## 阅读申明

- 1.本站收集的数据手册和产品资料都来自互联网,版权归原作者所有。如读者和版权方有任何异议请及时告之,我们将妥善解决。
- 2.本站提供的中文数据手册是英文数据手册的中文翻译,其目的是协助用户阅读,该译文无法自动跟随原稿更新,同时也可能存在翻译上的不当。建议读者以英文原稿为参考以便获得更精准的信息。
- 3.本站提供的产品资料,来自厂商的技术支持或者使用者的心得体会等,其内容可能存在描 叙上的差异,建议读者做出适当判断。
- 4.如需与我们联系,请发邮件到marketing@iczoom.com,主题请标有"数据手册"字样。

## **Read Statement**

- 1. The datasheets and other product information on the site are all from network reference or other public materials, and the copyright belongs to the original author and original published source. If readers and copyright owners have any objections, please contact us and we will deal with it in a timely manner.
- 2. The Chinese datasheets provided on the website is a Chinese translation of the English datasheets. Its purpose is for reader's learning exchange only and do not involve commercial purposes. The translation cannot be automatically updated with the original manuscript, and there may also be improper translations. Readers are advised to use the English manuscript as a reference for more accurate information.
- 3. All product information provided on the website refer to solutions from manufacturers' technical support or users the contents may have differences in description, and readers are advised to take the original article as the standard.
- 4. If you have any questions, please contact us at marketing@iczoom.com and mark the subject with "Datasheets" .

## APPROVAL SPECIFICATIONS

Title. 拨动开关

Product Model. MSK-04D G2/394

Customer's Part NO.

Customer's Model:

### **Customer's Approval Requested.**

Please return this copy as a certification of your approval.

Checked by: Date:

Approved by: Date:

APPROVE	REVIEW	POLT	
Jack Wu	孙斌	徐明娥	

Shenzhen Gangyuan Microkey Technology Co.,ltd

- 1. General specification 基本事项
- 1.1 Switch action 开关种类: Slide Switch 拨动开关
- 1.2 Switch rating 最大额定值: DC 4V, 300mA
- 1.3 Operation temperature range 使用温度试验范围: -20℃~+85℃
- 1.4 Preservative temperature range 保存温度范围: -40℃~+85℃
- 1.5 Appearance and dimensions: See outside drawing page 外形尺寸: 见外形尺寸图
- 1.6 Standard condition: Unless otherwise specified, the test and measurements shall be carried out as follows: 试验、测定状态

Ambient temperature 温度: 5~35℃

Relative humidity 相对湿度: 45~85%

Air pressure 气压: 86~106kPa(860~1060mbar)

However , if doubt arises on the decision based on the measured  $% \left( 1\right) =\left( 1\right) \left( 1\right) \left($ 

Values under the above-mentioned conditions, the following conditions be employed:

但是在对判定产生疑义时,按下述状态实施:

Ambient temperature 温度: 20±2℃

Relative humidity 相对湿度: 65±5%

Air pressure 气压: 86~106kPa(860~1060mbar)

#### 2. Performance 性能

#### 2.1Electrical characteristics 电气性能

	Item	Test cor	ndition	Performance
项 目		测试条件		规 格
2.1.1	Contact Resistance	Push force: (Operation force)		100mΩ max.
	接触电阻	   测定时的负荷:操作方向动作		100 毫歐以下。
		Measurement tool: Contact resi	stance meter	
		测定器: 微电流接触电阻计	(1kHz,20mV,5~50mA)	
2.1.2	Insulation Resistance	DC 250V(Between terminals)	frame for 1 minute.	100 MΩ min.
	绝缘电阻	不相接的两端子间、端子与塑	見胶间施加 DC250V 电压,持	100 兆歐以上。
		续1分钟测量		
2.1.3	Withstand Voltage	AC 250V (Between terminals)	frame for 1 minute.	No insulation destruction
	耐电压	不相接的两端子间、端子与塑	型胶间施加 AC250V 电压,持	无绝缘破坏
		续1分钟测量		
2.1.4	Bouncing	Operation speed:3~4times/s		ON: 5ms max 以下
	触点抖动	操作速度:每秒3~4次		OFF: 5ms max 以下
		Switch  DC 10V 10MA	Oscilloscope 示波器	
		WRITTEN BY	CHECKED BY	APPROVED BY
日斌武				陈庆邦

