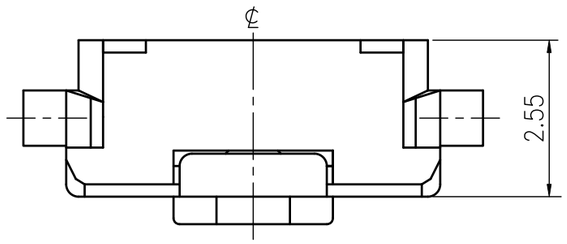
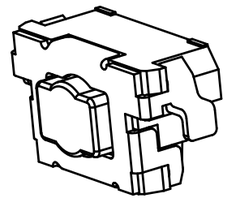
RoHS Compliant

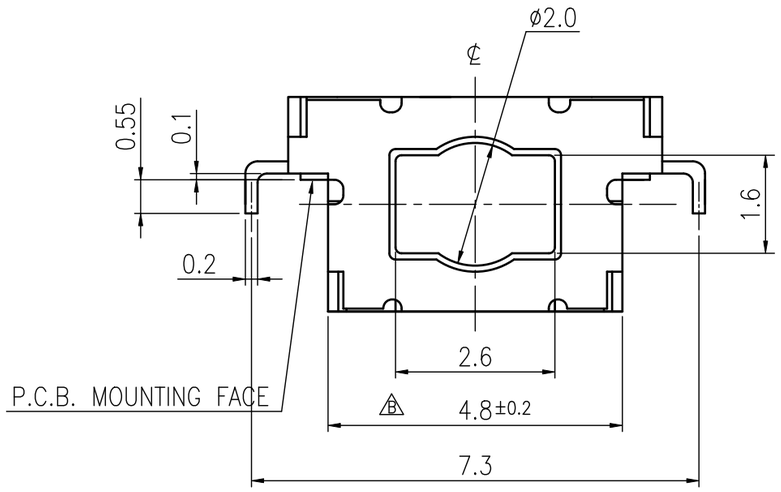
For Reference Only

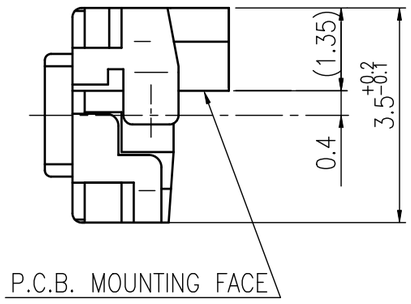
REVISIONS							
Rev	DESCRIPTION	DATE	DRAWER	Rev	DESCRIPTION	DATE	DRAWER
A	Initial Drawing	2011.08.11	Jane Shen	C			
B	Change Drawing	2017.09.22	Jane Shen	D			

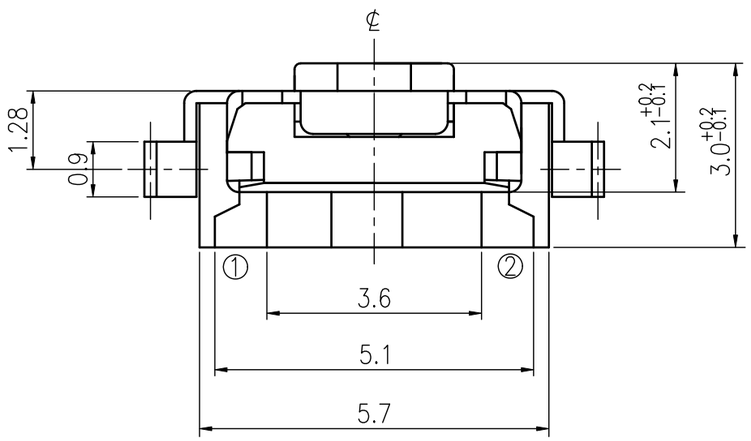
SPECIFICATIONS			
RATING	DC12V 50mA	TIMING	
CONTACT RESISTANCE	100mΩ MAX.	OPERATION (TORQUE)	160±50 gf
INSULATION RESISTANCE	DC500V – 100MΩ MIN.	STROKE (ANGLE)	0.15±0.1 mm
WITHSTAND VOLTAGE	AC250V – 1 MINUTE	LIFE	1,000,000 CYCLES
REMARKS:			



