



标准&定制开关连接器产品制造商
DONG GUAN XI BANG ELECTRONICS CO., LTD.

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
 MODEL NO. 型号: XB-YG19-306-T series
 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
<div style="border: 1px solid red; padding: 2px;">研发部</div> <div style="border: 1px solid red; padding: 2px;">戴海明</div> <div style="border: 1px solid red; padding: 2px;">2022. 06. 08</div>	<div style="border: 1px solid red; padding: 2px;">品质部</div> <div style="border: 1px solid red; padding: 2px;">黄自清</div> <div style="border: 1px solid red; padding: 2px;">2022. 06. 08</div>	<div style="border: 1px solid red; padding: 2px;">工程部</div> <div style="border: 1px solid red; padding: 2px;">庞军</div> <div style="border: 1px solid red; padding: 2px;">2022. 06. 08</div>	<div style="border: 1px solid red; padding: 2px;">总经办</div> <div style="border: 1px solid red; padding: 2px;">吴量</div> <div style="border: 1px solid red; padding: 2px;">2022. 06. 08</div>

东莞市溪榜电子有限公司

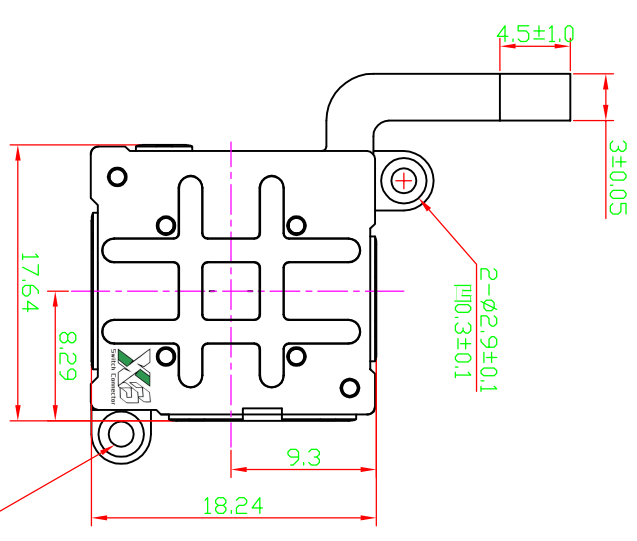
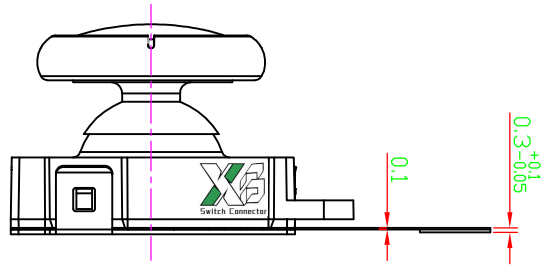
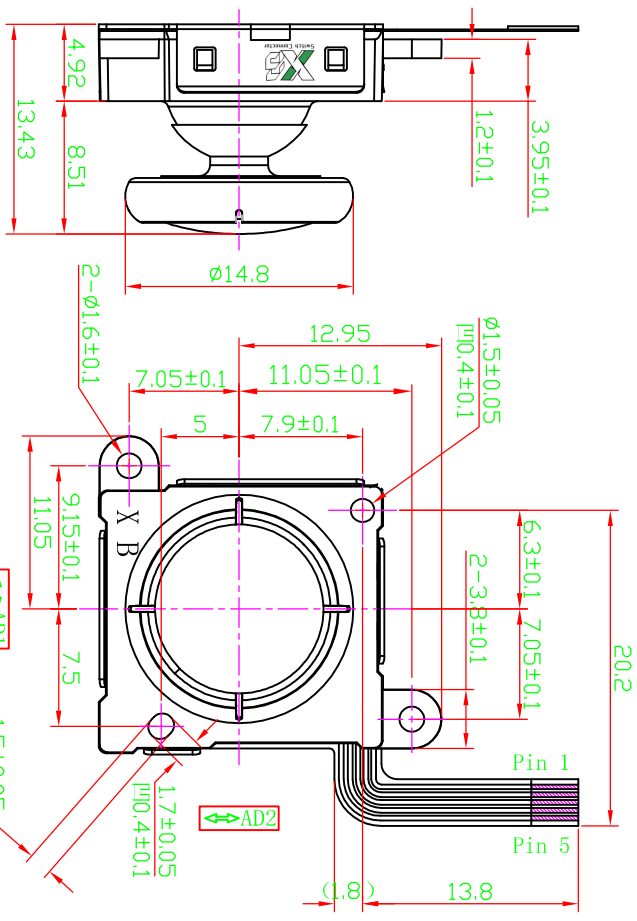
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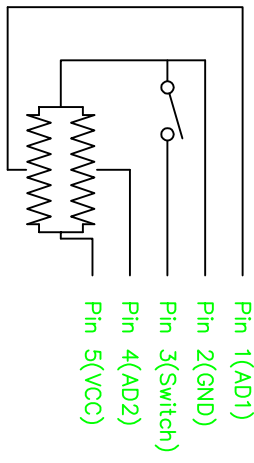
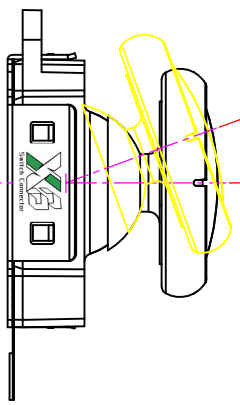
Dong Guan XB Electronics Co., Ltd

