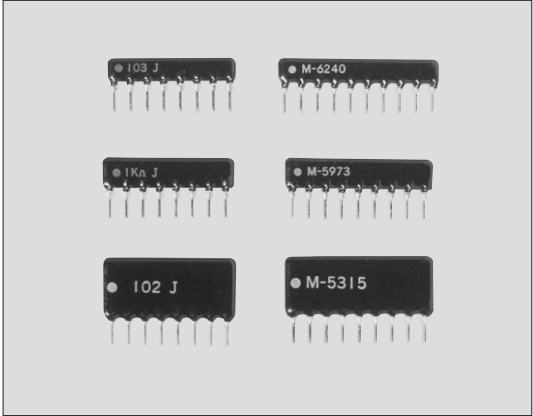
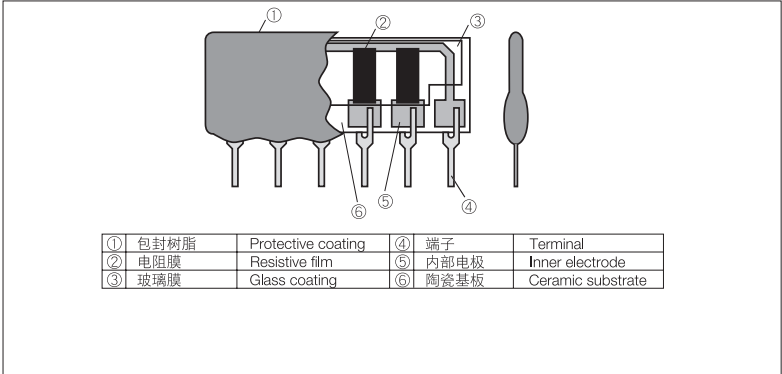


RKL•RKC•RKH 标准厚膜网络电阻器
Standard Thick Film Resistor Networks



■ 结构图 Construction



外观颜色：黑色 Coating color：Black

■ 特点 Features

- 从小型品到大功率品，标准电路繁多（安装高度5.08mm，6.5mm，最大10.7mm）。
- 对应可插入自动机的装箱品（导线端子顶端是三角形切口）、编带品（TBA：全端子，TPA：3端子）。
- 端子无铅品，对应欧盟RoHS。电极、电阻膜层、玻璃中所含铅玻璃，不包含在欧盟RoHS指令中。
- Various types of standard circuits in different sizes and power are available. (Seated height 5.08mm, 6.5mm, 10.7mm Max.)
- For automatic insertion machines, stick magazines (the tip of lead terminal is cut to a V shape) and taping packages (TBA:All leads taping, TPA:3 leads taping) are applicable.
- Products with lead free termination meet EU-RoHS requirements. EU-RoHS regulation is not intended for Pb-glass contained in electrode, resistor element and glass.

■ 品名构成 Type Designation

实例 Example

电路 Circuit	品种 Product Code	元件数 Number of Elements	电路符号 Circuit Symbol	端子表面材质 Terminal Surface Material	二次加工 Taping & Stick	公称电阻值 Nominal Resistance	阻值允许偏差 Resistance Tolerance
A, B, C, D, S	RKL RKC RKH		A, B, C, D, S	D : SnAgCu (L : Sn/Pb)	无符号：散装 Nil: Bulk STP:Stick STB:Stick TPA:Taping (3 leads) TBA:Taping (All leads)	3 digits	F : ±1% G : ±2% J : ±5%
T, E, R	RKL RKC RKH		T, E, R			R1/R2 3 digits/3 digits	※ R电路只有G、J R circuit: G, J only

