



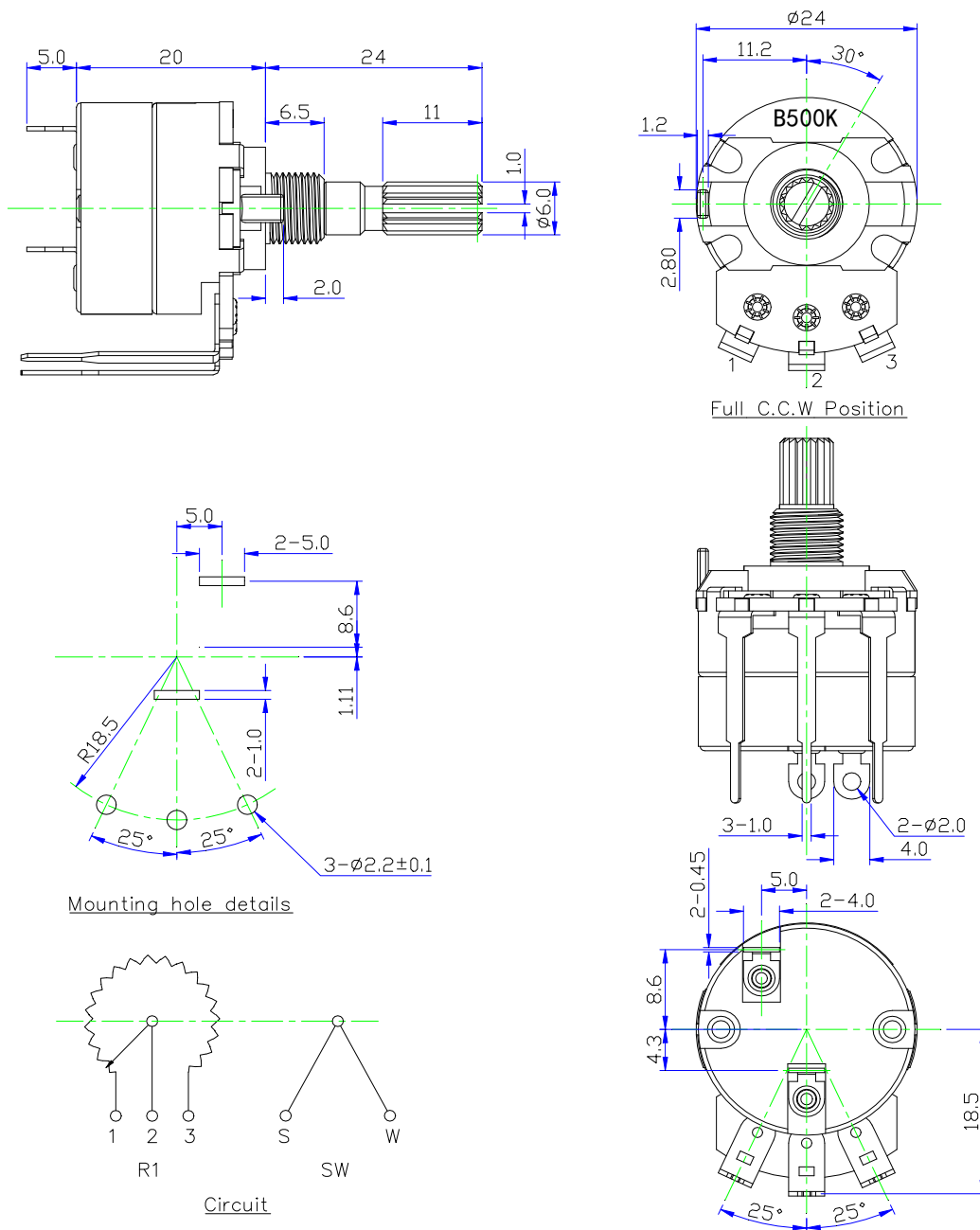
东莞市凡睿电子科技有限公司

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Title	RK24 Series		
Code	/		
Dwg Name	RK24SNV02-M8B6.5-YA24A11		
Dwg No	GC-G-RK24-003	Version	1
DESIGN	CHECK	APPROVAL	