AccountNumber: 705540238
 BankName: Citibank N. A., HongKongBranch
 Country/Region: Hong Kong
 BankCode: 006
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 required)

MAil: HK@ALPSR.CN XB@ALPSR.CN XB@ALPSR.COM
 Quality core! Afterburner for Made in China!



螺丝扭矩规格: 0.7-0.9KgF.cm
Screw Torque Specification: 0.7-0.9KgF.cm



接线图
Circuit Explanation

		东莞市溪榜电子有限公司 Switch Connector DONG GUAN XI BANG ELECTRONICS CO., LTD		单位	mm	比例	Projected view	第 1 张		共 1 张		
				TOL UNLESS OTHERWISE STATED		机种		摇杆电位器				
ND.	DESCRIPTION	DATE										
DRAWN BY	CHECKED BY	APPROVED BY										
高鹏	贺龙飞	阮宽展	Less than	10 ±0.3								
			above	10-30	±0.5							
			above	30-100	±1							
			above		±5°							
			品名		XB-YG19-306-T(软板)		图号					



东莞市溪榜电子有限公司

DONG GUAN XI BANG ELECTRONICSCO., LTD

3D摇杆系列规格书

3D Rocker series specification

适用机型：XB-YG19-306-T（软板）系列

日期：2023年10月16日

1.General 一般事项

1.1 Scope 适用范围

This specification applies to the joystick which carbon composition resistor, used in electronic equipment.
本规格书适用于电子设备使用之碳素抵抗体用摇杆。

1.2 Standard atmospheric conditions 标准大气状态

Unless otherwise specified, the standard range of atmospheric conditions for making measurements and tests is as follows:

除另有规定外，量测应在以下大气条件下进行：

Ambient temperature

温度：15°C ~ 35°C

Relative humidity

相对湿度：25% ~ 85%

Air pressure

气压：86 KPa ~ 106 KPa

If there is any doubt about the results, measurements should be made within the following limits:

如有任何疑虑时，量测应在以下条件进行：

Ambient temperature

温度：20°C±1°C

Relative humidity

相对湿度：63% ~ 67%

Air pressure

气压：86 KPa ~ 106 KPa

1.3 Operating temperature range

使用温度范围：-10°C ~ +70°C

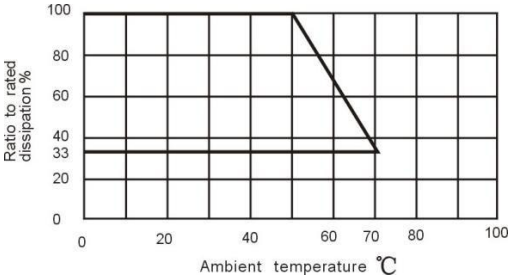
1.4 Storage temperature range

保存温度范围：-30°C ~ +80°C


1.5 Construction 构造

Dimension 尺寸：Refer to attached drawing 参见成品图

2.Mechanical characteristics 机械性能			
序号 NO.	项目 ITEM	条件 CONDITIONS	规格 SPECIFICATION
2.1	Figure of lever Operation 摇杆动作形式	/	Circular operating 圆形式
2.2	Operation angle of lever 摇杆使用有效角度	Add a fit force on the lever top to push it to max. angle of each direction when lever is released and reset position 当摇杆处于自由复归位置时,在摇杆顶部施加一定力将摇杆推向任意方向最大角度。	20°±3°
2.3	Operating force of lever 摇杆作用力	Test position is at more than 10 degrees deflection of lever. 摇杆偏斜 10 度以上之位置测定。	55±30 gf
2.4	The stopper strength of the lever 摇杆止动强度	Apply side force on the lever perpendicular to the lever's axial direction. 垂直於摇杆的力作用于摇杆上。	More than 3Kgf 3 seconds min 大于 3Kgf, 至少 3 秒钟
2.5	Accuracy of reset position of lever 摇杆复归精度	Measure the angle between the lever and the axial center line after the lever pushed to the direction of X-X(Y-Y) and resets. 摇杆推向 X-X(Y-Y)方向自由复归后测摇杆与垂直中心线的角度。	±3°
2.6	Push strength of lever 摇杆拉拔强度	Crust without damage, lever without abnormality. Electrical characteristics shall be satisfied with specification.	More than 5.0 Kgf 3 seconds min 大于 5.0Kgf,至少 3 秒钟
	Push strength of lever 摇杆推强度	外壳无破损,摇杆无异常,电气性能符合规定要求。	More than 3.0 Kgf 3 seconds min 大于 3.0Kgf,至少 3 秒钟
3.Electrical characteristics 电气特性.			
序号 NO.	项目 ITEM	条件 CONDITIONS	规格 SPECIFICATION
3.1	Total resistance 全阻值	Between terminal 1 and terminal3. 1-3 端子间.	5K±30%
3.2	Resistance taper 阻抗特性型式	Measurement shall be made by the resistance law method. For other procedures (refer JISC5261 standard) 用电压法测试, 参照 JISC5261 标准	Linear Type 直线性

序号 NO.	项目 ITEM	条件 CONDITIONS	规格 SPECIFICATION										
3.3	Rated power 额定功率	<p>The rated power should be changed according to the following chart when the ambient temperature changed. 他与环境温度按以下曲线变化。 Derating curve of rated dissipation</p>  <table border="1" data-bbox="592 421 1102 696"> <caption>Derating curve of rated dissipation data</caption> <thead> <tr> <th>Ambient temperature (°C)</th> <th>Ratio to rated dissipation (%)</th> </tr> </thead> <tbody> <tr><td>0</td><td>33</td></tr> <tr><td>50</td><td>33</td></tr> <tr><td>70</td><td>33</td></tr> <tr><td>100</td><td>0</td></tr> </tbody> </table>	Ambient temperature (°C)	Ratio to rated dissipation (%)	0	33	50	33	70	33	100	0	0.005W
Ambient temperature (°C)	Ratio to rated dissipation (%)												
0	33												
50	33												
70	33												
100	0												
3.4	Rated voltage 额定电压	<p>$E=\sqrt{PR}$ E:额定电压 Rated voltage(V) P:额定功率 Rated power(W) R:公称全阻值 Nominal total resistance(Ω) The rated voltage is calculated by above formula. When the rated voltage exceeds the maximum operating voltage, the maximum operating voltage should be the rated voltage. 额定电压按以上公式计算，当额定电压超过最大工作电压时，最大工作电压即为额定电压。</p>	DC 5V										
3.5	Temperature characteristic 阻抗温度特征	<p>The without electrical load V.R should be stored at temperature of $70\pm 3^{\circ}\text{C}$ for 5hrs and measure immediately. 将产品置于在 $70\pm 3^{\circ}\text{C}$ 的恒温槽内以无负荷的条件下放置 5 小时后马上测量</p>	Variation of total resistance shall be within $\pm 30\%$. 全阻值相对于测试前变化率为 $\pm 30\%$										
3.6	Voltage Divider Error 分压误差值	<p>Voltage Divider error is defined the ratio of the voltage terminals AD-GND to terminals VCC-GND after the drive arm rested. 5V D.C. shall be applied to the terminals between VCC and GND and then voltage divider error shall be measured with the drive arm operation on the line X-X and Y-Y.(Terminal AD-GND/Terminal VCC-GND $\times 100\%$) 分压误差值是摇杆自由复位后端子 AD-GND 与端子 VCC-GND 电压比例。将 5V D.C 电压加在端子 VCC-GND 之间，分压误差值在摇杆运作于 X-X 和 Y-Y 方向到底复位后测试。(端子 AD-GND/端子 VCC-GND $\times 100\%$)</p>	30%~70%										