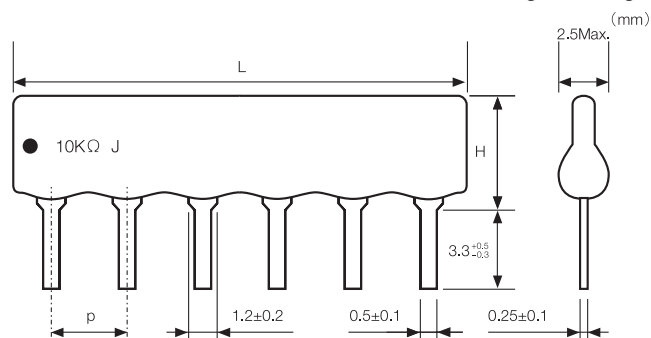
电路 Circuit	品种 Product Code	二进制位数 Number of Bits	电路符号 Circuit Symbol	端子表面材质 Terminal Surface Material	二次加工 Taping & Stick	输出阻抗（L电路） Output Impedance (L circuit) MSB侧电阻值（K电路） Resistance of MSB (K circuit)
L	RKC		L	D : SnAgCu (L : Sn/Pb)	参照上述 See table above	3 digits
K	RKC		K			

容许差：±1/2 LSB Tolerance：±1/2 LSB

定制符号 Custom R. Net Symbol	制造密码 KOA Ref. No.	端子表面材质 Terminal Surface Material
M—	6000	D

端子表面材质，以无铅品为准。
预知关于此产品含有的环境负荷物质详情（除EU-RoHS以外），请与我们联系。
编带细节请参考卷末附录C。
The terminal surface material lead free is standard.
Contact us when you have control request for environmental hazardous material other than the substance specified by EU-RoHS.
For further information on taping, please refer to APPENDIX C on the back pages.

■ 外形尺寸和组件功率 Dimensions and Wattage/Package



■ 重量 Weight (g/1000pcs)

端子数 Number of Pins							
	3	4	5	6	7	8	9
RKL	147	185	228	271	314	357	400
RKC	160	217	273	330	387	444	501
RKH	—	416	511	606	701	796	891

端子数 Number of Pins							
	10	11	12	13	14	15	16
RKL	443	486	529	—	—	—	—
RKC	558	615	672	728	785	842	893
RKH	986	1081	1176	1271	—	—	—

		端子数 Number of Pins														H Max. (mm)	P (mm)
		3	4	5	6	7	8	9	10	11	12	13	14	15	16		
RKL	L	8.20	10.16	12.70	15.24	17.78	20.32	22.86	25.40	27.94	30.48	—	—	—	—	5.08	2.54±0.2
	W	250	375	500	625	750	875	1000	1050	1150	1250	—	—	—	—		
RKC (2.54 pitch)	L	8.2	10.8	13.2	15.8	18.3	20.9	23.4	25.9	28.5	31.0	33.6	36.1	38.7	41.3	6.5	2.54±0.2
	W	250	375	500	625	750	875	1000	1050	1150	1250	1350	1450	1500	1550		
RKH	L	—	10.8	13.3	15.8	18.3	20.9	23.4	25.9	28.5	31.0	33.6	—	—	—	10.7	2.54±0.2
	W	—	525	700	875	1050	1250	1400	1500	1600	1700	1800	—	—	—		
RKC (1.8 pitch)	L	—	10.2	10.8	12.7	15.5	15.8	17.8	20.4	20.9	23.5	25.4	28.5	—	—	6.5	1.8±0.15
	W	—	300	400	500	580	650	720	760	820	850	880	900	—	—		
RKS (2.0 pitch)	L	—	10.1	12.7	12.7	15.3	17.8	20.3	22.8	22.8	25.4	—	—	—	—	5.08	2.0±0.2
	W	—	195	260	325	390	455	520	585	650	715	—	—	—	—		

L: L Dimensions (mm) Max. W: Wattage/Package (mW) Max.

RKC (1.8节距) 和 RKS, 对应定制 RKC(1.8pitch) 和 RKS are custom circuits only.

