SPECIFICATION

MESSRS.：新唐科技股份有限公司

CUSTOMER MODEL NO.：

ROKI MODEL NO.：TS01M-BN-A-S1-PF

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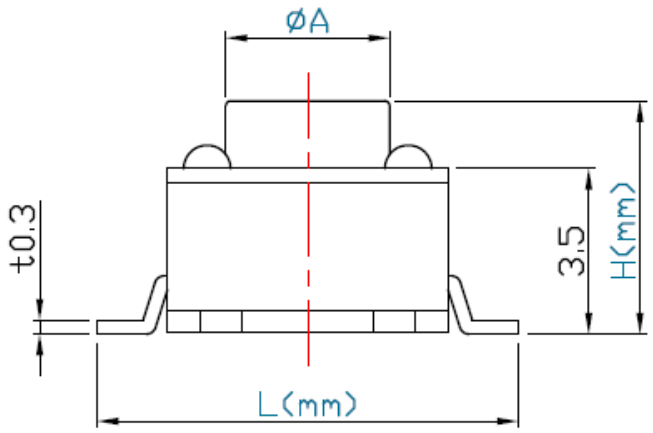
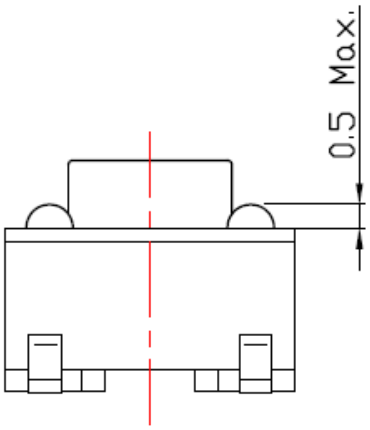
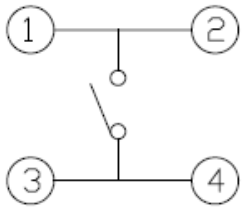
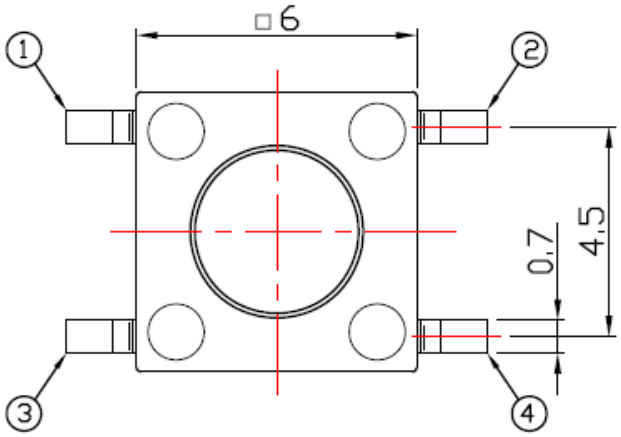
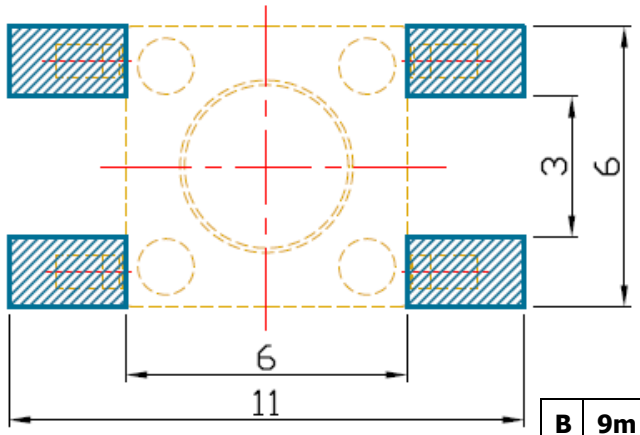






R	250gf
N	**160gf**
K	100gf





P.C.B MOUNTING PATTERN
DIMENSION

		TS01M-G	10.0	TS01M-G	3.0
		TS01M-F	12.5	TS01M-F	3.0
		TS01M-D	9.5	TS01M-D	3.4
		TS01M-C	7.0	TS01M-C	3.4
B	**9m**	**TS01M-B**	**5.0**	**TS01M-B**	**3.5**
A	8mm	TS01M-A	4.3	TS01M-A	3.5
L=A,B		MODEL NO.	H	MODEL NO.	ØA

銓 基 電 子 股 份 有 限 公 司 ROKI ELECTRONICS CO., LTD.	PART NAME : TACT SWITCH	SCALE :
	PART NO : TS01M-□□-L-S1-PF Series	UNIT : mm
	TOLERANCE : ±0.3 mm	VER : R01

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1. General

1.1 Application This specification is applied to TACT switches which have no key top.

1.2 Operating temperature range: -20 ~ 70 ℃ (normal humidity, normal air pressure)

1.3 Storage temperature range: -30 ~ 80 ℃ (normal humidity, normal air pressure)

1.4 Test conditions Unless otherwise specified, the atmospheric conditions for marking Measurements and tests are as follows.

