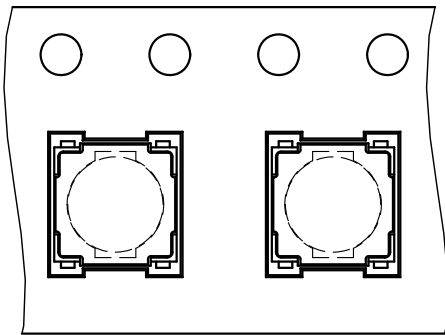
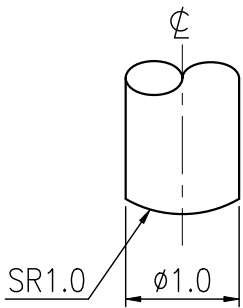


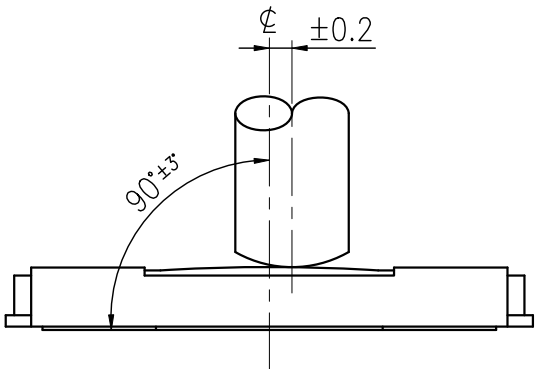
RoHS Compliant



CARRIER TAPE



SHAPE OF KEYING TIP



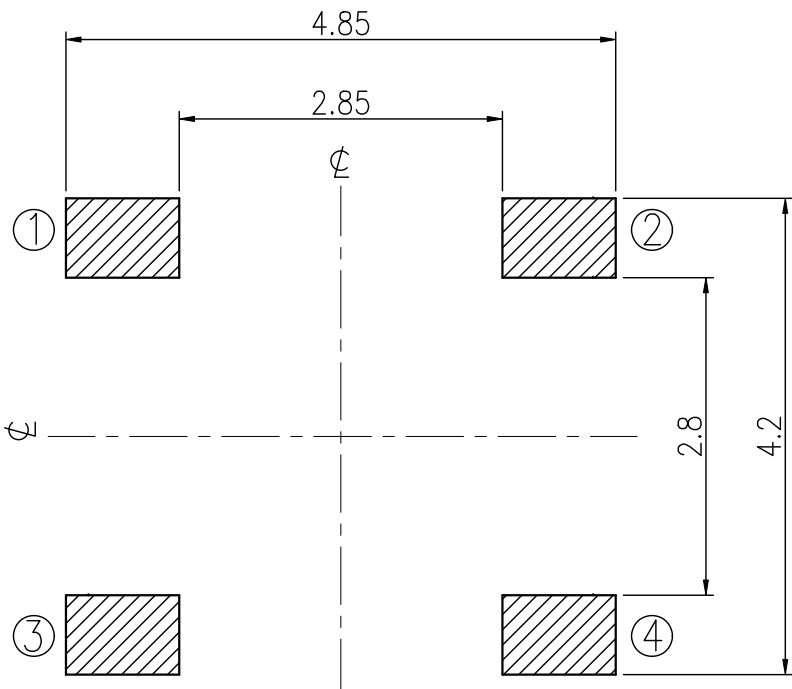
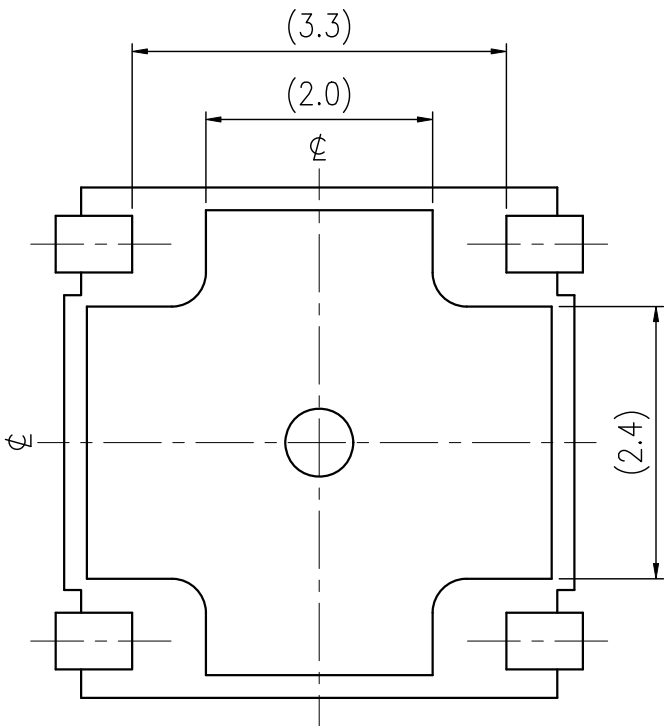
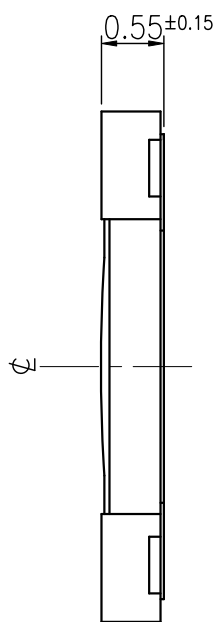
