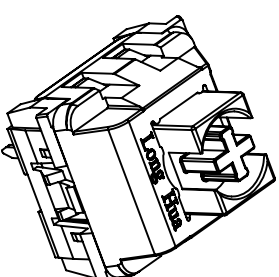
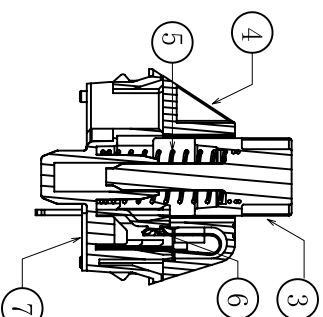
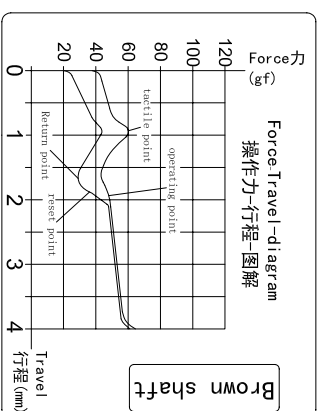
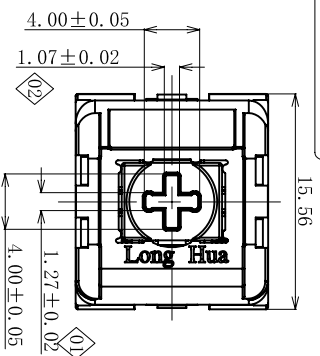
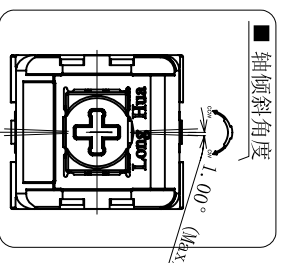
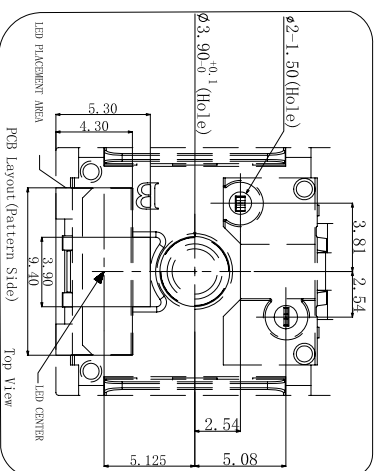
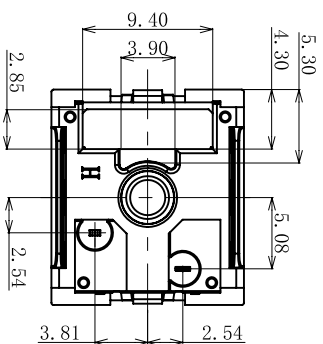
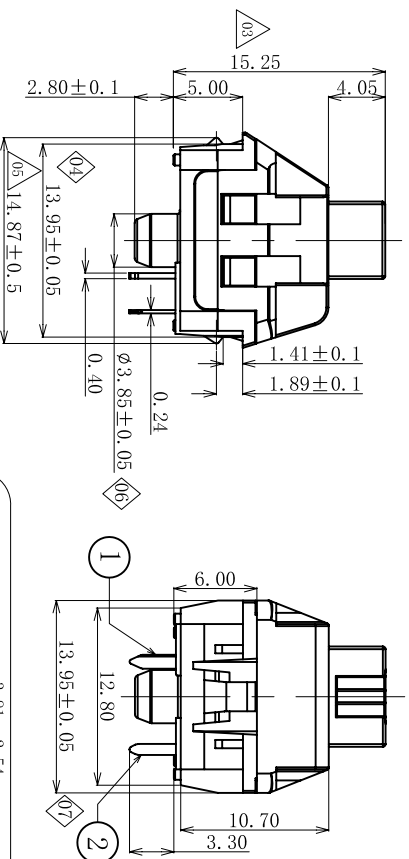
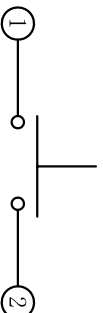