Normal temperature : (Temperature 5 ~ 35℃)

Normal humidity: (Relative humidity 25 ~ 85%)

Normal air pressure : (Air pressure 86 ~ 106kPa)

If any doubts arise from judgments, tests shall be conducted at the following conditions.

Ambient temperature : 20 ±2℃

Relative humidity : 60 ~ 70%

Air pressure : 86 ~ 106kPa

2. Appearance, style and dimensions

2.1 Appearance There shall be no defects that affect the serviceability of the product.

2.2 Style & dimensions Refer to the assembly drawings.

3. Type of actuating Tactile feedback

4. Contact arrangement 1 pole 1 throw

(Details of contact arrangement are given in the assembly drawings)

5. Rating

5.1 Maximum ratings 12 V DC 50 ㎃

5.2 Minimum ratings 1 V DC 10 μA

6 ELECTRICAL CHARACTERISTICS

NO	ITEM	TEST CONDITIONS	PERFORMANCE
6.1	CONTACT RESISTANCE	Applying a blow static load to the center of the stem, Measure elements shall be made. (1) Depression : 520 gf (5.096 N) (2) Measuring method : 1㎑ small-current contact resistance meter. or voltage drop method at 5V DC 10mA.	100mΩ MAX.
6.2	Insulation resistance	Measurements shall be made following the test set forth below : (1)Test voltage : 100 V DC for 1 min (2)Applied position: Between all terminals. And if there is a metal frame, between terminals and ground(frame)	100MΩ Min.
6.3	Voltage proof	Measurements shall be made following the test set forth below : (1)Test voltage : 100 V AC (50 ~ 60 ㎐) (2)Duration : 1 min (3)Applied position: Between all terminals. And if there is a metal frame, between terminals and ground(frame)	There shall be no Proof breakdown.

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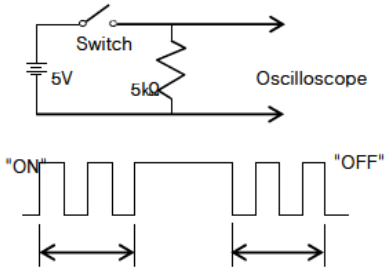
NO	ITEM	TEST CONDITIONS	PERFORMANCE
6.4	Bounce	Lightly striking the center of the stem at a rate encountered in normal Use (3 to 4 operations per sec.)Bounce shall be tested at "ON" and "OFF". 	ON bounce : 10 ms Max. OFF bounce : 10 ms Max.
7. Mechanical specification			
7.1	Operating force	Placing the 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.	100 ,160±30gf 250±50gf
7.2	Travel	Placing the switch such that the direction of switch operation is vertical and then applying static load to the center of the stem, the travel distance for the switch to come to a maske "ON" shall be measured.	0.25 ±0.1 mm
7.3	Return force	The sample switch is installed such that the direction of switch operation is vertical and, upon depression of the stem in its center the travel distance, the force of the stem to return tot its free position shall be measured.	40 gf Min (0.39 N Min.)
7.4	Stop strength	Placing the switch such that the direction of switch operation is vertical and then a below static load shall be applied in the Direction of stem operation. (1) Depression : 3 Kgf (29.4 N) (2) Duration : 3 s	There shall be no sign of damage mechanically and electrically.

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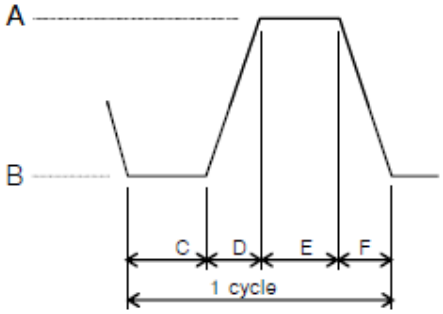
8. Environmental specification

