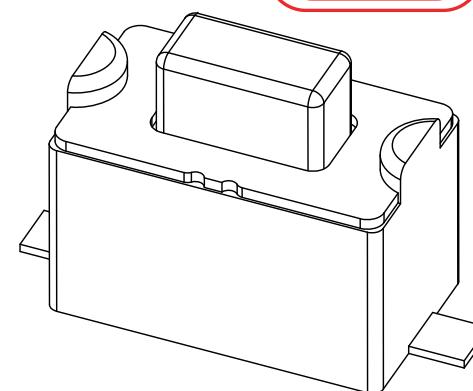
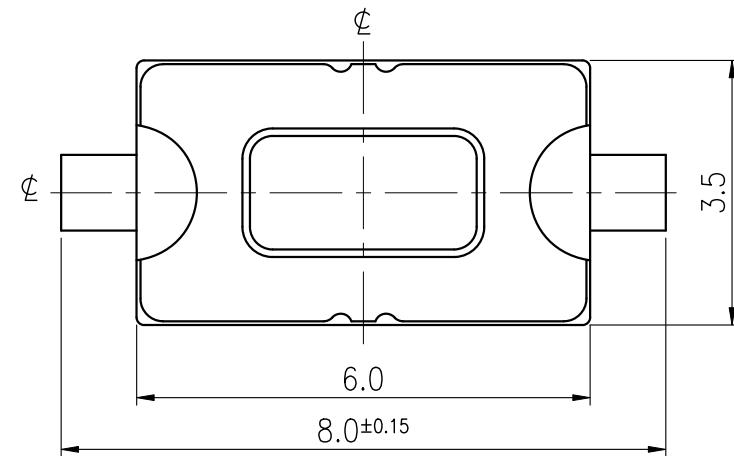
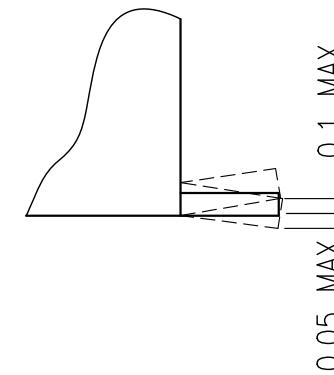


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REVISIONS							
Rev	DESCRIPTION	DATE	DRAWER	Rev	DESCRIPTION	DATE	DRAWER
A	Initial Drawing	2010.03.04	Catherine Lee	C	Change the cover shape.	2012.08.03	Catherine Lee
B	Change frame shape	2011.10.17	Catherine Lee	D	Update dimensions.	2012.11.09	Catherine Lee
SPECIFICATIONS							
RATING	DC12V 50mA	TIMING					
CONTACT RESISTANCE	100mΩ MAX.	OPERATION (TORQUE)					
INSULATION RESISTANCE	DC500V – 100MΩ MIN.	STROKE (ANGLE)	0.25±0.1 mm				
WITHSTAND VOLTAGE	AC250V – 1 MINUTE	CONTACT RESISTANCE	1Ω MAX.				
REMARKS:		(AFTER CYCLES LIFE TEST)					

