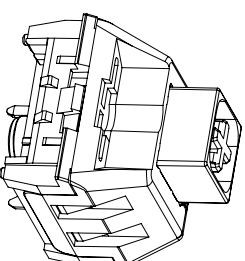
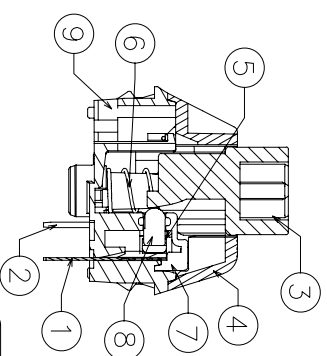
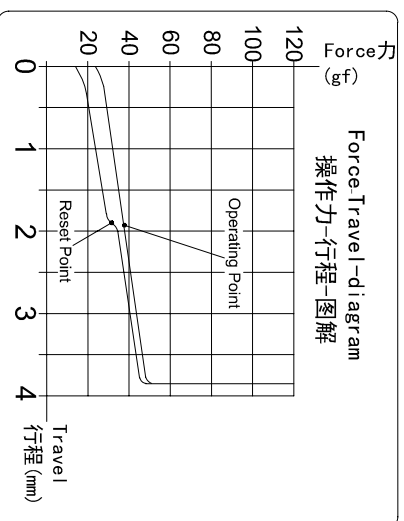
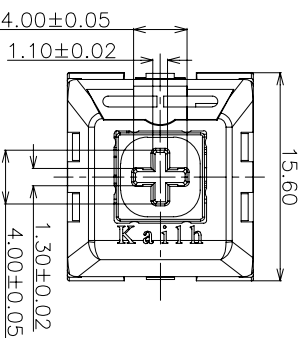
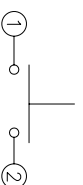


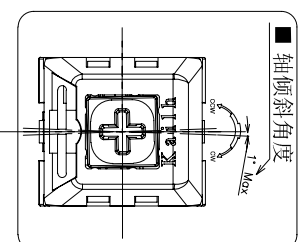
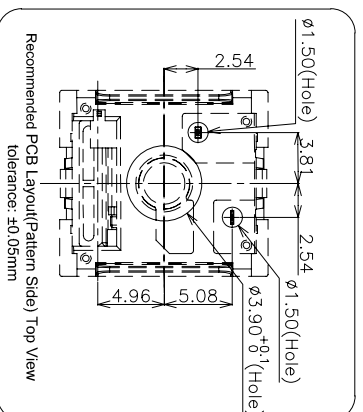
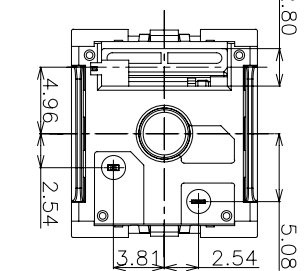
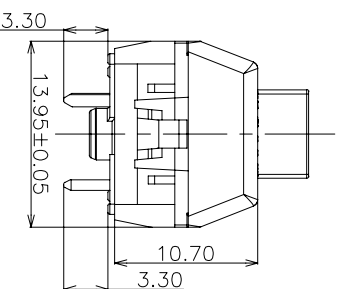
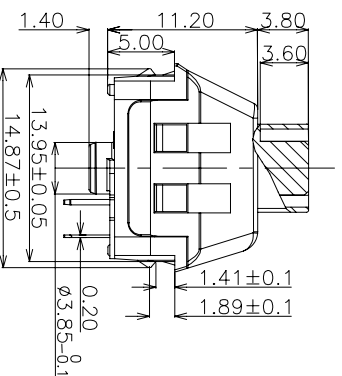
CoCo pink Shaft
(Translucent Casing)



■ SWITCH FUNCTION



- Specification :
 - 1. Rating: 12 VAC/DC max. 2 VDC min.
10mA AC/DC max. 10 μ A DC min.
 - 2. Contact Resistance: 200m Ω Max
 - 3. Insulation Resistance: 100M Ω Min. (DC100V)
 - 4. Withstand Voltage: AC100V (50-60Hz) for 1 minute
 - 5. Operation Force: 40 $\pm$ 10gf
 - 6. Conduction travel: 1.80 $\pm$ 0.4mm
 - 7. Total travel: 3.60 $\pm$ 0.3mm
 - 8. Electrical Life: 80,000,000 Cycles(min).
 - 9. Degree of protection: IP54(excluding the terminals,
samples should be applied to products that meet the
corresponding protection level)
- <Feel is allowed to have difference before and after life test>