Brown shaft



SWITCH FUNCTION



ITEM	PART NAME	TER NO.	QTY.	MATERIAL	FINISHING	REMARK
⑦	Base	—	1	PAGE	black	—
⑥	contact	—	2	Composite gold	—	—
⑤	Spring	—	1	Stainless Steel	—	—
④	Cover	—	1	PC	Transparent	—
③	Keystroke	—	1	POM	Brown	—
②	static plate	—	1	Brass	Sn over Ni-Plating	—
①	movable plate	—	1	Copper Alloy	—	—

APPROVALS	DATE	 

DRAWN	WeiZuFu	2025.08.04	 Kailh
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CHECKED	No jiangjiang	2025.08.04	TITLE:	PG1518 Key/stroke Switch(Brown sha
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APPROVALS	Li zhimao	2025.08.04	PART NO.	CPG151801S193
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	30 $\leq$ L	$\pm 0,30$	ANGLE		PROJ. 
TOLERANCES ARE	10 $\leq$ L $\leq$ 30	$\pm 0,20$	UNIT: mm	SCALE: 1:1	
	5 $\leq$ L $\leq$ 10	$\pm 0,15$			
	L $\leq$ 5	$\pm 0,10$			
		$\pm 2^\circ$	DRAWING NO.	KHA-PC1518-228EN	SHEET 1 OF 1

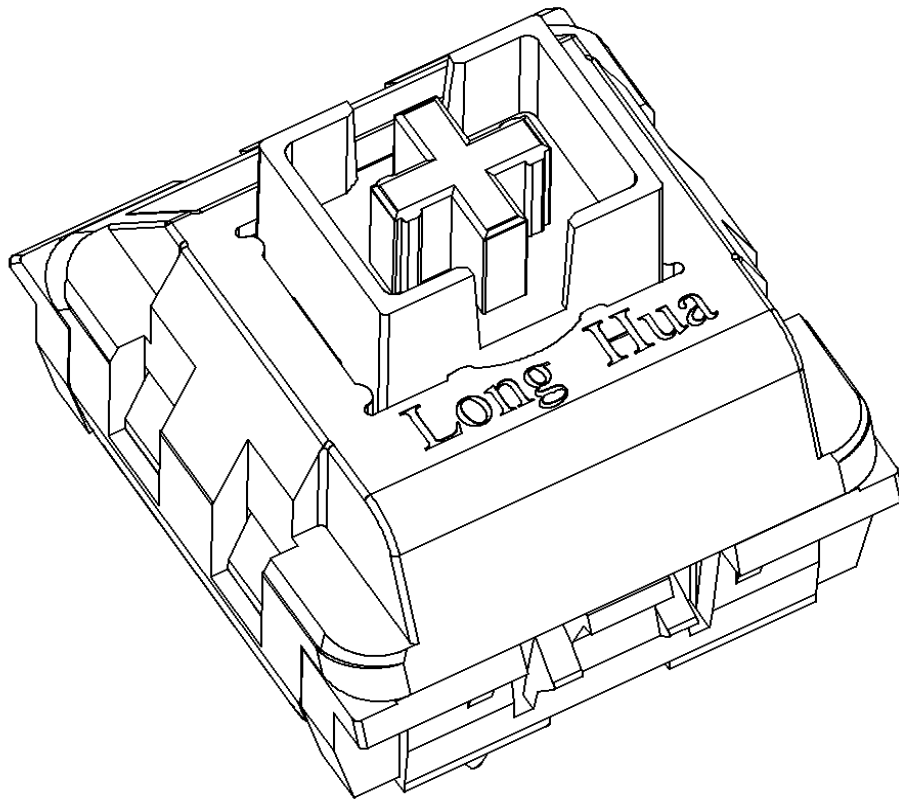


凱華電子
KAIHUA EEELETRONICS

Document Number:

KH-PS2508-05

Product Specification



P/N: _____

CPG151801S193

Title :

PG1518 Keyboard Switch

Rev.ECN

Release and Revision
Description:

Prepared By /Date:Checked By/Date:Approved By/Date:

A

—

New releasing

2025/08/04

2025/08/04

2025/08/04



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	

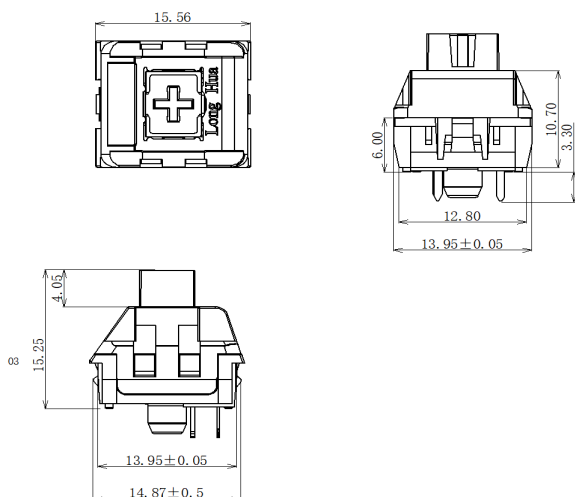
Normal Condition:

Ambient temperature	20± 2
Relative humidity	65%± 5% R.H.
Air pressure	86~101KPa;
Solder Ability :	245± 5 ± 0.5s
	255± 5 ± 0.5s
Withstand Soldering Temperature :	260± 5 ± 0.5s

4.Ratings/

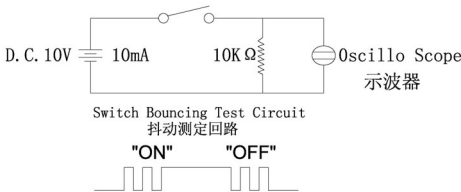
Rating	12V AC/DC max.2V DC min.
	10mA AC/DC max.10 ADCmin
Insulation Resistance	100M /DC 500V;
Withstand Voltage	100V AC 1 Minute;
Mechanical Life	50,000,000 Cycles.

5.Profile Dimensions /



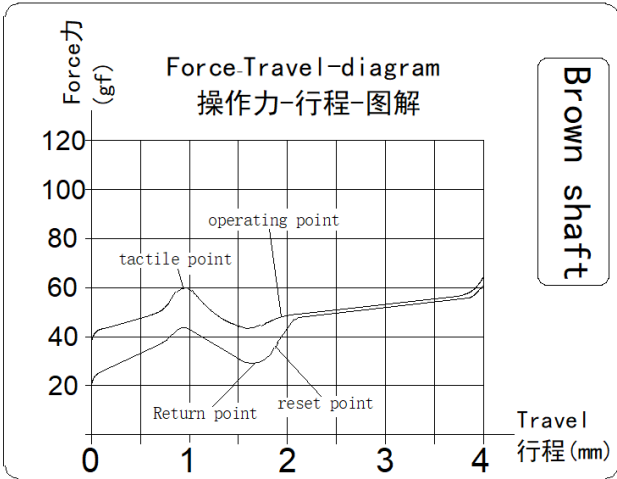
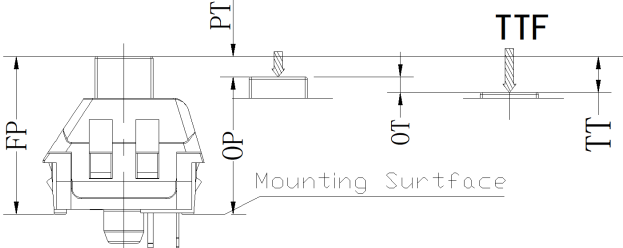


6. Electrical Performance/

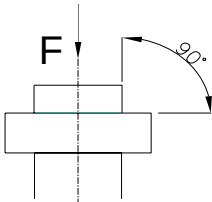
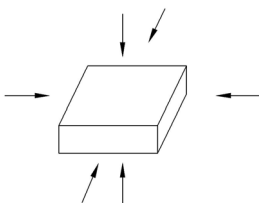
Item	Description	Test Condition	Requirement
6.1	Contact Resistance	Static load: (Operation force)x2, which is applied on the center of Switch stem. 2 Measurement tool: Contact resistance Meter. (1KHz, 20mV, 5~50mA) 100mA Measured at low current (100mA or less).	200m Max 200m
6.2	Insulation Resistance	Apply a Voltage of DC 500 V for 1 minute, according to the below method. (1) Between terminals. (2) Between terminal and Body. 500V 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 switch in a vertical direction, and gradually apply the load to the stem until it stops. 	Operation Force :50±10gf 50±10gf Tactile Force :60±10gf 60±10gf Pretravel:1.9±0.5mm 1.9±0.5mm Return Force :15gf min 15gf min Total travel:4.0±0.4mm 4.0±0.4mm
7.2	Loading parameter	Place the switch in a vertical direction, and gradually apply the load to the stem until it stops. 	See page 12 12