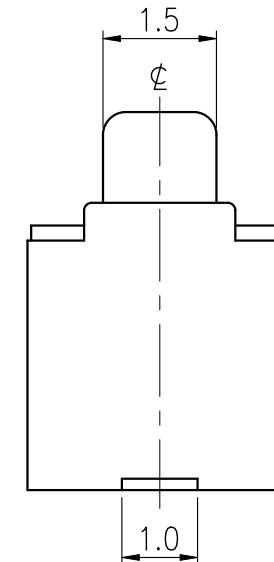
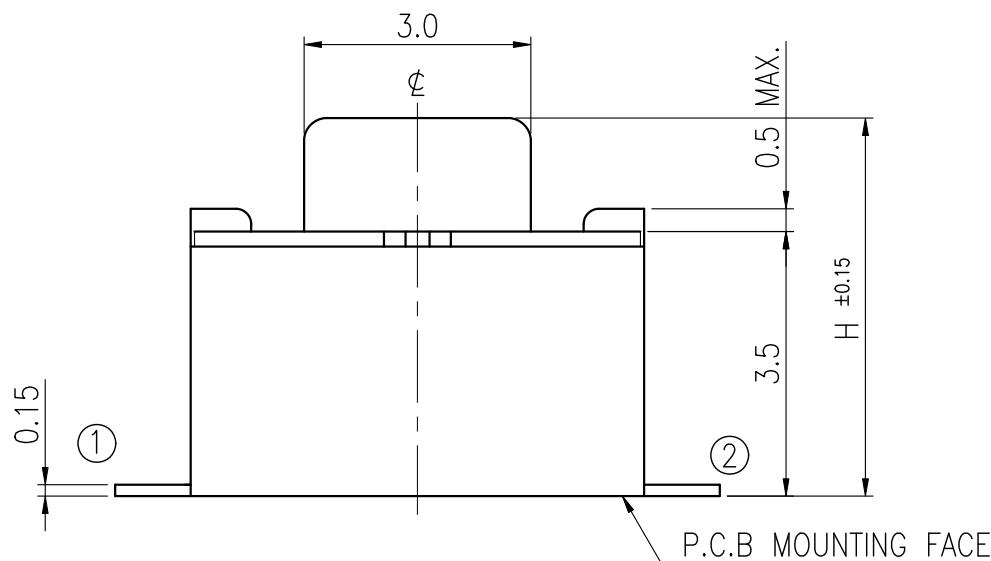
RATING	DC12V 50mA	TIMING	
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INSULATION RESISTANCE	DC500V – 100MΩ MIN.	STROKE (ANGLE)	0.25±0.1 mm
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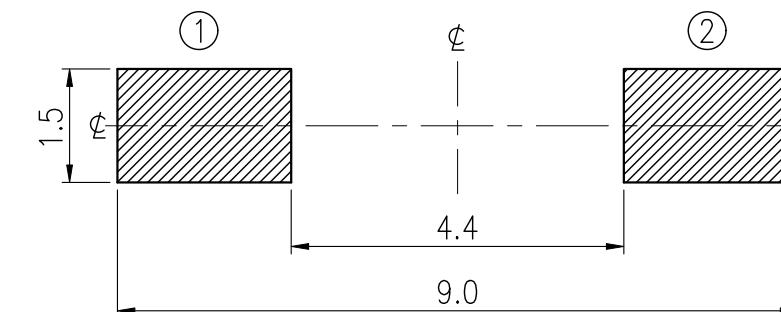
SCHEMATIC



TERMINAL DETAIL (20/1)



P.C.B LAYOUT



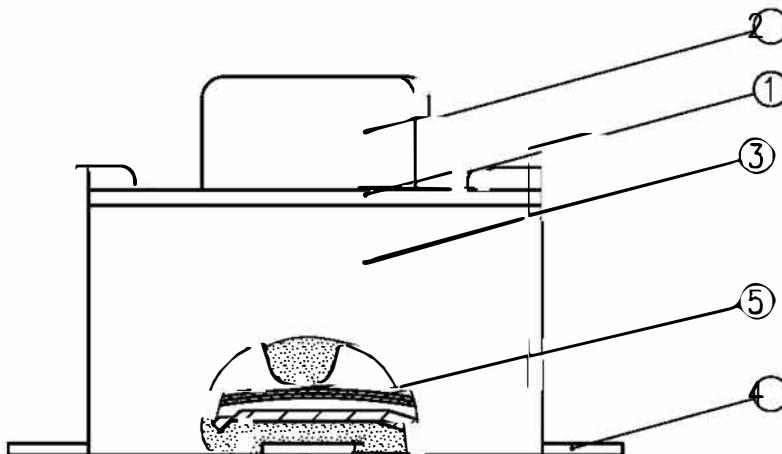
MODEL NO.	OPERATING FORCE	H	LIFE
NTC003-CC1G-A160T	160±50 gf	4.3	50,000
NTC003-CC1G-B160T		5.0	
NTC003-CC1G-A260T	260±70 gf	4.3	30,000
NTC003-CC1G-B260T		5.0	
NTC003-CC1G-A360T	360±90 gf	4.3	50,000
NTC003-CC1G-B360T		5.0	



TOLERANCES UNLESS OTHERWISE SPECIFIED ±0.1			SIGNATURES	DATE	MODEL
			DRAWER	Catherine Lee	2012.11.09
CHECKED					TACT SWITCH
	UNIT mm	SCALE 10/1	REVIEWED		NO. SEE MODEL NO.
			APPROVALS <i>Dennis Hung</i>	2012.11.09	

TAIWAN MISAKI ELECTRONICS CO., LTD.

RoHS Compliant



Dennis Hung 2011.10.17

Jamie Li

20

NO.	PART NAME	Q'TY	MATERIAL	SPECIFICATION		
				SIGNATURES	DATE	MODEL
				DRAWN Catherine Lee	2011.10.17	TITLE TACT SWITCH
				CHK'D		
				REV'D		
				APP'D		
SYM A160	DESCRIPTION	DATE	APPROVED			NO. NTC003-CC 1G-A260T
						TC03-25
	TAIWAN MISAKI ELECTRONICS CO.,LTD.					

