



# 东莞市凡睿电子科技有限公司

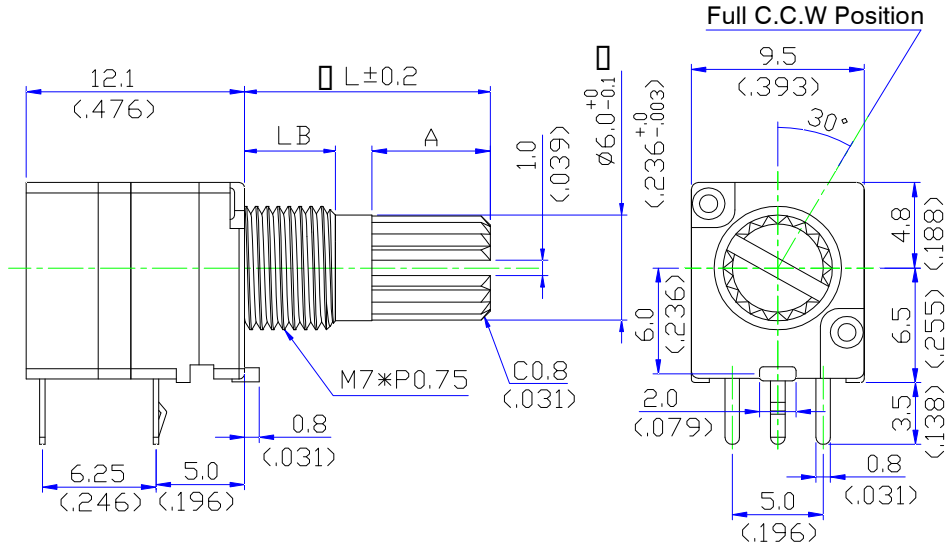
DONG GUAN RUI FENG TECHNOLOGY&ELECTRONICS CO., LTD.

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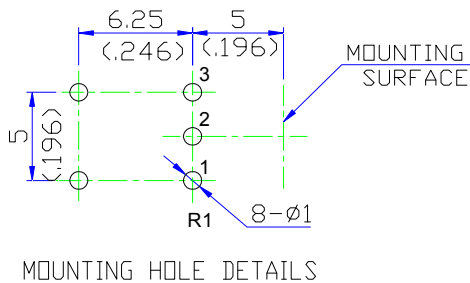
地址: 东莞市茶山镇京山第三工业区

备注: 1. 标有“□”符号为重点管控尺寸;

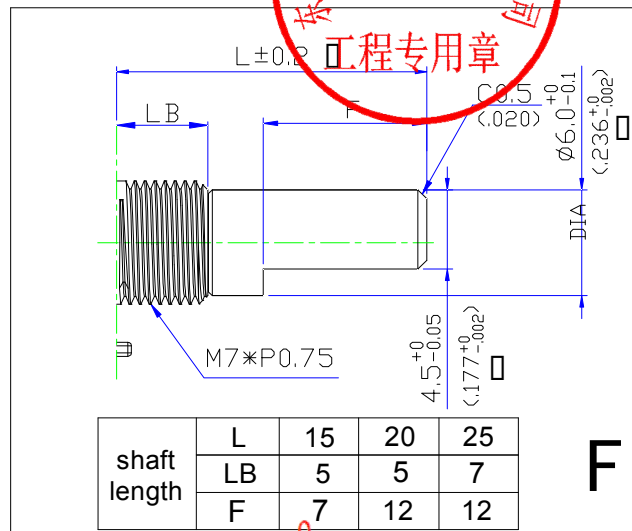
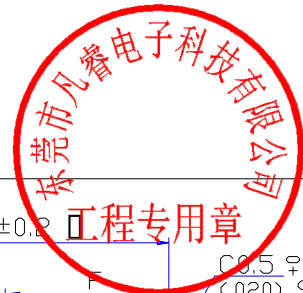
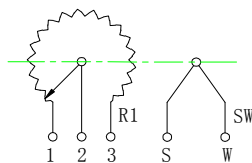


Y

shaft length	L	15	20	25
	LB	5	5	7
	A	8.5	13.5	18.5



MOUNTING HOLE DETAILS



shaft length	L	15	20	25
	LB	5	5	7
	F	7	12	12

F



东莞市凡睿电子科技有限公司  
DONG GUAN FAN RUI ELECTRONICS&TECHNOLOGY CO.,LTD.

