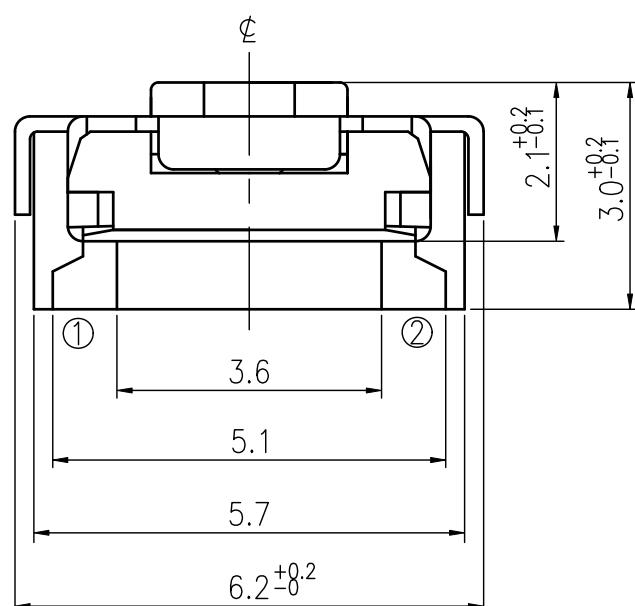
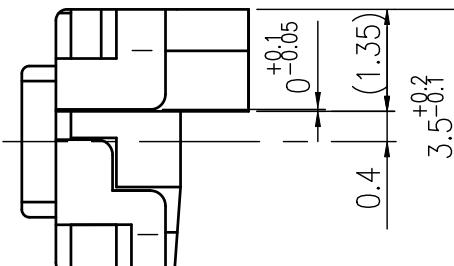
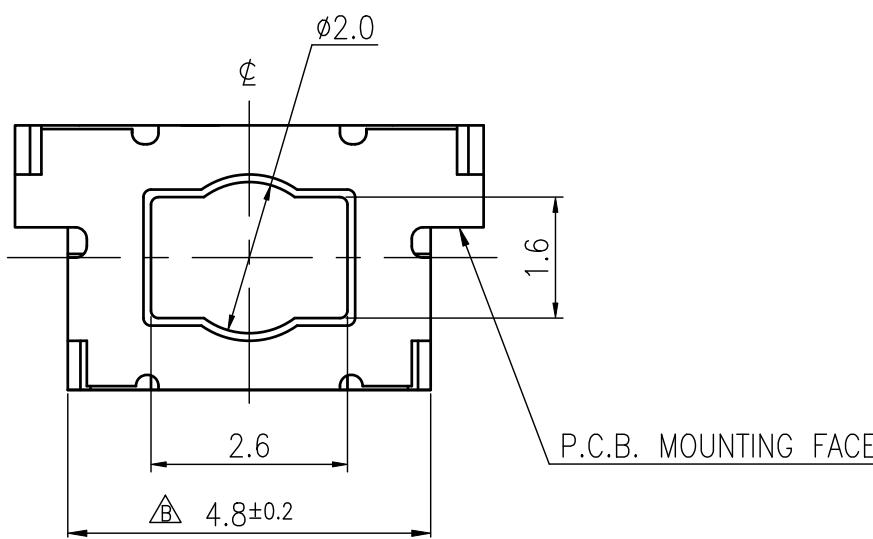
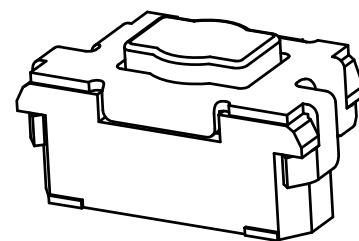
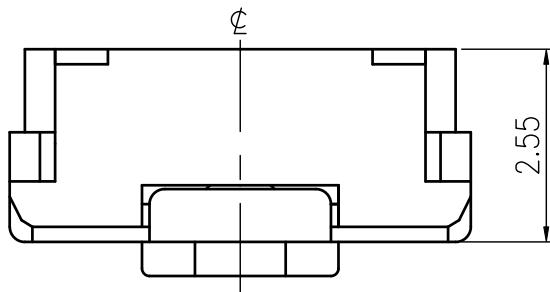


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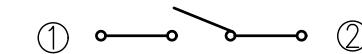


