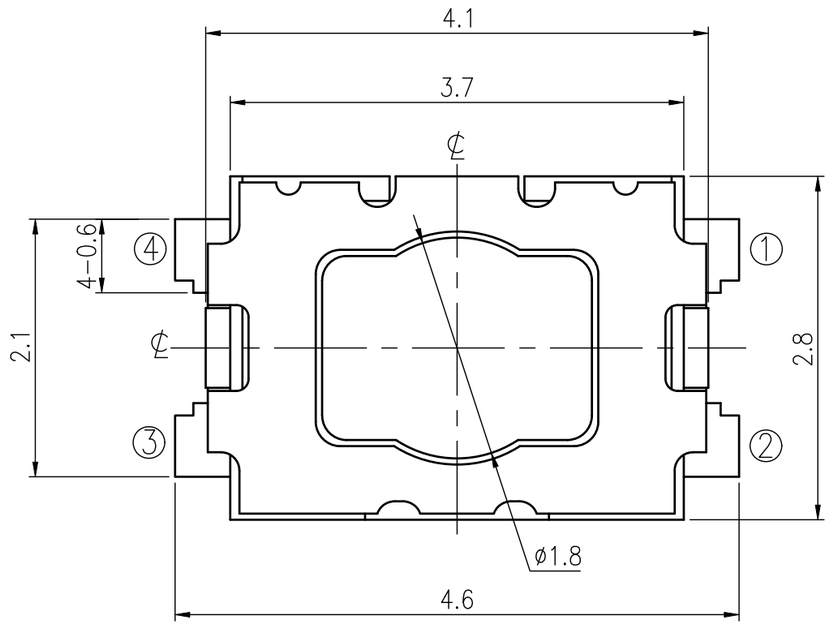
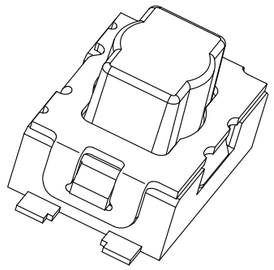
RoHS Compliant

T-MEC
TAIWAN MISAKI ELECTRONICS CO., LTD.
ISSUED
2020.03.31
RD DCC

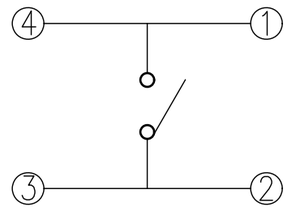
REVISIONS							
Rev	DESCRIPTION	DATE	DRAWER	Rev	DESCRIPTION	DATE	DRAWER
A	Initial Drawing	2020.01.14	Jane Shen	C			
B				D			

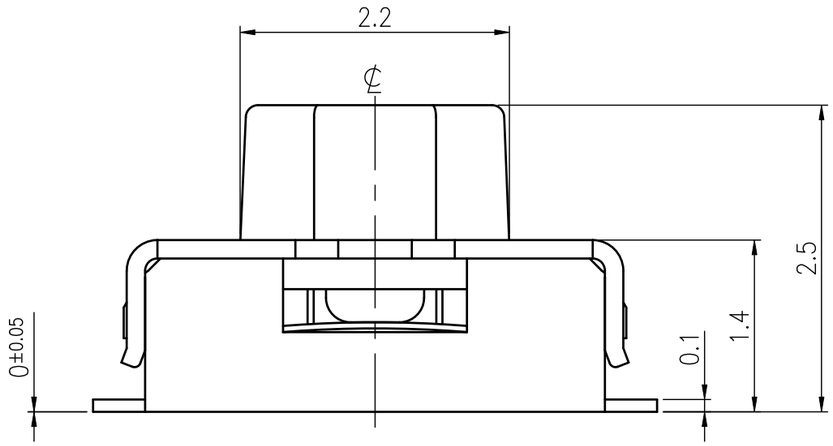
SPECIFICATIONS			
RATING	DC32V 50mA	TIMING	
CONTACT RESISTANCE	100mΩ MAX.	OPERATION (TORQUE)	
INSULATION RESISTANCE	DC500V-1GΩ MIN.	STROKE (ANGLE)	$0.25^{+0.1}_{-0.15}$ mm
WITHSTAND VOLTAGE	AC250V-1 MINUTE	LIFE	
REMARKS:	Waterproof Grade : IP67		