Title	RK097 Series			3			
Code				2			
Dwg Name	RK097SNH01			1			
Dwg No	CPT-97-004	Version	A	Devision	Date	Design	
	DESIGN	CHECK	APPROVAL	Unit	MM	Scale	TOLERANCE
				MTL		3:1	UNDER 10
				SPEC			±0.3
				DISPOSAL			10~100
							±0.5
							OVER 100
							±0.8
							ANGULAR DIMENSION
							±5°



# RK097SERIES GENERAL SPECIFICATION

## RK097 系列规格书

2. ELECTRICAL CHARACTERISTICS		2. 电气特性	
Item 项 目	Conditions 条 件		Specifications 规 格
7、Tracking error 连动误差	<p>The voltage of 2 V r.m.s. Shall be applied between terminals 1 and 3 and between terminals 1' to 3' by measuring frequency at 1KHz. The output voltage shall be measured between terminals 1 and 2 and between terminal 1' and 2'(for the 15C and 25C taper. the measurement shall be made between terminals 2 and 3 and between terminals 2' and 3').</p> <p>it should be the same standard with the first measuring result .</p> <p>If there is not any doubt about the results . This DC voltage shall be used as the test voltage.</p> <p>在端子 1-3 间,1'-3'间,输入频率 1KHz,电压 2V 的正弦波实值,测量端子 1-2 间,端子 1'-2'间的输出电压(适用于 15C 和 25C 线型,端子 2-3 间, 2'-3'间也应测量输出电压) 结合第一次的测量结果,应为同一标准. 如对测量结果没有质疑, 则将此电压作为测试电压值。</p> <p>Input impedance of the voltmeter: 10M Ω or more 电压表输入阻抗 10M Ω 以上</p>		<p>Multi-circuit tracking error: R1,2: -40~0dB ≤±3dB</p>
8、Insulation resistance 绝缘阻抗	Apply voltage of 500V DC and measure for 1 minute	Between individual terminals and frame 端子-固定脚	100M Ω or more 100M Ω 以上
9、Dielectric strength 耐电压	Measuring frequency : 50~60Hz ; 500V AC for 1 minute.	Between individual terminals and frame 端子-固定脚	Electrical characteristics shall be satisfied with specification. 电气性能符合规定要求
3. MECHANICAL CHARACTERISTICS		3. 机械特性	
1、Total mechanical rotation 全回转角度	Angle of effective rotation 有效旋转角度		300°±5°
2、Rotational torque 旋转力矩	Rotational speed 旋转速度 60°/S	Standard atmospheric conditions 常温 5°C 至 35°C	30~70 gf.cm
3、Number of Detemts Click 定位数目	For with-detent type. 加中段功能机种使用		<input type="checkbox"/> 1C (Center Detent 中段功能) <input type="checkbox"/> 41C
4、Click slip out force 定位推动力	For with-detent type. 加中段功能机种使用		60~150gf.cm
5、Shaft stop strenght 止档强度	<p>The following torsion moment load □ of shall be applied to the shaft for 5sec a both ends (after fixation)</p> <p>固定后于旋转前后两端末加□力并持续 5</p> <p>□ With detents 0.35 N.m(3.5KgF)带定位 0.35 N.m(3.5KgF)</p> <p>☑ Without detents 0.5 N.m(5.0KgF)不带定位 0.5 N.m(5.0KgF)</p>		Electrical characteristics shall be satisfied with specification. 电气性能符合规定要求
6、Shaft push & pull strength 轴向推拉强度	Pull: 8.0 Kg Max. Push: 8.0 Kg Max. 最大拉力 8Kg 力矩。最大推力 8kg 力矩。		Shaft without damage, ratational 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
7、Nut tightening strength 螺母紧固强度	Nut tighten with 0.8 N.m (8.0kgf.cm) 螺母紧固强度为 0.8 N.m (8.0kgf.cm.)		No excessive uneven rotation feeling 不可有回转发生 (打滑)



