

RoHS Compliant

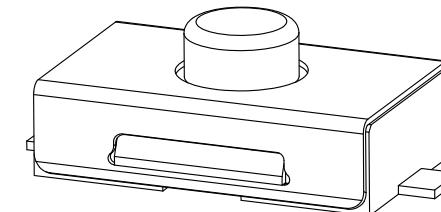
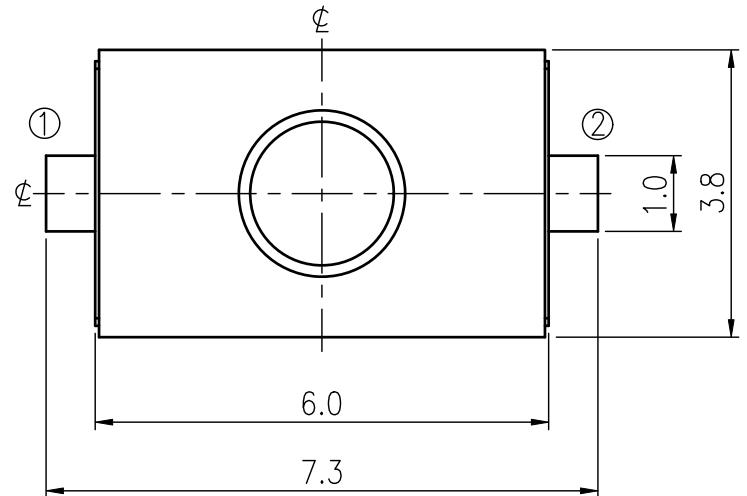


REVISIONS

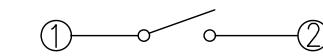
Rev	DESCRIPTION	DATE	DRAWER	Rev	DESCRIPTION	DATE	DRAWER
A	Initial Drawing	2019.08.22	Jane Shen	c			
B				D			

SPECIFICATIONS

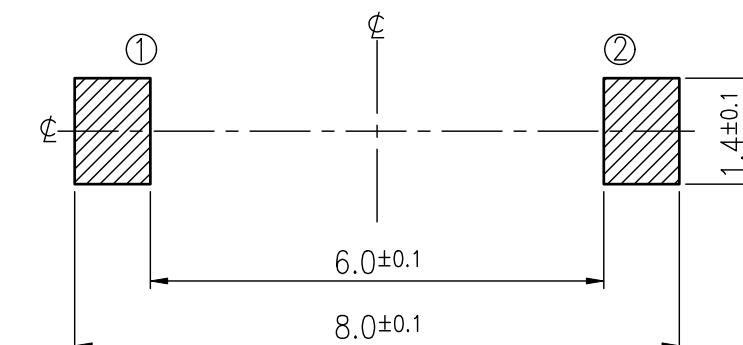
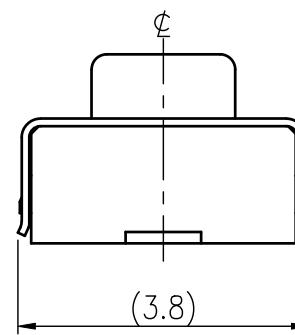
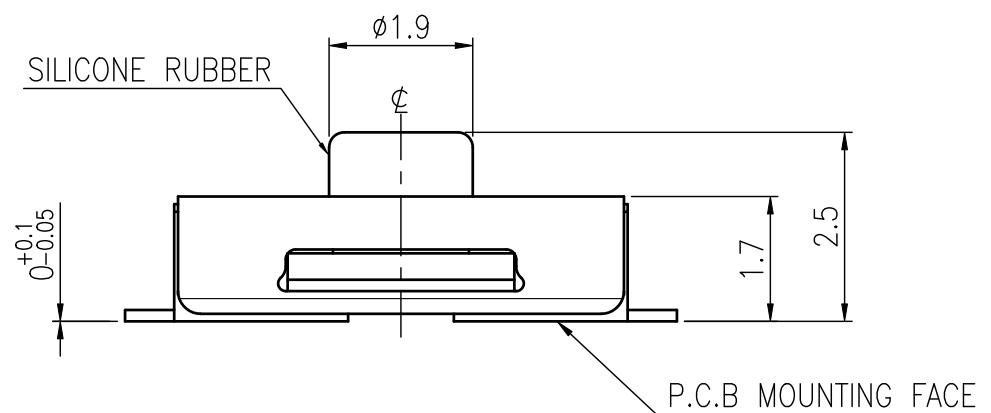
RATING	DC32V 50mA	TIMING	
CONTACT RESISTANCE	100mΩ MAX.	OPERATION (TORQUE)	
INSULATION RESISTANCE	DC100V-1000MΩ MIN.	STROKE (ANGLE)	
WITHSTAND VOLTAGE	AC250V-1 MINUTE.	LIFE	100,000 CYCLES
REMARKS:			