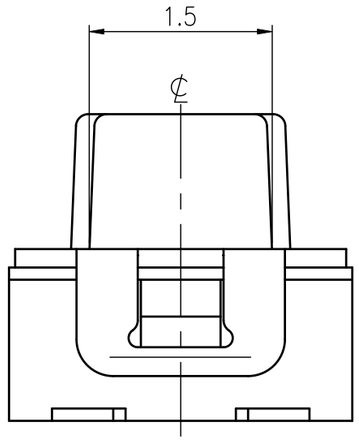




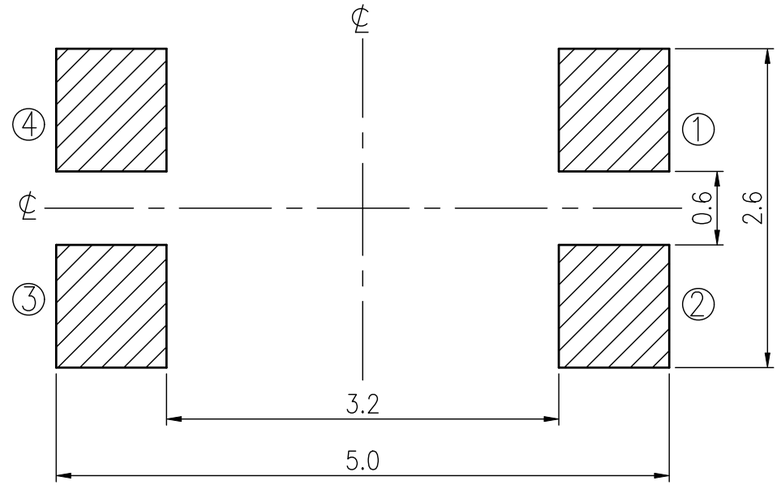
SCHEMATIC







P.C.B LAYOUT



MODEL NO.	OPERATION FORCE	LIFE CYCLES
NTC228-AA1G-B200T	200±50 gf	200,000
→ NTC228-AA1G-B300T	300±75 gf	150,000
NTC228-AA1G-B400T	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 Su	2020.01.14	
	UNIT mm	SCALE 20/1	REVIEWED			NO.: SEE MODEL NO.
			APPROVALS	Qiuyuan Chuang	2020.01.14	

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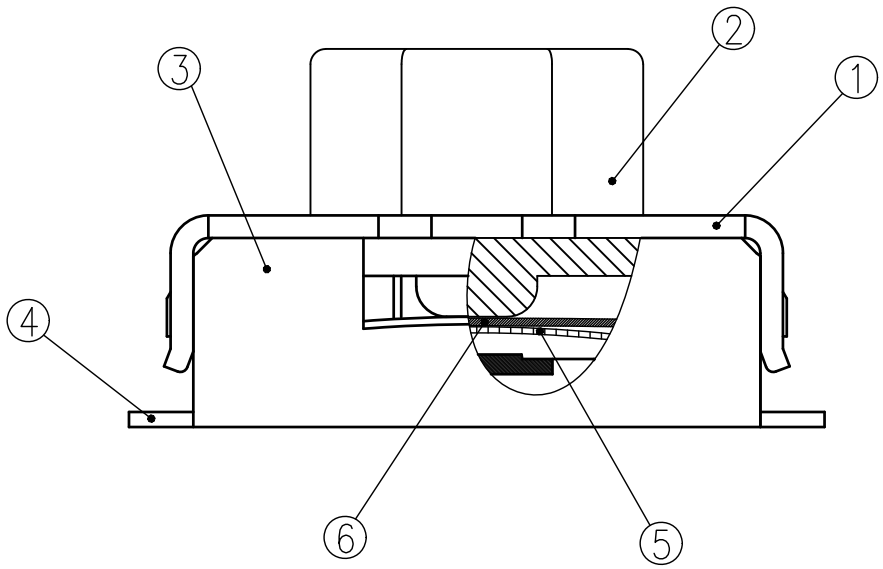