SPECIFICATIONS FOR TACT SWITCH

RoHS Compliant

Model: NTC003 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

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

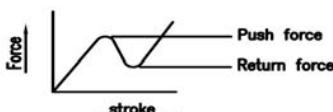
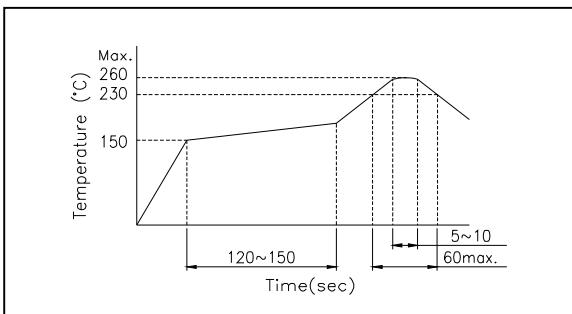
No.	Items	Test conditions	Specifications
5.1	Contact Resistance	Shall be measure at 1kHz±200Hz (MAX. 20mV, MAX. 50mA.) or 1 A, 5V D.C. By voltage drop method.	100mΩ Max.
5.2	Insulation Resistance	Shall be measured by applying 500V D.C. Between all terminals and between the terminals and the frame for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

			APPROVED BY	REVIEWED BY	CHECKED BY	DESIGNED BY	SPEC NO.
			<i>W. J. Hung</i>	<i>Dennis Hung</i>	James Hung	Catherine Lee	SE-TC08N
			2010.03.05	2010.03.04	2010.03.04	2010.03.04	PAGINATE
A	NEW RELEASE						
SYM	DISCRIPTION	DATE					1/3

SPECIFICATIONS FOR TACT SWITCH

RoHS Compliant

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. 	<u>160</u> ± <u>50</u> 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.	<u>0.25</u> ± <u>0.1</u> mm.
6.3	Control Strength	The static load of 2kgf 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	Solder ability	Soldering temperature: 235±5°C. Soldering time: 2±0.5 seconds.	75% or more of surface area of the portion immersed in solder shall be satisfied.
6.5	Solder Heat Resistance	(1) Manual soldering temperature: Temperature: 350°C Max. Time: 3 Sec. Max. (2) Reflow Soldering: Number of reflow pass: 2 cycles. 	Shall be free from 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.
		<i>W. J. Hung</i>	<i>Dennis Hung</i>	James Hung	Catherine Lee	SE-TC08N
		2010.03.05	2010.03.04	2010.03.04	2010.03.04	PAGINATE
A	NEW RELEASE					
SYM	DISCRIPTION	DATE				2/3

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 a drop water. (5) Standard conditions after test: 1 Hour.	Contact resistance: 100mΩ 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: $85\pm2^{\circ}\text{C}$. (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 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.	<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>$20\pm5^{\circ}\text{C}$</td> <td>1 Hour</td> </tr> <tr> <td>$-40\pm2^{\circ}\text{C}$</td> <td>1 Hour</td> </tr> <tr> <td>$20\pm5^{\circ}\text{C}$</td> <td>1 Hour</td> </tr> <tr> <td>$85\pm2^{\circ}\text{C}$</td> <td>1 Hour</td> </tr> </tbody> </table>		Temperature	Duration of test	1 cycles	$20\pm5^{\circ}\text{C}$	1 Hour	$-40\pm2^{\circ}\text{C}$	1 Hour	$20\pm5^{\circ}\text{C}$	1 Hour	$85\pm2^{\circ}\text{C}$	1 Hour
	Temperature	Duration of test													
1 cycles	$20\pm5^{\circ}\text{C}$	1 Hour													
	$-40\pm2^{\circ}\text{C}$	1 Hour													
	$20\pm5^{\circ}\text{C}$	1 Hour													
	$85\pm2^{\circ}\text{C}$	1 Hour													

8. Durability:

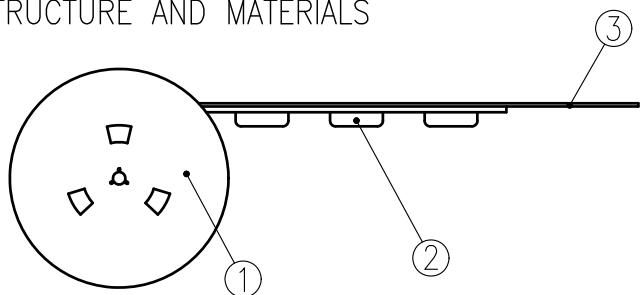
No.	Items	Test conditions	Specifications
8.1	Life Test	(1) 5V D.C. , 5mA Resistance load. (2) Operating speed:120 cycles/minute. (2) Push force: Maximum value of operation force. (3) Operation number: 50,000 times.	Contact Resistance: 1Ω MAX. Bounce: 20m sec Max.(ON,OFF) Operating Force: Within $\pm30\%$ of specifications. Item 5.2 shall be satisfied. Item 6.2 shall be satisfied.