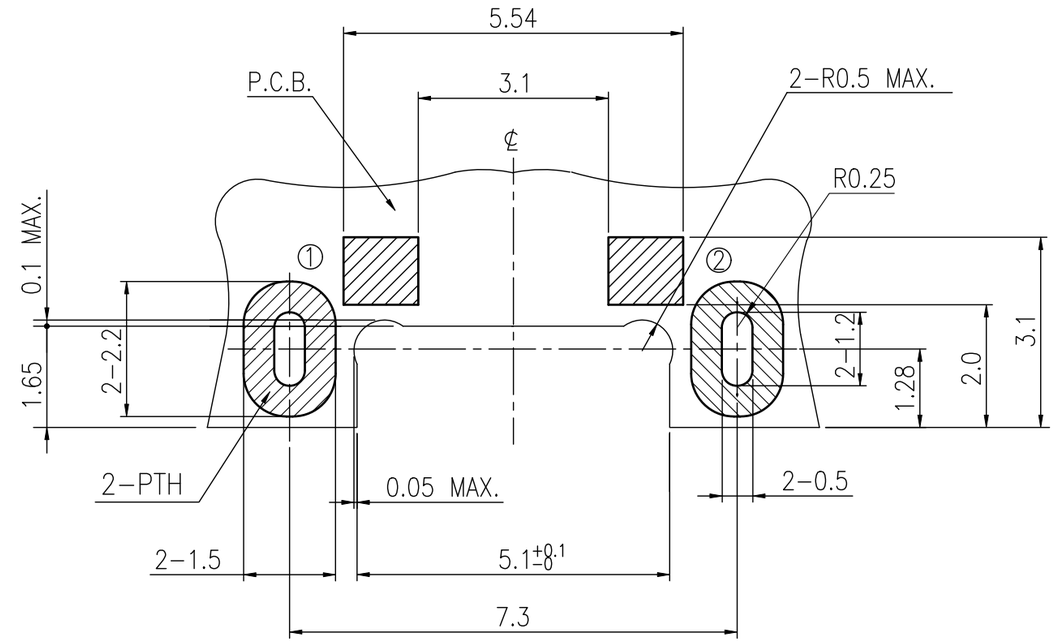








SCHEMATIC



Recommend P.C.B. Layout

TOLERANCES UNLESS OTHERWISE SPECIFIED ±0.1			SIGNATURES		DATE	MODEL
			DRAWER	Jane Shen	2017.09.22	TITLE: TACT SWITCH
			CHECKED			
	UNIT mm	SCALE 10/1	REVIEWED	Landry Su	2017.09.22	NO. NTC302-BA1G-A160M
			APPROVALS	Dennis Hung	2017.09.22	

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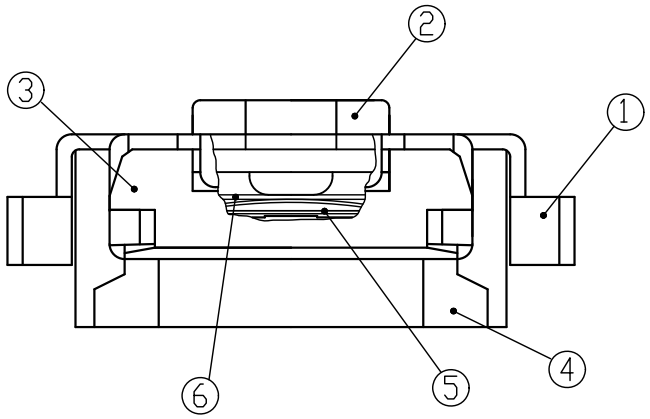

NO.	PART NAME	Q'TY	MATERIAL	SPECIFICATION
6	TAPE	1	POLYIMIDE	
5	CONTACT PLATE	2	STAINLESS STEEL PLATE	Ag-PLATING
4	TERMINAL	2	COPPER ALLOY	Ag PLATING OVER Ni PLATING
3	FRAME	1	LIQUID CRYSTAL POLYMER	BLACK COLOR
2	STEM	1	LIQUID CRYSTAL POLYMER	BLUE COLOR
1	COVER	1	STAINLESS STEEL PLATE	Ag PLATING OVER Ni PLATING

SYM	DESCRIPTION	DATE	APPROVED

SIGNATURES		DATE
DRAWN	Jane Shen	2011.08.11
CHK'D	Jamie Li	2011.08.11
REV'D		
APP'D	Dennis Hung	2011.08.11

TAIWAN MISAKI ELECTRONICS CO.,LTD.