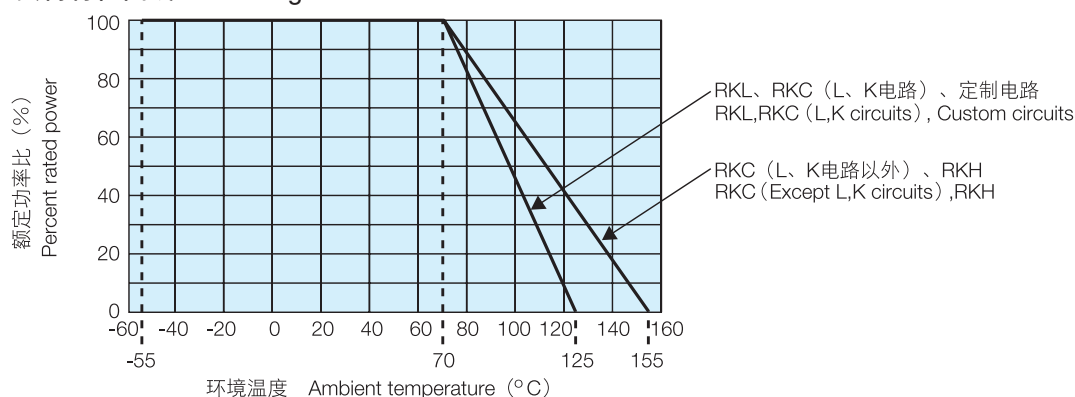
RKC (1.8节距) 的型号在RKC型的电路符号上附加“S” (表示1.8节距)。

The symbol 's' showing 1.8 pitch is added to the type designation after its circuit symbol.

额定电压是 $\sqrt{\text{额定功率} \times \text{公称电阻值}}$ 所算出的值或表中最高使用电压两者中小值为额定电压。

Rated voltage = $\sqrt{\text{Power Rating} \times \text{Resistance value}}$ or Max. working voltage, whichever is lower.

■ 负荷特性曲线 Derating Curve



在环境温度70℃以上使用时, 应按照上图负荷特性曲线, 减小额定功率。

For resistors operated at an ambient temperature of 70°C or above, a power rating shall be derated in accordance with the above derating curve.

■ 使用注意事项 Precautions for Use

- 无铅端子品的波峰焊接条件是260℃以下, 10秒钟以内。
- 在网络电阻中, 很快会发生串音。电流在共用电极中流动时, 由于它的电压下降, 在电流不流动的电阻元件中也会感应起微小的电压, 因此, 应考虑到串音的影响进行电路设计。
- The conditions of flow soldering for lead-free terminal resistors are set up at 260°C max. within 10 sec.
- A few cross talks will happen in network resistors. Design the circuit taking the effect by the cross talks into consideration as very low voltage will occur to the resistor elements that don't pass current by the voltage drop in common electrode if current flows to the common electrodes.

NETWORKS

RKL•RKC•RKH 标准厚膜网络电阻器
Standard Thick Film Resistor Networks

■ 额定值 Ratings

型号 Type	电路 Symbol	端子数 Number of Pins	额定功率 Power Rating	电阻值范围 Resistance Range	电阻值容许差 Resistance Tolerance	电阻温度系数 T.C.R. ($\times 10^{-6}/K$)	最高使用电压 Max. Working Voltage	额定环境温度 Rated Ambient Temp.	使用温度范围 Operating Temp. Range
RKC	B	3~16	125mW	22Ω~2.2MΩ (E24)	F: ±1% G: ±2% J: ±5%	±200	200V	+70℃	-55℃~+155℃
	C	5~13							
	D	5~14							
	A	4~14							
	T	5~13							
	E	5~13							
	S	4~16	250mW						
	R	4~16	125mW	100Ω~100kΩ (E24)	G: ±2% J: ±5%				
	L	6~11	20mW	R= 2.5kΩ, 5kΩ 10 kΩ, 25kΩ 50 kΩ, 100kΩ	±1/2LSB (Bit Error)	±200	20V	+70℃	-55℃~+125℃
	K	5~9	40mW	R1(MSB):100Ω Min Rn(LSB):1MΩ Max	±1/2LSB (Bit Error)				
RKL	B	3~12	125mW	22Ω~1MΩ (E24)	F: ±1% G: ±2% J: ±5%	±200	100V	+70℃	-55℃~+125℃
	C	5~11							
	D	5~12							
	A	3~12							
	T	5~11							
	E	5~11							
	S	4~12	200mW						
	R	4~11	125mW	100Ω~100kΩ (E24)	G: ±2% J: ±5%				
RKH	B	4~13	250mW	56Ω~2.2MΩ (E24)	F: ±1% G: ±2% J: ±5%	±200	250V	+70℃	-55℃~+155℃
	C	5~13							
	D	5~12							
	A	4~12							
	T	5~13							
	E	5~13							
	S	4~12	500mW						
	R	5~11	250mW	100Ω~100kΩ (E24)	G: ±2% J: ±5%				
M-	RKL	3~12	0.1W 0.125W 0.25W 0.5W 1W	10Ω~1MΩ	±0.5% ±1% ±2% ±5%	±100 ±150 ±200	100V	+70℃	-55℃~+125℃
	RKC (1.8pitch)	4~14					50V		
	RKC (2.54pitch)	3~16					200V		
	RKH	4~13					250V		
	RKS (2.0pitch)	4~12					100V		