# RK097SERIES GENERAL SPECIFICATION

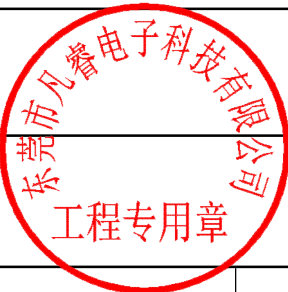

## RK097 系列规格书

3. MECHANICAL CHARACTERISTICS		3. 机械特性	
Item 项 目	Conditions 条 件	Specifications 规 格	
8、Shaft wobble 轴摆动	A momentary load of 500gf.cm shall be applied at the point 5 mm from the tip of the shaft in a direction perpendicular to the axis (after fixation) 固定后在与轴垂直的端面 5mm 处施加 500gf.cm 静载荷	0.7 x L / 30 mm p-p L: 固定面到测试点的距离 L is the length between mounting surface and measuring point .	
4. ENDURANCE CHARACTERISTICS		4. 耐久性能	
Item 项 目	Conditions 条 件	Specifications 规 格	
1、Solder ability 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 260°C±5°C for 3±0.5S 端子在 260°C±5°C 温度的焊锡槽内浸锡 3±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、Resistance to soldering heat 焊锡耐热性	Soldering method 手焊条件: Soldering temperature 手焊温度 : 300°C±10°C Application time of soldering 时间 : 3 ±1 秒  Substrate to be soldered: Cooper clad laminated phenol in one surface of 1.6mm thickness, Do not use double sided through PCB. Preheating: Surface temperature of substrate shall be settled within 100°C in one minutes. 使用基板: T=1.6mm 厚单面铜箔积层板面。 预热: 基板表面温度 100°C 以下, 1 分钟以内。 Wave soldering: 波峰焊条件: Bit temperature 温度 : 260°±5°C Application time of soldering 时间 : 3 ±1 sec	Change in total resistance is relative to the value before test : ±5% Without visual deformation or terminals loosening, Electrical characteristics shall be satisfied with specification 总阻变化值: ±5% 外观无变形, 端子无松动, 电气性能符合规定要求	
3、Resistance to heat 耐热性	The potentiometer shall be stored at a temperature of 70°C±2°C for 120±4H in a thermostatic chamber. Then the potentiometer shall be measured after maintaining at standard atmospheric conditions for 1H, in order to remove surface moisture. 温度 70°C±2°C 恒温槽中 120±4 小时放置后, 置于常温常湿 1 小时除去水滴后测定。	Change in total resistance is relative to the value before test : ±20% 总阻变化值: 初期值的±20%	
4、Resistance to cold 耐寒性	The potentiometer shall be stored at a temperature of -25±3°C for 120±4H 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 1H. 温度 -25±3°C 恒温槽中 120±4 小时放置后, 置于常温常湿 1 小时除去水滴后, 1 小时内测定。	Change in total resistance is relative to the value before test : ±20% 总阻变化值: 初期值的±20%	
5、Damp heat 耐湿性	The potentiometer shall be stored at a temperature of 40±2°C, with relative humidity of 90% to 95% for 96±4H 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 1H. 温度 40±2°C, 湿度 90-95%, 恒温恒湿槽中放置 120±4 小时后,	Change in total resistance is relative to the value before test : +35%, -5% 总阻变化值: 初期值的+35%, -5% Insulation resistance: 20M Ω or more 绝缘阻抗: 20M Ω 以上 Rotational Noise: 150mV p-p less than 转动噪音: 150mV p-p 以下	
6、Change of temperature 温度循环试验	Temperature cycles, each as shown in table below. Surface moisture shall be removed. And measure the potentiometer which shall be subjected to standard atmospheric conditions for 1 hour. 以下条件温度连续 5 个周期的试验后, 置于常温常湿 1 小时, 除去水滴后, 1 小时内测定。		Change in total resistance is relative to the value before test : ±30% 总阻变化值: 初期值的±30% Insulation resistance: 100M Ω or more 绝缘阻抗: ≥100MΩ
		Temperature 温度	Duration 放置时间
	1	-10°C±3°C	30 min (分)
	2	standard atmospheric conditions(常温)	10 min to 15 min(分)
	3	70°C±2°C	30 min (分)
4	standard atmospheric conditions(常温)	10 min to 15 min(分)	Dielectric strength : Without damage to parts arcing or breakdown etc. 耐电压: 无损伤, 变形, 绝缘破坏等情形 Appearance: There shall be no deformation or cracks of molded part. 外观: 塑胶部分无形成破裂



