



规格书

SPECIFICATION

CUSTOMER NAME	客户名称:	
CUSTOMER NO.	客户编号:	
SERIES	系 列:	3D摇杆电位器H19.5轻手感
MODEL NO.	型 号:	XB-YG13A1P-Sseries
DRAWING NO.	图 形 号:	3D ROCKER POTENTIOMETER

If specification of this product meets your request, please confirm all the items of it and return to us with signature and stamp, it will be basis of our production and record. Thanks your cooperation in advance!

若此产品规格符合贵司要求，敬请确认此规格书内所有项目
并签名和盖章后回传给我司，以作我司产品制作之

依据和存档之用，多谢合作！

EXAMINE & APPROVAL 审批

APPROVE 接受	NOT APPROVE 不接受
SIGNATURE 签署 STAMP 盖章 DATE 日期	

PREPARED BY.制表人	CHECKED BY.校对	APPROVED BY.审核	APPROVAL BY.批准
研发部 戴海明 2022. 06. 08	品质部 黄自清 2022. 06. 08	工程部 庞军 2022. 06. 08	总经办 吴量 2022. 06. 08

东莞市溪榜电子有限公司

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AccountNumber: 705540238

BankName: CitibankN. A., HongKongBranch

Country/Region: Hong Kong

BankCode:006

BankAddress: 3GardenRoad,Central,Hong Kong

SWIFT/BIC: CITIHKHX (CITIHKHXXXX*If 11 characters are required)

MAiL: HK@ALPSR. CN XB@ALPSR. CN XB@ALPSR. COM

Quality core! Afterburner for Made in China!

1. General Characteristics 1.1 Shape and dimensions In accordance with the outline and dimension drawing. 1.2 Operating temperature range $-10^{\circ}\text{C} \sim +75^{\circ}\text{C}$ 1.3 Conserving temperature range $-20^{\circ}\text{C} \sim +85^{\circ}\text{C}$ 1.4 Test conditions Ordinary temperature ($5 \sim 35^{\circ}\text{C}$) Ordinary humidity ($45 \sim 85^{\circ}\text{C}$) Ordinary atmospheric pressure ($86 \sim 106\text{kPa}$)			1. 一般特性 1.1 形状尺寸 见附图 1.2 使用温度范围 $-10^{\circ}\text{C} \sim +70^{\circ}\text{C}$ 1.3 保存温度范围 $-30^{\circ}\text{C} \sim +80^{\circ}\text{C}$ 1.4 测试条件 常温 (温度 $15 \sim 35^{\circ}\text{C}$) 常湿 (湿度 $45 \sim 85\%$) 常压 (气压 $86 \sim 106\text{kPa}$)	
2. Mechanical Characteristics			2. 机械特性	
	Item 项目		Measuring condition 测试条件	Specifications 规格
Rotation operation 回转操作	2.1	Mechanical travel 机械行程	Total rotation angle 全回转角度	60°min
		Electricity travel 电气行程	In effect angle 印刷电阻有效角度	$60^{\circ} \pm 3^{\circ}$
		Middle tapping angle 中心抽头角度	Middle tapping angle in resistance 印刷电阻中间银层度数	0°
	2.2	Operating force 动作力	Measure the slip-off torque of the detent. 测试脱离中心点时的力矩	$80 \pm 50\text{gf.cm}$
	2.3	开关力度	按压开关	$700 \pm 300\text{ gf.cm}$
	2.4	扭曲强度	/	3kgf.cm Min
3. Electrical characteristics			3. 电气特性	
	Item 项目	Measuring condition 测试条件		Specifications 规格
3.1	Rating 额定值	Power rating(70°C) 70°C 时额定功率 W		0.0125W
		Max operating voltage (virtual value of direct current or alternating current) 极限电压 (直流或交流峰值有效值) V		50V
		Insulating voltage (Max direct current or alternating current) 绝缘电压 (直流或交流峰值)		300V

