



SPECIFICATION FOR APPROVAL

Date: 2015-11-05

Customer: <u>NEOBASE</u>	Customer Code: <u>*</u>
Customer P/N: _____	Model NO.: <u>TSA06234</u>
Product Description: <u>06×06mm</u>	

<input checked="" type="checkbox"/> New Product	<input type="checkbox"/> Description Change Approve	<input type="checkbox"/> Material Change Approve
Designed <u>敖余达</u>	Checked <u>卢志杰</u>	Approved <u>徐君辉</u>

Customer approval

I

Purchase Dept.	QC Dept.	Engineering Dept.	Approve

II

Conclusion	<input type="checkbox"/> Qualified	<input type="checkbox"/> Samples Test Again	<input type="checkbox"/> Unqualified
------------	------------------------------------	---	--------------------------------------

YUEQING KANGHONG ELECTRONIC CO.,LTD.

Add: NO.92 Huifeng Road,Songhu Ind.Zone,Yueqing
325600,Zhejiang,China

E-mail: info@khan.cn ; export@khan.cn

Tel: +86-577-62560700

Fax: +86-577-62568700

Skype: khancn3





SPECIFICATION

Product name

Tact Switch

Edition

A

Model

TSA06234

Page

1/4

Item

Test Conditions

Requirements

1. General

1.1 Application

This specification is applied to the requirements for Tact Switch (Mechanical Contact)

1.2 Operating Temperature Range

-25°C ~ 70°C (Normal humidity, normal air pressure)

1.3 Storage environment

The switch should be stored in warehouse which temperature of -5 ~ 35°C, relative humidity of not more than 80%, no acid, alkali and other corrosive gases in the ambient air

1.4 Test Conditions

Unless otherwise specified, tests and measurements shall be made in the following standard conditions:

Normal Temperature.....5°C ~ 35°C

Normal Humidity65%±5%

Normal air pressure86KPa ~ 106KPa

If any doubt arise from the judgment, test shall be conducted at the following conditions:

Temperature20°C ± 2°C

Relative humidity65%±5%

Air pressure86KPa ~ 106KPa

2. Detailed specification

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

2.2 Structure and dimension: shall conform to the assemble drawings.

2.3 Type of actuating: Tactile feedback.

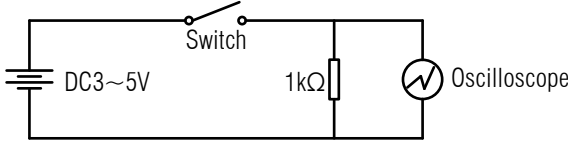
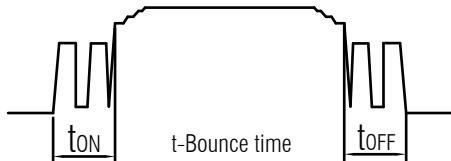
2.4 Contact arrangement: 1 pole, 1 throw

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

2.5 Ratings: 12V DC, 50mA (effective value)

3. Electrical Specification

3.1	Contact Resistance	Applying a static load of 2 times operating force to the center of the stem, measurement shall be made by 5V DC 10mA or more than 1KHz AC small-current contact resistance meter.	≤50mΩ
3.2	Insulation Resistance	Measurement shall be made following application of 100V DC potential, across terminals, and across terminals and cover, for one minute.	≥100MΩ
3.3	Dielectric voltage proof	250V AC (50Hz or 60Hz) shall be applied across terminals, for one minute.	There should be no breakdown and flashover

3.4	Bounce	<p>Lightly striking the center of the stem at a rate encountered in normal use (3 to 4 times per second), and bounce shall be tested at "ON" and "OFF".</p>  	<p>t_{ON}-3msec.max t_{OFF}-8msec.max</p>
-----	--------	--	---