# RK097SERIES GENERAL SPECIFICATION

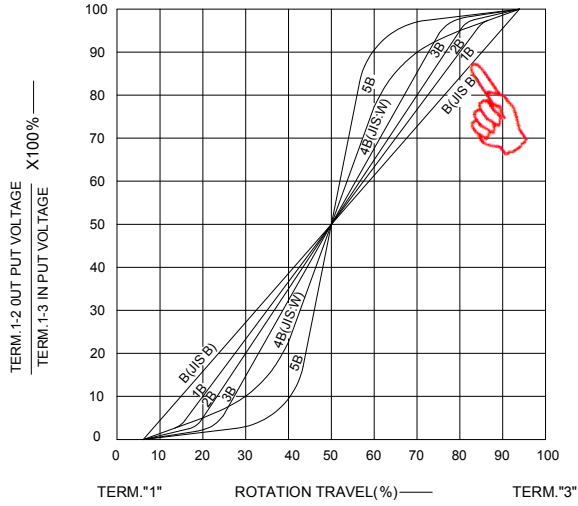
## RK097 系列规格书

4. ENDURANCE CHARACTERISTICS		4. 耐久性能	
Item 项 目	Conditio ns 条 件	Specifications 规 格	
7、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 10,000±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 10,000±200 周.	Variable Value of Total Resistance: specified value±15% 总阻变化值: 规格值范围的±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-S WIT CH TYPE)		开关性能(适用于带开关机种)	
Item 项 目	Conditions 条 件	Specificatio ns 规 格	
1、Switchcontact resistance . 开关接触电阻			≤50m Ω
2、 Switch power rating 开关承受负载			16V DC 1A
3、 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
4、 Dielectricstrength 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
5、 Switch working angle 开关工作角度			50°±5°
6、 Switch working torque 开关工作力矩			200~400gf.cm
7、 Switch Endurance 开关耐久性	10,000 Cycles min		Contact resistance 200mΩ Max, To be operated mechanically. 接触阻抗最大 200m Ω ,
REVISION 变更记事	变更时间	 <b>东莞市凡睿电子科技有限公司</b>	
		DSGD.主办	CHKD.审查
			APPD.核准
		TITLE 标题:	
		POTENTIOMETER 电位器规格书	
		Model.机种:	
		RK097 系列	

