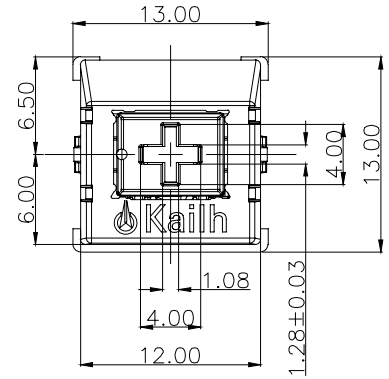
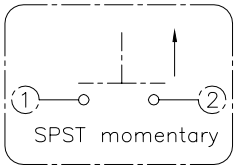
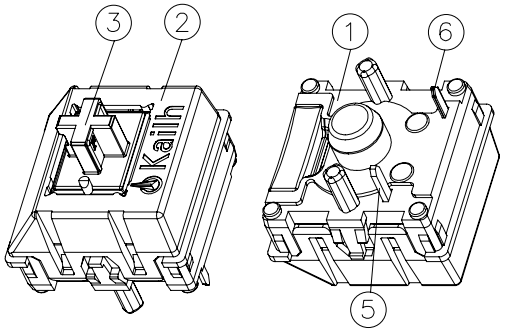
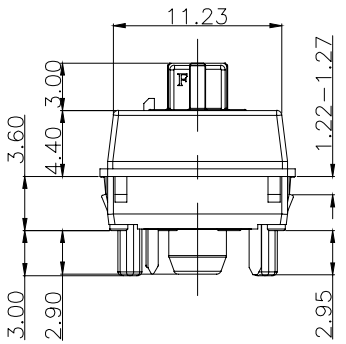
ABIDE BY ROHS

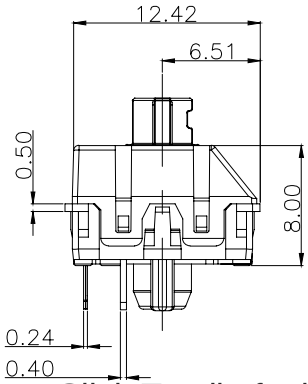


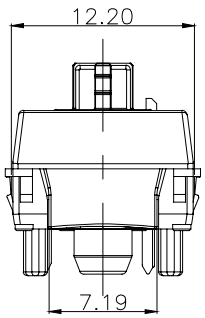
SWITCH FUNCTION

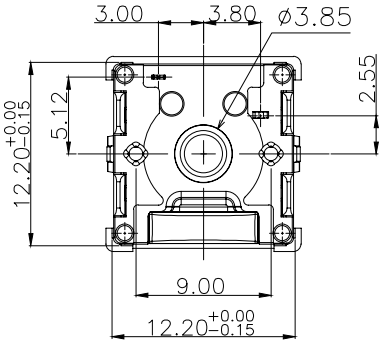




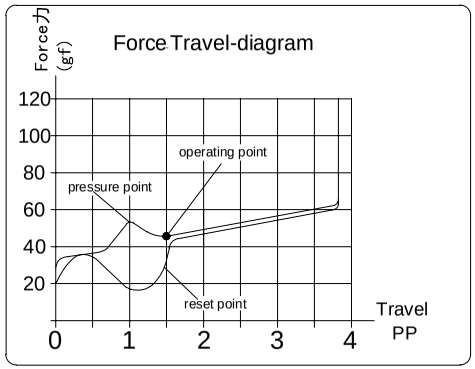








Click Tactile feel-Blue shaft



Specification :

1. Rating:
   Voltage : 12V AC/DC max., 2V DC min.
   Current: 10mA AC/DC max., 10~~A~~ DC min.
2. Contact Resistance : 100mΩ Max
3. Insulation Resistance : 100MΩ at DC500V
4. Withstand Voltage : AC100V(50–60Hz) for 1 minute
5. Bounce Time: "5msec (at 16 in/sec. actuation speed)
6. Operation Force : 45±10gf (35–65gf for total travel)
7. Pretravel: 1.8±0.5mm
8. Total travel: 3.5±0.5mm
9. Operation Force : 55±10gf
10. Operating Life : 50,000,000 Cycles
11. For assembly more than 1X1.5 keycap, it need install a equalizing bar.