Item 项目		Measuring condition 测试条件	Specifications 规格
3.2	Voltage Divider Error 分压误差值	Voltage divider error is defined the ratio of the voltage terminals 1-2 to terminals 1-3 after the drive arm rested. 5V D.C. shall be applied to the terminals between 1 and 3 and then voltage divider error shall be measured with the drive arm operation on the line X-X and Y-Y. (Terminal 1-2/Terminal 1-3×100%) 分压误差值是摇杆自由复归后端子 1-2 与端子 1-3 电压比例。将 5V D.C 电压加在端子 1-3 之间，分压误差值在摇杆动作于 X-X 和 Y-Y 方向到底复归后测试。（端子 1-2/端子 1-3×100%）	40%~60%
3.3	Residual resistance 残留电阻	Measurement shall be made separately when potentiometers rotate at 1 terminal and 3 terminal. 电位器旋至 1 与 3 端时分别测试	≤10%R
3.4	Resistance error 总阻误差	Measurement shall be made at 1、3 terminals of resistance 在电阻体的 1、3 端测试	10K Ω ±20%
3.5	Contact resistance 接触阻抗	Sum of terminal 1-2 resistance plus terminal 2-3 resistance and minus terminal 1-3 resistance and eliminate 2≤total resistance×30%. 端子 1-2 的阻值加上端子 2-3 的阻值之和减去端子 1-3 的阻值再除以 2 的值小于或者等于全阻值的 30%。{(R ₁₂ +R ₂₃ - R ₁₃) ÷ 2 ≤ 全阻值 × 30%}	
3.6	Insulation resistance 绝缘电阻	Measure to Apply AC250V. (Between terminal for reinforcing and the other terminals) AC250V 测试	100MΩ min. 不小于 100MΩ
3.7	Withstand voltage 耐电压	Apply A.C250V for 1min. (Between terminal for reinforcing and the other terminals) A.C250V1 分钟	No damage. Arc and dielectric breakdown. 无损伤、电弧和电故障
4. Endurance		4. 耐久特性	
Item 项目		Measuring condition 测试条件	Specifications 规格
4.1	Heat resistance 耐热特性	Temperature 85±2℃ Time 96 hours After that , leave in ordinary temp and humidity for an hour. Then measure. 温度 85±2℃ 时间 96 小时 然后放置在常温和湿度下一个小时再测试。	Item 2.2 2.3 2.4 3.2 3.3 3.5 The same as the initial spec. 项目：2.2 3.2 3.3 2.3 3.4 3.5 同初始规格

4.2	Moisture resistance 耐湿特性	Temperature $40\pm 2^{\circ}\text{C}$ Humidity 90~95%Rh Time 96 ± 4 hours After that , leave in ordinary temp and humidity for an hour. Then measure. 温度 $40\pm 2^{\circ}\text{C}$ 湿度 90~95%Rh 时间 96 ± 4 小时 然后放置在常温和湿度下一个小时再测试。	The same as above. 同上
4.3	Low temperature resistance 耐寒特性	Temperature $-20\pm 3^{\circ}\text{C}$ Time 96 ± 2 hours After that , leave in ordinary temp and humidity for an hour. Then measure. 温度 $-20\pm 3^{\circ}\text{C}$ 时间 96 ± 2 小时 然后放置在常温和湿度下一个小时再测试。	The same as above. 同上
4.4	Resistance to soldering heat 焊錫耐熱性	Solder dip:浸焊 Preheating condition: Surface temperature of the substrate shall be settled within 100°C in one min. 預熱: 基板表面溫度 100°C 以下, 1 分鐘內。 Solder temperature $260\pm 5^{\circ}\text{C}$ for 5 sec. 焊錫溫度 $260\pm 5^{\circ}\text{C}$, 5 秒。 Manual Soldering: Less than 350°C and quicker than 3 seconds. 手鐸: 350°C 以下, 3 秒以內	Variation of total resistance shall be within $\pm 5\%$, and terminals shall not work loose to injure electric contact, after test. 全阻值變化 $\pm 5\%$ 以內, 測試後無端子鬆動, 不會損壞電氣接點。
4.5	H ₂ S resistance 耐硫化特性	Density $3\pm 1\text{ppm}$. Temperature $40\pm 2^{\circ}\text{C}$ Humidity 80%Rh Time 24 ± 2 hours After that , leave in ordinary temp and humidity for an hour. Then measure. 浓度 $3\pm 1\text{ppm}$. 温度 $40\pm 2^{\circ}\text{C}$ 湿度 80%Rh 时间 24 ± 2 小时 然后放置在常温和湿度下一个小时再测试。	Item 2.2 2.3 2.4 3.2 3.3 3.5 The same as the initial spec. 项目: 2.2 3.2 3.3 2.3 3.4 3.5 同初始规格