7.3	Static Strength	A static load of 3kgf shall be applied in the direction of button operation for a period of 60 seconds. 3kgf 60 	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 12V10mA (2) Operation speed : 10 times / s 10 / (3) Applying Force: 250 ± 50gf (by spring) :250±50gf (4) Operation number:50,000,000cycles :50,000,000	Contact resistance: 1000 m Max 1000 Bouncing 10ms Max 10 Operation force Variation rate within ± 30% 30% ±



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 rowspan="4">1cycle</td><td>20± 5</td><td>1h</td></tr><tr><td>-20± 2</td><td>1h</td></tr><tr><td>20± 5</td><td>1h</td></tr><tr><td>70± 5</td><td>1h</td></tr></table>		Temperature	Duration of test	1cycle	20± 5	1h	-20± 2	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													
1cycle	20± 5	1h													
	-20± 2	1h													
	20± 5	1h													
	70± 5	1h													



8.4

Soldering heat
test

Soldering area: T/2 of PWB thickness.
(PWB: T=1.6mm)

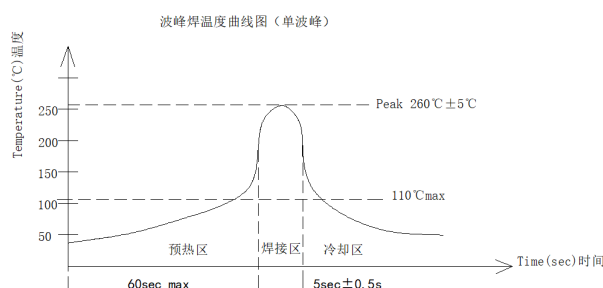
1/2

Soldering temperature: 260 ± 5

Soldering time: 5 ± 0.5 s

260 ± 5

5 ± 0.5



Appearance:
No abnormality.

8.5

Solder ability

Lead-tin soldering

Soldering temperature: 245 ± 5

Soldering time: 5 ± 0.5 s

245 ± 5

5 ± 0.5

Lead free soldering

Soldering temperature: 255 ± 5

Soldering time: 5 ± 0.5 s

255 ± 5

5 ± 0.5

At least 90% of surface
area of immersed
portion shall be covered
by solder.

90%

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

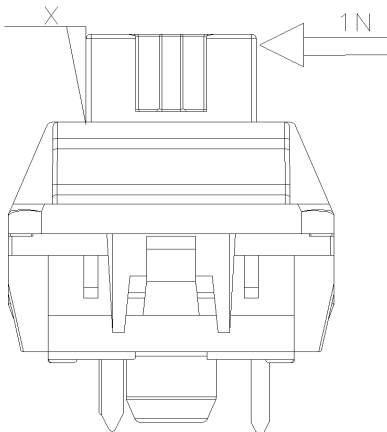
200m

:

No. 6.2 to 6.4

No. 7.1 to 7.2



8.7	Salt Spray	Apply the following environment to test: (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
8.8	Withstand K ₂ S	Apply the following environment to test: (1) Temperature:35 ± 5 : 35 ± 5 (2) K₂S Density: 2% 2% (3) Duration: 2 minute. 2	Appearance: No corrosion spot, no crack, no base plate naked. Contact Resistance: 1000 m Max 1000
8.9	Wobbling of Button	Apply 1N force as shown below 1N 	Displacement 0.35mm Max 0.35mm