		APPROVED BY	REVIEWED BY	CHECKED BY	DESIGNED BY	SPEC NO.
		<i>W. J. Hung</i>	<i>Dennis Hung</i>	James Hung	Catherine Lee	SE-TC08N
		2010.03.05	2010.03.04	2010.03.04	2010.03.04	PAGINATE
A	NEW RELEASE					
SYM	DISCRIPTION	DATE				3/3

THE PACKING SPECIFICATIONS

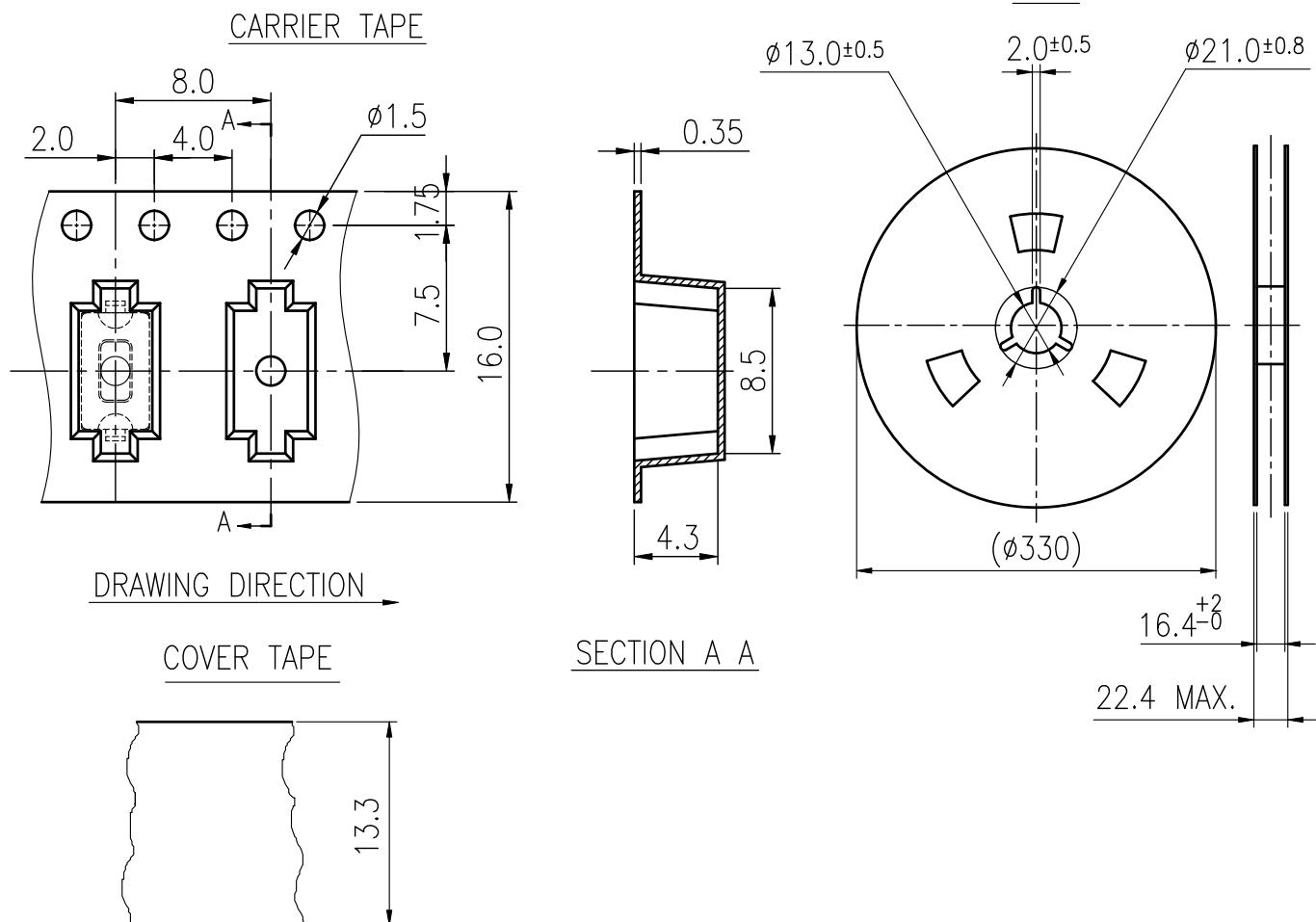
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1. STRUCTURE AND MATERIALS



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

- PACKAGING QUANTITY : 1,800 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 $165^\circ \sim 180^\circ$.
- THE PRODUCT IN THE POCKET OF CARRIER TAPE SHOULD BE PLACED IN A SPECIFIED CORRECT POSITION.
- TAPE AND REEL PER EIA-481
- DIMENSIONS :



SYM	DESCRIPTION	DATE	APPROVED	APPROVED BY	REVIEWED BY	CHECKED BY	DESIGNED BY	MODEL NO.
				Dennis	Hung		Jane Shen	NTC003-C -A
								PAGINATE. 1/1
								SPEC NO. P-113