SPECIFICATION

Product name

Tact Switch

Edition

A

Model

TSA06234

Page

2/4

	Item	Test Conditions	Requirements
4. Mechanical Specification			
4.1	Operating Force	Placing the switch such that the direction of switch operation is vertical and then gradually the load applied to the center of the stem, measured. the maximum load required of the switch to come to a stop shall be	$1.8N \pm 0.5N$ See Appendix 1 Switch (load - travel) test chart
4.2	Full Travel	Placing the switch such that the direction of switch operation is vertical and then applying static load of 2 times operating force to the center of the stem: the travel distance for the switch to come to a stop shall be measured.	$0.25 \pm 0.1mm$ See Appendix 1 Switch (load - travel) test chart
4.3	Return Force	The sample switch is installed such that the direction of switch operation is vertical and upon depressing the stem in its center to the whole travel distance, the force of the stem to return to its free position shall be measured.	0.4 N.min See Appendix 1 Switch (load - travel) test chart
4.4	Stop Strength	Placing the switch such that the direction of switch operation is vertical, and then a static load of 30N shall be applied in the direction of stem operation for a period of 60 s.	There shall be no sign of damage mechanically and electrically
4.5	Stem Strength	Placing the switch such that the direction of switch operation is vertical and then the maximum force to withstand a pull applied opposite to the direction of stem operation shall be measured.	20N.min
4.6	Terminals Strength	Switch terminals should be able to withstand the axial tension of 10N for 10s + 1s.	After the test terminals should be without any fall off, damage, the switch should be able to function
4.7	Solderability	Measurements shall be made following the test forth below: (1) Solder temperature: $245 \pm 5^\circ C$ (2) Immersion time: $2 \pm 0.5s$ The other steps please refer to «GB5095.6-860» TEST 12a	Except for the edge, the coating should cover a minimum 90%
5. Environmental Specification			
5.1	Resistance to low temperature	Following the test set forth below the sample shall be left in normal temperature and humidity conditions for 1 h before measurements are made: (1) Temperature: $-25 \pm 2^\circ C$ (2) time: 96h	Contact resistance: $\leq 200m\Omega$ Item: 3,4.1,4.2,4.3



SPECIFICATION

Product name

Tact Switch

Edition

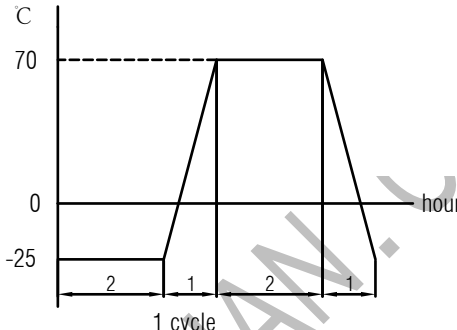
A

Model

TSA06234

Page

3/4

	Item	Test Conditions	Requirements
5.2	Heat resistance	Following the test set forth below the sample shall be left in normal temperature and humidity conditions for 1 h before measurements are made: (1) Temperature: $70 \pm 2^\circ\text{C}$ (2) time: 96h	Contact resistance: $\leq 200\text{m}\Omega$ Item: 3,4.1,4.2,4.3
5.3	Change of temperature	After 5 cycles of following conditions, the sample shall be allowed to stand under normal temperature and humidity conditions for 1 h. and measurements shall be made. During the test water drops shall be removed. 	Contact resistance: $\leq 200\text{m}\Omega$ Item: 3,4.1,4.2,4.3
5.4	Moisture resistance	Following the test set forth below the sample shall be left in normal temperature and humidity conditions for 1 h before measurements are made: (1) Temperature: $60 \pm 2^\circ\text{C}$ (2) relative humidity: 90% to 95% (3) time: 96h (4) Water drops shall be removed.	Contact resistance: $\leq 200\text{m}\Omega$ Item: 3,4.1,4.2,4.3
5.5	Salt Mist	The switch shall checked after following test: (1) Temperature: $35 \pm 2^\circ\text{C}$ (2) salt solution: $5 \pm 1\%$ (solids by mass) (3) time: $8 \pm 1\text{h}$	No remarkable corrosion shall be recognized in metal part

6.Endurance Specification

6.1	Operation life	Measurement shall be made following the test set forth below: (1) DC 12V,50 mA resistive load (2) Rate of operation: 2~3 times/s (3) Operating Force: Operating Force 1.5 times (4) Average Life Expectancy: $\geq 100,000$	Contact resistance $\leq 200\text{m}\Omega$ Operating Force: initial value $\pm 30\%$ Item: 3,4.1,4.2,4.3
6.2	Vibration	Measurement shall be made following the test forth below: (1) Vibration frequency range:10 to 55 to 10Hz in one minute. (2) Amplitude: 1.5mm (3) Direction of vibration: Three mutually perpendicular direction including the direction of stem travel (4) Duration: 2 hours each, for a total of 6 hours.	Item: 3,4.1,4.2,4.3



