ISO9001: 2015 ISO14001: 2015

# 产品规格书

PRODUCT SPECIFICATION

产品名称: 轻触开关 ITEM: TACT SWITCH

产品型号: TYPE: KAN0616-0701C-CL15

制 订: DRAWN: <u>刘叶泉</u>

审 批: APPD: <u>彭飞</u>

发布日期: DATE: **2019.3.27** 

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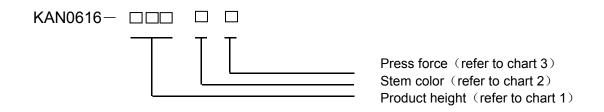
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CUSTOMER	CUSTOMER'S P/N	GYE'S P/N	PRODUCT	REVISION
		KAN0616-0701C-CL15	TACT SWITCH	Α

### A.Specification & meanings

The name of the tact switch is composed by type and specification, the particular meaning of the type, specification and code is as follows.



1. Product height: It is denoted by three figures; For examples, "075" expresses the product which the total height is 7.5mm, as chart 1 shows:

Code	Product height	Code	Product height	Code	Product height
043	4.3	085	8.5	153	15.3
050	5	090	9		
060	6	095	9.5		
070	7	100	10		
073	7.3 (Joint stem)	110	11		
075	7.5	130	13		
080	8	150	15		

2. Stem color: It is expressed by a figure, as chart 2 shows:

Color	Black	Red	White	Blue	Yellow	Blue	Gray
Code	1	2	3	4	5	6	7

3. Operating force: An English letter expresses it, unite: Newton (N),as chart 3 shows:

	Operating		
force		Press force	Return force
Code	Spec		
Α	1.0	1.0±0.3	0.2min
В	1.6	1.6±0.5	0.4min
С	2.6	2.6±0.5	0.6min

Examples: "KAN0616-0501B-CL15" denotes the tact switch with 6×6 base, the height is 5.0mm, the stem is black, the operating force is 1.6N, The cover and the base material is PPA, It is waterproof products.

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- 1、 概述(GENERAL)
- 1.1 适用范围(APPLICATION)

此规格书适用于机械式轻触开关的相关要求

This specification is applied to the requirements for TACTILE SWITCH (MECHANICAL CONTACT)

- 1.2 工作温度范围(Operating Temperature Range)
- -20℃~70℃(在标准大气压、标准湿度条件下)
- -20°C ~70°C (Normal humidity, normal air pressure)
- 1.3 贮藏温度范围(Storage Temperature Range)
- -30℃~80℃(在标准大气压、标准湿度条件下)
- -30°C∼80°C (Normal humidity, normal air pressure)
- 1.4 测试条件(Test Conditions)

在没有其它特定的条件下,应该在以下的条件下进行测试和测量:

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

Normal temperature  $\cdots 5^{\circ}$   $\sim 35^{\circ}$  C

标准湿度 ......相对湿度 25%~85%

Normal humidity .....relative humidity 25%~85%

标准大气压------86KPa~106Kpa

Normal air pressure·····86Kpa~106Kpa

在制造过程中,测试和测量应该在以下的条件下进行:

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

温度-----20℃±2℃

相对湿度………65%±5%

Relative humidity ......65% ±5%

环境气压------86KPa~106Kpa

- 1.5 存储方法(Storage method)
  - 1. 使用前确保包装完整无破损, 无浸湿.

Ensure that the product without package breaking or wetting before use.

2. 存储条件 Storage conditions:

储存温度 Storage temperature: -5~35 C; 储存湿度 Storage humidity: 25%~80%;

未开封状态: 6个月内使用完毕(从发货日开始计算); 超过6个月后再使用的,使用前请先验证:端脚无氧化、无发黑、塑料件无吸湿起泡,确保焊接的适宜性;

Unopened status: Use up the product as soon as possible before 6 months. (calculated from shipment date). Over 6 months, please make sure below before use it: terminal without oxidation or blackening, plastic parts without moisture absorption or bubble, ensure solderability.

己开封状态:建议半个月内使用完毕;

Opened status: use up within half of month;

储存注意事项: 避开高湿高温和有腐蚀性气体的环境及阳光直射;

Storage precautions: Please avoid the following environment: with high humidity, high temperature, corrosive gases and direct sunlight.

3. 请勿超重叠放.

Do not stack too many switches.

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2、 详细说明

**Detailed specification** 

2.1 外观:应无影响、降低产品性能的缺陷;

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

2.2 结构尺寸和安装尺寸:应符合装配图要求;

Style and dimension: shall conform to the assemble drawings.

