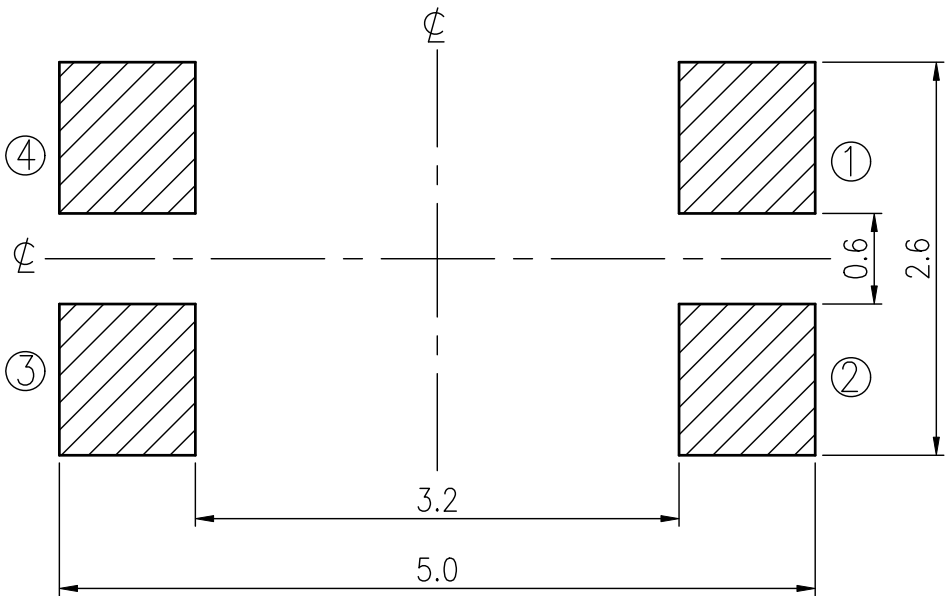
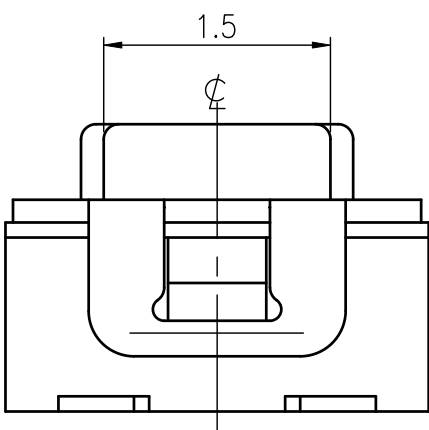
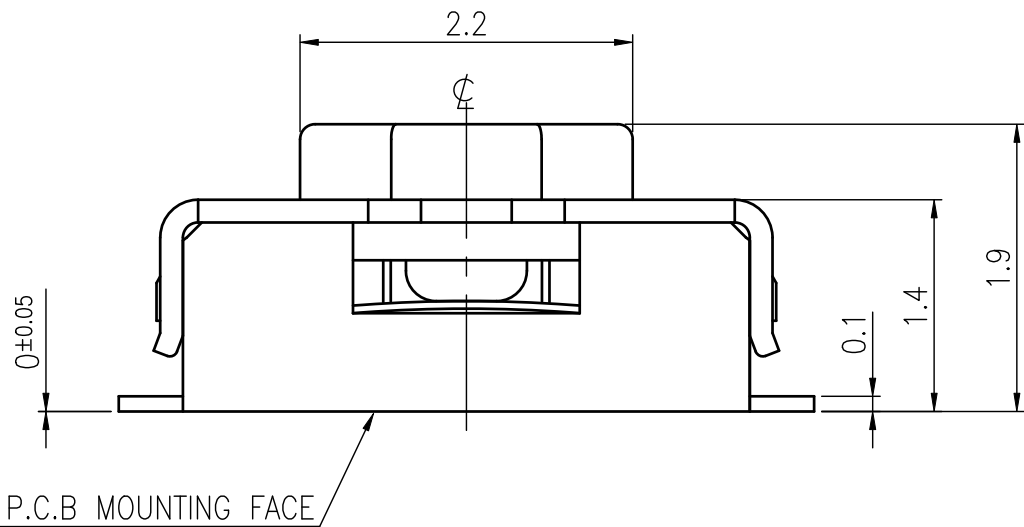