2.2 Me	chanical Characteristics			
	Item	Test cor	ndition	Performance
项 目		测试	测试条件	
2.2.1	2.2.1       Operations Force       Push by recommended operating condition.         动作力       测量时,拨动开关动作方向均匀施加静负荷。			2.0 ±0.7N (200±70gf)
2.2.2.	Travel to closure 运作行程	Push by recommended operating F=(Operation force)x2 在开关的顶端的面中央沿开关量行程,测量仪器的顶端应平	· ·动作方向施加2倍操作力测	2±0.1mm
2.2.3	Kond strength 手柄强度	30N (3Kgf) for 1 minute 在开关驱动器件顶端中央,在 力,作用 60 秒。	No damage(Electrical and mechanical) 无异常(电气、机械性能)	
2.2.4	Vibration test 耐振性	1) Amplitude 全振幅: 1.5mm 2) Sweep rate: 10-55-10Hz for 注 扫描速度: 10-55-10Hz 1分位 3) Sweep method: Logarithmic 扫描方式: 对数频率扫描速度 4) Vibration direction: X、Y 振动方向: X、Y、Z(3方向 5) Time: Each direction 2 hou 时间: 每个方向 2 个小时(共	No.2.1 and 2.2.1 to 2.2.2 shall be satisfied 满足 2.1 项和 2.2.1 至 2.2.2 项。	
2.2.5	Soldering heat test 耐焊接热	Soldering area: t/2 of P.W.B thickness (P.C.B:T=1.6mm) 焊接面积: 印刷基板的 1/2 厚度处 Soldering temperature: 260±5℃ 焊接温度: 260±5℃ Soldering time: 3±0.5sec 焊接时间: 3±0.5 秒		No damage (Electrical and mechanical) 无异常(电气、机械性能)
2.2.6	Solderbility 可焊性	After sprated flux 涂上助焊剂后 temperature: 245±5℃ 温度: 245±5℃ Soldering time: 3±0.5sec 焊接时间: 3±0.5秒		90% or more of surface area of the portion immersed in solder shall be covered by new solder 90%或更多的浸焊面积能被焊锡覆盖
		WRITTEN BY	CHECKED BY	APPROVED BY
		吕斌武	黄罗成	陈庆邦

2.3 C1	imatic characteristics 耐修	<u></u>		
	Item	Test condition		Performance
项 目		测试条	件	规 格
2.3.1	Cold test 耐寒性	•		No.2.1 and 2.2.1 to 2.2.2 shall be satisfied
	阿久正	2) Duration of test: 96h	满足 2.1 项和 2.2.1 至 2.2.2 项。	
		持续时间: 96 小时	167,C 2.1 • X46 2.2.1 ± 2.2.2 • X 6	
		3) Take off a drop water		
		去掉水珠		
		4) Standard conditions aft	on toat.1h	
			er test:In	
		试验后的放置条件: 1 小时		
2.3.2	Heat test	1) Temperature: $80\pm2^{\circ}$ C		No.2.1 and 2.2.1 to 2.2.2 shall be
	耐热性	温度: 80±2℃		satisfied
		2) Duration of test: 96h		满足 2.1 项和 2.2.1 至 2.2.2 项。
		持续时间:96 小时		
		3) Standard conditions after test	:1h	
		试验后的放置条件: 1 小时		
2.3.3	TEMPERATURE CYCLIG	According to following figure,	, after 5cycles, test after	No.2.1 and 2.2.1 to 2.2.2 shall be
	TEST	keeping in normal condition for 3	Omin.	satisfied
	温度交变试验	如图示环境中,循环 5 次后,放	枚置在正常环境中,1小时	满足 2.1 项和 2.2.1 至 2.2.2 项。
		后进行测量。		
		-40°C	One_cycle Hours	
2.3.4	Humidity test	1) Temperature: 60±2℃		No.2.1 and 2.2.1 to 2.2.2 shall be
	耐湿性	温度: 60±2℃		satisfied
		2) Relative humidity:90 $\sim$ 95	%	满足 2.1 项和 2.2.1 至 2.2.2 项。
		相对湿度: 90~95%		
		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 afte		
		试验后的放置条件: 1 小时		
	1	APPROVED BY		
		吕斌武	黄罗成	陈庆邦
世 6 万				