NO	ITEM	TEST CONDITIONS	PERFORMANCE
8.1	Resistance to low temperatures	Following the test set forth below the sample shall be left in normal temp' and humidity conditions for 1 hour before measurements are made: (1) Temperature : -30 ± 2 ℃ (2) Time : 96 h (3) Water drops shall be removed	Item 6. Item 7.1 Item 7.2
8.2	Heat resistance	Following the test set forth below the sample shall be left informal temperature and humidity conditions for 1 hour before measurements are made: (1) Temperature : 80 ± 2 ℃ (2) Time : 96 h	Item 6. Item 7.1 Item 7.2
8.3	Moisture resistance	Following the test set forth below the sample shall be left in normal temperature and humidity condition for 1 hour before measurements are made: (1) Temperature : 60 ± 2 ℃ (2) Time : 96 h (3) Relative humidity : 90 ~ 95 % (4) Water drops shall be removed.	Contact resistance (Item 6.1): 200 mΩ Max. Insulation resistance (Item6.2): 10 mΩ Min. Bounce (Item6.4): ON bounce 20 ms Max. : OFF bounce 20 ms Max. Item 6.3, 7.2, 7.1
8.4	Change of temperature	After the test by following conditions, the switch shall be allowed to stand under normal room temperature and humidity con- dictions for 1 hour, and measurement shall be made. Water drops shall be removed. (1) Times of cycles : 5 times  A = 60 ℃ B = −10 ℃ C = 2 h D = 1 h E = 2 h F = 1 h	Item 6. Item 7.1 Item 7.2

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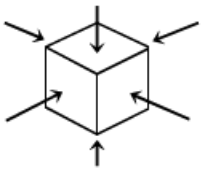
9. Endurance specification

NO	ITEM	TEST CONDITIONS	PERFORMANCE
9.1	Operating life	Measurements shall be made following the test set forth below : (1) 12 V DC 50 mA resistive load (2) Rate of operation: 2 to 3 operations per sec. (3) Depression : The maximum load of a specification (4) Cycles of operation : 100,000 cycles/Material Phosphor Bronze 200,000 cycles / Material Stainless	Contact resistance (Item 6.1): 200 mΩ Max. Insulation resistance (Item6.2): 10 mΩ Min. Bounce (Item6.4): ON bounce 20 ms Max. : ±30 % of initial force . Item 6.3, 7.2,
9.2	Vibration resistance	Measurements shall be made following the test set forth below : (1) Vibration frequency range : 10 ~ 55 Hz (2) Total amplitude : 1.5 mm (3) Sweep ration : 10-55-10 Hz Approx. 1 min (4) Method of changing the sweep vibration frequency: Logarithmic or uniform (5) Duration : 2 h each	Item 6. Item 7.1 Item 7.2
9.3	Shock	Measurements shall be made following the test set forth below: (1) Acceleration : 784 m/s2 (2) Test direction : 6 directions (3) Number of shocks : 3 times per direction  times in total)	Item 6. Item 7.1 Item 7.2

10. Soldering conditions

NO	ITEM	Recommended conditions
	Hand soldering	Please practice according to below conditions (1) Soldering temperature: 350 ℃ Max. (2) Continuos soldering time: seconds Max. (3) Excessive pressure shall not be applied to the terminal.

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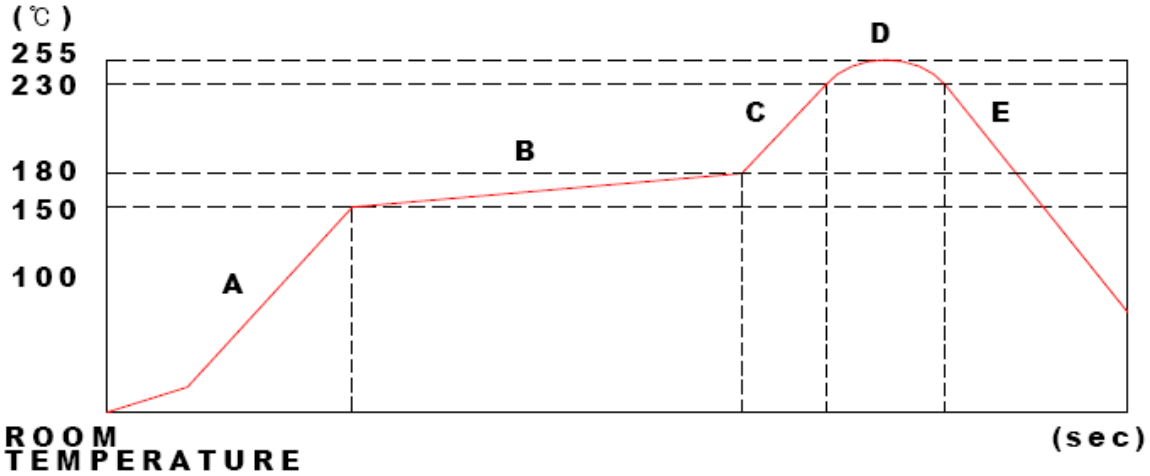
Solder Conditions (LEAD FREE)

1. SMD Reflow



Parts	Temperature(℃)	Time at Temperature(sec)	Treatments
A	NO-150		
B	150-180	90±30	Pre heating Zone
C	180-230		
D	230-255-230	30±10(Peak:3 MAX.)	Soldering Zone
E	230 to NO		Cooling Zone

