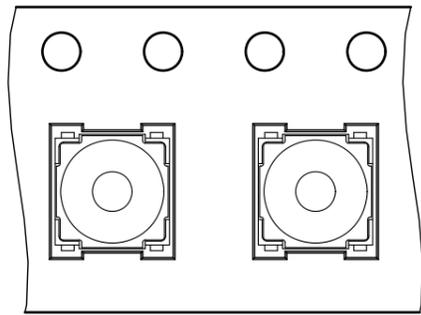


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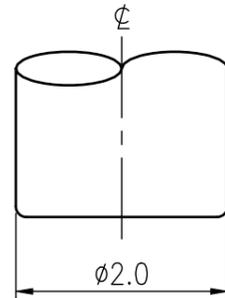
T-MEC
TAIWAN MISAKI ELECTRONICS CO., LTD.
ISSUED
2015.05.12
RD DCC

REVISIONS			
Rev	DESCRIPTION	DATE	DRAWER
A	Initial Drawing	2015.04.14	Jane Shen
B			

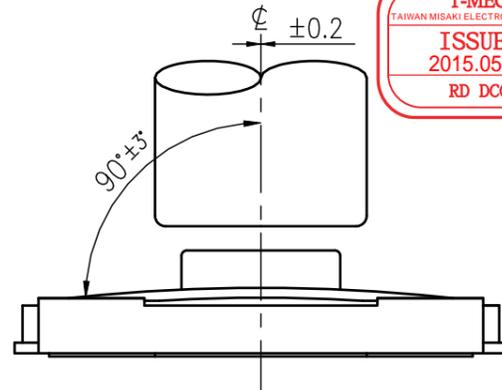
SPECIFICATIONS			
RATING	DC12V 50mA	TIMING	
CONTACT RESISTANCE	100mΩ MAX.	OPERATION (TORQUE)	160±70 gf
INSULATION RESISTANCE	DC500V-100MΩ MIN.	STROKE (ANGLE)	0.2 ^{+0.15} mm
WITHSTAND VOLTAGE	AC250V-1 MINUTE	CONTACT RESISTANCE	2Ω MAX.
REMARKS:		(AFTER 500,000 CYCLES LIFE TEST)	