REVISIONS							
Rev	DESCRIPTION	DATE	DRAWER	Rev	DESCRIPTION	DATE	DRAWER
A	Initial Drawing	2008.12.18	Jane Shen	C			
B	Change Drawing	2014.06.23	Jane Shen	D			
SPECIFICATIONS							
RATING	DC12V 50mA		TIMING				
CONTACT RESISTANCE	100mΩ MAX.		OPERATION (TORQUE)				
INSULATION RESISTANCE	DC500V-100MΩ MIN.		STROKE (ANGLE)		0.15±0.1 mm		
WITHSTAND VOLTAGE	AC250V-1 MINUTE		CONTACT RESISTANCE		2Ω MAX.		
REMARKS:			(AFTER		CYCLES	LIFE TEST)	

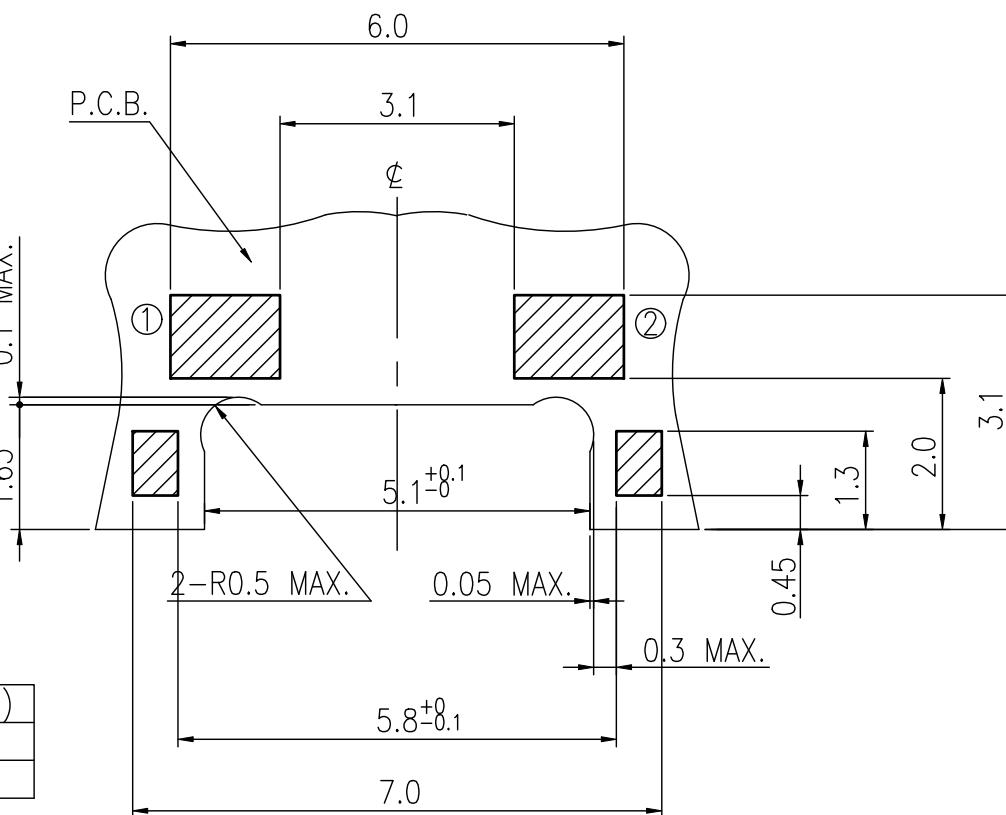


MODEL NO.	OPERATING FORCE	LIFE (CYCLES)
NTC302-AA1G-A120T	120±50gf	1,000,000
NTC302-AA1G-A160T	160±50gf	1,000,000

## SCHEMATIC



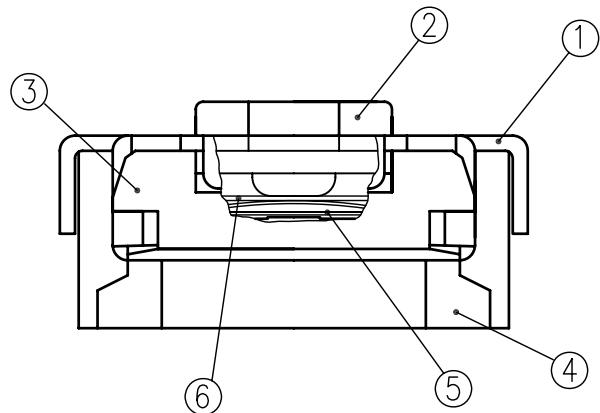
## P.C.B MOUNTING PLAN



TOLERANCES UNLESS OTHERWISE SPECIFIED ±0.1			SIGNATURES	DATE	MODEL
			DRAWER <b>Jane Shen</b>	2014.06.23	TITLE TACT SWITCH
			CHECKED <b>Jamie Li</b>	2014.06.25	
	UNIT mm	SCALE 10/1	REVIEWED		NO. See Model No.
			APPROVALS <i>Dennis Hung</i>	2014.06.25	

TAIWAN MISAKI ELECTRONICS CO., LTD.