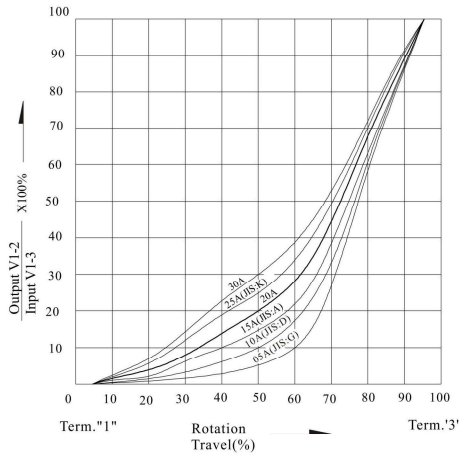
序号 NO.	项目 ITEM	条件 CONDITIONS	规格 SPECIFICATION
3.7	Noise 杂音	Rated voltage shall be applied(D.C.)to the terminals between VCC and GND. And then the noise shall be measured by circular operation with lever operated 16° Speed of circular operation:1 cycle /sec. For other procedures, refer to IEC pub. 393-1-6,test method A. 在端子 VCC-GND 间施加额定的直流电压，将摇杆推至 16°位置进行圆周转测试。 圆周旋转测试速度：1 来回/1 秒 其他方法和步骤请参考 IEC pub.393-1-6 测试方法 A。	300m Vp-p less than 杂音 300mv 以下
3.8	Insulation resistance 绝缘阻抗值	/	More than 10MΩ 10 MΩ以上
3.9	Temperature cycling test 温度循环测试	Low temperature : -20 ±3°C30 minutes High temperature: +60±3°C30 minutes Number of cycles: 5 Surface moisture shall be removed, and then the controller shall be subjected to standard atmospheric condition for 2 hours, after which measurement shall be made. 在低温为-20±3°C放置 30 分钟,高温 60±3°C 放置 30 分钟，测试 5 次，表面水份摄取后在正常状态下放置 2 小时后测试。	Variation of total resistance should be within ±30%,without mechanical malfunction. 全阻值变化要在±30% 以内，机械性能无异常
3.10	Free falling 自由落下试验	Height: 75cm Number of falls: 3 times 从高度为 75 厘米落下测试 3 次后	Without damage and lever deformation, but deformations of terminals and molded parts are allowed. Without the looseness and failing function of witch. 无不良性能产生，无松动及开关性能损坏，端子变形除外。
3.11	Number of cycles 耐久寿命	Mechanical life should be tested 1000000 cycles at the speed of one cycle per second without electrical load when joystick rotate 360°at 20°position. 无负载状态下以 1 个来回/秒速度将摇杆推至 20.0°位置进行 360°旋转测试，寿命 1000000 圈。	Variation of total resistance±20%. Without mechanical malfunction. 全阻值变化±20%.机械性能无异常。

