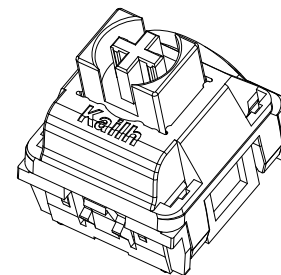
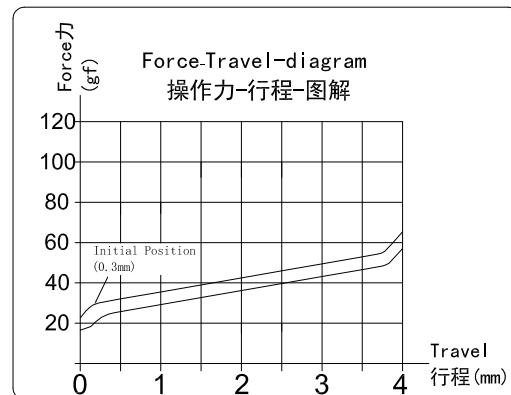
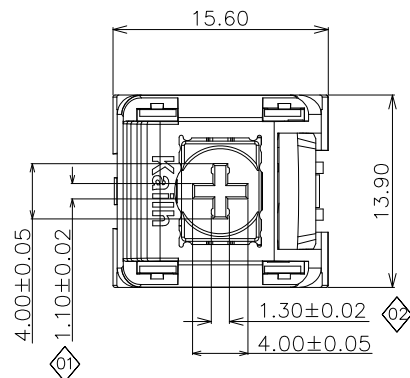
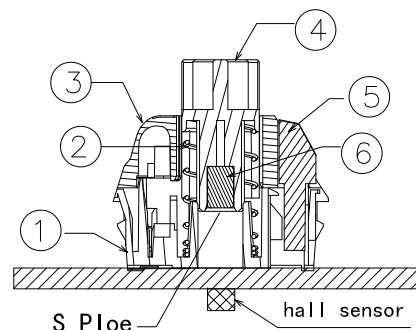
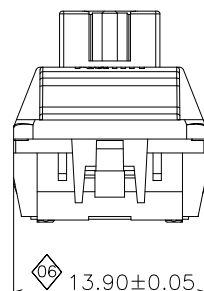
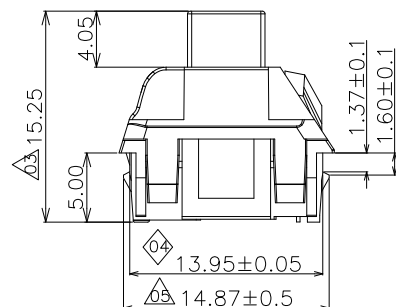


ABIDE BY WEEE & ROHS

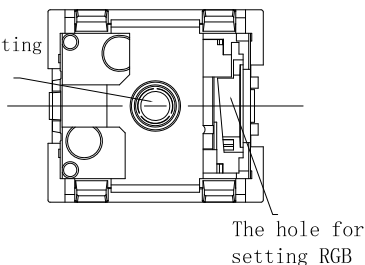


Specification :

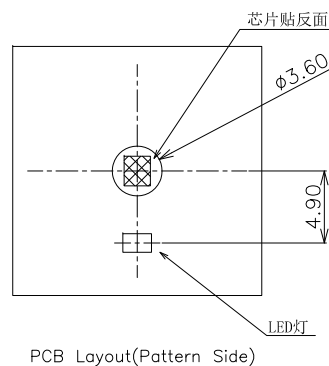
- 1. Magnetic Flux (S Pole) : 3500~3600Gs
Initial Position: 100±15Gs
Total Travel Position: 2000±150Gs
Temperature: ≤100°C
- 2. Bounce Time: ≤5msec (at 16 in/sec. actuation speed)
- 3. Initial Force: 30±10gf
- 4. Total travel: 3.8⁺⁰_{-0.4}mm
- 5. Operating Life : 100,000,000 Cycles (temporary).
<Feel is allowed to have difference before and after life test>



The hole for setting
hall sensor

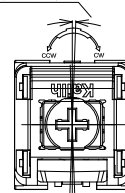


The hole for setting
RGB



PCB Layout (Pattern Side)