SPECIFICATION

Product name

Tact Switch

Edition

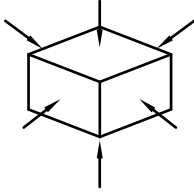
A

Model

TSA06234

Page

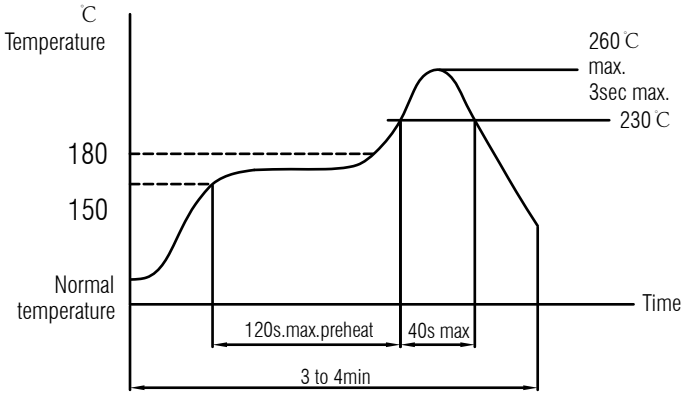
4/4

Item	Test Conditions	Requirements
6.3	Acceleration of 500m/s ² , pulse duration 11ms, each direction of the 3 axis, 3 times in each direction, a total 18 times. 	Item: 3,4.1,4.2,4.3

7.Soldering Conditions:

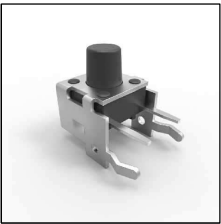
7.1	Hand soldering	Please practice according to below conditions: (1) Soldering temperature: 350 °C Max (2) Continuous soldering time: 3s Max
-----	----------------	--

7.2	Conditions for wave soldering Applied to plug-in switch	Items	Condition
		Flux built-up	Mounting surface should not be coated with flux
		Preheating temperature	Ambient temperature of the soldered surface of PC board. 100 °C max
		Preheating time	60s max
		Soldering temperature	260 °C max
		Continuous dipping time	5s max
		Number of soldering	2 times max

7.3	Conditions for reflow soldering Applied to surface mount switch	
-----	---	--

Cautions:

- 1.After switches were soldered,please do not clean switches with solvent or the like.
- 2.Safeguard the switch assembly against flux penetration from its topside.
- 3.Please be cautions not to give excessive static load or shock to switches.
- 4.Please be careful not to pile up P.W.B. after switches were soldered.
- 5.Preservation under high temperature and high humidity or corrosive gas should be avoided Especially. when you need to preserve for a long period, do not open the caron.



TACT SWITCH
P/N: TSA06234



SPECIFICATIONS

Function: Momentary action
Contact Arrangement: SPST, Normally Open
Termination: THD version

Mechanical

Actuation Force: 180±50grams
Life Expectancy: 100K Operations

Electrical

Contact Rating: 50mA @ 12V DC
Dielectric Strength: 250V AC for 1minute
Contact Resistance: 50mΩ Max.
Insulation Resistance: 100MΩ Min.
Travel: 0.25±0.1mm

Environmental

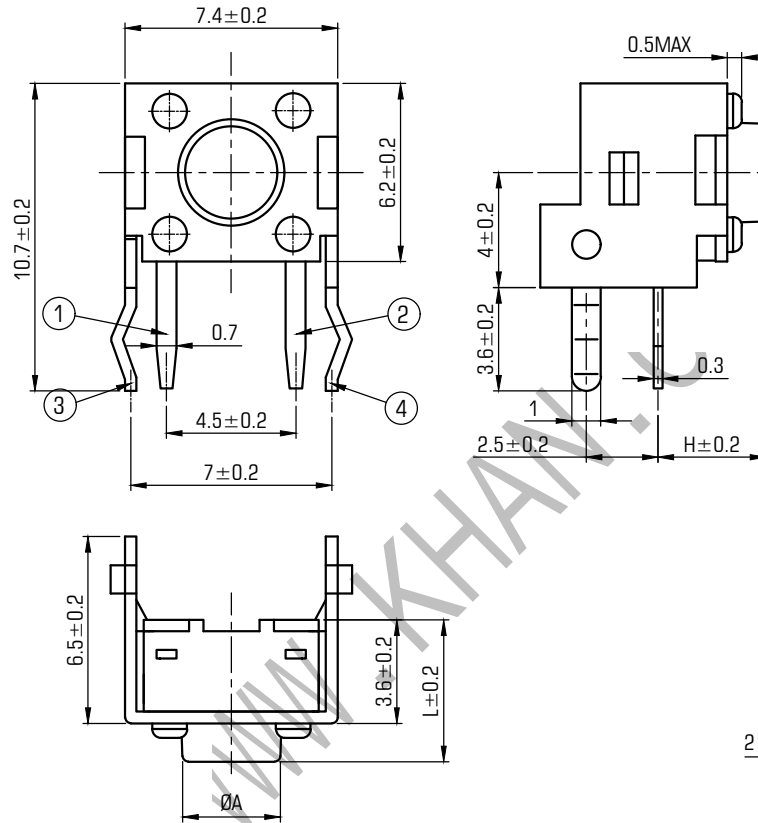
Operating Temperature: -25 ~ +70°C
Relative Humidity: (40°C) ≤95%