③			
②			
①			
Devision	Date	Design	
	Unit	Scale	TOLERANCE
	MM	3:1	
MTL			UNDER 10 ±0.3
SPEC			10~100 ±0.5
DISPOSAL			OVER 100 ±0.8
			ANGULAR DIMENSION ±5°



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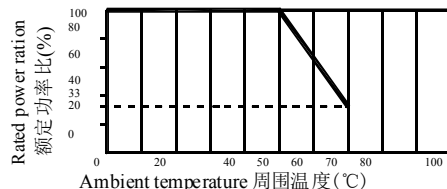
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RK24 系列规格书

1/3

1、GENERAL 一般事项				
1.1、Scope The specification applies to model RK24 type mainly used for consumer products		适用范围 此规格书适用于 RK24 机型		
1.2、Operating temperature range		使用温度范围 -10℃~+70℃		
1.3、Storage temperature range		保存温度范围 -20℃~+85℃		
1.4、Test conditions: Standard atmospheric conditions:		试验状态 标准状态		
Unless otherwise specified, the standard range of atmospheric conditions for making measurements and test is as follows: Ambient temperature: 5~35℃ Relative humidity: 45~85%		无特别规定之实验及测定以温度 5~35℃, 相对湿度 45~85%, 气压 86~106kpa 之标准状态测定。		
Air pressure: 86kpa to 106kpa If there is any doubt about the results, measurements shall be Made within the following limit: Ambient temperature: 20±2℃ Relative humidity: 60~70% Air pressure: 86kpa to 106kpa		发生判定疑问或另有特别要求则以 基准状态 (温度 20±2℃, 相对湿度 60~70%, 气压 86~106kpa) 为标准测定。		
1 ELECTRICAL CHARACTERISTICS 电气特性				
Item 项目	Conditions 条件		Specifications 规格	
1、Nominal total resistance and tolerance 公称全阻抗值	The resistance between terminals 1 and 3 shall be measured 端子 1-3 间阻值测定。		500K Ω <input checked="" type="checkbox"/> ±20%	
2、Resistance law 阻抗变化特性	阻抗变化特性 Taper	测定点(°) Test point position	端子 1-2 间输出电压 端子 1-3 间输入电压 V1-2 V1-3	端子 2-3 间输出电压 端子 1-3 间输入电压 V2-3 V1-3
	A	180°	10-30%	
	B	150°	40-60%	
	C	180°		10-30%
	D	150°	2-15%	
	W	90° ±5° 180° 180° ±5°	5-15% 40-60% 85-95%	
3、Power rating 额定功率	Power rating is based on continuum full load operation at the maximum voltage between terminals 1 and 3. Power rating vs. ambient temperature shall be denoted on the following graph. 端子 1-3 间连续负载后的最大功率。 环境温度对功率影响的曲线如下图所示:		<input checked="" type="checkbox"/> B taper: 0.5W B 曲线: 0.5W <input type="checkbox"/> Other taper: 0.25W 其它曲线: 0.25W	
4、Rated voltage 额定电压	Rated voltage 额定电压: E = PR		Maximum operating voltage 最高使用电压	
	Power rating P: 额定功率 Nominal total resistance R: 公称阻抗值 When the rated voltage exceeds the maximum operating voltage, the maximum operating voltage shall be the rated voltage. 额定电压大于最高使用电压时, 最高使用电压作为额定电压。		linear taper B AC 300V other tapers AC 250V	