ITEM	PART NAME	TER	NO.	QTY.	MATERIAL	FINISHING	REMARK
⑥	Base	—	1		PC	Coffe color	—
⑧	Slider	—	1		POM	Green	—
⑦	Protecting Cover	—	1		PA66	Nature	—
⑥	Spring	—	1		Stainless Steel	Nature	—
⑤	Contact	—	2		Composite gold	—	—
④	Cover	—	1		PC	Coffe color	—
③	Keystroke	—	1		POM	Pink	—
②	Static Plate	—	1		Copper Alloy	Nature	—
①	Movable Plate	—	1		Copper Alloy	Nature	—

APPROVALS	DATE	 DONGGUAN CITY KAHUA ELECTRONICS CO.,LTD		
<table border="1"> <tr> <td>DRAWN</td> <td>HuHaxin</td> <td>2021.04.27</td> </tr> </table> Kailin	DRAWN		HuHaxin	2021.04.27
DRAWN	HuHaxin	2021.04.27		

CHECKED		TITLE:	Keystroke Switch/ CoCo pink Straf)	
APPROVALS		PART NO.	CP01511F01S63	
	30°±1	±0.30	ANGLE	
	10°±1	±0.20	UNIT: mm	
TOLERANCES ARE	5°±1	±0.15	±2°	
	15°±1	±0.10	DRAWING NO.	
			SCALE: 1:1	
			PROJ. 	
			SHEET 1 OF	

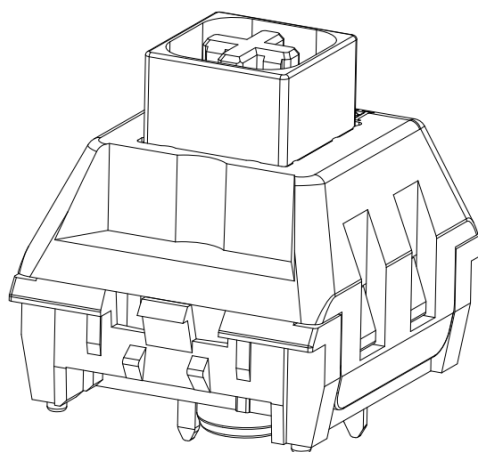


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KAIHUA EEELETRONICS

Document Number:

KH-PS2104 -22

Product Specification



Coco pink Shaft
Translucent Casing

P/N: CPG1511F 01S 63			Title : PG1511F Keyboard Switch		
Rev.	ECN	Release and Revision	Prepared By /Date:	Checked By/Date:	Approved By/Date:
A	— —	New Description:	/2021.04.27	/2021.04.27	/2021.04.27



1. Scope/

- This Product Specification covers the requirement of Mechanical Keyboard switch on product performance, test methods and quality assurance provisions.

2. Product Application/

Mainly applied on computer keyboards, cash registers, industrial equipment and Man-Machine interface.

3. Technology Parameters/

Ambient Humidity	45~85% R.H.
Operating Temperature Range	-10 +70
Storage Temperature Range	-20 +70
Suggested storage period	about 6 months 6
Require the tin part on the switch terminals should keep good after storage guarantee date	