	ITEM PART NAME	TER'NO.	QTY.	MATERIAL	FINISHING	REMARK
⑥	Terminal B	——	1	Copper Alloy	Nature	——
⑤	Terminal A	——	1	Copper Alloy	Nature (1/B)	——
④	LED	——	1	See led spec	R.G.B full color	——
③	Keystroke	——	1	POM	Nature	——
②	Cover	——	1	PC	——	——
①	Base	——	1	Nylon	Blue	——

APPROVALS		DATE	DONGGUAN CITY KAIHUA ELECTRONICS CO.,LTD		
DRAWN	Tangjia	2016.02.29			
CHECKED			TITLE:	PG1280 KeySwitches with LED	
APPROVALS			PART NO.	CPG128001S02	
TOLERANCES ARE	30<L ±0.30; 10<L≦30 ±0.20; 5<L≦10 ±0.15; L≦5 ±0.10	ANGLE ±2°	UNIT: mm	SCALE: 1:1	PROJ:
			DRAWING NO.	KHA-PG1280-002EN	SHEET 1 OF 1

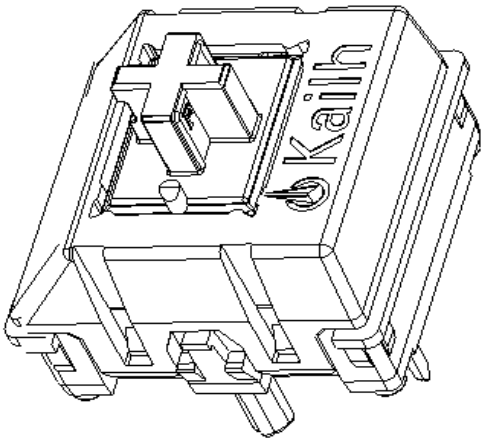
ECN NO.	REV.	DATE.	DESCRIPTION.	CHANGE.	CHECK.	APPRO.
——	B	——	Change Terminal A material	Wu Chuandong		
——	A	——	NEW	——	——	——

凱華電子
KAIHUA EELETRONICS

Document Number:

KH-PS160811

Product Specification



P/N: CPG128001S02

Title : **PG1280** keyboardSwitch

Rev.	ECN	Release and Revision Description:	PreparedBy/Date:	Checked By/Date:	Approved By/Date:
A	_____	New releasing	2018-10-22	2018-10-22	2018-10-22
B	ECN-2009-28	Packaging correction	2020/09/19	2020/09/19	2020/09/19

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 equipment and Man-Machine interface.

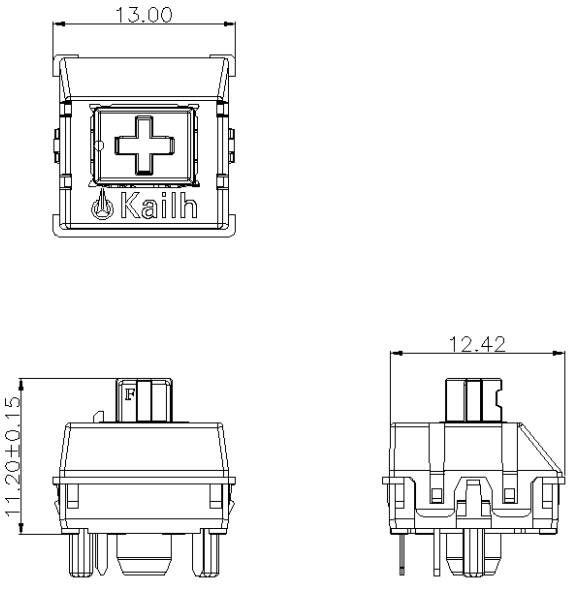
3. Technology Parameters/

Ambient Humidity	45~95% R.H.
Operating Temperature Range	-10 +60
Storage Temperature Range	-20 +70
Normal Condition:	
Ambient temperature	20± 2
Relative humidity	65%± 5% R.H.
Air pressure	86~101KPa;
Contact Resistance	100 m Max

4. Ratings/

Rating	DC12V / 10mA
InsulationResistance	100M /DC 500V;
Withstand Voltage	AC 100V 1 Minute;
Mechanical Life	50,000,000 Cycles.