	Item	Test cor	ndition	Performance
项 目		测试条件		规 格
2.3.5	Endurance ( switching )	1) Operation speed: 20-30tin		Contact resistance : 200m Ω max
	action	动作速度: 20-30 次/分钟		接触电阻: 200 mΩ以下
	耐久特性(开关寿命)	2) Push force: Maximum va	lue of operation force	Bouncing: 10 ms max
		按力:动作力规格值的上限	ide of operation force	触点抖动:: 10 毫秒以下
		3) Operation number: 10, 0	000 times	Insulation resistance: $100M \Omega \min$
		动作次数: 10,000次	oo umes	绝缘电阻: DC. 250V, 大于 100M Ω
		937FD(3X. 10) 000 D(		Withstand voltage :No.
				destruction.
				耐电压: 无绝缘破坏。
				Variations rate of operation
				force shall be within $\pm 30\%$ to the
				value be fore testing
				动作力的变化范围在初始值的±30%
				以内
				2.2.2 shall be satisfied
				满足 2. 2. 2 项
.2.3.6	Withstand H2S	1) Density: 3±1ppm		No.2.1 and 2.2.1 to 2.2.2 shall be
	耐 H2S	浓度: 3±1ppm		satisfied
		1) Temperature: 40±2°C		满足 2.1 项和 2.2.1 至 2.2.2 项。
		温度: 40±2℃		
		2) Relative humidity:90~9	95%	
		相对湿度: 90~95%		
		3) Duration of test: 12h		
		持续时间: 12 小时		
		4) Standard conditions af		
		试验后的放置条件: 1 小时		
2.3.7	Salt mist	At 5% Nacl liquor for 8 ho	ours depend on 35°C, after	No remarkable corrosion shall be
	雾实验	washing ,keep in normal co	ondition.	recognized in metal part.
		5% 的 Nacl 溶液, PH 值: 6.5	5~7.2,在 35℃的条件下喷	在金属件上没有腐蚀斑点。
		雾8小时。用清水洗干净后并	并在室温下晾干	
2.3.8	Shock	Peak acceleration: 500m/S <sup>2</sup>		No.2.1 and 2.2.1 to 2.2.2 shall be
	耐冲击性	冲击加速度: 500m/S²		satisfied
		脉冲持续时间 11ms		满足 2.1 项和 2.2.1 至 2.2.2 项。
		Test time-6direction, each	3 times total 18 times	
		测试次数-6个方向,各3次非	共计 18 次	
			K	
	l	WRITTEN BY	CHECKED B Y	APPROVED BY
		吕斌武	黄罗成	陈庆邦
		·		* * * * *

# 3. Precaution 注意事项 3. 1Soldering condition 浸焊条件

3.1Soldering condition 浸焊条件			
Item 项 目	Condition 测试条件		
Preheat temperature	110°C max (Embilomental temperature of soldering surface of P.C.B)		
预热温度	110℃以下(印刷基板焊锡周围的温度)		
Preheat time	60 sec, max		
预热时间	60 秒以内		
Area of flux	1/2 max of P.C.B. thickness		
助焊剂面积	印刷基板厚度的 1/2 以内		
Temperature of solder	260±5℃ max		
焊锡温度	260±5℃ 以下		
Times of immersion	Within 5 sec		
浸焊时间	5 秒以内		
Soldering number	Within 2 times (But should bring down heat of the first soldering)		
浸焊次数	2次以内(但应把第一次焊锡的温度降下来)		
Printed wiring board	Single sided copper- clad laminates		
印刷基板	单面铜箔		

1) After switches were soldered, please be careful not to clean switches with solvent 开关浸焊后,注意不要用溶剂清洗。

2) In the case of using soldering iron, soldering conditions shall be  $280^{\circ}\text{C}$  max and 3 sec max.

在使用铬铁的情况下,焊锡温度应在280℃以下、3秒以内。

3) Right after switches were soldered; please be careful not to load on the knobs of switches. 浸焊后,注意不要在手柄顶部施加负荷。

- 3.2 Design instructions (设计中应注意事项)
- 1) Follow recommended P.C.B. piercing plan in the outside drawing page.

印刷基板的安装孔尺寸参见产品图

- 3.3 Note (注意点)
- 1) Please be cautious not to give excessive static load or shock to switches.

注意不要施加超过负荷的压力或晃动开关。

2) Please be careful not to pile up P.C.B. after switches were soldered.

开关焊接以后,印刷基板注意不要叠放。

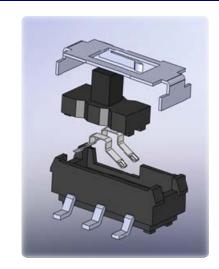
3) Preservation under high temperature and high humidity or corrosive gas should be avoided especially. When you need to preserve for a long period, do not open the carton.

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

WRITTEN BY	CHECKED BY	APPROVED BY
吕斌武	黄罗成	陈庆邦

### 4. Specification 材质

NO	Part Name	QT'Y	Material	Specification
	名称	数量	颜 色	材 质
1	盖板	1	本色	不锈钢
2	按钮	1	黑色	PA
3	簧片	2	银白色	磷青铜度银
4	基座	1	黑色	PA
5	端子	1	银白色	黄铜镀银



Photos 照片

WRITTEN BY	CHECKED BY	APPROVED BY
吕斌武	黄罗成	陈庆邦