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RK24 系列规格书

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1 ELECTRICAL CHARACTERISTICS 电气特性			
Item 项 目	Conditions 条 件		Specifications 规 格
5、Residual resistance 残留电阻	Contact brush stop at the end of the (A). Resistance between terminals 1 and 2, terminals 2 and 3 shall be measured. A: Angle of effective rotation 接触刷停留在(A)终端位置,在端子1-2间,端子2-3间测定之电阻值. A:有效回转角度		R1,2: $\leq 20 \Omega$; R2,3: $\leq 20 \Omega$
6、Rotational noise 转动噪音	Apply DC 20V between terminals 1-3 to measure the noise voltage (rated voltage $\leq 18V$ apply by rated voltage). 在端子1-3间加直流电压18V(额定电压 $\leq 20V$,则以额定电压值测试)后,测定的杂音电压. Shaft rotation : 1 rotation / 3S 轴转速:1回转/3秒		100mVp-p or less $\leq 100mVp-p$ 以下
7、Insulation resistance 绝缘阻抗	Apply voltage of 500V DC and measure for 1minute	Between individual terminals and frame 端子-固定板	100M Ω or more 100M Ω 以上
8、Dielectric strength 耐电压	Measuring frequency : 50~60Hz ; 500VDC for 1 minute.	Between individual terminals and frame 端子-固定板	Electrical characteristics shall be satisfied with specification. 电气性能符合规定要求
2 MECHANICAL CHARACTERISTICS 机械特性			
1、Total mechanical rotation 全回转角度	Angle of effective rotation 有效旋转角度		$300^\circ \pm 10^\circ$
2、Rotational torque 旋转力矩	Rotational speed 旋转速度 S 旋 转速度 60°/S	Standard atmospheric conditions 常温 5°C 至 35°C	20~100 gf.cm
3、Shaft push & pull strength 轴向推拉强度	Pull: 8.0 Kg Max. Push: 12.0 Kg Max. 最大拉力 8Kg 力矩。最大推力 12kg 力矩。		Shaft without damage, rotational torque. without abnormality . Electrical characteristics shall be satisfied with specification 轴无破损, 旋转无异常。 电气性能符合规定要求
4、Shaft stop strength 止档强度	After fixation, rotate the shaft to the end and add 8Kg torque for 5 seconds. 固定后与轴转至末端加 8Kg 力矩并持续 5 秒。		Electrical characteristics shall be satisfied with specification. 电气性能符合规定要求
3 ENDURANCE CHARACTERISTICS 耐久性能			
1、Solderability 焊锡性	The terminals shall be stored at a temperature of 40°C with relative humidity of 90~95% and measured in 168 hours. 温度 40°C, 湿度 90~95%RH, 168 小时测定。 The terminals shall be immersed into solder bath at 270°C \pm 5°C for 3 \pm 0.5S 端子在 270°C \pm 5°C 温度的焊锡槽内浸锡 3 \pm 0.5 秒		A new uniform coating of solder shall cover 75% minimum of the surface being immersed. 浸渍面须有 75%以上焊锡附着
2、Heat resistance 耐热特性	Temperature $\dots\dots\dots 85\pm 2^\circ C$ Time $\dots\dots\dots 16$ hours After that, leave in ordinary temp and humidity for an hour. Then measure. 温度 $\dots\dots\dots 85\pm 2^\circ C$ 时间 $\dots\dots\dots 16$ 小时 然后放置在常温和湿度下一个小时再测试。		Change in total resistance is relative to the value before test : $\pm 20\%$ 总阻变化值: 初期值的 $\pm 20\%$