NO.	PART NAME	Q'TY	MATERIAL	SPECIFICATION
6	TAPE	1	POLYIMIDE	
5	CONTACT PLATE	3	STAINLESS STEEL PLATE	Ag PLATING
4	TERMINAL	4	COPPER ALLOY	Ag PLATING OVER Ni PLATING
3	FRAME	1	POLYAMIDE RESIN	BLACK COLOR
2	STEM	1	POLYAMIDE RESIN	BLACK COLOR
1	COVER	1	NICKEL SILVER	

SYM	DESCRIPTION	DATE	APPROVED

SIGNATURES		DATE
DRAWN	Jane Shen	2020.01.14
CHK'D	Landry Su	2020.01.14
REV'D		
APP'D	Qiuyuan Chuang	2020.01.14

M O D E L

TITLE: TACT SWITCH

NO.: NTC228-AA1G-B400T

DWG NO.: TC228-08

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℃ 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℃ in temperature, 60~70% RH in Humidity and 86~106 kpa in atmospheric pressure.

2. Operating temperature range: -40 ~ +85℃

Storage temperature range: -55 ~ +85℃

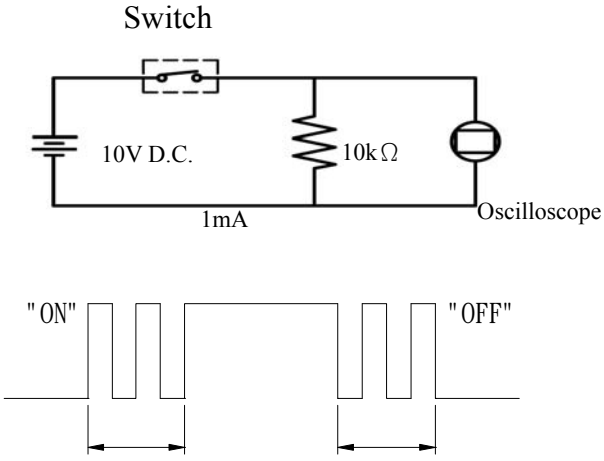
3. Construction:

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.

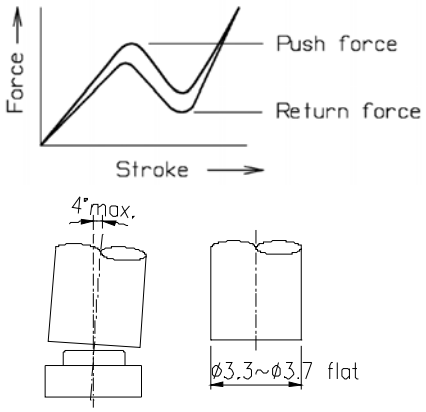
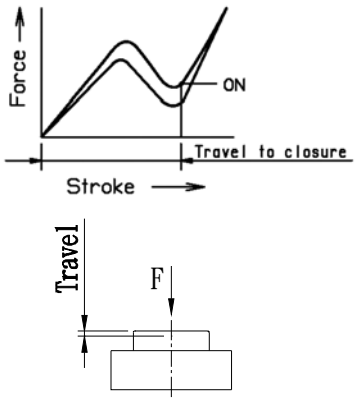
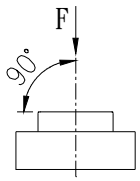
4. Rating: 32V D.C. , 50mA.

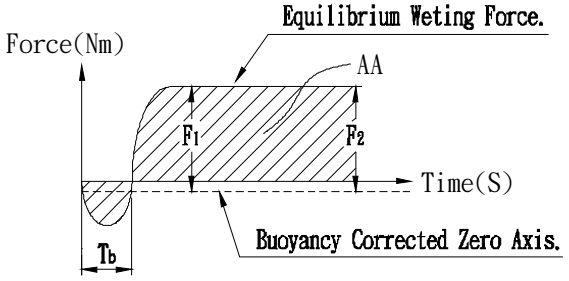
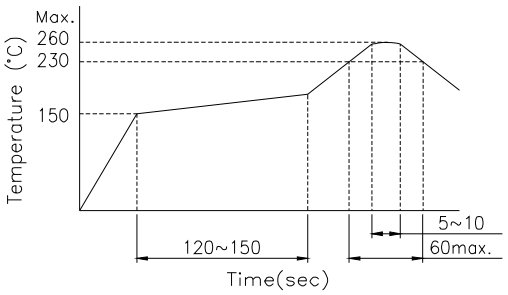
5. Electrical Performance:

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	Lightly striking the center of the stem at a rate Encountered in normal use (3 to 4 operations per sec.) 	ON: ≦3m sec. OFF: ≦3m sec.