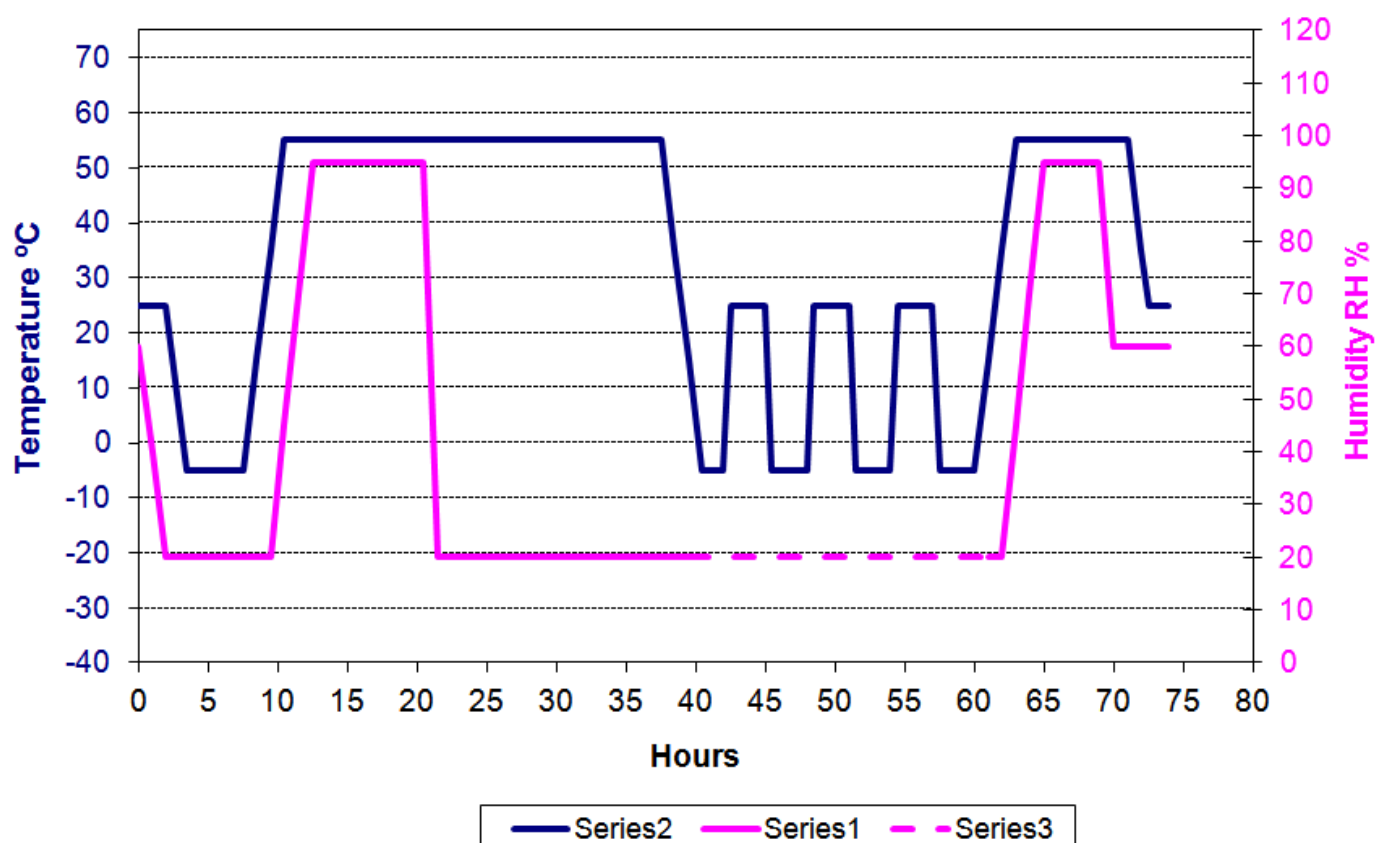
8.10

temperature
/humidity
Cycling
/

- (1) Temperature : -5 ~55
-5 ~55
- (2) humidity: 20~95% R.H.
:20~95% R.H.
- (3) Duration of test: 74h
74
- (4) Takeoff and 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

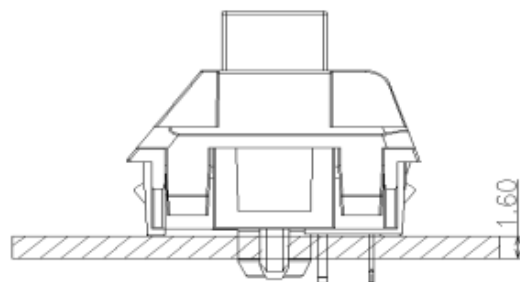
Temperature & Humidity test profile - Non-operating INDOOR