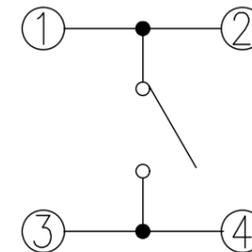
CARRIER TAPE



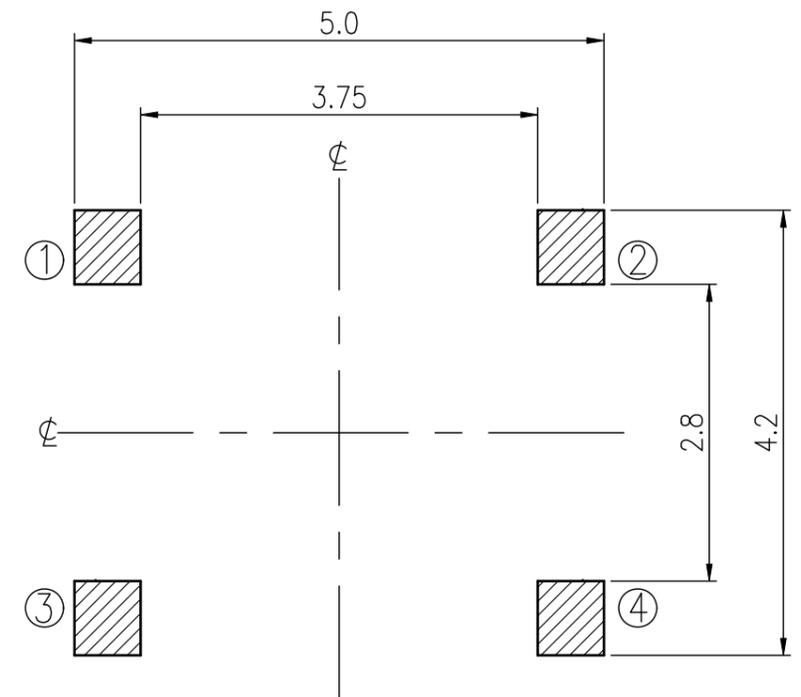
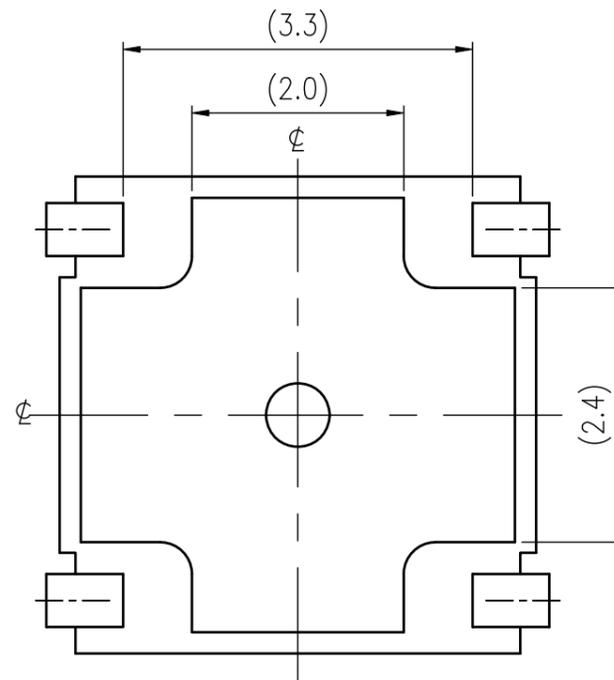
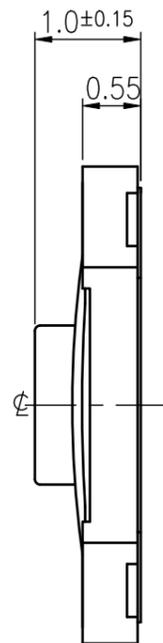
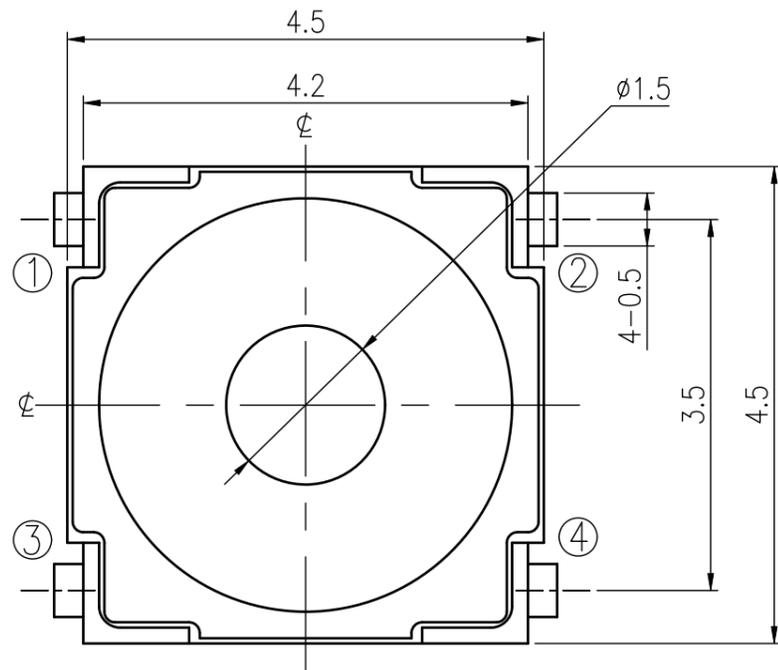
SHAPE OF KEYING TIP