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RK24 系列规格书

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3、Resistance to cold 耐寒性	The potentiometer shall be stored at a temperature of $-40\pm 3^{\circ}\text{C}$ for $96\pm 4\text{H}$ in a thermostatic chamber. Then the potentiometer shall be taken out of the chamber and its surface moisture shall be removed. And measure the potentiometer which shall be subjected to standard atmospheric conditions for 1.5H. 温度 $-40\pm 3^{\circ}\text{C}$ 恒温槽中 96 ± 4 小时放置后, 置于常温常湿 1.5 小时除去水滴后, 1.5 小时内测定。	Change in total resistance is relative to the value before test: $\pm 20\%$ 总阻变化值: 初期值的 $\pm 20\%$
4、Endurance 耐久性	The moving contact without electrical load shall be rotated from one end stop to the other and returned to its original position exceeds 90% of effective angle. This procedure constitutes 1 cycle. And the moving contact shall be subjected to 600 cycles per hour. total 15,000 \pm 200 cycles. (5000 to 8000 continuous cycles for 24H). 轴以 600 周/小时(来回算 1 周)的速度旋转, 24 小时旋转 5000~8000 周, 有效旋转角度超过 90%, 共 15,000 \pm 200 周。	Variable Value of Total Resistance: specified value $\pm 15\%$ 总阻变化值: 规格值范围的 $\pm 15\%$ Noise 150mV p-p less than 转动噪音: 150mV p-p 以下 Rotational torque shall not deviate from the previously specified value. 回转力矩满足规格值

4. SWITCH PERFORMANCE (FOR WITH- SWITCH TYPE) 开关性能(适用于带开关机种)

1、Switch power rating 关承受负载			$\leq 220\text{V AC } 0.5\text{A}$
2、Insulation resistance 绝缘阻抗	Apply voltage of 500V DC and measure for 1 minute	Between individual terminals and frame 端子-固定板	100M Ω or more 100M Ω 以上
3、Dielectric strength 耐电压	Measuring frequency : 50~60Hz; 500V AC for 1 minute.	Between individual terminals and frame 端子-固定板	Electrical characteristics shall be satisfied with specification. 电气性能符合规定要求
4、Switch working angle 开关工作角度			$50^{\circ} \pm 10^{\circ}$
5、Switch working Torque 开关工作力矩			200~400gf.cm
6、Switch Endurance 开关耐久性	15,000 Cycles min		Contact resistance 200m Ω Max, To be operated mechanically. 接触阻抗最大 200m Ω ,

REVISION 变更记事	变更时间	 东莞市凡睿电子科技有限公司		
		DSGD. 主办	CHKD. 审查	APPD. 核准
		TITLE 标题: POTENTIOMETER 电位器规格书		
		Model. 机种: RK24 系列		

电位器曲线图



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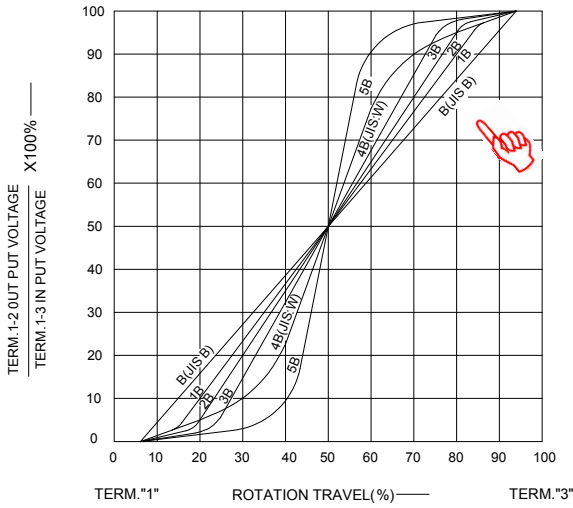
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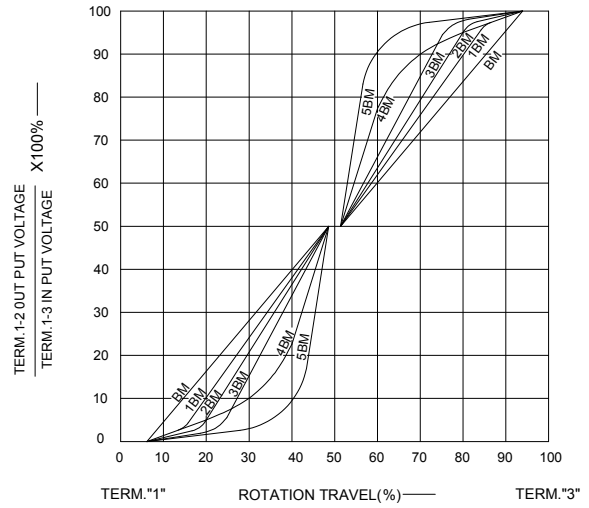
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POTENTIOMETER CURVE