2.3 操作形式:有触觉反应的操作

Type of actuating: Tactile feedback.

2.4 开关结构: 单回路单输出(具体的触点结构在装配图中已绘出);

Contact arrangement: 1 pole, 1 throw

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

2.5 开关工作额定值: DC 12V, 50mA (有效值)

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

3. 电气性能:

**ELECTRICAL SPECIFICATION** 

		₩ -12 <sub>1</sub>			
ا ا	页 目		试验条件		要求
l.	TEM	TEST CONDITIONS			REQUIREMENTS
1	接触电阻 Contact Resistance	Applying a static load of 2 times operating			≪100mΩ
量端子之间底座、盖			t shall be mad 100V DC poten	e following tial, across	≥100MΩ
介质耐压在端子之间施加 250V AC (50HZ 或 60HZ) /1min3Dielectric voltage proof250V AV (50HZ or 60HZ) shall be applied across terminals, for one minute.			无击穿、无飞弧 There should be no breakdown and flashover		
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	项目				试验	条件			要求
	ITEM			TE	ST CON	DITIONS		RE	QUIREMENTS
4	触点弹 Bound		在导通和断开设 Lightly striking encountered in	过程中 g the n nori	测试开关e center mal use tested at the character of the cha	of the stem (3 to 4 times po	at a rate er second),	l	I-3msec.max F-8msec.max
	械性能 : ANICAL SI	PECII	FICATION						
## The state of t						refer to chart 3			
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С	USTOMER	CUSTOMER'S P/N	GYE'S P/N	PRODUC	Т	REVISION	
			KAN0616-0701C-CL15	TACT SWIT	СН	А	
	项目		试验条件			要求	
	ITEM	TI	EST CONDITIONS		RE	EQUIREMENTS	
2	最大行程 Full Travel	Full Placing the switch such that the direction of switch					
3	回弹力 Return Force	The sample switch is installed such that the direction of refer to chart 3					
4	停止强度 Stop Strength	开关垂直于操作方向放置,从操作方向向驱动件施加 30N 的静负荷持续 1min。  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  无机械和电 There shall be of dam mechanicated the direction of stem operation for a period					
f f f min.  F 柄拔出 强度 Stem Strength  T 关垂直于操作方向放置,反方向实施最大操作力,并测量手柄的行程范围。 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.		
6 耐焊接热 Soldering heat resistance resistance Following the test set forth below the sample shall be left in normal temperature and humidity conditions for 1 h before measurement are made:  ### ### ### ### ### ### #### ########					机械和电气损坏		
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	KAN0616-0701C-CL15 TACT SWITE				TACT SWIT	СН	А	
	项目		试 验	条件			要求	
	ITEM		TEST CO	NDITIONS		R	REQUIREMENTS	
6	耐焊接热 Soldering hea resistance	(1) 温度和浸炉 260±5℃,5s t Temperatur 260±5℃,5	±1s e and Imm	ersion time:		of med	ere shall be no sign damage chanically and ctrically.	
7	可焊性 Solderability	Measurements forth below: (1) 焊接温度:24 Solder tem (2) 浸入时间:28 Immersion 对于其它步	焊接温度:245±5℃ Solder temperature: 245±5℃ 浸入时间:2s±0.5s Immersion time: 2s±0.5s 对于其它步骤参考《GB 5095.6—86》试验 12a The other steps please refer to《GB 5095.6-86》					
	版电气性能: RONMENTAL SPI	ECIFICATION						
Resistance to low temperature and numidity conditions for 1 h before measurements are made:  1 温度: —30±2℃  Temperature:-30±2℃  项目 3,4.1								
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					KAN0616-0701C-CL15 TACT SWIT		TACT SWIT	СН	А	
	项目				试 验 TEST CO	: 条 件	0			要求 EQUIREMENTS
2	高温测试 Heat resistance		面的测试到 Following left in nor 1 h before (1)温质 ten (2)时间	要求进 the te mal te e meas g:80	及标准湿度 行测试: st set forth mperature surements ±2℃ ure:80±2℃ h	更的环境中 n below th and hum are made	1 小时后 ne sampl lidity con	后,根据下 e shall be ditions for	接触 Con ≤20 项目	电阻: ≤200mΩ ntact resistance: 0mΩ   3,4.1,4.2,4.3 n 3,4.1,4.2,4.3
3	温度周期( Chang tempera	e of	面的测试到 测试期间和 After 5 cy be allowed humidity (	要求进 详品应 cles of ed to s condition	常温及标准湿度的环境中 1 小时后,根据下 这进行 5 次循环的温度周期性测试: 品应保持干燥 s of following conditions, the sample shall to stand under normal temperature and additions for 1 h. and measurements shall During the test waterdrops shall be Temperature Time -10±2℃ 2(hour) -10~65℃ 1 65±2℃ 2 65~-10℃ 1				接触 Con ≤20 项目	ቋ电阻: ≤200mΩ ntact resistance: 0mΩ I 3,4.1,4.2,4.3 n 3,4.1,4.2,4.3
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			KAN0616-0701C-CL15 TACT SWIT		CH A		
	项目 ITEM		要求 REQUIREMENTS				
4	湿温测试 Moisture resistance	面的测试要求进行 Following the test left in normal tent 1 h before measu (1) 温度: 60± temperatu (2) 相对湿度: relative hu	temperature: 60±2℃ (2) 相对湿度: 90%~95% relative humidity:90% to 95% (3) 时间: 96h				
5	硫化试验 Sulfuration resistance	计并重复 2~ uple shall be nditions for1ues before om	接触电阻: ≤200mΩ Contact resistance: ≤200mΩ 项目 3,4.1,4.2,4.3 Item 3,4.1,4.2,4.3				
6	盐雾试验 Salt Mist	ng test: salt deposit	金属件上没有腐蚀斑点 No remarkable corrosion shall be recognized in metal part.				
AP	PROVE BY 彭		by running water. CKED BY 刘叶泉 2019.3.2	7 PRPARE	E BY 卢娇娇 2019.3.27		