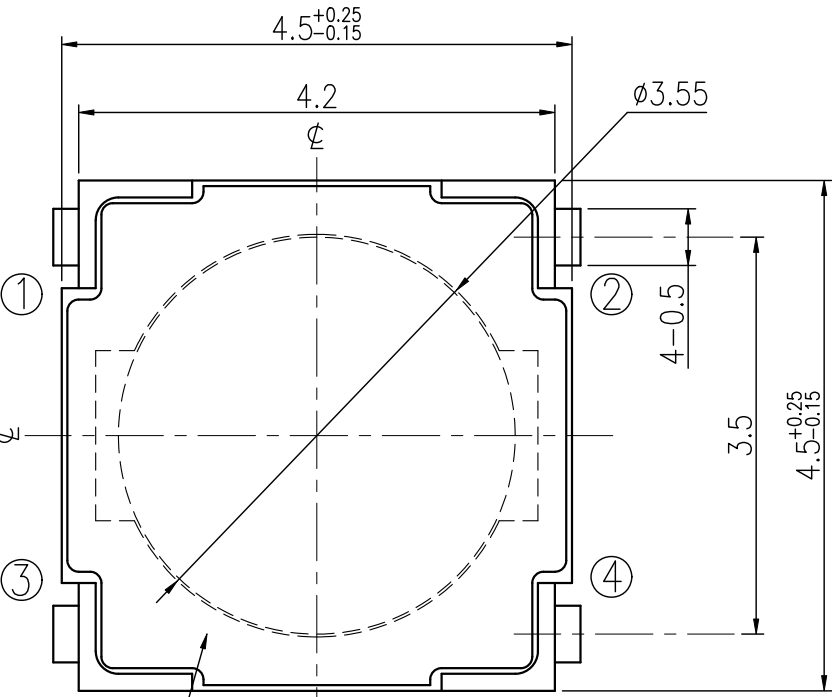
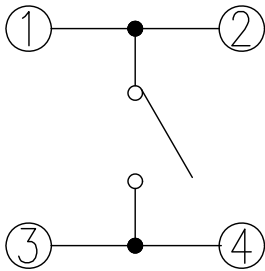
RESTRICTION IN OPERATION



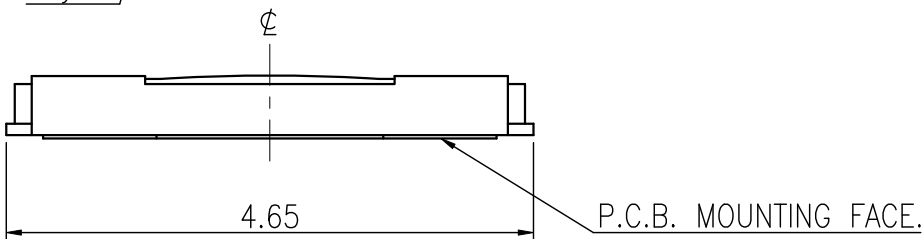
REVISIONS							
Rev	DESCRIPTION	DATE	DRAWER	Rev	DESCRIPTION	DATE	DRAWER
A	Initial Drawing	2013.07.03	Ken Lin	C			
B				D			