			APPROVED BY	REVIEWED BY	CHECKED BY	DESIGNED BY	SPEC NO.
						Jane Shen	SE-TC102N
			Qiuyuan Chuang			2018.09.05	PAGINATE
A	NEW RELEASE						1/4
SYM	DISCRIPTION	DATE					

6. Mechanical Performance:

No.	Items	Test conditions	Specifications
6.1	Operating Force	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. 	Push force: 200±50 gf 300±75 gf 400±100 gf
6.2	Travel	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. 	0.25 +0.1 / -0.15 mm
6.3	Push Strength	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. 3kgf for 15 sec. 	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.

6.4	Solderability	Test Temperature : 235 ± 5℃ Immersion Angle : 90° Immersion Speed : 1 mm/sec. Immersion Depth : 0.1mm Dwell Time : 5 seconds  **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.
6.5	Solder Heat Resistance	(1) Manual soldering temperature: Temperature: 350℃ Max. Time: 3 Sec. Max. (2) Reflow Soldering: Number of reflow pass: 2 cycles.  	Shall be free form pronounced deforming in appearance. Item 5.1~5.4 shall be satisfied. Item 6.1~6.2 shall be satisfied.

SPECIFICATIONS FOR TACT SWITCH

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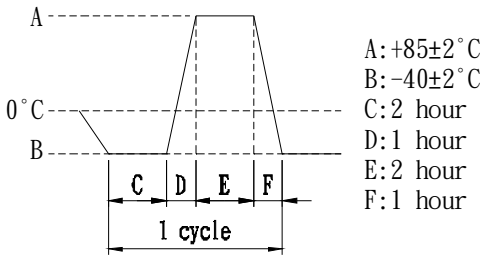
7. Weather Performance:

No.	Items	Test conditions	Specifications
7.1	Humidity Test	(1) Temperature: 60±2℃. (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±2℃. (2) Duration of test: 500 Hour. (3) Standard conditions after test: 1 Hour.	
7.3	Cold Test	(1) Temperature: -40±2℃. (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-lever 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. 	

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 ±30% of specifications. Item 5.2 shall be satisfied. Item 6.2 shall be satisfied.

			APPROVED BY	REVIEWED BY	CHECKED BY	DESIGNED BY	SPEC NO.
						Jane Shen	SE-TC102N
			Qiuyuan Chuang			2018.09.05	PAGINATE
A	NEW RELEASE						4/4
SYM	DISCRIPTION	DATE					