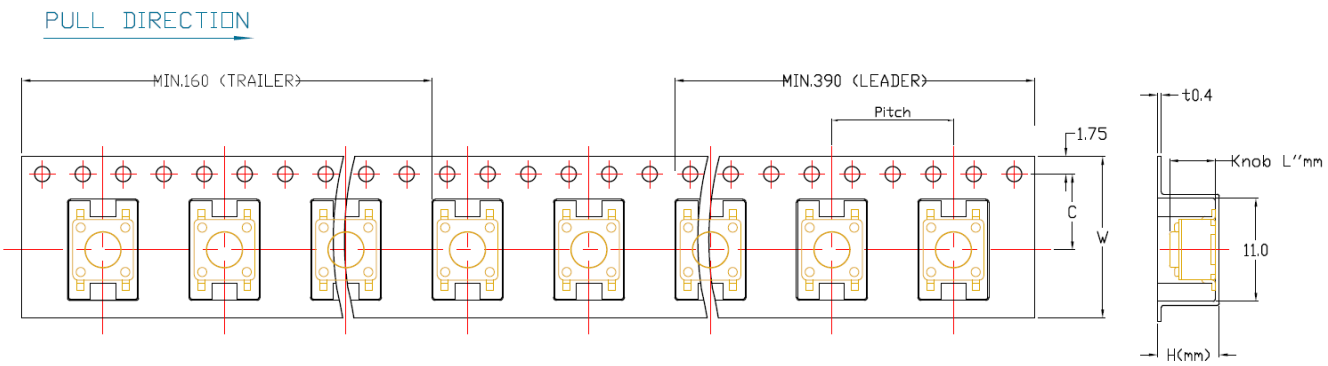
＊NO：Normal conditions

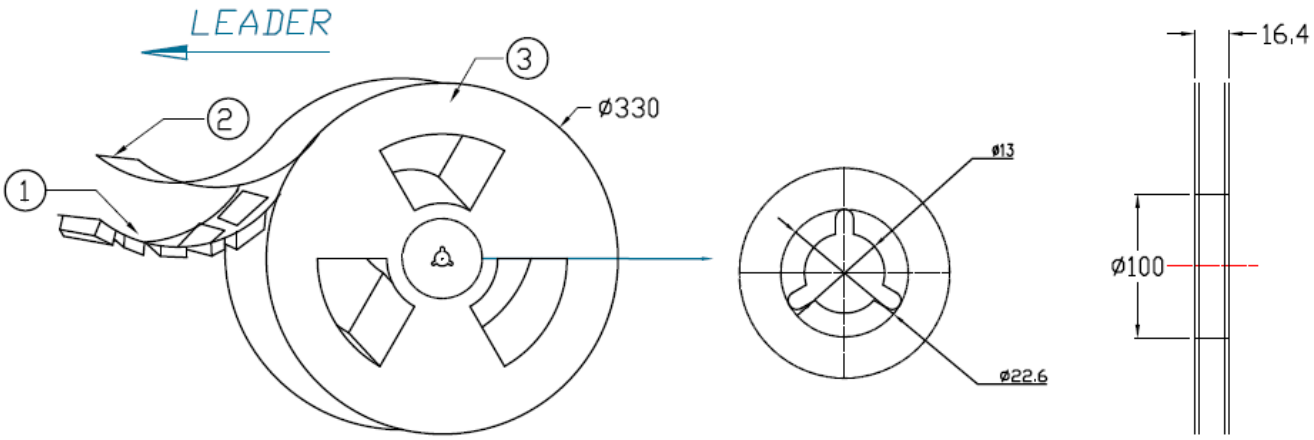
2. Notes

As this product is not protected from foreign material entering please make sure that any foreign material (E.G Magnetic powder, Washing solvent, Flux, Corrosive gas) Do not enter this product in your productions process.

NO	PART NAME	MATERIAL	Q'TY	FINISH
5	Terminal	BRASS	1	C2680
4	Case	Polyamide	1	PA6T
3	Contact	Stainless Steel	1	SUS301
2	Stem	Polyamide	1	PA6T
1	Cover	Brass	1	C2680

TAPE PACKAGING SPECIFICATION





SPECIFICATIONS

Minimum Packing Qty (Knob L"mm)		Qty (pcs/reel)	W	C	Pitch
4.3/ 5.0		1,000	16	7.5	12
7.0		700	24	11.5	12
9.5		500	24	11.5	12
Reel Size		ø330 / Width 16.4mm			
Reel Material	①	Carrier	Polystyrene		
	②	Cover Tape	PET		
	③	Reel	Polystyrene		

銓基電子股份有限公司 ROKI ELECTRONICS CO., LTD.	PART NAME：TACT SWITCH		SCALE：
	PART NO：TS01M-S1-PF Series		UNIT： ㎜
	TOLERANCE：±0.3 ㎜		VER： R01