SPECIFICATIONS			
RATING	DC12V 50mA	TIMING	
CONTACT RESISTANCE	100mΩ MAX.	OPERATION (TORQUE)	160±30 gf
INSULATION RESISTANCE	DC500V-100MΩ MIN.	STROKE (ANGLE)	0.2 ^{+0.15} _{-0.1} mm
WITHSTAND VOLTAGE	AC250V-1 MINUTE	CONTACT RESISTANCE	2Ω MAX.
REMARKS:		(AFTER 1,000,000 CYCLES LIFE TEST)	

SCHEMATIC

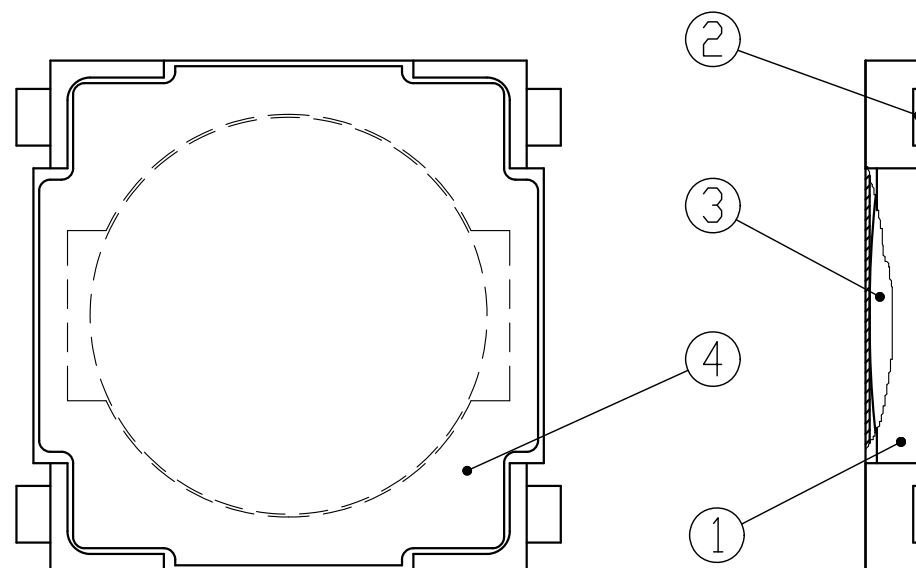


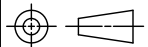
REFERENCE LAND FORM



TOLERANCES UNLESS OTHERWISE SPECIFIED ±0.1	SIGNATURES		DATE	MODEL
	DRAWER	Ken Lin	2013.07.03	TACT SWITCH
	CHECKED			
	UNIT	mm	SCALE	15/1
	REVIEWED			
	APPROVALS	Dennis Hung	2013.07.03	NO. NTC033-XK1K-X160T

TAIWAN MISAKI ELECTRONICS CO., LTD.



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 Ken Lin	2013.01.22	TITLE TACT SWITCH
				CHK'D		
				REV'D		
				APP'D Dennis Hung	2013.01.22	
SYM	DESCRIPTION	DATE	APPROVED	NO. NTC033-XK1K-X160T		
TAIWAN MISAKI ELECTRONICS CO.,LTD.						DWG NO. TC033-22

SPECIFICATIONS FOR TACT SWITCH

RoHS Compliant

Model:

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

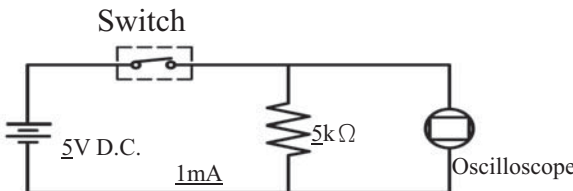
3. Construction:

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. , 20mA.

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	<p>Lightly striking the center of the stem at a rate encountered in normal use (3 to 4 operations per sec.)</p> 	<p>ON: 10m sec Max. OFF: 10m sec Max.</p>

APPROVED BY

REVIEWED BY

CHECKED BY

DESIGNED BY

SPEC NO.