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NO.	PART NAME	Q'TY	MATERIAL		SPECIFICATION	
					SIGNATURES	DATE
					DRAWN Jane Shen	2008.01.21
					CHK'D Max Chen	2008.01.21
					REV'D Ken Lin	2008.1.21
					APP'D <i>Fred Chen</i>	2008.01.21
SYM	DESCRIPTION	DATE	APPROVED			
TAIWAN MISAKI ELECTRONICS CO.,LTD.					DWG NO.	TC302-01

# SPECIFICATIONS FOR TACT SWITCH

RoHS Compliant

MODEL: NTC302 SERIES

1. TEST CONDITIONS:

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 86~106kPa IN ATMOSPHERIC PRESSURE.

2. OPERATING TEMPERATURE RANGE: -40~+85°C, STORAGE TEMPERATURE RANGE: -40~+85°C

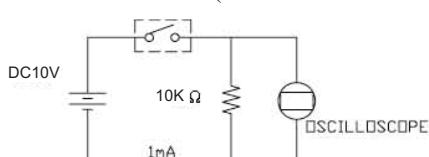
3. CONSTRUCTION:

3.1 SHAPE AND DIMENSION ARE SUBJECT TO ATTACHED DRAWING REGULATION.

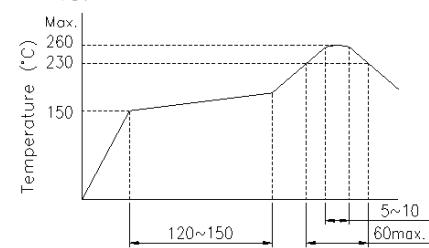
3.2 APPEARANCE: WHOLE SHOULD BE A GOOD COMPLETION, NO RUST, NO CRACK AND GOOD PLATING.

4. RATING: DC12V, 50mA

5. ELECTRICAL PERFORMANCE:

ITEMS	TEST CONDITIONS	SPECIFICATIONS
5.1 CONTACT RESISTANCE	APPLYING A STATIC LOAD TWICE THE OPERATING FORCE TO THE CENTER OF THE STEM. SHALL BE MEASURED AT 1KHz±200Hz (MAX. 20mV, MAX. 50mA.) OR 1A, 5V DC. BY VOLTAGE DROP METHOD.	100mΩ MAX.
5.2 INSULATION RESISTANCE	SHALL BE MEASURED BY APPLYING 500 VDC. BETWEEN ALL TERMINALS AND BETWEEN THE TERMINALS AND THE FRAME FOR 1 MINUTE ± 5 SECONDS.	100MΩ MIN.
5.3 WITHSTAND VOLTAGE	250 VAC. (50~60Hz) 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.

6. MECHANICAL PERFORMANCE:

6.1 OPERATING FORCE			SHALL BE IN ACCORDANCE WITH INDIVIDUAL SPECIFIED.					
6.2 STROKE	THE POSITION OF STEM TOP FROM REFERENCE LINE AT THE CHANGE POINT FROM "OFF" TO "ON".		SHALL BE IN ACCORDANCE WITH INDIVIDUAL SPECIFIED.					
6.3 CONTROL STRENGTH	THE STATIC LOAD OF 3 Kgf SHALL BE APPLIED IN THE OPERATING DIRECTION OF THE CONTROL UNIT FOR 60 SECONDS.		SHALL BE FREE FROM EXTREME WOBBLE, VENT OR ELECTRICAL AND MECHANICAL ABNORMALITY. NOT DEFORMATION OF THE APPEARANCE.					
6.4 SOLDERABILITY	AFTER SPRATED FLUX. TEMPERATURE: 235 ±5°C, SOLDERING TIME: 3 ±0.5 SEC.		70% OR MORE OF SURFACE AREA OF THE PORTION IMMERSED IN SOLDER SHALL BE SATISFIED.					
6.4 SOLDER HEAT RESISTANCE	(1) MANUAL SOLDERING: <table border="1"> <tr> <th></th> <th>TEMPERATURE</th> <th>TIME</th> </tr> <tr> <td>Manual Soldering Temperature</td> <td>350 °C max.</td> <td>3 sec. max.</td> </tr> </table> (2) REFLOW SOLDERING:  NUMBER OF REFLOW PASS : 2		TEMPERATURE	TIME	Manual Soldering Temperature	350 °C max.	3 sec. max.	SHALL BE FREE FROM PRONOUNCED DEFORMING IN APPEARANCE. OF ITEMS 5.1~5.4 SHALL BE SATISFIED. OF ITEMS 6.1~6.2 SHALL BE SATISFIED.
	TEMPERATURE	TIME						
Manual Soldering Temperature	350 °C max.	3 sec. max.						