	GANGYUAN APPROVAL SPECIFICATIONS								
С	CUSTOMER		CUSTOMER'S P	/N G	SYE'S P/N	PRODUCT	г	REVISION	
					16-0701C-CL15	TACT SWITC	СН	Α	
	及限机械性能 ENDURAN		PECIFICATION						
	项目				: 条 件			要求	
	ITEM			TEST CC	NDITIONS		REQUIREMENTS		
1	工作寿 Opeatio		forth below:  (1) DC 12V	t shall be n /, 50mA 带分 V, 50 mA res 率: 1-2 次/积 f operation: 1 按力的 1~1. ting Force:	nade following t t载 istive load -2 times/s 5倍 Operating Forc	e1~1.5 倍	resis 触 Cor boun 好 Oper initia 项	电阻≤1ΩContact tance≤1Ω 弹力≤10ms ntact nce≤10ms v: 初值的±30% rating Force: I value±30% 3,4.1,4.2,4.3 3,4.1,4.2,4.3	
2	振动 Vib	ration	forth below:  (1) 振动频 Vibration (2) 振幅 Amplitu (3) 振动方 Direct perper travel (4) 测试时	t shall be n 顾率范围: 10 on frequency (峰一峰): 1 ude: 1.5mm 方向: 包括手标 直的方 tion of	nade following t ~55~10Hz range: 10 to 55 1.5mm 两行程方向在内的 向 vibration:Three on including the dire	to 10Hz 三个相互垂 mutually		3,4.1,4.2,4.3 3,4.1,4.2,4.3	
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				KAN	KAN0616-0701C-CL15		TACT SWITCH	А	
	接条件: DERING CC	ONDIT	IONS:	1					
	项目 ITEM		推 荐 条 件 Recommended conditions						
7.1	手工焊 Hand sold		(1) 焊锡温度 (2) 连续焊接 Please prac (1) Soldering	请按以下条件进行焊接: (1) 焊锡温度: ≤ <u>350</u> ℃ (2) 连续焊接时间: ≤ <u>3</u> s Please practice according to below conditions: (1) Soldering temperature: _350℃ Max. (2) Continuous soldering time: 3 s Max.					
			项目 Items 助焊剂附着量 Flux buit-up			条件 Condition 不附着于零部件贴装面的程度 Mounting surface shoud not be coated with flax			
	自动浸焊	预热温度		 温度		印刷电路板焊接面的周围温度 100℃ max. Ambient temperature of the soldered surface of PC board. 100℃ max.			
7.2	Auto-di		预热温度时间 Preheating time			60s max.			
		焊接温度 Soldering temperature 焊接浸渍时间 Continuous dipping time		е	260°C max.				
				ie	5s max.				
				次数 if soldering		2 次以下 2times max.			
7.3	波峰焊接 Wave Solde	ering	MAX 260°			120~150sec 60sec TIME(sec)			
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8. 防水性	waterproof test						
	经过试验的样品应放在常温及	校标准湿度的环境中风干 0.5 小时					
	后,根据要求进行测试:						
	The tested samples should	be dried in the environment of		实验后簧片无浸水、无腐蚀、无生锈、 电阻≤100mΩ After the experiment, there is no			
	normal temperature and stan	dard humidity for 0.5 hours, and	IP67				
	then tested as required.						
	1、温度: 常温下			water, no corrosion, no rust and the resistance $\leq 100$ m $\Omega$ 绝缘电阻: $\geq 10$ M $\Omega$ Insulation Resistance $\geq 100$ M $\Omega$			
防水等级	Under the normal temperature	•					
Waterpro	2、条件: 1米深下 0.5 小时后	取出					
of grade	Remove from 1 meter depth a	fter 0.5 hours			在端子之间施加 250V		
	根据与客户协商的条件下进行	试验,并且经过试验的样品应放在		AC(50HZ 或	60HZ)/1min		
	常温及标准湿度的环境中风干	0.5 小时后,根据要求进行测试:		Pressure test:250V AV (50HZ or 60HZ) shall be applied across terminals, for one minute.			
	Test according to the co	onditions negotiated with the	IP68				
	customer,The tested samp	les should be dried in the	1108				
	environment of normal temper	erature and standard humidity for					
	0.5 hours, and then tested as	required。					