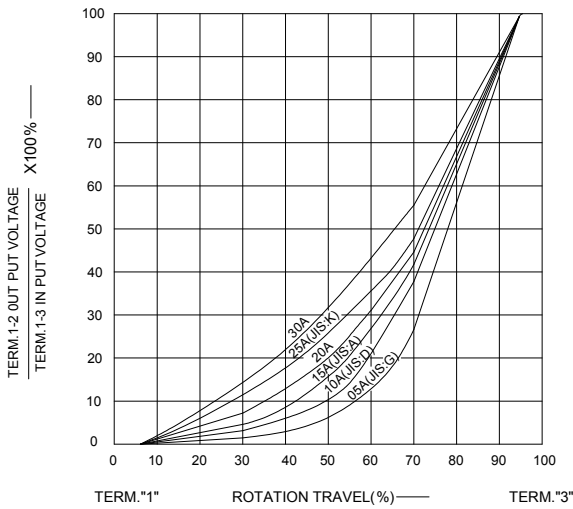
TAPERS B SERIES



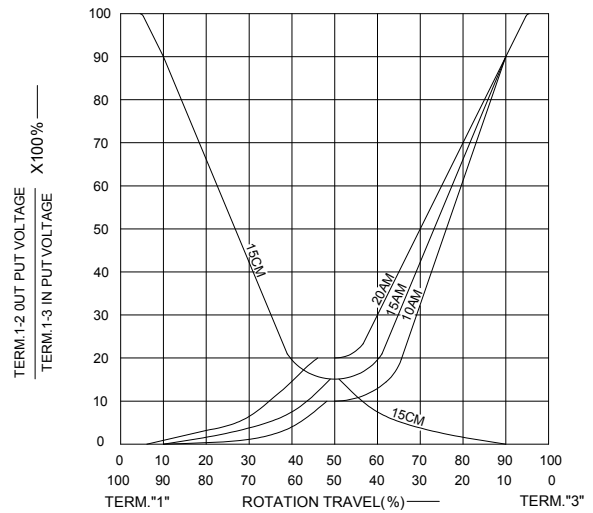
TAPERS B WITH 50% TAP



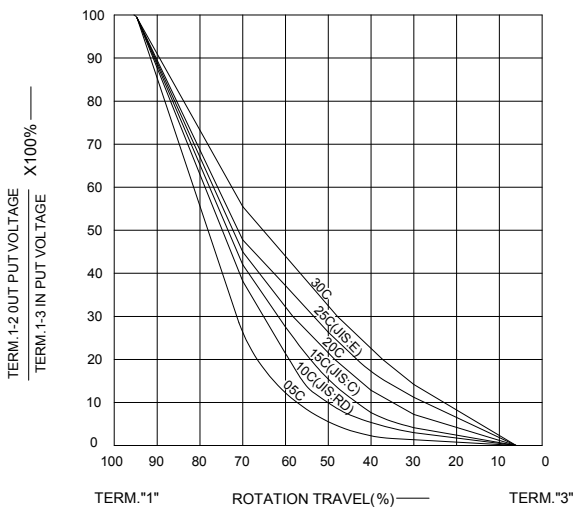
TAPERS A SERIES



TAPERS A & C WITH 50% TAP



TAPERS C SERIES



TAPERS M & N