SCHEMATIC



P.C.B. LAYOUT



HATCHED AREA SHOWS SOLDERING LAND

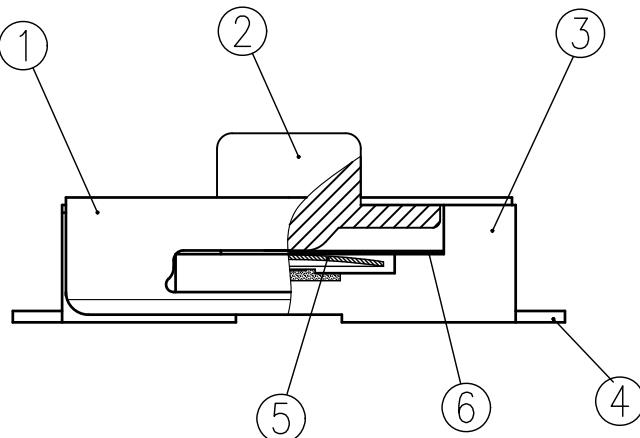
MODEL NO.	OPERATING FORCE	STROKE
NTC019-BB1G-25200T	200±50gf	0.3±0.15
NTC019-BB1G-25300T	300±75gf	0.35±0.15



TOLERANCES UNLESS OTHERWISE SPECIFIED ±0.2			SIGNATURES	DATE	MODEL
			DRAWER	Jane Shen	TITLE TACT SWITCH
			CHECKED	<i>Landry Su</i>	
	UNIT mm	SCALE 10/1	REVIEWED		NO. SEE MODEL NO.
			APPROVALS	Qiuyuan Chuang	

TAIWAN MISAKI ELECTRONICS CO., LTD.

RoHS Compliant



NO.	PART NAME	Q'TY	MATERIAL		SPECIFICATION		
					SIGNATURES	DATE	M O D E L
					DRAWN Jane Shen	2019.08.22	TITLE TACT SWITCH
					CHK'D <i>Landry Su</i>	2019.08.22	
					REV'D		NO. NTC019-BB1G-25200T
					APP'D Qiuyuan Chuang	2019.08.22	
SYM	DESCRIPTION	DATE	APPROVED				DWG NO. TC019-B05
TAIWAN MISAKI ELECTRONICS CO.,LTD.							

# SPECIFICATIONS FOR TACT SWITCH

RoHS Compliant

Model: NTC\_019-BB \_\_-25\_ 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: -40 ~ +85°C

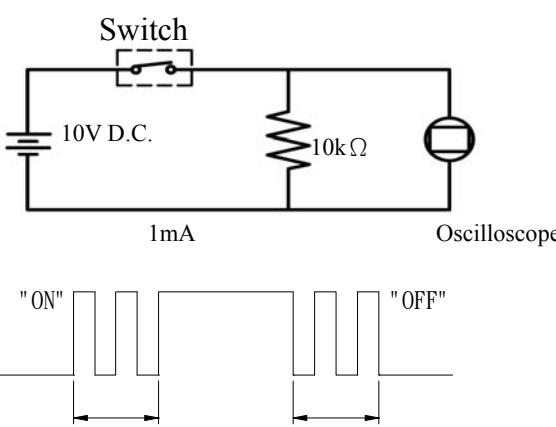
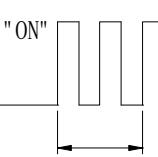
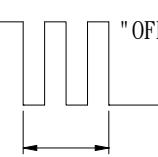
3. Construction:

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: 32V D.C. , 50mA.