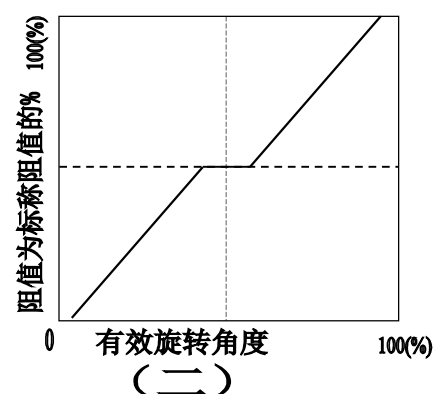
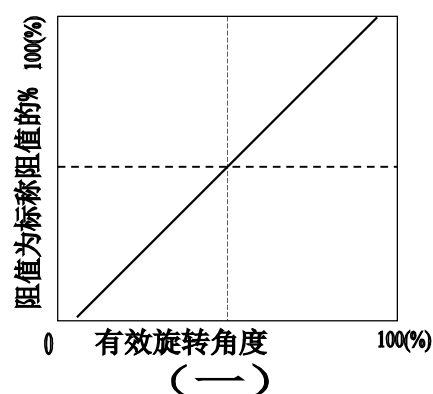
Item 项目	Measuring condition 测试条件	Specifications 规格
4.6 Vibration 耐振动特性	Amplitude·····1.5mm Frequency ·····10~55~10Hz for 1 min Vibration directions X.Y.Z (3 directions) Time·····X.Y.Z. each 2 hours 振幅·····1.5mm 频率·····10~55~10Hz 1 分钟 颤动方向 X.Y.Z (3 个方位) 时间·····X.Y.Z. 各 2 小时	The same as above. 同上
4.7 Impact resistance 耐冲击特性	Accelation·····735m/s(75G) Time·····6ms Directions·····6 directions×3 times 加速度·····735m/s(75G) 作用时间·····6ms 方向·····6 个方位×3 次	There shall not be visual transformation and noticeable wobble of terminal etc.. 无视觉变化和明显的端部摆振。
4.8 Operation life 操作寿命	Operation times·····2000,000T Reciprocate 2000,000 times at a speed of 30~40 times reciprocation per minute with no-load in the ordinary temp and humidity. 操作次数·····2,000,000T 在常温、常湿, 无负载的情况下, 以每分钟往复 30~40 次的速度进行 2,000,000 次以上	Item 2.2 2.3 2.4 3.2 3.3 The same as the initial spec. Item 3.4 $\Delta R \leq 25\%R$ 项目 2.2 2.3 2.4 3.2 3.3: 同初始规格 项目 3.4 $\Delta R \leq 25\%R$
4.9 开关按压	在常温、常湿, 无负载的情况下, 以每分钟往复 20~30 次的速度进行, 寿命 1,000,000 次以上	开关通断正常, 机械方面能动作。

附图:

(线性规律)