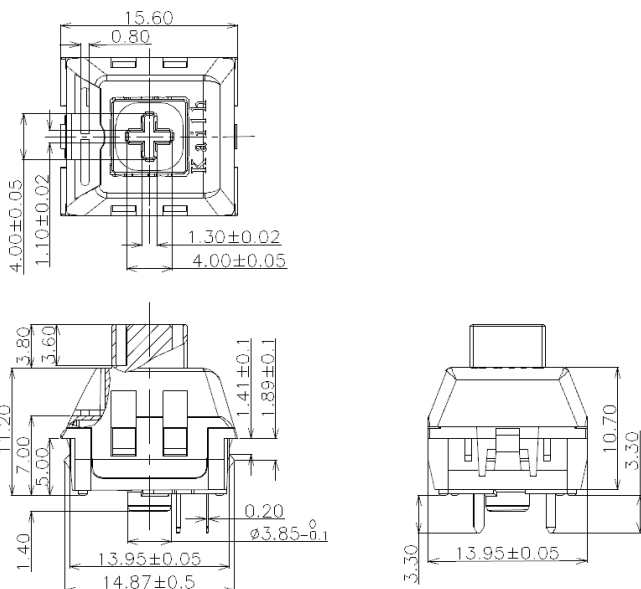
Normal Condition:

Ambient temperature	20± 2
Relative humidity	65%± 5% R.H.
Air pressure	86~101KPa;

4. Ratings/

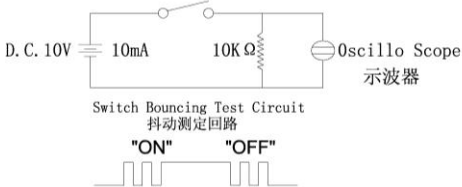
Rating	12V AC/DC max. 2V DC min. 10mA AC/DC max. 10 A DC min
Insulation Resistance	100M /DC 100V;
Withstand Voltage	100 AC 1 Minute;
Mechanical Life	80,000,000 Cycles.

5. Profile Dimensions /



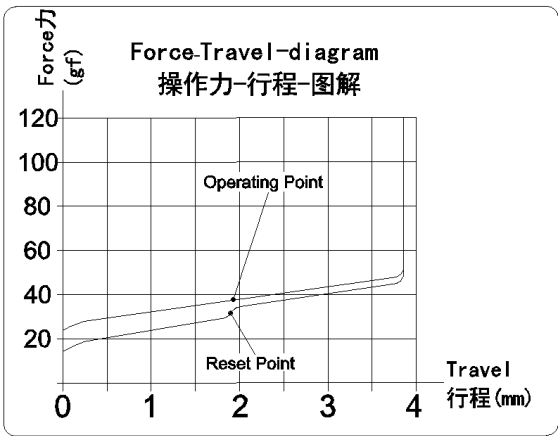
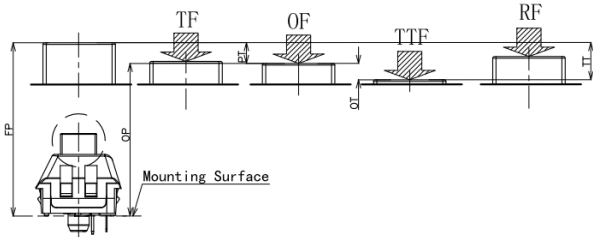
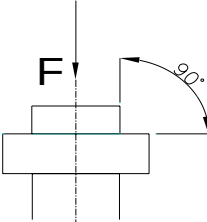


6. Electrical Performance/

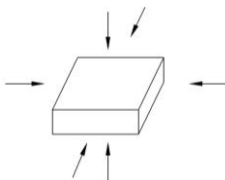
Item	Description	Test Condition	Requirement
6.1	Contact Resistance	Static load: (Operation force)x2, which is applied on the center of Switch stem.Be measured when the switch contact stabilization. 2 Measurement tool: Contact resistance Meter. (1KHz, 20mV,5~50mA) Measured at low current (100mA or less). 100mA	200m Max 200m
6.2	Insulation Resistance	Apply a Voltage of DC 100 V for 1 minute, according to the below method. (1) Between terminals. (2) Between terminal and Body. 100V DC 1 (1) (2)	100M Min 100
6.3	Dielectric withstanding voltage	Apply a Voltage of AC100 V (50~60Hz) for 1 minute, according to the below method. (1) Between terminals. (2) Between terminal and Body. 100V AC 1 (1) (2)	No evidence of breakdown
6.4	Bouncing	Operation speed 3~4 times/s 3~4 Oscillo scope Switch Bouncing Test Circuit  Switch Bouncing Test Circuit 抖动测定回路 "ON" "OFF"	Before Life cycle: On:5ms MAX,5 Off: 5ms MAX,5 After Life cycle: On:10ms MAX,10 Off: 10ms MAX,10