Fred Chen

Jamie Li
2009.08.03

Max Chen
2009.08.03

Ken Lin
2009.08.03

SE-TC43N

PAGINATE

2009-08-03

1/3

A NEW RELEASE

SYM DISRIPTION

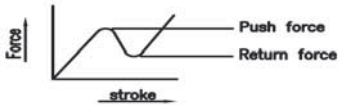
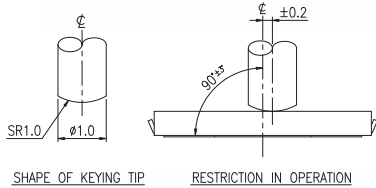
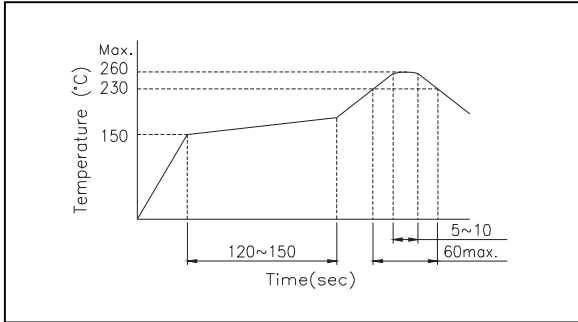
DATE

TAIWAN MISAKI ELECTRONICS CO., LTD.

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> 	160 ± 30 gf.
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> 	$0.2 +0.15/-0.1$ mm.
6.3	Control Strength	The static load of <u>3kgf</u> 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	<p>Soldering temperature: $235 \pm 5^{\circ}\text{C}$. Soldering time: 2 ± 0.5 seconds.</p>	75% or more of surface area of the portion immersed in solder shall be satisfied.
6.4	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> 	<p>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.</p>

			APPROVED BY	REVIEWED BY	CHECKED BY	DESIGNED BY	SPEC NO.
			<i>Fred Chen</i>	Jamie Li	Max Chen	Ken Lin	SE-TC43N
			2009-08-03	2009.08.03	2009.08.03	2009.08.03	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±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: <u>200mΩ</u> 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: <u>5</u> cycles. (2) Standard conditions after test: 1 Hour. <table><tr><td></td><td>Temperature</td><td>Duration of test</td></tr><tr><td rowspan="4">1 cycles</td><td>20±5℃</td><td>1 Hour</td></tr><tr><td>-40±2℃</td><td>1 Hour</td></tr><tr><td>20±5℃</td><td>1 Hour</td></tr><tr><td>85±2℃</td><td>1 Hour</td></tr></table>			Temperature	Duration of test	1 cycles	20±5℃	1 Hour	-40±2℃	1 Hour	20±5℃	1 Hour	85±2℃
	Temperature	Duration of test												
1 cycles	20±5℃	1 Hour												
	-40±2℃	1 Hour												
	20±5℃	1 Hour												
	85±2℃	1 Hour												

8. Durability:

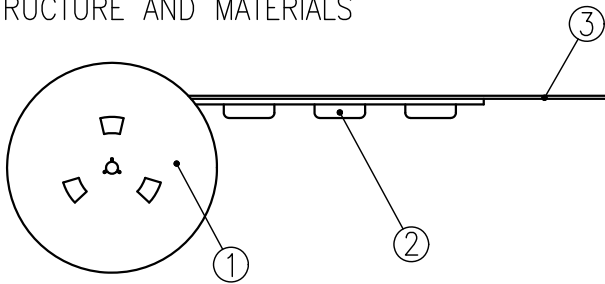
No.	Items	Test conditions	Specifications
8.1	Life Test (Without Load)	(1) Operating speed: 120 cycles/minute. (2) Push force: Maximum value of operation force. (3) Operation number: <u>1,000,000</u> times.	Contact Resistance: 2Ω MAX. Operating Force: Within $\pm 30\%$ of specifications. Of item 5.2 shall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

			APPROVED BY	REVIEWED BY	CHECKED BY	DESIGNED BY	SPEC NO.
			<i>Fred Chen</i>	Jamie Li 2009.08.03	Max Chen 2009.08.03	Ken Lin 2009.08.03	SE-TC43N
A	NEW RELEASE						PAGINATE
SYM	DISCRIPTION	DATE					3/3