5. Electrical Performance:

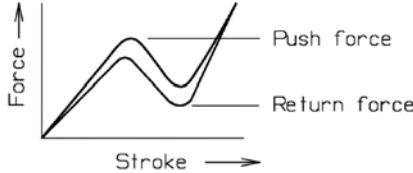
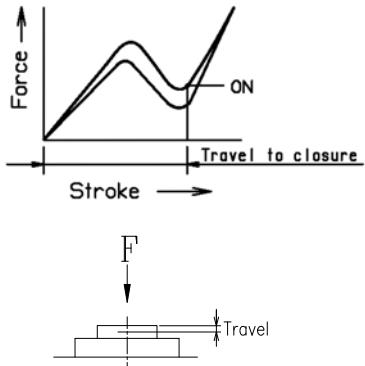
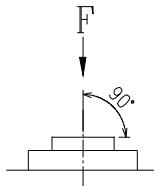
No.	Items	Test conditions	Specifications
5.1	Contact Resistance	Shall be measure at 1kHz±200Hz (MAX. 20mV, MAX. 50mA.) or 1 A, 5V D.C. By voltage drop method.	100mΩ Max.
5.2	Insulation Resistance	Shall be measured by applying 100V D.C. Between all terminals and between the terminals and the frame for 1 minute ± 5 seconds.	1000 MΩ Min.
5.3	Withstand Voltage	300V 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>"ON" </p> <p>"OFF" </p>	<p>ON: 10m sec Max. OFF:10m sec Max.</p>

			APPROVED BY	REVIEWED BY	CHECKED BY	DESIGNED BY	SPEC NO.
			QIUYUAN CHUANG			Jane Shen 2018.03.29	SE-TC07N
A	NEW RELEASE						PAGINATE
SYM	DISCRIPTION	DATE					1/4

# SPECIFICATIONS FOR TACT SWITCH

RoHS Compliant

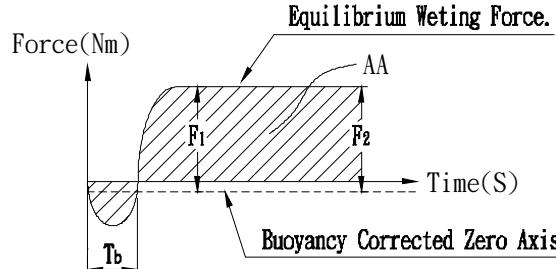
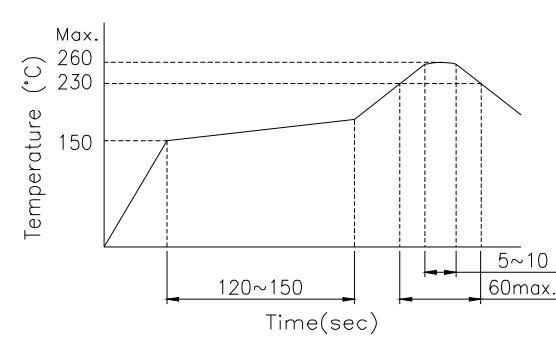
## 6. Mechanical Performance:

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:  <math>200 \pm 50\text{gf}</math>  <math>300 \pm 75\text{gf}</math></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><math>200\text{gf}=0.3+-0.15\text{ mm.}</math>  <math>300\text{gf}=0.35+-0.15\text{ mm.}</math></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.  3kgf for 15seconds</p> 	<p>No damage.  (Electrical and mechanical)</p>

			APPROVED BY	REVIEWED BY	CHECKED BY	DESIGNED BY	SPEC NO.
			Qiyuan Chuang			Jane shen 2018.03.29	SE-TC07N
A	NEW RELEASE						PAGINATE
SYM	DISCRIPTION	DATE					2/4