■ 一

□ 二



设计: 曾忠

审核: 梁成腾

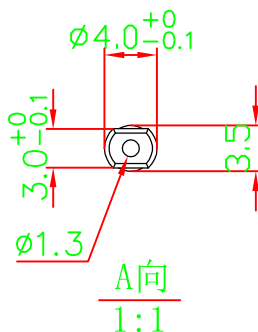
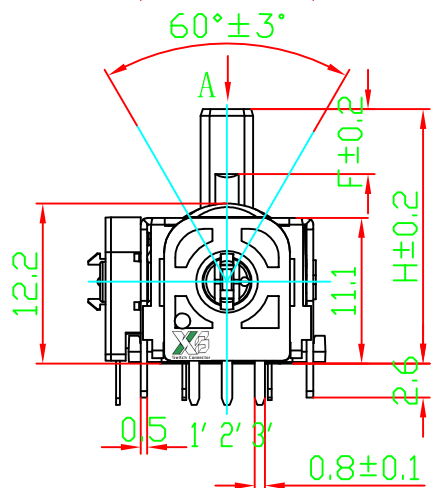
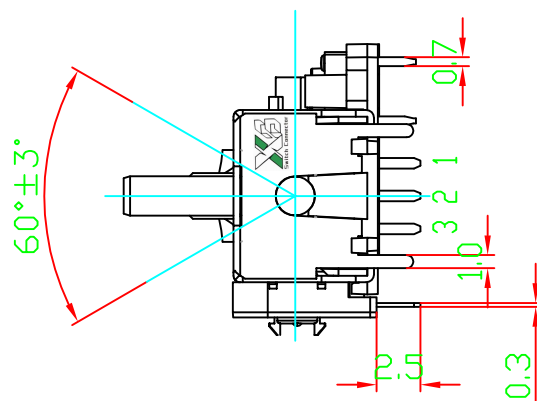
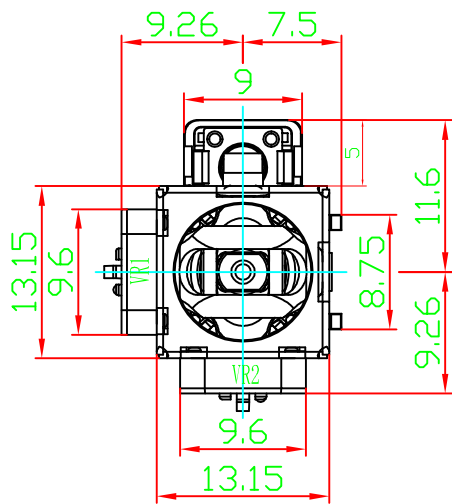
批准: 唐荣

日期: 2023-10-16

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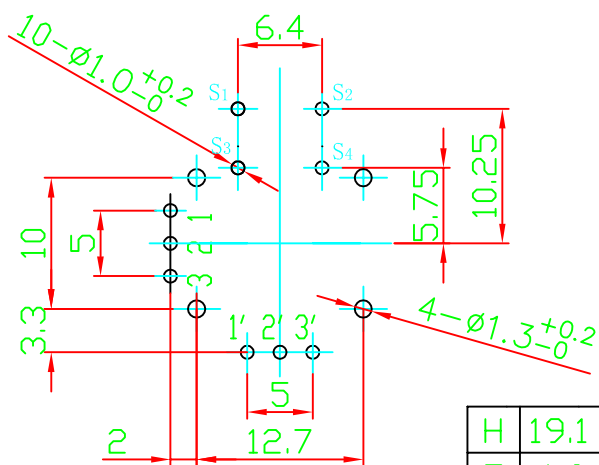


东莞市溪榜电子有限公司
DONG GUAN XI BANG ELECTRONICS CO., LTD



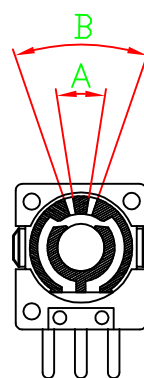
CIRCUIT:VR

CIRCUIT:SW



PCB板尺寸

H	19.1	19.5
F	4.6	5.0



A(银抽头角度)±2°		
0°	6°	
7°	8°	
9°	10°	
B(碳有效角度)±2°		
22°	26°	
32°	34°	
35°	38°	
45°	50°	
55°	60°	

电阻印刷角度

			X B Switch Connector 东莞市溪榜电子有限公司 DONG GUAN XI BANG ELECTRONICS CO., LTD					
			单位	mm	比例		第 1 张	共 1 张
			Projected view			机种	3D电位器胶杆（绿色本体）	
NO.	DESCRIPTION	DATE	TOL UNLESS OTHERWISE STATED					
DRAWN BY	CHECKED BY	APPROVED BY	Less than 10 ±0.3			品名	XB-YG13A1P-S	
高鹏	贺龙飞	阮霓展	above 10~30 ±0.5					
			above 30~100 ±1					
			above ±5°					
						图号		

表格编号:

版本: A0