M O D E L

TITLE: TACT SWITCH

NO. NTC302-BA1G-A160M

DWG NO. TC302-03

SPECIFICATIONS FOR TACT SWITCH

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Model: NTC302-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℃

Preservative temperature range: Single condition: -40 ~ +85℃ ; Taping condition: -20 ~ +60℃

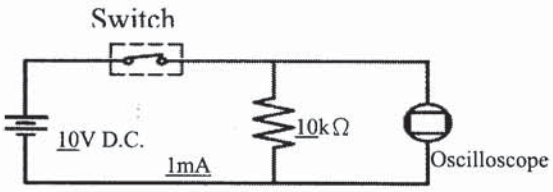
3. Construction:

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: 12 V D.C. , 50 mA.

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.	100MΩ 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: 10m sec Max. OFF:10m sec Max.

			APPROVED BY	REVIEWED BY	CHECKED BY	DESIGNED BY	SPEC NO.
						Jnae Shen 2009.12.18	SE-TC49N
A	NEW RELEASE						PAGINATE
SYM	DISCRIPTION	DATE					1/3

SPECIFICATIONS FOR TACT SWITCH

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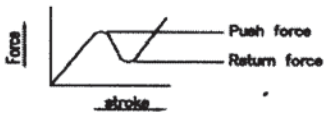
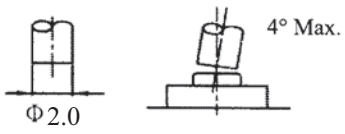
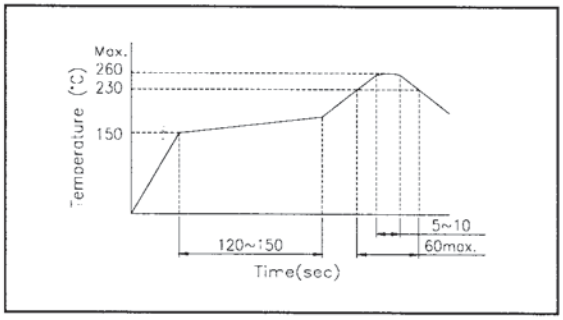
6. Mechanical Performance:

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. 	0 ± 50 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. 	0.15 ± 0.1 mm.
6.3	Control Strength	The static load of 3kgf shall be applied on top of the terminal in every direction for 1 minute, in any direction on condition of once for one terminal.	Shall be free from extreme wobble, vent or electrical and mechanical abnormality. Not deformation of the appearance.
6.4	Solderability	Soldering temperature: 235±5℃. Soldering time: 2±0.5 seconds.	75% or more of surface area of the portion immersed in solder shall be satisfied.
6.4	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. Of item 5.1~5.4 shall be satisfied. Of item 6.1~6.2 shall be satisfied.

			APPROVED BY	REVIEWED BY	CHECKED BY	DESIGNED BY	SPEC NO.
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							PAGINATE
A	NEW RELEASE						2/3
SYM	DISCRIPTION	DATE					

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 a drop water. (5) Standard conditions after test: 1 Hour.	Contact resistance: 500mΩ Max Of item 5.2~5.4 shall be satisfied. Of 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 a drop water. (4) Standard conditions after test: 1 Hour.	
7.4	Temperature cycle	(1) Test cycle: 20 cycles. (2) Standard conditions after test: 1 Hour.	