# SPECIFICATIONS FOR TACT SWITCH

RoHS Compliant

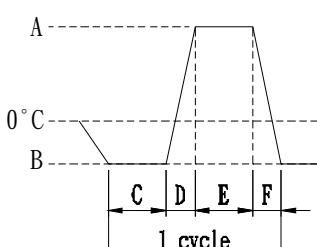
6.4	Solderability	<p>Test Temperature : <math>235 \pm 5^\circ\text{C}</math>      Immersion Angle : <math>90^\circ</math>      Immersion Speed : 1 mm/sec.      Immersion Depth : 0.1mm      Dwell Time : 5 seconds</p> 	<p>Conform to the criteria in the left table.</p> <table border="1" data-bbox="444 786 1048 1123"> <thead> <tr> <th>Para.</th><th>Criteria</th></tr> </thead> <tbody> <tr> <td>Tb</td><td><math>\leq 1</math> 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> </tbody> </table>	Para.	Criteria	Tb	$\leq 1$ 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
Para.	Criteria												
Tb	$\leq 1$ 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	<p>(1) Manual soldering temperature:      Temperature: <math>350^\circ\text{C}</math> Max.      Time: 3 Sec. Max.</p> <p>(2) Reflow Soldering:      Number of reflow pass: 2 cycles.</p> 	<p>Shall be free from pronounced deforming in appearance.      Item 5.1~5.4 shall be satisfied.      Item 6.1~6.2 shall be satisfied.</p>										

			APPROVED BY	REVIEWED BY	CHECKED BY	DESIGNED BY	SPEC NO.
							SE-TC07N
							PAGINATE
A	NEW RELEASE					Jane Shen 2018.03.29	
SYM	DISCRIPTION	DATE	Qiyuan Chuang				3/4

# 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 drop water. (5) Standard conditions after test: 1 Hour.	
7.2	Heat Test	(1) Temperature: $85\pm2^{\circ}\text{C}$ . (2) Duration of test: 500 Hour. (3) 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.
7.3	Cold Test	(1) Temperature: $-40\pm2^{\circ}\text{C}$ . (2) Duration of test: 500 Hour. (3) Take off drop water. (4) Standard conditions after test: 1 Hour.	
7.5	Temperature cycle	(1) Test cycle: 20 cycles. (2) Standard conditions after test: 1 Hour.   A: $+85\pm2^{\circ}\text{C}$ B: $-40\pm2^{\circ}\text{C}$ C: 2 hour D: 1 hour E: 2 hour F: 1 hour	Contact resistance: 500mΩ Max Item 5.2~5.4 shall be satisfied. Item 6.1~6.2 shall be satisfied.

## 8. Durability:

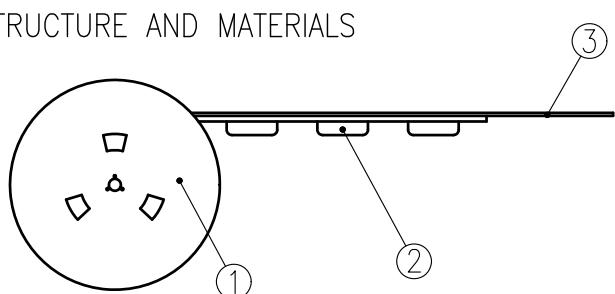
No.	Items	Test conditions	Specifications
8.1	Life Test	(1) 5V D.C. , 5mA Resistance load. (2) Operating speed:120 cycles/minute. (2) Push force: Maximum value of operation force. (3) Operation number: 100,000 times.	Contact Resistance: $2\Omega$ MAX.  Bounce: 20m sec Max.(ON,OFF)  Operating Force: Within $\pm 30\%$ of specifications. Item 5.2 shall be satisfied. Item 6.2 shall be satisfied.