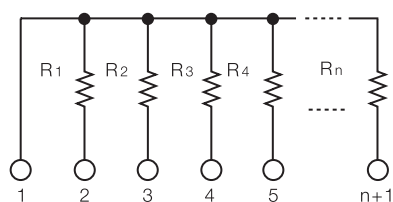
■ 性能 Performance

试验项目 Test Items	标准值 Performance Requirements $\Delta R \pm (\% + 0.05 \Omega)$		试验方法 Test Methods
	保证值 Limit	代表值 Typical	
电阻值 Resistance	在规定的允许偏差内 Within specified tolerance	-	25℃
电阻温度系数 T.C.R.	在规定的值以内 Within specified T.C.R.	-	+25℃/-55℃ and +25℃/+125℃ (RKL) +25℃/-55℃ and +25℃/+155℃ (RKC, RKH)
过载 (短时间) Overload (Short time)	0.5	0.25	额定电压×2.5倍施加5秒钟 Rated voltage ×2.5 for 5s
耐焊接热 Resistance to soldering heat	0.5	0.25	260℃±5℃, 10s±1s
温度突变 Temperature cycling	0.5	0.25	-40℃ (30min.) /+85℃ (30min.) 5 cycles
耐湿负荷 Moisture resistance	2	1	40℃±2℃, 90%~95%RH, 1000h 1.5小时ON、0.5小时OFF的周期 1.5h ON/0.5h OFF cycle
在70℃时的耐久性 Endurance at 70℃	2	1	70℃±2℃, 1000h 1.5小时ON、0.5小时OFF的周期 1.5h ON/0.5h OFF cycle

本样本手册中记载的产品规格如有变更，恕不一一奉告。订购以及使用之前，请仔细确认规格表的内容。
用于车载设备、医疗设备、航空设备以及其它涉及人身安全、或可能引起重大损失的设备上时，请务必事先与我公司联系。这些产品在这类用途中出现故障或失灵可能导致人身事故或严重损坏。
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Contact our sales representatives before you use our products for applications including automobiles, medical equipment and aerospace equipment.
Malfunction or failure of the products in such applications may cause loss of human life or serious damage.