轴倾斜角度



⑥	Magnet	——	1	Nd2Fe14B	——	——
⑤	Light pipe	——	1	PC	Transparent	——
④	Keystroke	——	1	POM011	Dark blue	——
③	Cover	——	1	POM	Orange	——
②	Spring	——	1	Stainless Steel	——	——
①	Base	——	1	POM	Yellow	——
ITEM	PART NAME	TER'NO.	QTY.	MATERIAL	FINISHING	TONER
APPROVALS			DATE	 东莞市凯华电子有限公司 KATHUA ELECTRONICS CO., LTD		
DRAWN	Mojlanglang	2023.09.08				
CHECKED	Guyuxin	2023.09.08		TITLE:	PG1515 Magnetic Keystroke switch	
APPROVALS	Wangxiaolong	2023.09.08		PART NO:	CPG1515M01D01	
TOLERANCES ARE	30<L	±0.30	ANGLE UNIT: mm	SCALE: 1:1	PROJ: 	
	10<L≤30	±0.20				
	5<L≤10	±0.15				
	L≤5	±0.10				
		±2'	DRAWING NO.	KHA-PG1515-001EN	SHEET: 10F	



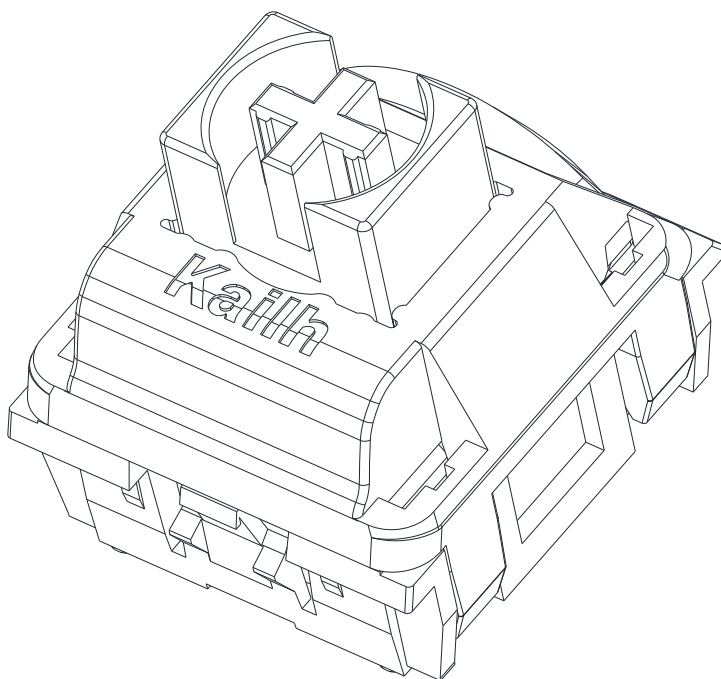
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Document Number:

KH-PS2308-26

产品规格书

Product Specification



P/N:

CPG1515M01D01

Title :

PG1515Magnetic Keyboard Switch

Rev.	ECN	Release and Revision Description:	Prepared By /Date:	Checked By/Date:	Approved By/Date:
A	— —	New releasing 初版发行	莫江江 2023-09-08	谷跃新 2023-09-08	王小龙 2023-09-08



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Product Specification

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Product Specification

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1. Scope/范围:

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

本规格书内容涵盖机械键盘开关产品的要求，包括性能指标、测试方法及质量保证方面等。

2. Product Application/产品应用:

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

主要适用于电脑键盘、收银机、工业设备和人机界面。

3. Technology Parameters/技术参数

Ambient Humidity 工作湿度:

45~85% R.H.;

Operating Temperature Range 使用温度范围:

-10℃~+70℃;

Storage Temperature Range 保存温度范围:

-20℃~+70℃;

Suggested storage period 贮存期限:

about 6 months 最多 6 个月

Normal Condition:

Ambient temperature 环境温度:

5-35℃

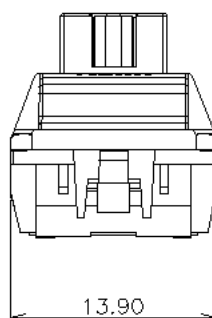
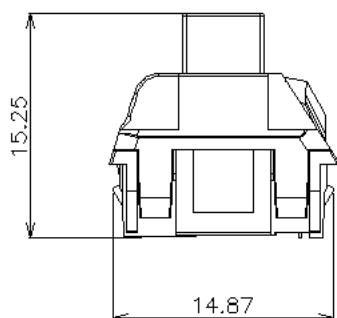
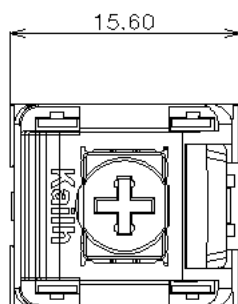
Relative humidity 相对湿度:

45-85% R.H.;

Air pressure 气压:

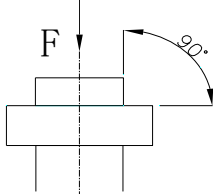
86~106KPa;

4. Profile Dimensions /外形尺寸





5. Mechanical Performance/机械性能

Item 项目	Description 项目描述	Test Condition 测试条件	Requirement 规格要求
5.1	Total Travel 总行程	The Actuator shall be applied to the tip of actuator in operating direction to change component from free position to end point 按键轴沿操作方向从初始位置到最大行程位置时的距离	Refer to individual product drawing 参见产品图纸
5.2	Initial Force 初始力	A static load shall be applied to the tip of actuator in operating direction to change the component to initial position (0.3mm) 在操作元件末端沿操作方向均匀施加静载荷, 使操作元件转换到 0.3mm 位置	Refer to individual product drawing 参见产品图纸
5.3	全行程压力 Total Travel Force	The Actuator shall be reduced to the tip of actuator in operating direction to change component from operating position to end point 按键轴沿操作方向从初始位置到最大行程位置时的动作力	<110gf
5.4	Static Strength 静止强度	A static load of 3kgf shall be applied in the direction of button operation for a period of 60 seconds. 在手柄动作方向施加 3kgf 的静负荷 60 秒, 然后测试参数. 	No damage (mechanical) 机械性能正常.
5.5	Stem Pull Strength 手柄拉拔强度	Break by a pull force applied opposite to the direction of stem operation. 在推柄动作方向反向垂直施加拉力, 使其破坏的程度.	5kgf Min

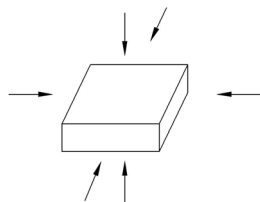


5.6

Shock
机械冲击

Measured by according to the below condition:

- (1) Acceleration: 80g 加速度
(2) Cycles of test: 3 cycles each in 6 directions, for a total of 18 cycles.
试验次数: 每个方向 3 次, 6 个方向共 18 次.



Appearance:
No abnormality.
外观无异常

5.7

Vibration
振动试验

Switch shall be secured to a testing machine by a normal mounting device and method. Switch shall be measured after following test.:

开关采用常规的安装方法牢固地安装在试验设备上, 并在

下述参数条件下进行试验:

- (1) Vibration frequency range 振频 = 10-55 Hz
(2) Total amplitude 振幅 = 1.5mm
(3) Sweep ratio 振动变化速率: 10-55-10Hz
Approx. 1 min. 大约 1 分钟
(4) Method of changing the sweep vibration frequency:
logarithmic or linear
变频方法: 对数或线性形式
(5) Direction of vibration: Three perpendicular directions including actuating direction.
振动方向: 三个相互垂直的方向, 其中一个方向应是促动元件运动的方向
(6) Duration : 2 hours / direction (6 hours in total) 时间:
每个方向 2 小时(共 6 小时)

Appearance:
No abnormality.
外观无异常

5.8

Life Test
寿命测试

- 1) Operation speed : 5-6times / s
动作速度: 5-6 次/ 秒
2) Push force : 250gf
按力: 250gf
3) Push travel : 3.8+0/-0.4mm
按压行程: 3.8+0/-0.4mm
4) Operation number: 100,000,000cycles
动作次数: 100, 000, 000 次

Shall meet No.5.1~5.3
满足 5.1~5.3 要求.