			APPROVED BY	REVIEWED BY	CHECKED BY	DESIGNED BY	SPEC NO.
							SE-TC07N
A	NEW RELEASE						
SYM	DISCRIPTION	DATE	Qiyuan Chuang			Jane shen 2018.03.29	PAGINATE
							4/4

# THE PACKING SPECIFICATIONS

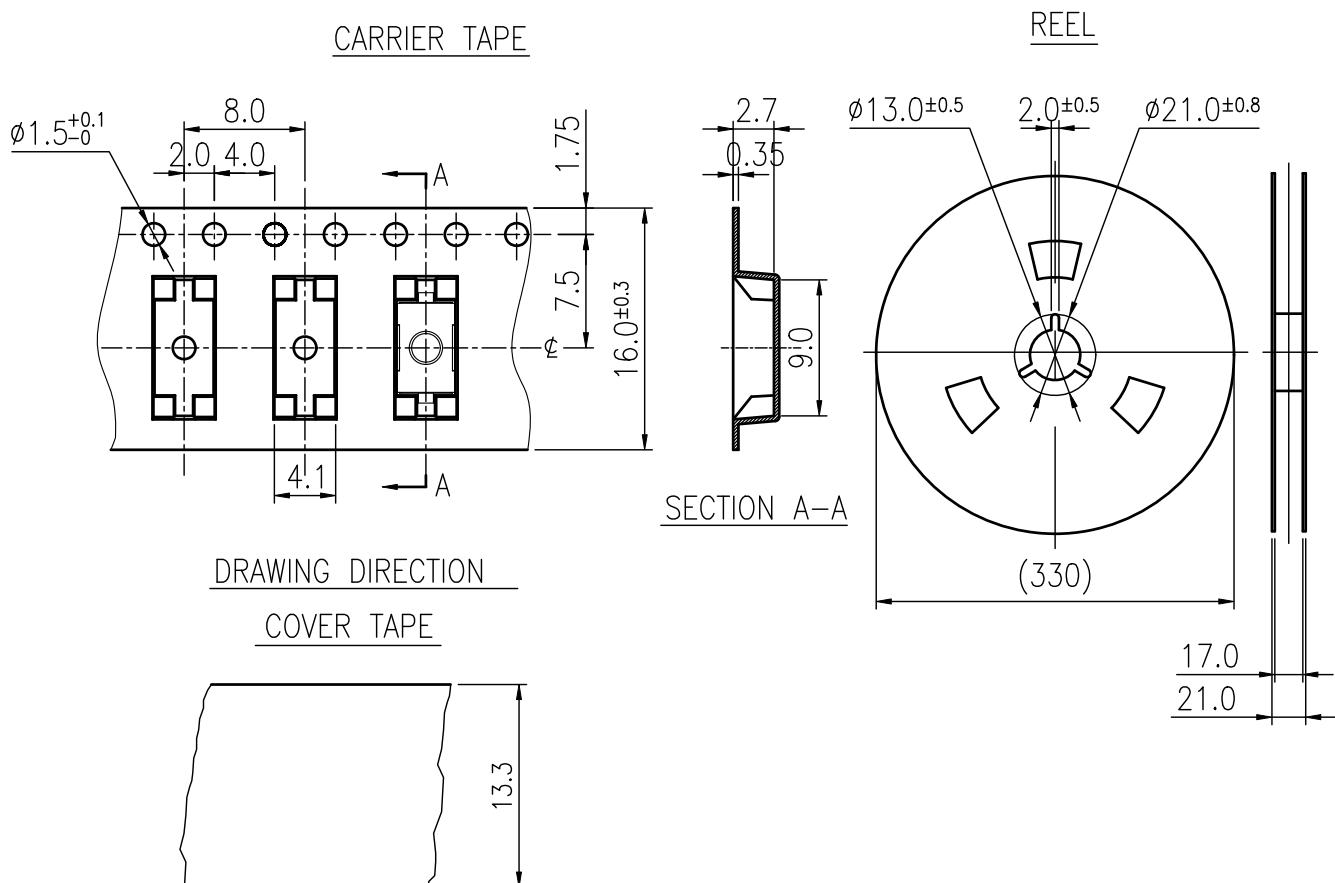
RoHS Compliant

## 1. STRUCTURE AND MATERIALS



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

- PACKAGING QUANTITY : 3,000 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°.
- 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.
								NTC 019-BB1G-25
							Jane Shen 2016.11.15	PAGINATE. 1/1
								SPEC NO. P-78