4.Switch characteristics 开关规格（适用于带开关机种）			
序号 NO.	项目 ITEM	条件 CONDITIONS	规格 SPECIFICATION
4.1	Operating force 作动力	Apply side force perpendicular to the lever's axial direction on the lever until the lever stops, measure the max force value. 将一个轴向力施加於摇杆上直到其不动为止，量取施力期间之最大值	800 ± 200gf
4.2	Travel 移动量	Put the switch lever upward, apply 2 times of the static operating force over the lever's axial direction of the lever, measure the variance of the switch stroke. 将开关操作部（摇杆）置於静止位置，并在操作柄中央施加两倍於作动力之静负荷测量柄被压到不动时之移动距离。	0.4 mm+0.4/-0.2
4.3	Maximum Ratings 最大定格电压	Within 70°C 70°C以内	5 V DC 5mA
4.4	Contact resistance 接触阻抗	Apply 2 times of the operating fore of the static load on the vertical direction of the lever, measure the resistance by using the Contact Resistance Tester with 1KHZ, 20mV, 5~50mA of current. 将两倍于作动力之静负荷加於操作柄之中央以（1KHZ，20mV,5-50mA）微电流接触阻抗计测定。	Less than 200Ω 低于 200Ω
4.5	Switch number of cycles 开关寿命	Under electrical load DC5V/5mA, compress 7.1N force to the lever which is released and reset to vertical position. Switch life should be tested more than 500000 cycles at the per second. 负载状态下（DC5V/5mA），在摇杆自由复归后的垂直方向施加 7.1N（720gf）的按压力，以 2-3 次/秒的速度对开关进行测试，寿命 500000 次以上。	Contact resistance 200Ω Max, No mechanical malfunction. 接触阻抗最大 200Ω, 机械方面能动作
设计： 高鹏		审核： 贺龙飞	批准： 阮霓展
印 章		日期：2023-10-16	
		 东莞市溪榜电子有限公司 Switch Connector DONG GUAN XI BANG ELECTRONICS CO., LTD	

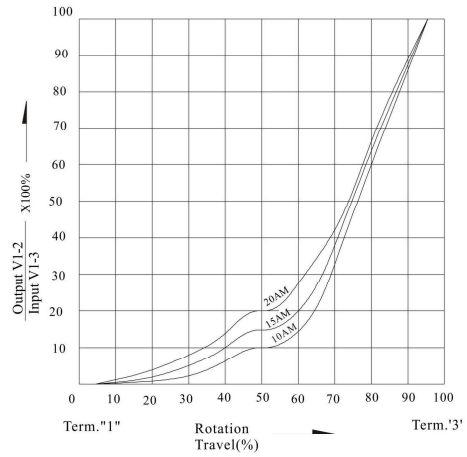
電阻規律特徵表

RESISTANCE TAPER CHARACTERISTICS

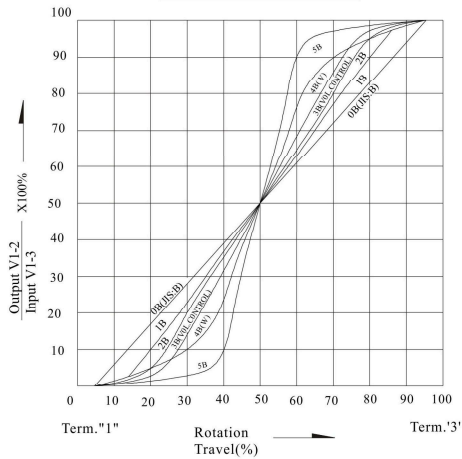
TAPERS (A) SERIES



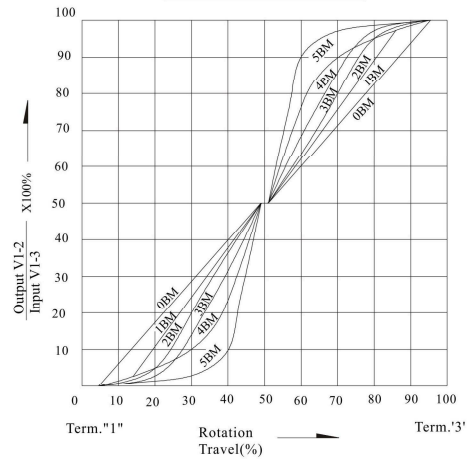
TAPERS (A) WITH 50% TAP



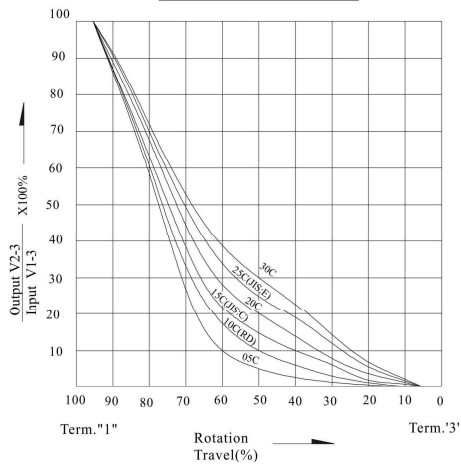
TAPERS (B) SERIES



TAPERS (B) WITH 50% TAP



TAPERS (C) SERIES



TAPERS (M) & (N)