5. Profile Dimensions /

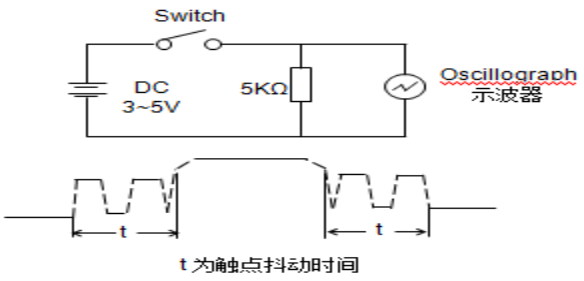


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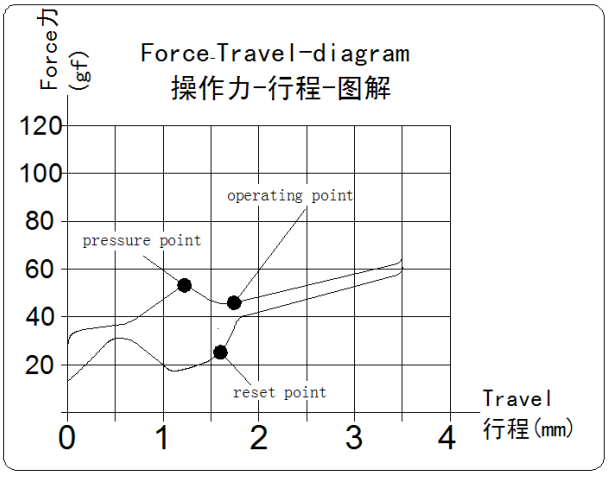
6. Electrical Performance/

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).	100m Max 100m
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 AC 100 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 Slightly push the center of stem by 3~4 times/s, to test the bounce at “ON” and “OFF” 3~4 ” ” ” ” . Oscillo scope Switch Bouncing Test Circuit .	Before Life cycle: On:5ms MAX,5 Off: 5ms MAX,5 After Life cycle: On:10ms MAX,10 Off: 10ms MAX,10

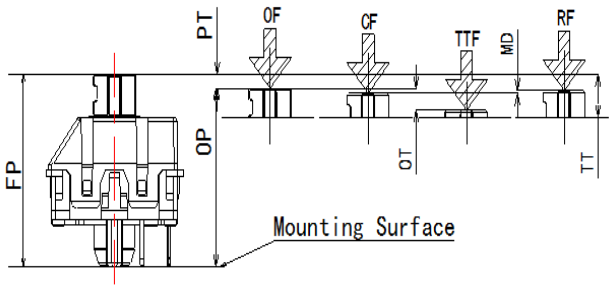
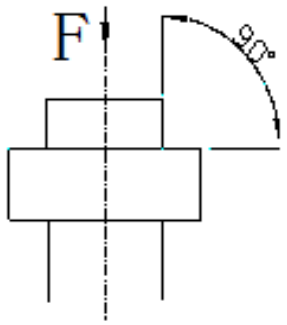
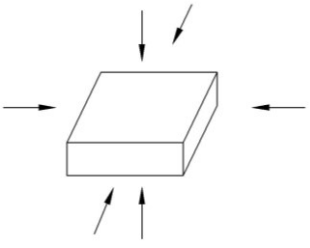
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		触点抖动用图:  t 为触点抖动时间	

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

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7.3	Static Strength	A static load of 3 Kgf shall be applied in the direction of button operation for a period of 60 seconds. 3kgf 60 , . 	No damage (Electrical andmechanical . Contact resistance :200m Max Contact force 30gf Min
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 .

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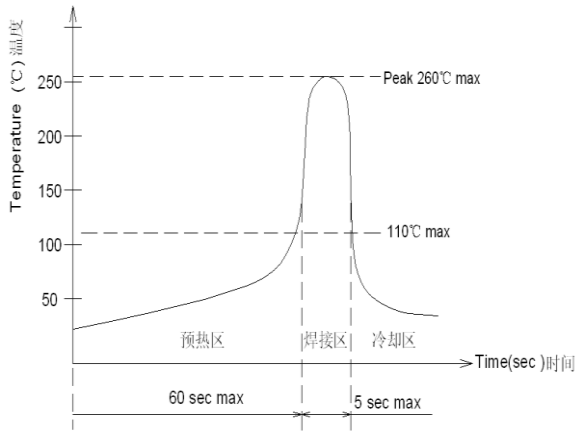
7.6	Life Test	(1) No load (2) Operation speed 5~6cycles/s 5~6 / (1) Push force Maximum value of operation force. . (1) Cycles 50,000,000 times Min 5000	Contact resistance: 200 m Max 200 Bouncing 10ms Max 10 Operation force Variation rate within ± 30% ± 30% .