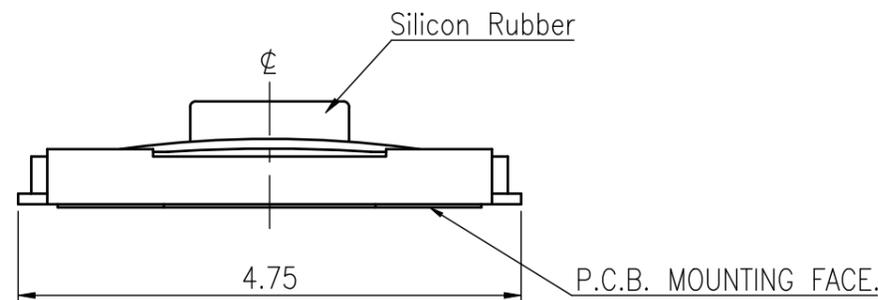
RESTRICTION IN OPERATION



SCHEMATIC



REFERENCE LAND FORM

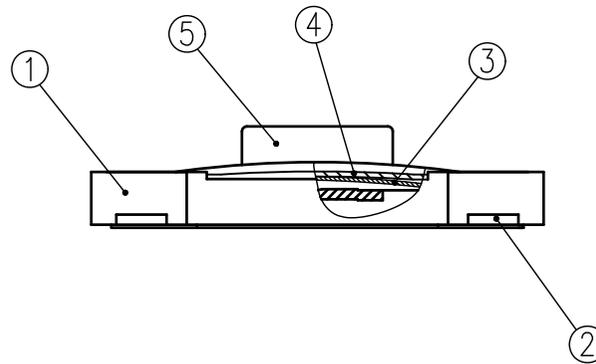


P.C.B. MOUNTING FACE.

TOLERANCES UNLESS OTHERWISE SPECIFIED ±0.1		SIGNATURES		DATE	MODEL
⊕	UNIT mm	SCALE 15/1	DRAWER	Jane Shen	2015.04.14
			CHECKED	Jamie Li	2015.04.30
			REVIEWED		TITLE TACT SWITCH
			APPROVALS	Dennis Hung	2015.04.30
					NO. NTC033-XK1G-C160T

厦门宏端电子科技有限公司

RoHS Compliant



5	STEM	1	SILICON RUBBER	
4	MYLAR	1	POLYIMIDE	
3	CONTACT PLATE	1	STAINLESS STEEL PLATE	Ag-PLATING
2	TERMINAL	4	COPPER ALLOY	Ag PLATING OVER Ni PLATING
1	FRAME	1	POLYAMIDE RESIN	BLUE COLOR
NO.	PART NAME	Q'TY	MATERIAL	SPECIFICATION

				SIGNATURES	DATE	M O D E L
				DRAWN Jane Shen	2015.04.28	TITLE TACT SWITCH
				CHK'D Jamie Li	2015.04.30	
				REV'D		NO. NTC033-XK1G-C16 0T
				APP'D <i>Dennis Hung</i>	2015.04.30	
SYM	DESCRIPTION	DATE	APPROVED			DWG NO. TC033-21
厦门宏端电子科技有限公司						

SPECIFICATIONS FOR TACT SWITCH

RoHS Compliant

Model: NTC033-XK1_-C 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: -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: 12V D.C. , 50mA.

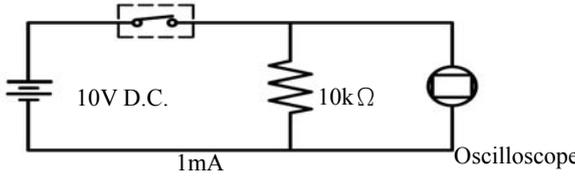
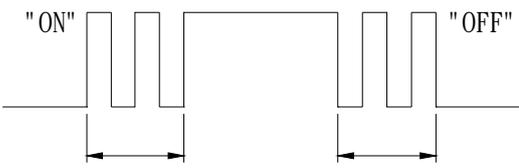
5. Electrical Performance:

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.

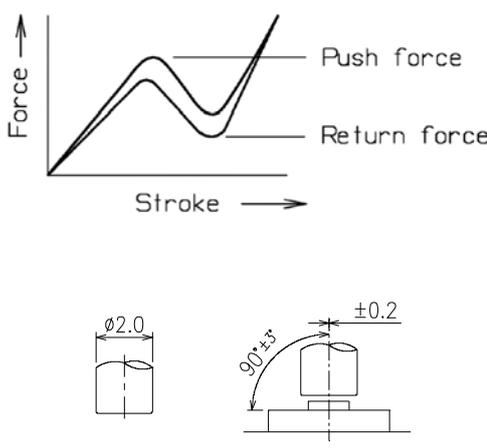
			APPROVED BY	REVIEWED BY	CHECKED BY	DESIGNED BY	SPEC NO.
			<i>Dennis Hung</i>			Jane Shen 2014.10.01	SE-TC43N
							PAGINATE
A	NEW RELEASE						1/5
SYM	DISCRIPTION	DATE					