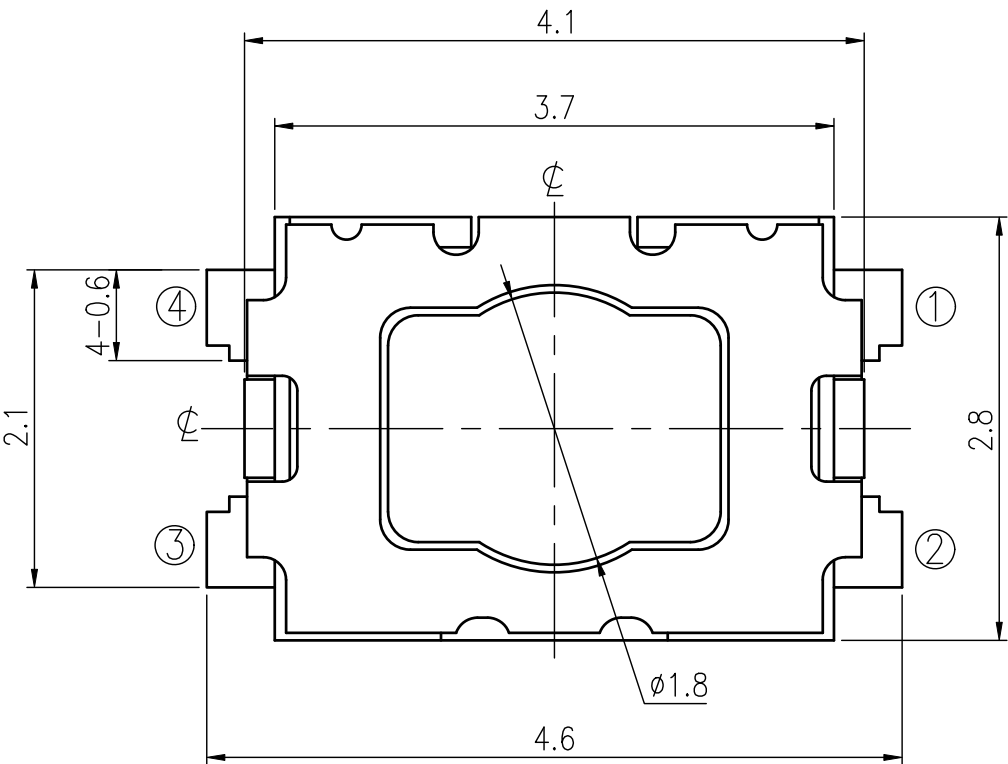
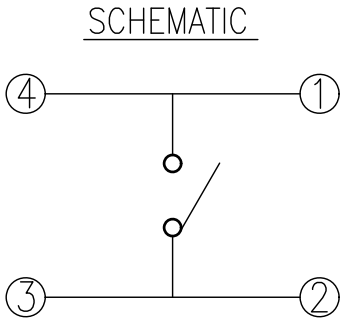
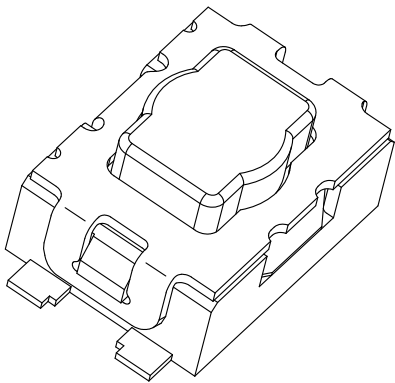