8. Environmental Performance/

Item	Description	Test Condition	Requirement
8.1	Cold test	(1) Temperature : -20± 2 -20± 2 (1) 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 (1) 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 (1) Standard condition 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	Duration of test
1 cycle	20± 5	1h
	-20± 5	1h
	20± 5	1h
	60± 5	1h
	70± 5	1h

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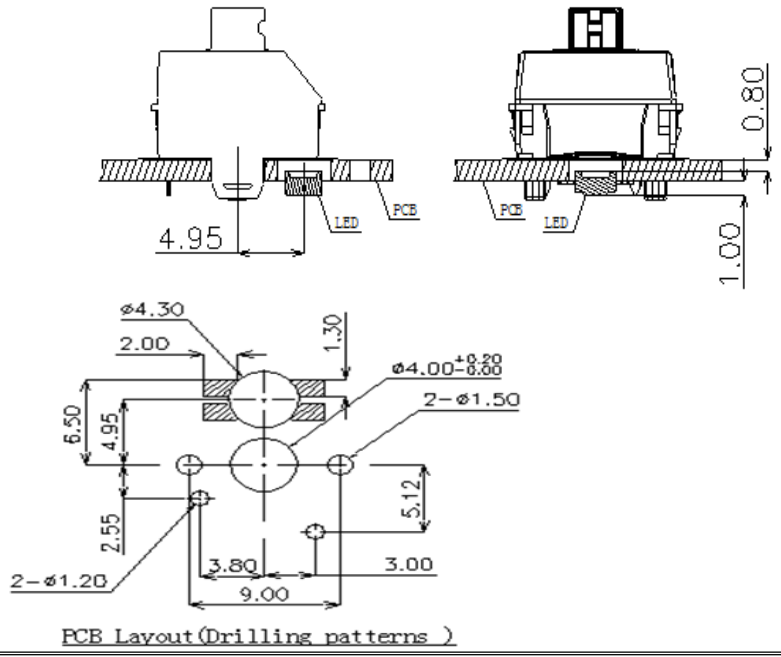
8.4	Soldering heat test	Soldering area: T/2 of PWB thickness. (PWB: T=1.6mm) 1/2 Soldering temperature: 260± 5 Soldering time: 5± 0.5s 260± 5 5± 0.5	Appearance: No abnormality.
8.5	Solderability	1. Hand soldering Please practice according to below condition: (1) Soldering Temperature : 350± 5 350± 5 (1) Continual soldering time: 3± 0.5s 3± 0.5 (3) Capacity of soldering iron: 20w 20 2. Automatic PlPsoldering For the product of T/H, according to below condition:  	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 (1) relative humidity: 90~95% R.H. :90~95% R.H. (1) Duration of test: 48h 48 (1) Take off a drop water (1) 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

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8.7	Salt Spray	Apply the following environment to test: (1) Temperature : 35± 5 : 35±5 (1) Salt water density: 5±1 % : 5±1 % (1) Duration: 12 hours : 12 (1) 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_2S	Apply the following environment to test: (1) Temperature: 35± 5 35± 5 (2) K_2S Density: 2% 2% (1) Duration: 2 minute. 2	Appearance: No corrosion spot, no crack, no base plate naked. . Contact Resistance: 500 m Max 500

9. Recommended PCB Layout PCB

(Top View)
(Single face board T=1.6mm)



PCB Layout(Drilling patterns)

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10. Loading Parameter(FP/OP/PT/OT/MD/OF/CF)Specification

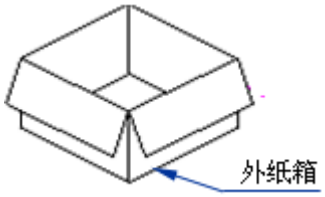
Parameter	Unit	Specification	Remark
FP( )	mm	11.20± 0.15	
OP( )	mm	9.4± 0.65	
PT( )	mm	1.8± 0.5	
OF( )	gf	45± 10	
TF( )	gf	55± 10	
OT( )	mm	1.5	Min
MD( )	mm	0.6	Max
RF( )	gf	15	Min
TT( )	mm	3.5± 0.5	

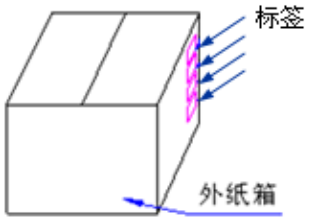
11. Packaging

Packaging type:Tray, 1000Pcs/Tray, 6000Pcs/Carton.

:Tray , 1000Pcs/ , 6000Pcs/ .







12. Precaution

12.1 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	Within 5s 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 s

350 , 3 .

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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.

3 6 .

.

(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 receip 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.

1 .

(8) Products meet the ROHS & REACH environmental management substances control standards

ROHS & REACH

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