			APPROVED BY	CHECKED BY	DESIGNED BY	SPEC NO.
			<i>Fred Chen</i>	Ken Lin	Jane Shen	SE-TC49N
			2007.10.19	2007.10.18	2007.10.16	PAGINATE
SYM	DISCRIPTION	DATE	APPROVED			1/2

# SPECIFICATIONS FOR TACT SWITCH

RoHS Compliant

## 7. WEATHER PERFORMANCE:

7.1	HUMIDITY TEST	1) TEMPERATURE : 60±2°C 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 ITEMS 5.2~5.4 SHALL BE SATISFIED. OF ITEMS 6.1~6.2 SHALL BE SATISFIED												
7.2	HEAT TEST	1) TEMPERATURE : 85±2°C 2) DURATION OF TEST : 500 HOUR. 3) STANDARD CONDITIONS AFTER TEST : 1 HOUR.													
7.3	COLD TEST	1) TEMPERATURE : -40±2°C 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 CYCLES: 20 CYCLES. 2) STANDARD CONDITIONS AFTER TEST : 1 HOUR.	<table border="1"> <thead> <tr> <th></th> <th>TEMPERATURE</th> <th>DURATION OF TEST</th> </tr> </thead> <tbody> <tr> <td rowspan="4">1 CYCLES</td> <td>20 ±5°C</td> <td>1 HOUR</td> </tr> <tr> <td>-40 ±2°C</td> <td>1 HOUR</td> </tr> <tr> <td>20 ±5°C</td> <td>1 HOUR</td> </tr> <tr> <td>85 ±2°C</td> <td>1 HOUR</td> </tr> </tbody> </table>		TEMPERATURE	DURATION OF TEST	1 CYCLES	20 ±5°C	1 HOUR	-40 ±2°C	1 HOUR	20 ±5°C	1 HOUR	85 ±2°C	1 HOUR
	TEMPERATURE	DURATION OF TEST													
1 CYCLES	20 ±5°C	1 HOUR													
	-40 ±2°C	1 HOUR													
	20 ±5°C	1 HOUR													
	85 ±2°C	1 HOUR													

## 8. DURABILITY:

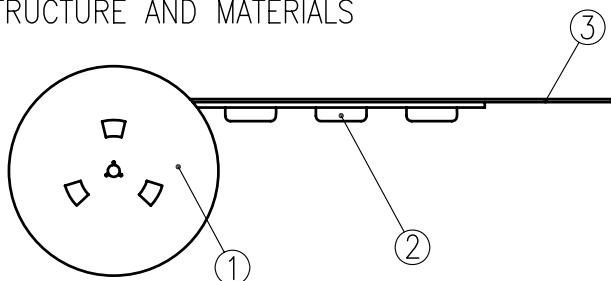
8.1	LIFE TEST	(1) OPERATION SPEED : 60 CYCLES/MINUTE. (2) PUSH FORCE : MAXIMUM VALUE OF OPERATION FORCE. (3) OPERATION NUMBER :1,000,000 TIMES.	CONTACT RESISTANCE: LESS THAN 2Ω MAX. INSULATION RESISTANCE: MORE THAN 10MΩ MIN.  BOUNCE: ON: 20 m sec. MAX. OFF: 20 m sec. MAX OPERATING FORCE: WITHIN ±30% OF SPECIFICATIONS. OF ITEMS 5.2 SHALL BE SATISFIED. OF ITEMS 6.2 SHALL BE SATISFIED.
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			APPROVED BY	CHECKED BY	DESIGNED BY	SPEC NO.
			<i>Fred Chen</i>	Ken Lin	Jane Shen	SE-TC49N
			2007.10.19	2007.10.18	2007.10.16	PAGINATE
SYM	DISCRIPTION	DATE	APPROVED			2/2