THE PACKING SPECIFICATIONS

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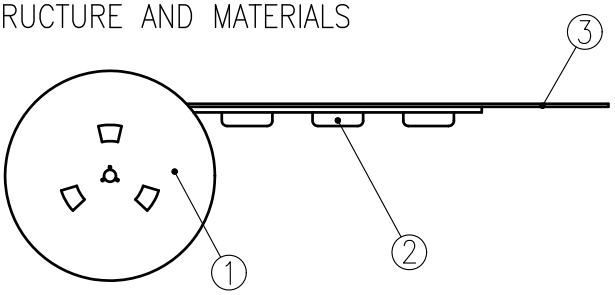
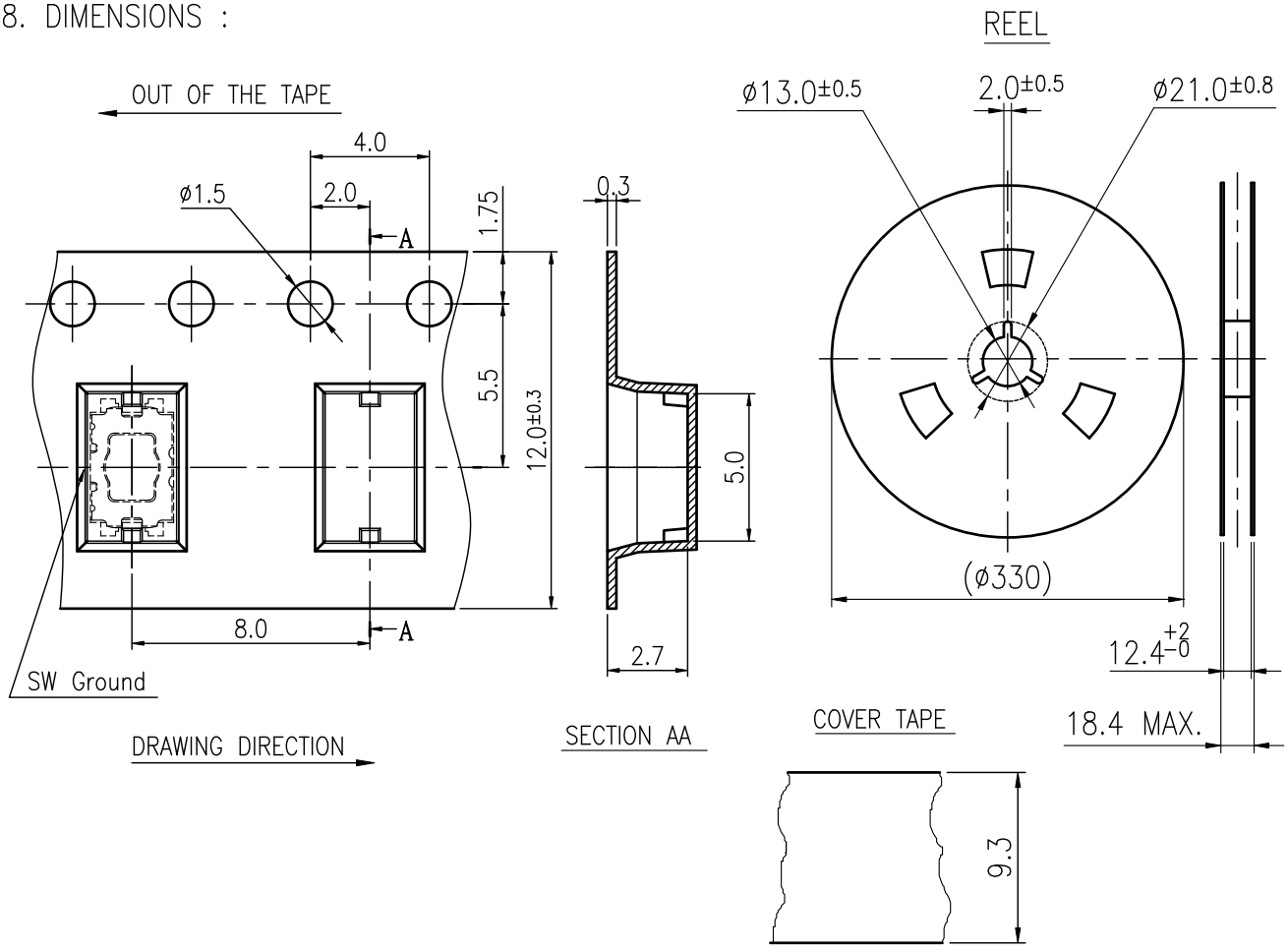
1.STRUCTURE AND MATERIALS



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

2. PACKAGING QUANTITY : 3,000 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 ACCETABLE BUT MORE THAN 3 RUNNING POCKETS SHORTAGE IS NOT ALLOWED.
5. STRIPPING STRENGTH OF COVER TAPE IS BETWEEN 10 gf TO 130 gf AND STRIPPING ANGLE SHOULD BE WITHIN 165° ~ 180 °.
6. THE PRODUCT IN THE POCKET OF CARRIER TAPE SHOULD BE PLACED IN A SPECIFIED CORRECT POSITION.
7. TAPE AND REEL PER EIA-481
8. DIMENSIONS :



SYM	DISCRIPTION	DATE	APPROVED

APPROVED BY	REVIEWED BY	CHECKED BY	DESIGNED BY	MODEL NO.	
Qiuyuan Chuang			Jane Shen	NTC_228-(A,B)A_G-B	
				PAGINATE. 1/1	SPEC NO. P-819

TAIWAN MISAKI ELECTRONICS CO.,LTD.