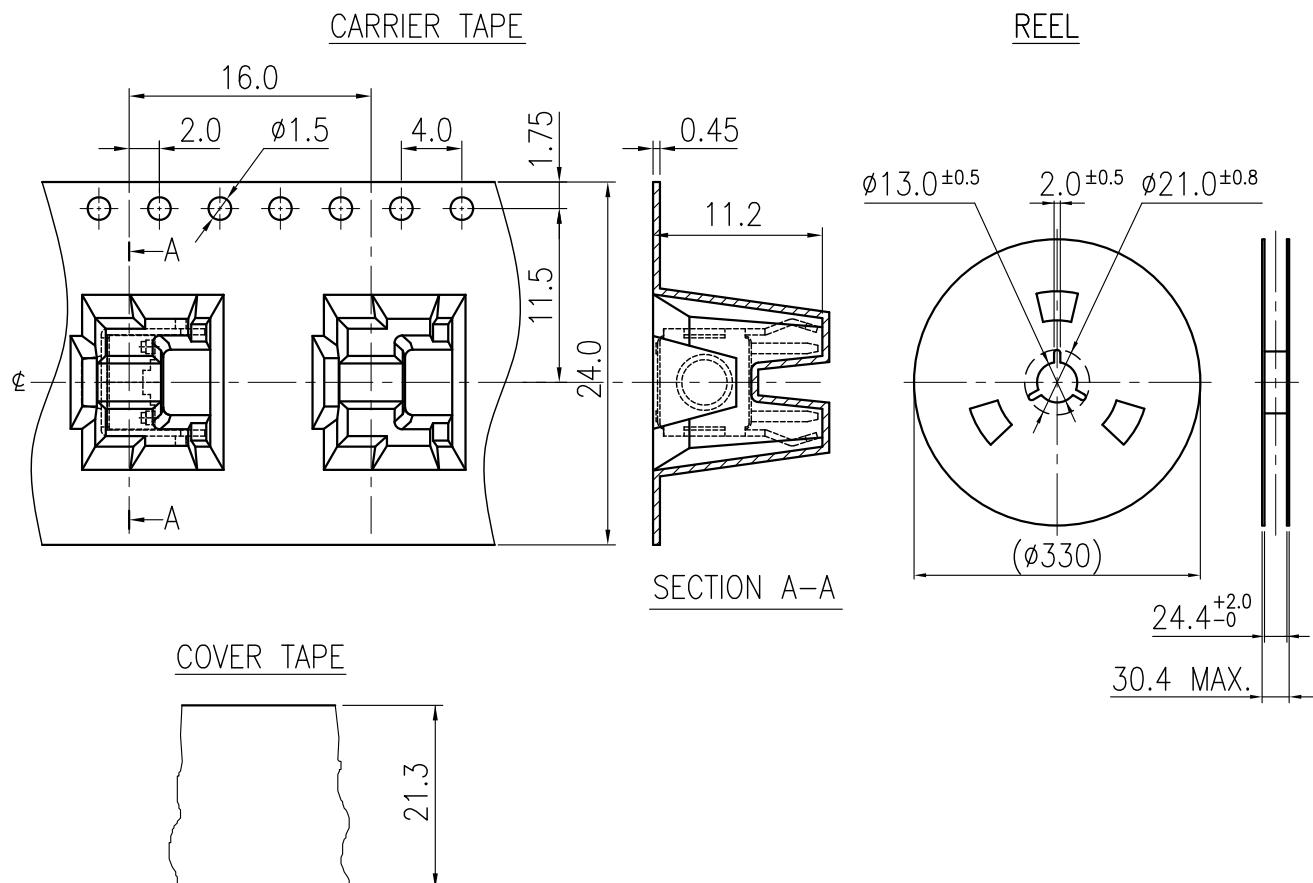
RoHS Compliance

1. CONSTRUCTION AND MATERIALS.



NO.	PARTS NAME	MATERIALS
③	COVER TAPE	POLYESTER
②	CARRIER TAPE	POLYSTYRENE
①	REEL	POLYSTYRENE

2. PACKAGE QUANTITY : 350 PCS/REEL.
3. MORE THAN 10 EMPTY POCKETS SHOULD BE REMAINED AT BOTH ENDS OF THE CARRIER TAPE FOR EACH REEL.
4. SHORTAGE LESS THAN 10 PCS A REEL IS ACCEPTABLE BUT MORE THAN 3 RUNNIGE POCKETS SHORTAGE IS NOT ALLOWED.
5. STRIPPING STRENGTH OF COVER TAPE IS BETWEEN 10 gf TO 70 gf AND STRIPPING ANGLE SHOULD BE WITHIN $165^\circ \sim 180^\circ$.
6. THE PRODUCT IN THE POCKET OF CARRIER TAPE SHOULD BE PLACED IN A SPECIFIED CORRECT POSITION.
7. DIMENSIONS:



SYM	DESCRIPTION	DATE	APPROVED	APPROVED BY	REVIEWED BY	CHECKED BY	DESIGNED BY	MODEL NO.
				<i>Fred Chen</i> 0521 2008	Ken Lin 2008.05.21	Jane Shen 2008.05.21	Catherine Lee 2008.05.21	NTCV304-APD-B260-BL
								PAGINATE. 1/1
								SPEC NO. P-462