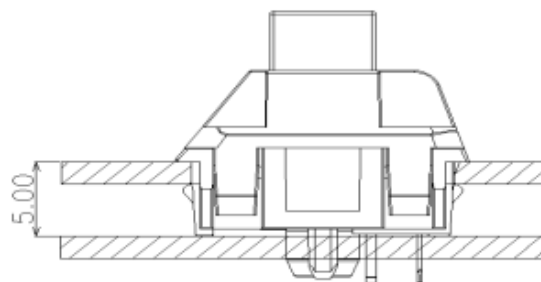


9. Recommended PCB Layout PCB

Mounting Options 安装选项



PCB (With pins)

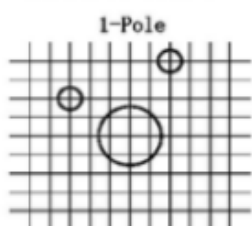


Metal Frame (With pins)

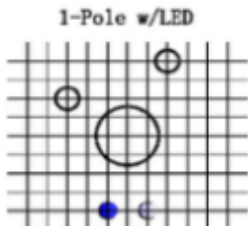
Circuit Board Layouts 电路板布局

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

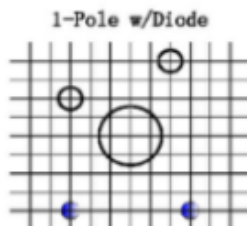
Keyswitch without fixation pins
按键开关不带定位柱



1-Pole



1-Pole w/LED



1-Pole w/Diode



$\varnothing 3.99 \pm 0.1$

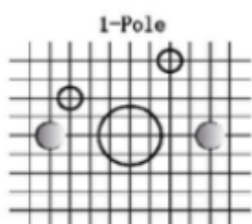


$\varnothing 1.50 \pm 0.05$

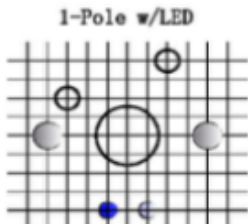


$\varnothing 1.0 \pm 0.1$

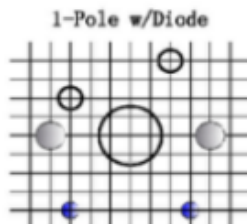
Keyswitch with fixation pins
按键开关带定位柱



1-Pole



1-Pole w/LED



1-Pole w/Diode



$\varnothing 3.99 \pm 0.1$



$\varnothing 1.70 \pm 0.05$

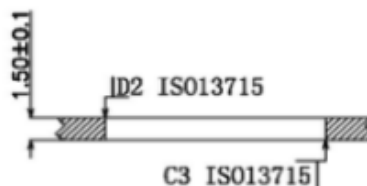
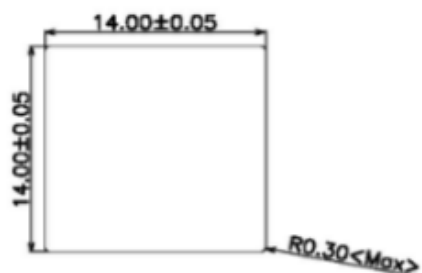


$\varnothing 1.50 \pm 0.05$



$\varnothing 1.0 \pm 0.1$

Metal Frame Cutout Dimensions





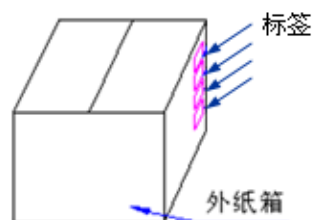
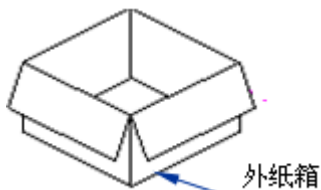
10. Loading Parameter (FP/OP/PT/OF /OT/TF/ RF/TT) Specification

	Parameter	Unit	Specification	Remark
FP()	mm	15.25± 0.2		
OP()	mm	13.35± 0.7		
PT()	mm	1.9± 0.5		
OF()	gf	50± 10		
OT()				mm1.2Min
TF()	gf	60± 10		
RF()				gf15Min
TT()	mm	4.0± 0.4		

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, Max60
Area of flux	1/2 Max of PWB Thickness 1/2
Temperature of solder	260± 5 260± 5
Time of immersion	5± 0.5s 5± 0.5
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 max within 3 sec.
350 , 3 .



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) The customer shall be informed in writing of any changes during the design and mass production phases
- (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