RoHS Compliant



REVISIONS							
Rev	DESCRIPTION	DATE	DRAWER	Rev	DESCRIPTION	DATE	DRAWER
A	Initial Drawing	2020.01.14	Jane Shen	C			
B				D			
SPECIFICATIONS							
RATING		DC32V 50mA		TIMING			
CONTACT RESISTANCE		100mΩ MAX.		OPERATION (TORQUE)			
INSULATION RESISTANCE		DC500V-1GΩ MIN.		STROKE (ANGLE)		0.25 ^{+0.1} _{-0.15} mm	
WITHSTAND VOLTAGE		AC250V-1 MINUTE		LIFE			
REMARKS:		Waterproof Grade : IP67					

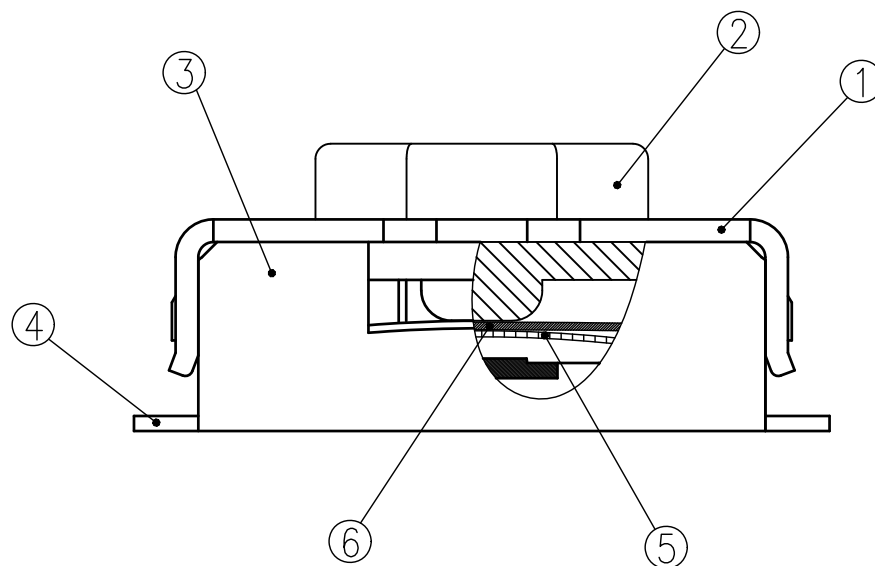


P.C.B LAYOUT

MODEL NO.	OPERATION FORCE	LIFE CYCLES
NTC228-AA1G-A200T	200±50 gf	200,000
NTC228-AA1G-A300T	300±75 gf	150,000
NTC228-AA1G-A400T	400±100 gf	100,000

TOLERANCES UNLESS OTHERWISE SPECIFIED ±0.1			SIGNATURES	DATE	MODEL
			DRAWER Jane Shen	2020.01.14	TITLE TACT SWITCH
			CHECKED Landry Ju	2020.01.14	
			REVIEWED		NO. SEE MODEL NO.
			APPROVALS Qiuyuan Chuang	2020.01.14	

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6	TAPE	1	POLYIMIDE	
5	CONTACT PLATE	2	STAINLESS STEEL PLATE	Ag PLATING
4	TERMINAL	4	COPPER ALLOY	Ag PLATING OVER Ni PLATING
3	FRAME	1	POLYAMIDE RESIN	BLACK COLOR
2	STEM	1	POLYAMIDE RESIN	■ 200/BLACK, □ 300/NATURAL COLOR
1	COVER	1	NICKEL SILVER	
NO.	PART NAME	Q'TY	MATERIAL	SPECIFICATION
				SIGNATURES
				DATE
				M O D E L
				DRAWN Jane Shen 2020.01.14
				CHK'D Landry Pu 2020.01.14
				REV'D
				APP'D Qiuyuan Chuang 2020.01.14
				TITLE TACT SWITCH
				NO. NTC228-AA1G-A200T
				DWG NO. TC228-01
SYM	DESCRIPTION	DATE	APPROVED	
TAIWAN MISAKI ELECTRONICS CO.,LTD.				

SPECIFICATIONS FOR TACT SWITCH

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Model: NTC_228-(A,B)_ 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: -55 ~ +85°C

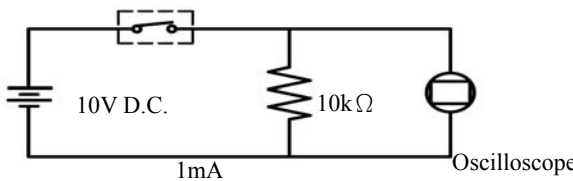
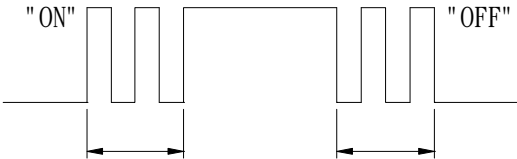
3. Construction:

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: 32V D.C. , 50mA.