7. Mechanical Performance/

Item	Description	Test Condition	Requirement
7.1	Load Curve	Place the vertical direction of switch operation and gradually increase the load applied to the center of the stem until it stop. 	See page 10 10
7.2	Loading parameter	Place the vertical direction of switch operation and gradually increase the load applied to the center of the stem until it stop. 	See page 10 10
7.3	Static Strength	A static load of 3kgf shall be applied in the direction of button operation for a period of 60 seconds. 	No damage (Electrical) And mechanical



7.4	Stem Pull Strength	Break by a pull force applied opposite to the direction of stem operation.	5kgf Min
7.5	Shock	Measured by according to the below condition: (1) Acceleration: 80g (2) Cycles of test: 3 cycles each in 6 directions, for a total of 18 cycles. 3 6 18 	Shall meet No. 6 7.1 7.2. 6 7.1 7.2 .
7.6	Life Test	1) D.C. 12V 10mA resistance load D.C 12V 10mA 2) Operation speed : 5-6 times / s 5-6 / 3) Push force : 150gf : 150gf 4) Operation number: 80,000,000 cycles : 80 000 000	Contact resistance: 1 Max 1 Bouncing 10ms Max 10 Operation force Variation rate within $\pm 30\%$ $\pm 30\%$.
7.7	Pull Strength of switch	Apply specified pull force on the keystroke upward, the switch wasn't pulled out	More than 3.5Kgf 3 seconds min. 3.5 kg 3
7.8	Push strength of static plate and movable plate	Apply specified push force on the plate upward, the switch electrical performance is ok.	More than 5 Kgf 3 seconds min. 5 kg 3



8. Environmental Performance

Item	Description	Test Condition	Requirement															
8.1	Cold test	(1) Temperature : - 20± 2 - 20± 2 (2) Duration of test: 48h 48 (3) Take off a drop water (4) Standard conditions after test : 1h 1	Contact resistance: 200m Max Shall meet : No. 6.2 to 6.4 No. 7.1 to 7.2 200m : No. 6.2 to 6.4 No. 7.1 to 7.2															
8.2	Heat test	(1) Temperature : 70± 2 70± 2 (2) Duration of test: 48h 48 (3) Take off a drop water (4) Standard conditions after test : 1h 1	Contact resistance: 200m Max Shall meet : No. 6.2 to 6.4 No. 7.1 to 7.2 200m : No. 6.2 to 6.4 No. 7.1 to 7.2															
8.3	Temperature cycle	(1) Test cycles: 5 cycles 5 (2) Standard condition after test:1h 1 <table><tr><td></td><td>Temperature</td><td>Duration of test</td></tr><tr><td>1 cycle</td><td>20± 5</td><td>1h</td></tr><tr><td></td><td>-20± 5</td><td>1h</td></tr><tr><td></td><td>20± 5</td><td>1h</td></tr><tr><td></td><td>70± 5</td><td>1h</td></tr></table>		Temperature	Duration of test	1 cycle	20± 5	1h		-20± 5	1h		20± 5	1h		70± 5	1h	Contact resistance: 200m Max Shall meet : No. 6.2 to 6.4 No. 7.1 to 7.2 200m : No. 6.2 to 6.4 No. 7.1 to 7.2
	Temperature	Duration of test																
1 cycle	20± 5	1h																
	-20± 5	1h																
	20± 5	1h																
	70± 5	1h																
8.4	Soldering heat test	Soldering area: T/2 of PWB thickness. (PWB: T=1.6mm) 1/2 Soldering temperature: 260± 5 Soldering time: 3± 0.5s 260± 5 3± 0.5	Appearance: No abnormality.															