### 9. 焊接说明: SOLDERING EXPLAIN:

### 焊接说明:

1、开关浸焊后,注意不要用溶剂清洗。

After switches were soldered, please be careful not to clean switches with solvent.

1.1 在使用烙铁的情况下,焊锡温度应在350℃以下、3秒以内。

In the case of using solding iron, solding conditions shall be 350°C max and 3 sec.max.

1.2 浸焊后,注意不要在顶部施加负荷。

Right after switches were soidered; please be careful not to load to on the knobs of switches.

- 2、设计中应注意的事项( Design instructions)
- 2.1 印刷基板的安装孔尺寸参见产品图。

Follow recommended P.W.B. piercing plan in outside drawing page.

- 3、注意点(Note):
- 3.1 注意不要施加超负荷的压力或晃动开关。

Please be cautions not to give excessive static load or shock to swiches.

3.2 开关浸焊后,印刷基板注意不要叠放。

Please be careful not to pile up P.W.B.after switches were soldered.

3.3 保管时尤其应注意避开高湿高温和有腐蚀性气体的环境。如需要长时间保存,请不要打开包装箱。

Preservation under high temperature and high high humidity or corrosive gas should be avoided Especially . When you need to preserve for a long period ,do not open the carton.

3.4 使用标准插入机器 PANASERT 和 RH6 (使用 N 式钉)

Panasert RH and RH6 shall be used as the standard inset machine (use N type clinch)

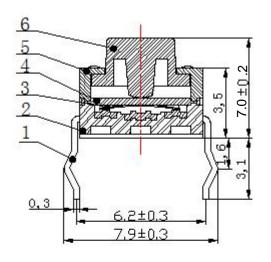
3.5 产品应满足 SONY-SS-00259 环境管理物质管制标准

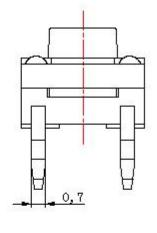
Control hanzardous substance: The product should be meet SONY-SSS-00259 speciffication.

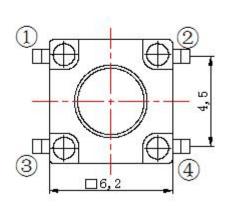
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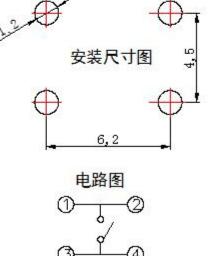


CUSTOMER	CUSTOMER'S P/N	GYE'S P/N	PRODUCT	REVISION
		KAN0616-0701C-CL15	TACT SWITCH	Α









General tolerance: ±0.2mm

NO.	NAME	MATERIAL	QTY.	FINISHING
1	TERMINAL	Brass	1	Silver plating
2	CASE	PPA	1	Black
3	CONTACT	F.Ag SUS	1	Contact side silver plating
4	防水垫	硅橡胶	1	Black
5	COVER	PPA	1	Black
6	STEM	PPA	1	Black

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CUSTOMER	CUSTOMER'	S P/N G	YE'S P/N	PRODUCT	REVISION	
		KAN061	6-0701C-CL15	TACT SWITCH	А	
变更履历表	:					
版本	7.	变更记录		变更人	变更日期	
			I			
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