



规格书

SPECIFICATION

CUSTOMER NAME	客户名称:	
CUSTOMER NO.	客户编号:	
SERIES	系 列:	3D摇杆电位器总成
MODEL NO.	型 号:	XB-YG3D33 series
DRAWING NO.	图 形 号:	3D ROCKER POTENTIOMETER ASSEMBLY

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	品质部	工程部	总经办
戴海明	黄自清	庞军	吴量
2022. 06. 08	2022. 06. 08	2022. 06. 08	2022. 06. 08

东莞市溪榜电子有限公司

Dong guan Xi Bang Electronics Co., Ltd

地址：广东省东莞市黄江镇合路工业区

**Address:He Lu Industrial Zone, Huangjiang Town
Dongguan City, Guangdong Province**

Tel: (0769)82055138/82056828

Fax:(0769)83663452

邮箱: admin@alspr.com switch@alspr.com

<http://www.alpsr.cn/> <http://www.alpsr.com/>

Dong Guan XB ElectronicsCo., Ltd

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)

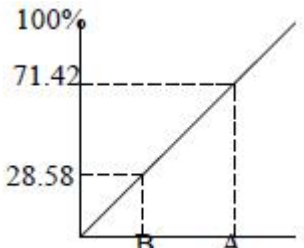
MAiL: HK@ALPSR.CN XB@ALPSR.CN XB@ALPSR.COM

Quality core! Afterburner for Made in China!

1. General Characteristics			1. 一般特性		
1.1 Shape and dimensions In accordance with the outline and dimension drawing.			1.1 形状尺寸 见附图		
1.2 Operating temperature range -10℃~+75℃			1.2 使用温度范围 -20℃~+45℃		
1.3 Conserving temperature range -20℃~+85℃			1.3 保存温度范围 -20℃~+65℃		
1.4 Test conditions Ordinary temperature (5~35℃) Ordinary humidity (45~85℃) Ordinary atmospheric pressure (86~106kPa)			1.4 测试条件 常温 (温度 5~35℃) 常湿 (湿度 45~85%) 常压 (气压 86~106kPa)		
2. Mechanical Characteristics			2. 机械特性		
	Item 项目		Measuring condition 测试条件		Specifications 规格
Rotation operation	2.1	Total rotation angle 全回转角度	The rotation Angle of machine 机械回转角度		60°MIN 最小 60°
回转操作		Electricity travel 电气行程	In effect angle 印刷电阻有效角度		☐ 30±3° ☐ 35±3° ☐ 38±3° ☐ 45±3° ☐ 50±3° ☐ 55±3° ☐ 58±3° ☒ 80±5°
		Middle tapping angle 中心抽头角度	Middle tapping angle in resistance 印刷电阻中间银层度数		☐ 7±2° ☐ 10±2° ☐ 8±2° ☒ 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	
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℃) 70℃时额定功率 W		0.0125W	
		Max operating voltage (virtual value of direct current or alternating current) 极限电压（直流或交流峰有效值） V		DC 5V/AC 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	■ ≤2.0K Ω
3.4	Total 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	● 5K ±10% ■ 10K±20% □ 100 K±10%
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×25%. 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 25%。{(R ₁₂ +R ₂₃ - R ₁₃) ÷ 2 ≤ 全阻值 × 25%}	
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 70±2℃ Time 240 hours After that , leave in ordinary temp and humidity for an hour. Then measure. 温度 70±2℃ 时间 240 小时 然后放置在常温和湿度下一个小时再测试。	Variation of total resistance should be within+5%/-30%.To be operated mechanically. 全阻值变化要在 +5%/-30% 以内，机械方面能动作。

Item 项目		Measuring condition 测试条件	Specifications 规格
4.2	Moisture resistance 耐湿特性	Temperature ······ $70 \pm 2^{\circ}\text{C}$ Humidity ······ 80~85%Rh Time ······ 300±5 hours After that , leave in ordinary temp and humidity for an hour. Then measure. 温度····· $70 \pm 2^{\circ}\text{C}$ 湿度····· 80~85%Rh 时间····· 300±5 小时 然后放置在常温和湿度下一个小时再测试。	Insulation resistance: more than 10M Ω with 250V insulation resistance tester. The total resistance change should be within 20%. To be operated mechanically. 用250V 绝缘测试机测试, 绝缘阻抗20M Ω 以上。全阻值变化要在+35/-5%以内。机械方面能动作。
4.3	Low temperature resistance 耐寒特性	Temperature ······ $-30 \pm 2^{\circ}\text{C}$ Time ······ 300±5 hours After that , leave in ordinary temp and humidity for an hour. Then measure. 温度 ······ $-30 \pm 3^{\circ}\text{C}$ 时间····· 300±5 小时 然后放置在常温和湿度下一个小时再测试。	The total resistance change should be within $\pm 20\%$. To be operated mechanically. 全阻值变化要在 $\pm 20\%$ 以内, 机械方面能动作。
4.4	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 3.2 3.3 3.4 3.5 The same as the initial spec. 项目: 2.2 3.2 3.3 3.4 3.5 同初始规格
4.5	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

Item 项目		Measuring condition 测试条件	Specifications 规格
4.6	Output Characteristic 输出特性	1)The output voltages at specified reference positions B and A shall be measured with rated voltage applied between terminals 1 and 3 and the lever moved applied between terminals 1 and 3 is assumed to be 100%. 将额定电压加在1 和3 端,调整轴心输出电压规格参考A.B 位置标准. 	Specified reference Position A 71.42±4% Specified reference Position B 28.58±4% 基准点A 基准点B
	Linearity 直线性	2)With rated voltage applied between terminals 1 and 3,the linearity which connects the measured output voltage at specified reference positions B and A is assumed to be an ideal linearity when the voltage applied between terminals 1 and 3 is assumed to be 100% shall be expressed as a percentage. 在1 和3 端施加额定电压,线性测量输出电压规格参考A&B 位置,线性误差百分比在要求内.	Less than ±5 % ±5%以内
4.7	Resistance to soldering heat 焊锡耐热性	Variation of total resistance shall be within ± 5%, and terminals shall not work loose to injure electric contact, after test. 全阻值变化±5%以内,测试后无端子松动,不会损坏电气接点。	Manual Soldering: Less than 350 °C and quicker than 3 seconds. 手焊: 350°C以下, 3 秒以内
4.8	Operation life 操作寿命	Operation times ···· 500,000T Reciprocate 500,000 times at a speed of 30 ~ 40 times reciprocation per minute with no-load in the ordinary temp and humidity. 操作次数 ···· 500,000T 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 500,000 次以上	Item 2.2 3.2 3.3 The same as the initial spec.Item 3.4 $\Delta R \leq 25\%R$ 项目 2.2 3.2 3.3 同初始规格 项目 3.4 $\Delta R \leq 25\%R$

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