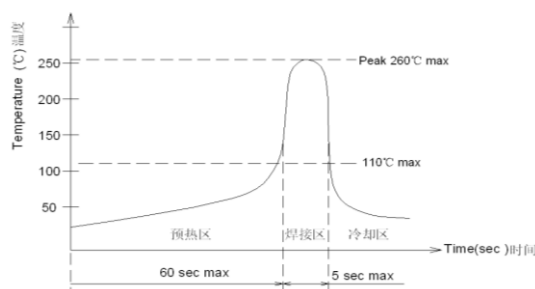


8.5

Solder ability

1. Hand soldering
Please practice according to below condition:
(1) Soldering Temperature : 350 ± 5
 350 ± 5
(2) Continual soldering time: 3 ± 0.5
 3 ± 0.5
(1) Capacity of soldering iron: 20w
20
2. Automatic PIP soldering
For the product of T/H according to below

()



At least 95% of surface area of immersed portion shall be covered by solder.
95%

8.6

Humidity test

(1) Temperature : 60 ± 2
 60 ± 2
(2) relative humidity: 90~95% R.H.
:90~95% R.H.
(3) Duration of test: 48h
48
(4) Take off a drop water
(5) Standard conditions after test: 1h
1

Contact resistance:
200m Max
Shall meet :
No. 6.2 to 6.4
No. 7.1 to 7.2
200m
:
No. 6.2 to 6.4
No. 7.1 to 7.2

8.7

Salt Spray

Apply the following environment to test(Only for contact test) :
()
(1) Temperature : 35 ± 5
: 35 ± 5
(2) Salt water density: 5 ± 1 %
: 5 ± 1 %
(3) Duration: 12hours
: 12
(4) After test, the salt deposit shall be removed by running water.

Appearance:
No corrosion spot, no crack, no base plate naked.
.
Contact Resistance:
200 m Max
200



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8.8	Protection Against ingress of dust(IP5X)	The switches are placed in a position of normal use inside the test chamber. The test is carried out according to the second enclosure of IEC60529/GB4208. The test shall be continued for a period of 8h. IEC60529 GB4208 8	After test: Operating is normal Between terminals, terminal and surface of the crust, Dielectric withstand in voltage 100V 100V
8.9	Protection against ingress of water(IPX4)	The switches are placed in a position of normal use inside the test table. The test is carried out according to the second enclosure of IEC60529/GB4208. IEC60529 GB4208	After test: Operating is normal. Water don't enter electric parts of the switch inside. Between terminals, terminal and surface of the crust, Dielectric withstand in voltage 100V 100V



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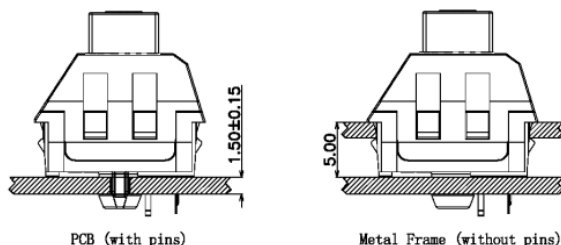
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9. Recommended PCB Layout