# THE PACKING SPECIFICATIONS

RoHS Compliant

## 1. STRUCTURE AND MATERIALS



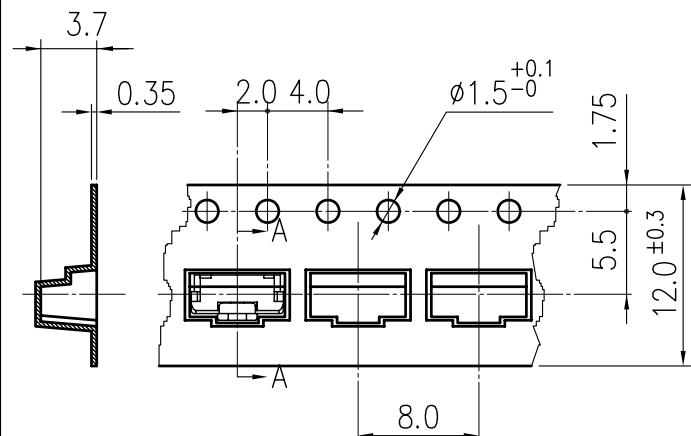
NO.	PARTS NAME	MATERIALS
③	COVER TAPE	POLYESTER
②	CARRIER TAPE	POLYSTYRENE
①	REEL	POLYSTYRENE

- PACKAGING QUANTITY : 2,000 PCS/REEL
- MORE THAN 10 EMPTY POCKETS SHOULD BE REMAINED AT BOTH ENDS OF THE CARRIER TAPE FOR EACH REEL.
- SHORTAGE LESS THAN 10 PCS A REEL IS ACCEPTABLE BUT MORE THAN 3 RUNNING POCKETS SHORTAGE IS NOT ALLOWED.
- STRIPPING STRENGTH OF COVER TAPE IS BETWEEN 10 gf TO 130 gf AND STRIPPING ANGLE SHOULD BE WITHIN 165° ~ 180°.
- DIMENSIONS :



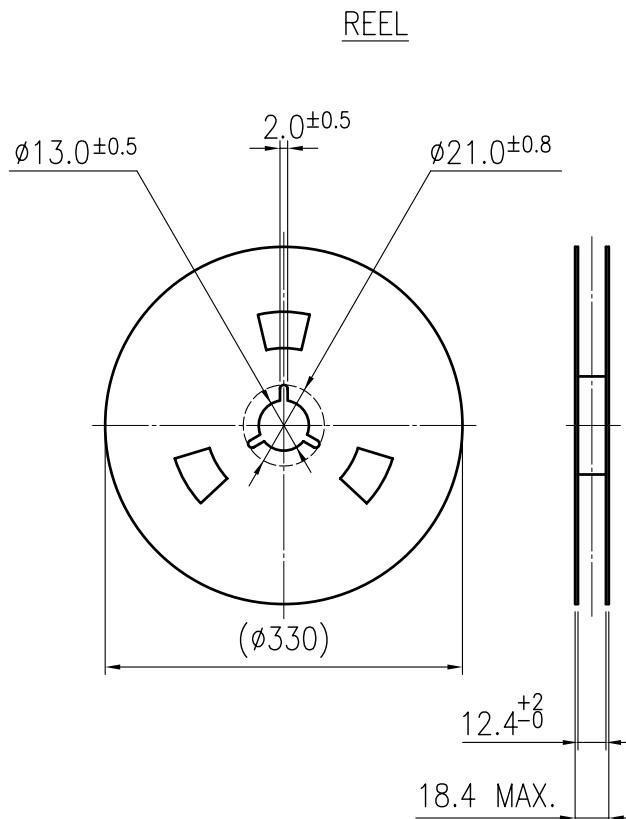
CARRIER TAPE

Tape and Reel per EIA-481.

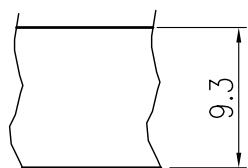


SECTION A A

DRAWING DIRECTION



COVER TAPE



SYM	DISCRIPTION	DATE	APPROVED	APPROVED BY	REVIEWED BY	CHECKED BY	DESIGNED BY	MODEL NO.
				<i>Fred Chen</i> 2008.01.21	Ken Lin 2008.01.21	Max Chen 2008.01.21	Jane Shen 2008.01.21	NTC302-AA1G-A120T
								PAGINATE. 1/1 SPEC NO. P-360