SPECIFICATIONS FOR TACT SWITCH

RoHS Compliant

No.	Items	Test conditions	Specifications
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 style="text-align: center;">Switch</p>  <p style="text-align: center;">"ON"  "OFF"</p>	<p>ON: 10m sec Max. OFF: 10m sec Max.</p>

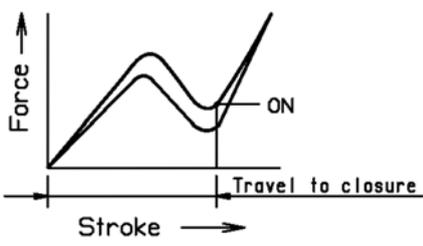
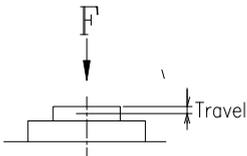
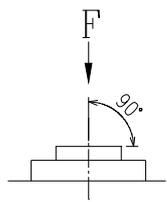
6. Mechanical Performance:

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:</p> <p>100+/-50 gf 160 +/- 70 gf 260 +/- 80 gf</p>

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SPECIFICATIONS FOR TACT SWITCH

RoHS Compliant

No.	Items	Test conditions	Specifications
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> <div style="text-align: center;">  </div> <div style="text-align: center; margin-top: 20px;">  </div>	<p>0.2+0.15/-0.1 mm.</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.</p> <p>3kgf for 60 seconds.</p> <div style="text-align: center; margin-top: 20px;">  </div>	<p>The terminals must not fall off and no structure is damaged.</p> <p>Item 5.1~5.4 shall be satisfied. Item 6.1~6.2 shall be satisfied.</p>

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SPECIFICATIONS FOR TACT SWITCH

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No.	Items	Test conditions	Specifications										
6.4	Solderability	<p>Test Temperature : 235 ± 5°C Immersion Angle : 90° Immersion Speed : 1 mm/sec. Immersion Depth : 0.1mm Dwell Time : 5 seconds</p> <div style="text-align: center;"> </div> <table border="1" style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">Para.</th> <th style="width: 90%;">Criteria</th> </tr> </thead> <tbody> <tr> <td>Tb</td> <td>≤ 1 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	≤ 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	<p>Conform to the criteria in the left table.</p>
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												
6.5	Solder Heat Resistance	<p>(1) Manual soldering temperature: Temperature: 350°C Max. Time: 3 Sec. Max. (2) Reflow Soldering: Number of reflow pass: 2 cycles.</p> <div style="text-align: center;"> </div>	<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>										

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SPECIFICATIONS FOR TACT SWITCH

RoHS Compliant

7. Weather Performance:

No.	Items	Test conditions	Specifications
7.1	Humidity Test	(1) Temperature: $60\pm 2^{\circ}\text{C}$. (2) Relative humidity: 90~95% (3) Duration of test: 500 Hour. (4) Take off drop water. (5) Standard conditions after test: 1 Hour.	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: $85\pm 2^{\circ}\text{C}$. (2) Duration of test: 500 Hour. (3) Standard conditions after test: 1 Hour.	
7.3	Cold Test	(1) Temperature: $-40\pm 2^{\circ}\text{C}$. (2) Duration of test: 500 Hour. (3) Take off 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. <div style="text-align: center;"> <p style="margin-left: 20px;"> A: $+85\pm 2^{\circ}\text{C}$ B: $-40\pm 2^{\circ}\text{C}$ C: 2 hour D: 1 hour E: 2 hour F: 1 hour </p> </div>	

8. Durability:

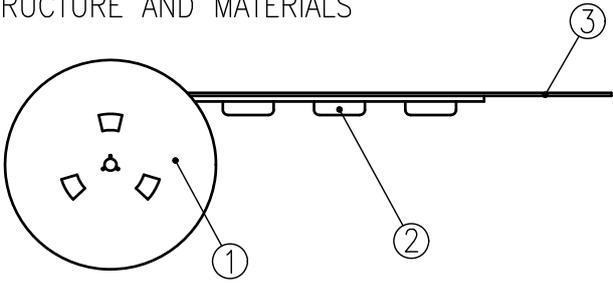
No.	Items	Test conditions	Specifications
8.1	Life Test	(1) 5V D.C. , 5mA Resistance load. (2) Operating speed: 120 cycles/minute. (2) Push force: Maximum value of operation force. (3) Operation number: 500,000 times.	Contact Resistance: 2Ω MAX. Bounce: 20m sec Max.(ON,OFF) Operating Force: Within $\pm 30\%$ of specifications. Item 5.2 shall be satisfied. Item 6.2 shall be satisfied.