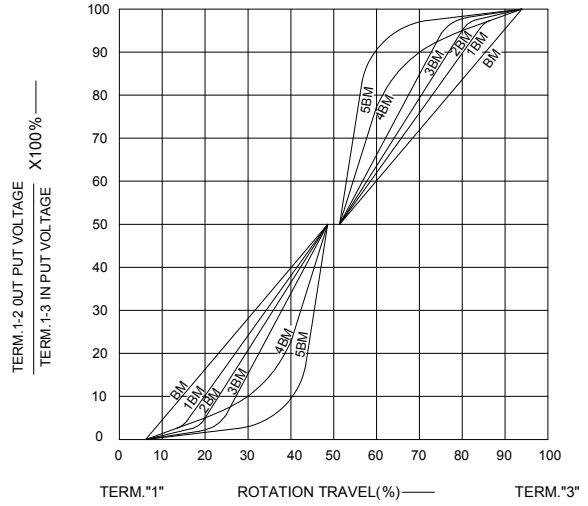
# RK097SERIES GENERAL SPECIFICATION

## 电位器曲线图

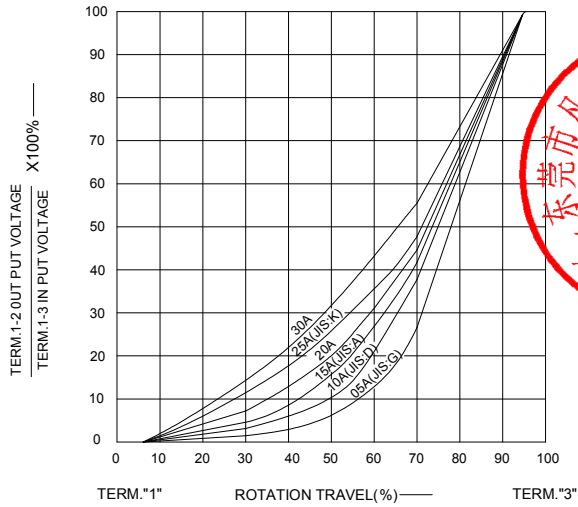
TAPERS B SERIES



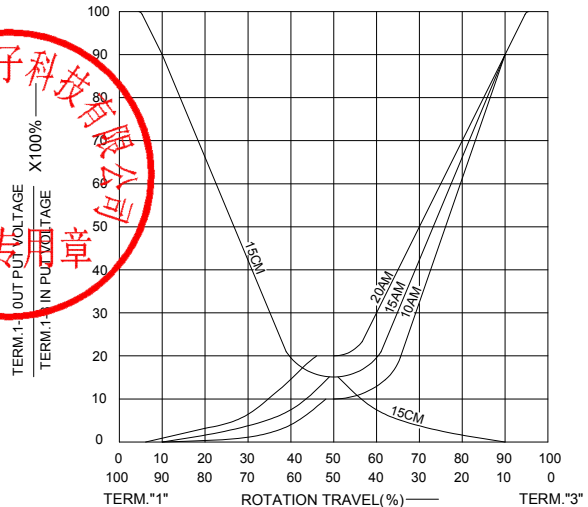
TAPERS B WITH 50% TAP



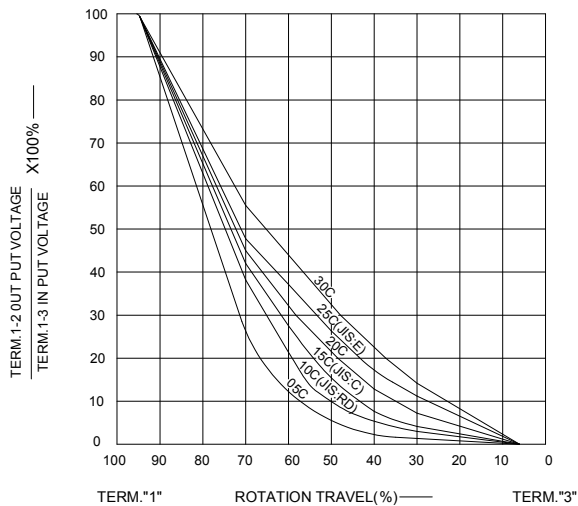
TAPERS A SERIES



TAPERS A & C WITH 50% TAP



TAPERS C SERIES



TAPERS M & N