PCB

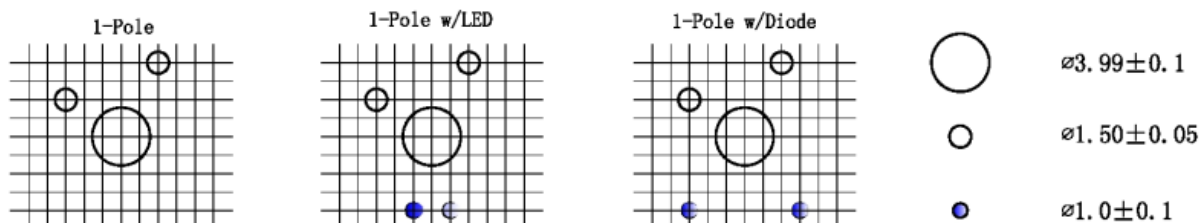
Mounting Options 安装选项



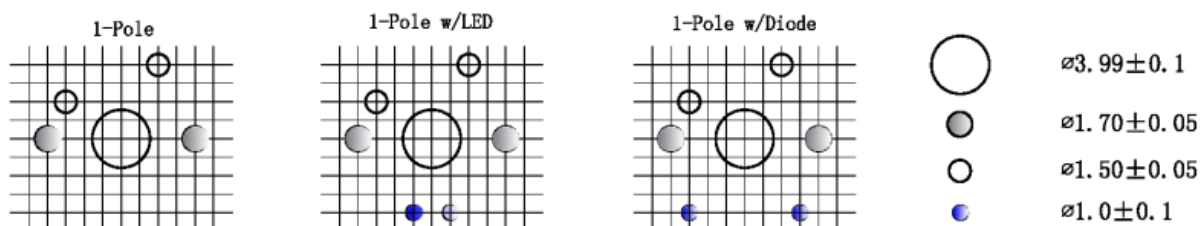
Circuit Board Layouts 电路板布局

Grid line spacing = 1.27mm 网格线间距= 1.27毫米

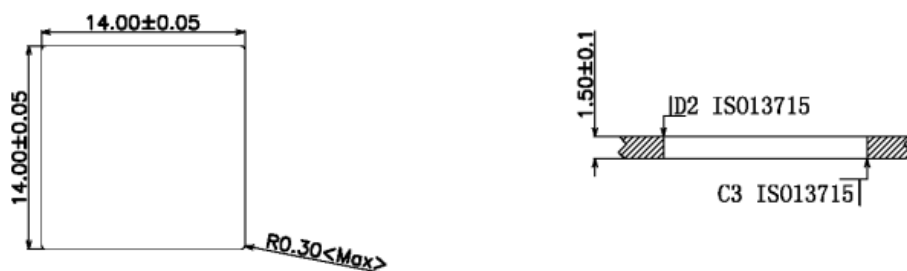
Keyswitch without fixation pins
按键开关不带定位柱



Keyswitch with fixation pins
按键开关带定位柱



Metal Frame Cutout Dimensions





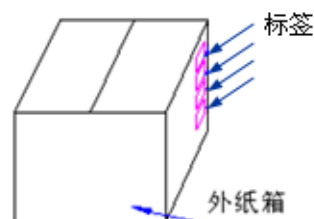
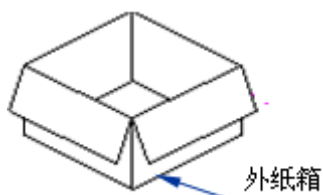
10. Loading Parameter (TT/PT/OT /OF) Specification

Parameter	Unit	Specification	Remark
TT()	mm	3.60± 0.3	
PT()	mm	1.80± 0.4	
OT()	mm	1.30	Min.
OF()	gf	40± 10	

11. Packaging

Packaging type: Tray, 1000Pcs/Tray, 4000Pcs/Carton.

: Tray ,1000Pcs/ , 4000Pcs/ .



12.Precaution

12.1 Immersion Soldering condition

ITEM	CONDITION
Preheat temperature	110 Max (Ambient temperature of soldering surface of P.W.B) 110 ()
Preheat time	60s, Max 60
Area of flux	1/2 Max of PWB Thickness 1/2
Temperature of solder	260± 5 260± 5
Time of immersion	3s± 0.5s 3s± 0.5s
Number of soldering	2time Max (But should down heat of the first soldering) 2
Printed wiring board	Single side copper-clad laminates

(1) After switches were soldered, please be careful not to clean switches with solvent

(2) Under the condition of using soldering iron, soldering temperature shall be 350 ±5 with 3±0.5s.

350 ±5 , 3±0.5 .



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12.2 Notes

- (1) Please be cautious not to give excessive static load or shock to switches.
- (2) Please be careful not to stack up P. W. B. after switches were soldered.
- (3) 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 carton.
- (4) The standard storage period is 3 months, with maximum up to 6months, preferably to be used as soon as possible. After opening the package, you should put the remaining switches in a plastic bag to prevent from damp and corrosive gas.
- (5) This Product Specification is considered as the technical agreement on product between the receiving customer and Kailh. Any information on Product Catalogue which is in conflict with or different from the corresponding information of this document is considered as invalid.
- (6) If customer issue purchase orders without confirmation by signature of this specification after receipt, such confirmation will be considered as granted upon receipt of the first purchase order.
- (7) If there is no order or no request for new specification after 1 year upon this specification is issued, the specification will be regarded as invalid.
- (8) Products meet the ROHS & REACH environmental management substances control standards.

ROHS & REACH