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THE PACKING SPECIFICATIONS

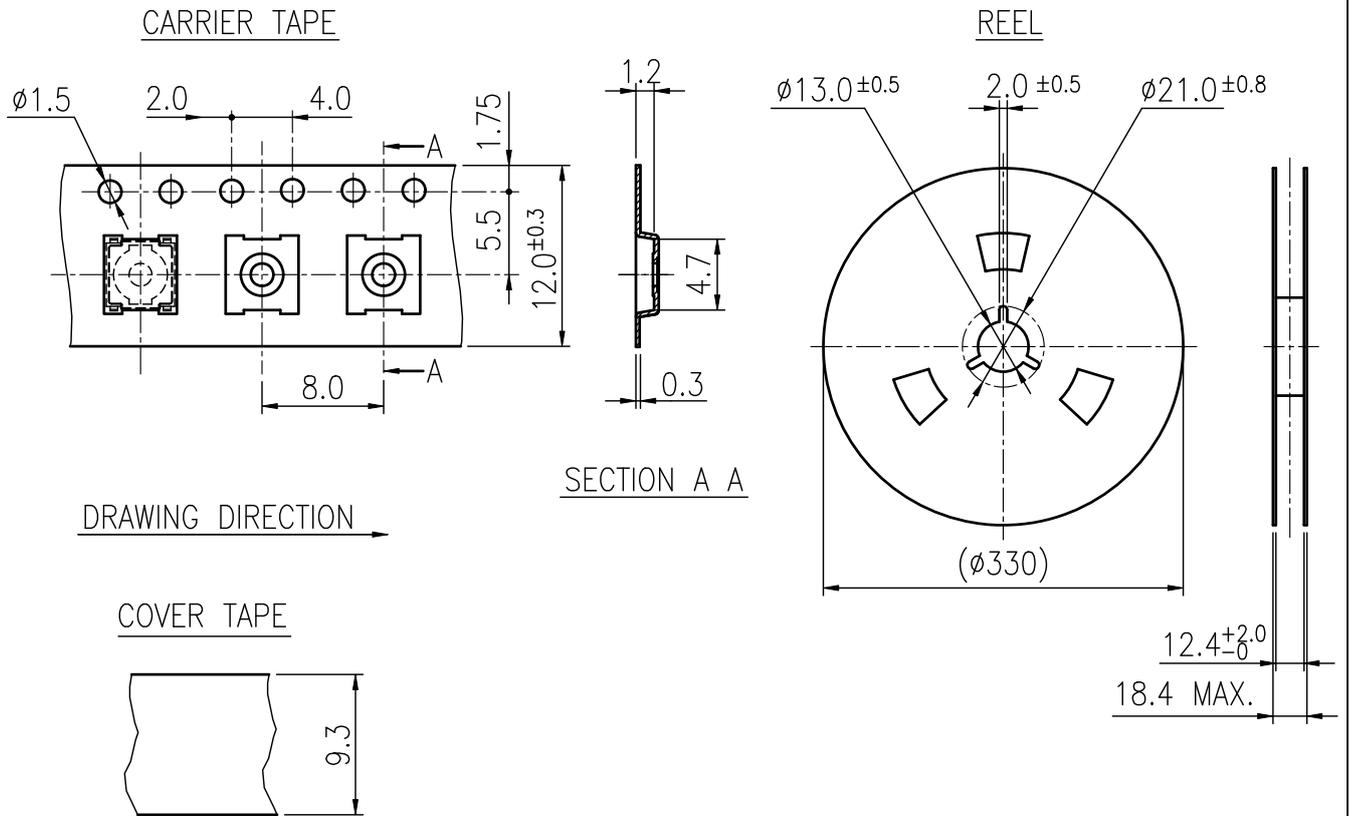
RoHS Compliant

1. STRUCTURE AND MATERIALS



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

- PACKAGING QUANTITY : 5,500 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 ACCECTABLE 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 :



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							2013.12.12	PAGINATE.
								1/1
								SPEC NO.
								P-667
SYM	DISCRPTION	DATE	APPROVED					