	Temperature	Duration of test
1 cycles	20±5℃	1 Hour
	-40±2℃	1 Hour
	20±5℃	1 Hour
	85±2℃	1 Hour

8. Durability:

No.	Items	Test conditions	Specifications
8.1	Life Test (Without Load)	(1) Operating speed:120~180 cycles/minute. (2) Push force: Maximum value of operation force. (3) Operation number: 1,000,000 times.	Contact Resistance: 2Ω MAX. Operating Force: Within ±30% of specifications. Of item 5.2 shall be satisfied. Of item 6.2 shall be satisfied.

			APPROVED BY	REVIEWED BY	CHECKED BY	DESIGNED BY	SPEC NO.
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							PAGINATE
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SYM	DISCRIPTION	DATE					

THE PACKING SPECIFICATIONS

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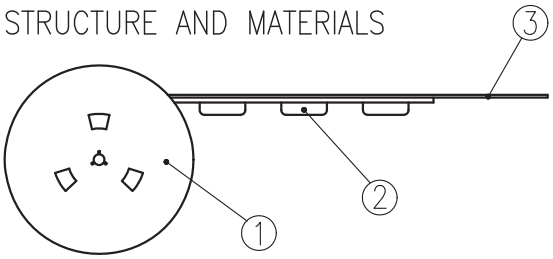
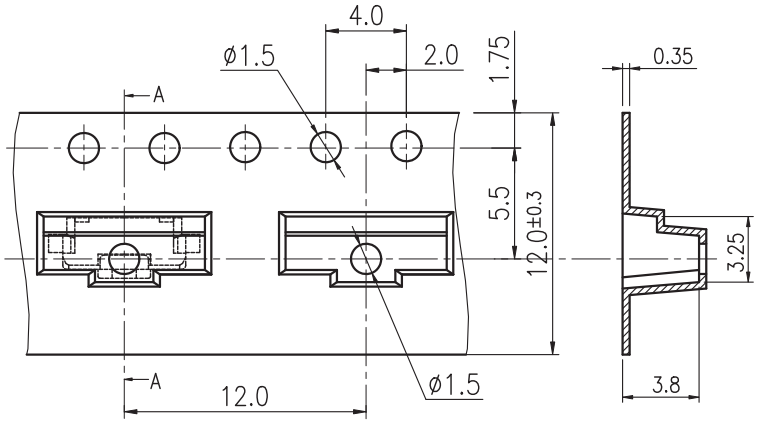
1. STRUCTURE AND MATERIALS



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

2. PACKAGE QUANTITY : 1200 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 RUNNIGE 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 :

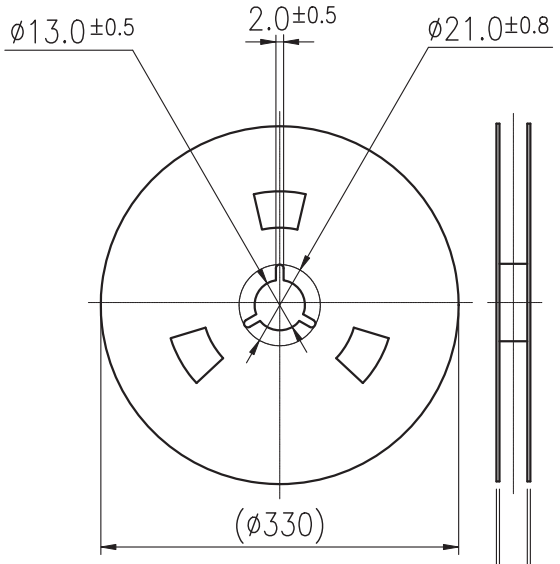
CARRIER TAPE



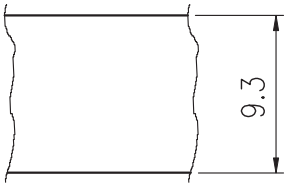
DRAWING DIRECTION →

SECTION A A

REEL



COVER TAPE



SYM	DISCRIPTION	DATE	APPROVED

APPROVED BY	REVIEWED BY	CHECKED BY	DESIGNED BY	MODEL NO.
Dennis Hung 2011.06.30			Jane Shen 2011.06.30	NTC302-BA1G-A160M

PAGINATE.	SPEC NO.
1/1	P-673

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