6. Environmental Performance/环境性能

Item 项目	Description 项目描述	Test Condition 测试条件	Requirement 规格要求												
6.1	Cold test 耐寒性	(1) Temperature : - 20±2℃ 温度： -20±2℃ (2) Duration of test: 96h 持续时间： 96 小时 (3) Take off a drop water 去掉水珠 (4) Standard conditions after test : 1h 试验后的放置条件： 1 小时	Appearance: No abnormality. 外观无异常 Shall meet No.5.1~5.3 满足 5.1~5.3 要求.												
6.2	Heat test 耐热性	(1) Temperature : 70±2℃ 温度： 70±2℃ (2) Duration of test: 96h 持续时间： 96 小时 (3) Take off a drop water 去掉水珠 (4) Standard conditions after test : 1h 试验后的放置条件： 1 小时	Appearance: No abnormality. 外观无异常 Shall meet No.5.1~5.3 满足 5.1~5.3 要求.												
6.3	Temperature cycle 温度循环	(1) Test cycles: 5 cycles 试验周期： 5 个周期 (2) Standard condition after test:1h 试验后的放置条件： 1 小时 <table><tr><td></td><td>Temperature 温度</td><td>Duration of test 持续时间</td></tr><tr><td rowspan="4">1 cycle 一次循环</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 温度	Duration of test 持续时间	1 cycle 一次循环	20±5℃	1h	-20±2℃	1h	20±5℃	1h	70±5℃	1h	Appearance: No abnormality. 外观无异常 Shall meet No.5.1~5.3 满足 5.1~5.3 要求.
	Temperature 温度	Duration of test 持续时间													
1 cycle 一次循环	20±5℃	1h													
	-20±2℃	1h													
	20±5℃	1h													
	70±5℃	1h													
6.4	Humidity test 耐湿性	(1) Temperature :40±2℃ 温度： 40±2℃ (2) relative humidity: 90~95% R.H. 相对湿度:90~95% R.H. (3) Duration of test: 96h 持续时间： 96 小时 (4) Take off a drop water 去掉水珠 (5) Standard conditions after test: 1h 试验后的放置条件： 1 小时	Appearance: No abnormality. 外观无异常 Shall meet No.5.1~5.3 满足 5.1~5.3 要求.												

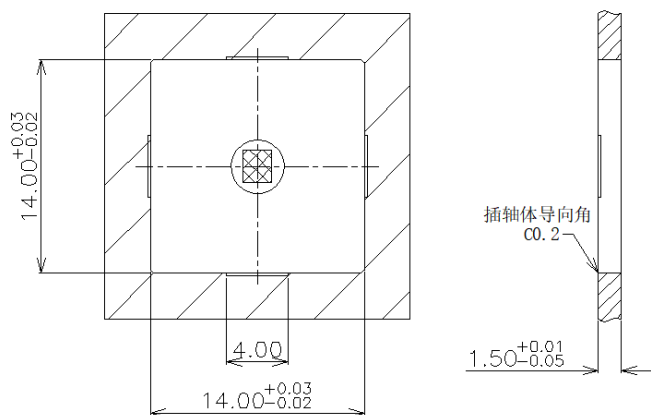


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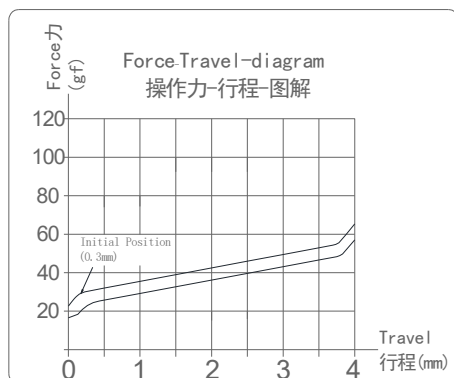
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7. Recommended PCB Layout 推荐的 PCB 安装焊盘规格



8. Force travel diagram, soft tactile action 动作力曲线，轻柔触感动作：



9. Packaging 包装

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

包装方式: Tray 盘, 1000Pcs/盘, 4000Pcs/箱.