5. Electrical Performance:

No.	Items	Test conditions	Specifications
5.1	Contact Resistance	Shall be measure at 1kHz±200Hz (MAX. 20mV, MAX. 40mA.) 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.	1GΩ 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. 10kΩ 1mA Oscilloscope</p>  <p>"ON" "OFF"</p>	<p>ON: ≤3m sec. OFF: ≤3m sec.</p>

APPROVED BY

REVIEWED BY

CHECKED BY

DESIGNED BY

SPEC NO.

Qiuyuan Chuang

Jane Shen
2018.09.05

SE-TC102N
PAGINATE

A NEW RELEASE

SYM DISCRIPTION

DATE

1/4

TAIWAN MISAKI ELECTRONICS CO., LTD.

SPECIFICATIONS FOR TACT SWITCH

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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:</p> <p>200±50 gf 300±75 gf 400±100 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 +0.1 / -0.15 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 15 sec.</p>	<p>The terminals must not fall off and no structure is damaged. Item 5.1~5.4 shall be satisfied. Item 6.1~6.2 shall be satisfied.</p>

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SPEC NO.

Qiuyuan Chuang

Jane Shen
2018.09.05

SE-TC102N
PAGINATE

A NEW RELEASE

SYM DISCRIPTION

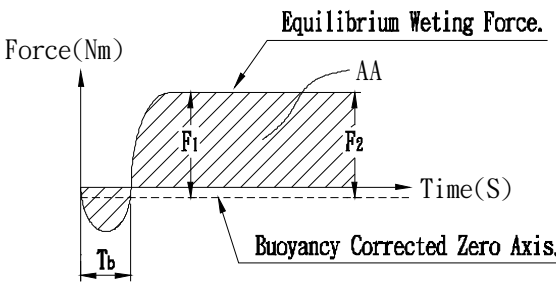
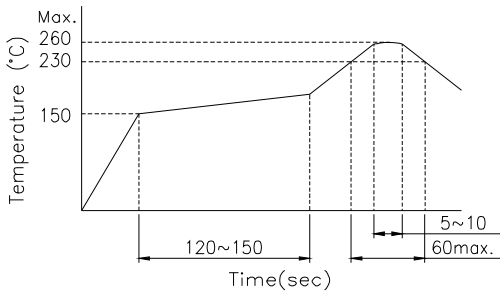
DATE

2/4

TAIWAN MISAKI ELECTRONICS CO., LTD.

SPECIFICATIONS FOR TACT SWITCH

RoHS Compliant

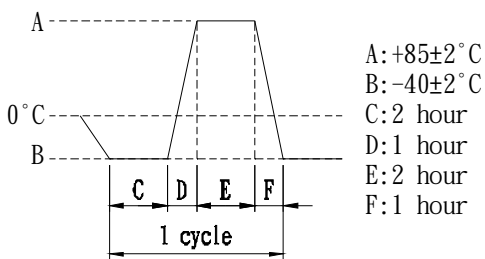
6.4	Solderability	<div>Test Temperature : 235 ± 5℃ Immersion Angle : 90° Immersion Speed : 1 mm/sec. Immersion Depth : 0.1mm Dwell Time : 5 seconds</div> <div></div> <table><tr><th>Para.</th><th>Criteria</th></tr><tr><td>Tb</td><td>≤ 1 second</td></tr><tr><td>F1</td><td>50% of maximum theoretical wetting 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												
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	<div>(1) Manual soldering temperature: Temperature: 350℃ Max. Time: 3 Sec. Max. (2) Reflow Soldering: Number of reflow pass: 2 cycles.</div> <div></div>	Shall be free from pronounced deforming in appearance. Item 5.1~5.4 shall be satisfied. Item 6.1~6.2 shall be satisfied.										

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SPECIFICATIONS FOR TACT SWITCH

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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.	
7.4	Waterproof test	Immersion tank water-level on enclosure: 0.15 M above top. 1 M above bottom. Duration of test : 30 min.	
7.5	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. (2) Push force: Maximum value of operation force. (3) Operation number: 200gf=200,000 times. 300gf=150,000 times. 400gf=100,000 times.	Contact Resistance: 10Ω 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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③	COVER TAPE	POLYESTER
②	CARRIER TAPE	POLYSTYRENE
①	REEL	POLYSTYRENE
NO.	PARTS NAME	MATERIALS

- [illegible]

				APPROVED BY
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