THE PACKING SPECIFICATIONS

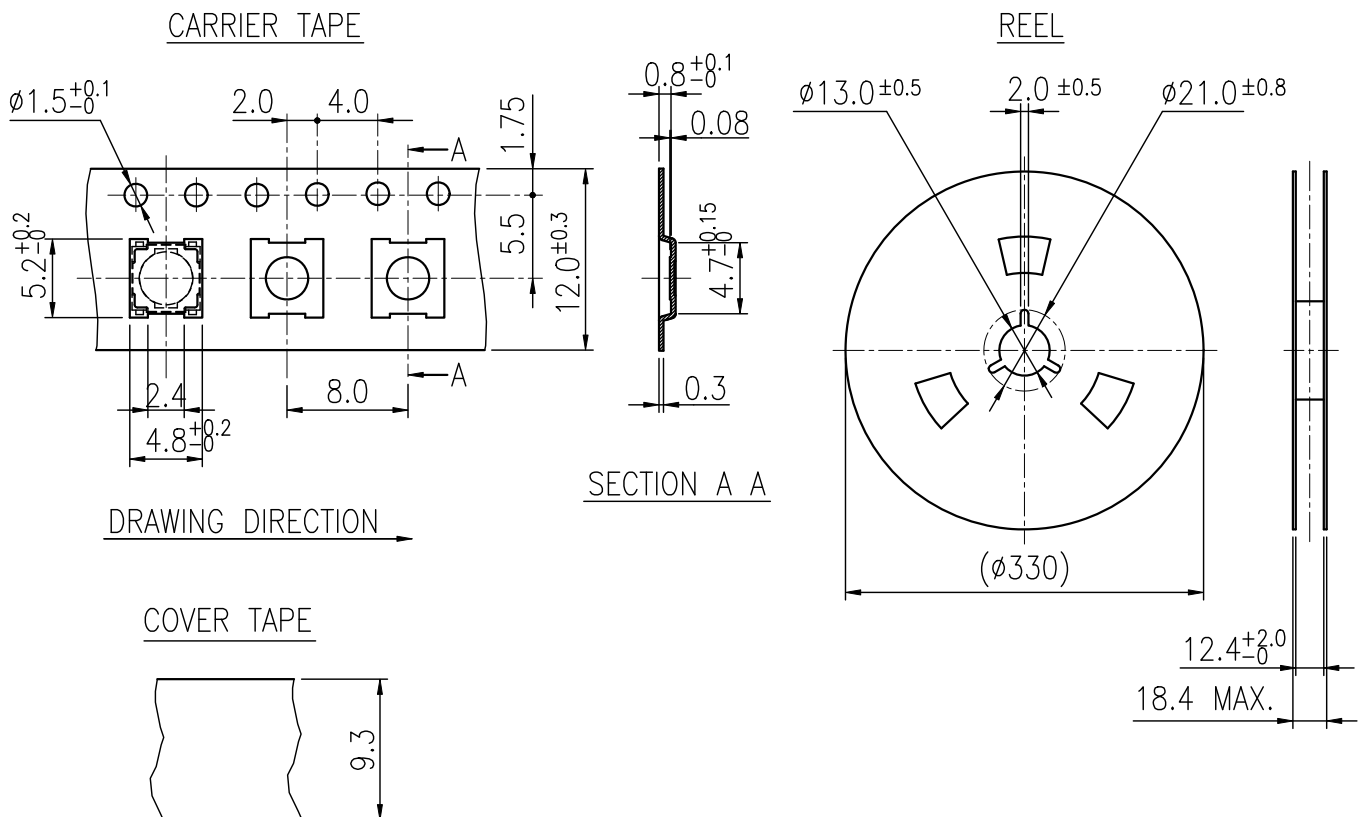
RoHS Compliant

1. STRUCTURE AND MATERIALS



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

- PACKAGING QUANTITY : 7,000 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 :



				APPROVED BY	REVIEWED BY	CHECKED BY	DESIGNED BY	MODEL NO.
				Dennis Hung			Ken Lin	NTC033-XK1K-X160T
				2013.01.23			2013.01.23	PAGINATE.
								1/1
								SPEC NO.
								P-656
SYM	DISCRIPTION	DATE	APPROVED					

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