Materials

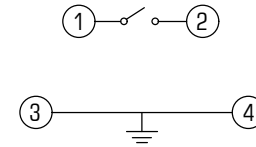
5. Cover: Ferrum with Copper and Tin
4. Stem: Black GP.PA66/PC
3. Contact: Copper with Silver cladding
2. Holder: Black GP.PA66
1. Terminal: Copper (H62Y) with Silver Cladding

Packaging

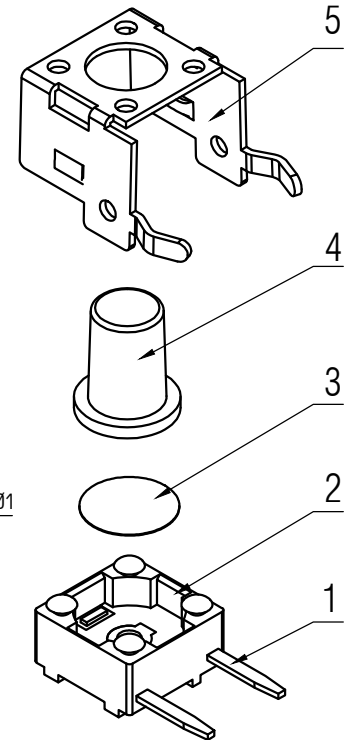
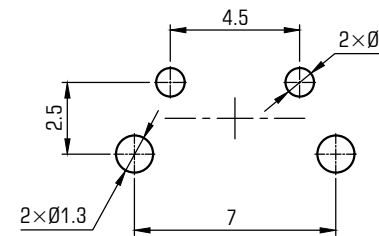
Bulk Package: Plastic bag
Inner Package: Carton
Outer Package: Carton



CIRCUIT DIAGRAM



P.C.B. LAYOUT



L	4.3	4.5	4.8	5	5.5	6	6.4	6.5	6.6	7	7.3	7.5	8	8.5	8.8	9	9.5	9.7	9.9
A	3.4	3.4	3.4	3.5	3.2	3.2	3	3.2	3.1	3.2	3.2	3.2	3.2	3.2	3.1	3.1	3.2	3.1	3.2
H	3.15	3.35	3.65	3.85	4.35	4.85	5.25	5.35	5.45	5.85	6.15	6.35	6.85	7.35	7.65	7.85	8.35	8.55	8.75
L	10	10.3	10.5	11	11.5	12	12.5	13	13.5	14	14.5	15	15.5	15.6	16	16.5	17	17	
A	3.2	3.2	3	3.1	3.2	3.2	3.1	3.2	3	3.2	3.1	3.1	3.2	3.1	3.2	3.2	3.2	3.2	2
H	8.85	9.15	9.35	9.85	10.35	10.85	11.35	11.85	12.35	12.85	13.35	13.85	14.35	14.45	14.85	15.35	15.85	15.85	



KANGHONG ELECTRONIC

VERSION		PROJECTION	DESIGN	YUDA AO
KH14FE22E			DRAWN	ZHIJIE LU
SCALE	SIZE	 Dimensions are shown: mm(inches)	APPROVAL	JUNHUI XU
4:1	A4		2015.11.05	

Test Report

No. NGBEC1501971601

Date: 12 Jun 2015

Page 1 of 9

YUEQING KANGHONG ELECTRONIC CO.,LTD
NO.92 HUIFENG RD,SONGHU IND.ZONE,YUEQING,ZHEJIANG,CHINA

The following sample(s) was/were submitted and identified on behalf of the clients as : Tact switch

SGS Job No.: NP15-001423 - NB
Model No.: 5*5
Material No.: TS05
Client Ref. Information : 3*6,4.5*4.5,6*6,7*7,8*8,10*10,12*12,SK02,8.5*8.5,PR-08,PBS04
Date of Sample Received : 04 Jun 2015
Testing Period : 04 Jun 2015 - 10 Jun 2015
Test Requested : Selected test(s) as requested by client.
Test Method : Please refer to next page(s).
Test Results : Please refer to next page(s).

Conclusion : Based on the performed tests on submitted sample(s) 001~003, the results of Lead, Mercury, Cadmium, Hexavalent chromium comply with the limits as set by RoHS Directive 2011/65/EU Annex II; recasting 2002/95/EC.

Based on the performed tests on submitted sample(s) 004~006, the results of Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBBs), Polybrominated diphenyl ethers (PBDEs) comply with the limits as set by RoHS Directive 2011/65/EU Annex II; recasting 2002/95/EC.

Signed for and on behalf of
SGS-CSTC Standards Technical Services Co., Ltd. Ningbo Branch

Iris Xiao

Approved Signatory