■ 电路图 Circuit Schematics

B circuit



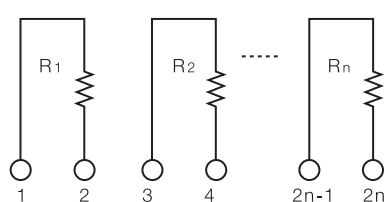
$$R1 = R2 = R3 = R4 = \dots = Rn$$

n: 元件数 number of elements

实例 example

RKC8B 103 J
RKL8B 472 J
RKH8B 332 J

S circuit



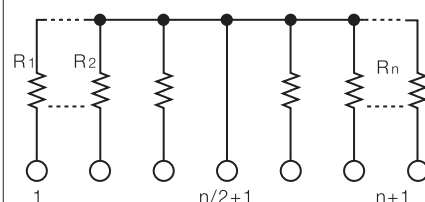
$$R1 = R2 = \dots = Rn$$

n: 元件数 number of elements

实例 example

RKC4S 103 J
RKL4S 472 J
RKH4S 332 J

C circuit



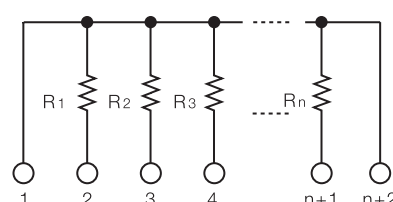
$$R1 = R2 = \dots = Rn$$

n: 元件数 number of elements

实例 example

RKC8C 103 J
RKL8C 472 J
RKH8C 332 J

D circuit



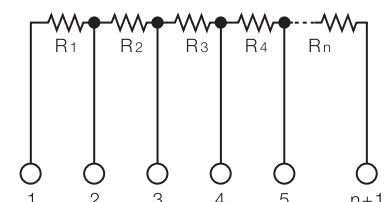
$$R1 = R2 = R3 = \dots = Rn$$

n: 元件数 number of elements

实例 example

RKC8D 103 J
RKL8D 472 J
RKH8D 332 J

A circuit



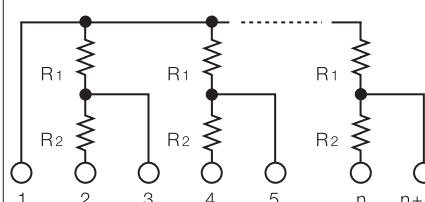
$$R1 = R2 = R3 = R4 = \dots = Rn$$

n: 元件数 number of elements

实例 example

RKC8A 103 J
RKL8A 472 J
RKH8A 332 J

T circuit



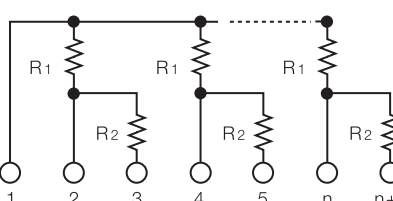
$$R1 = R2 \text{ or } R1 \neq R2$$

n: 元件数 number of elements

实例 example

RKC8T 103/103 J
RKL8T 103/103 J
RKH8T 103/103 J

E circuit



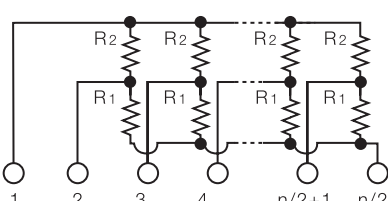
$$R1 = R2 \text{ or } R1 \neq R2$$

n: 元件数 number of elements

实例 example

RKC8E 103/103 J
RKL8E 103/103 J
RKH8E 103/103 J

R circuit



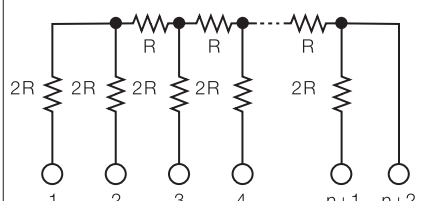
$$R1 = R2 \text{ or } R1 \neq R2$$

n: 元件数 number of elements

实例 example

RKC16R 331/471 J
RKL16R 331/471 J
RKH16R 331/471 J

L circuit

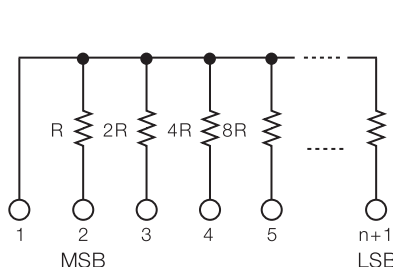


$$n: \text{二进制位数 number of bits}$$

实例 example

RKC5L 253

K circuit

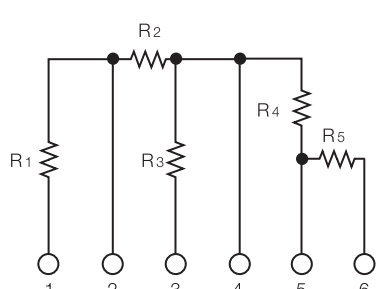


$$n: \text{二进制位数 number of bits}$$

实例 example

RKC4K 102

定制电路实例 Example of custom circuit



定制电路实例 Example of custom circuit

