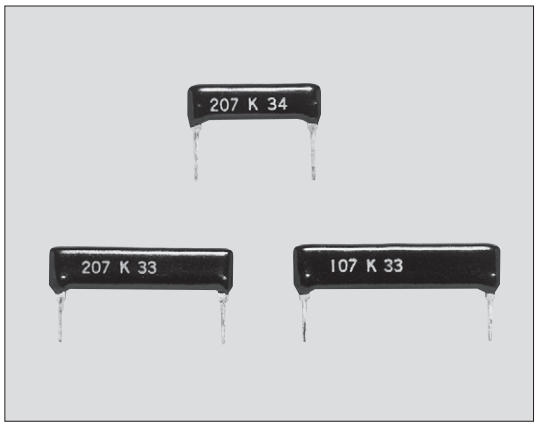
# HIGH RESISTANCE

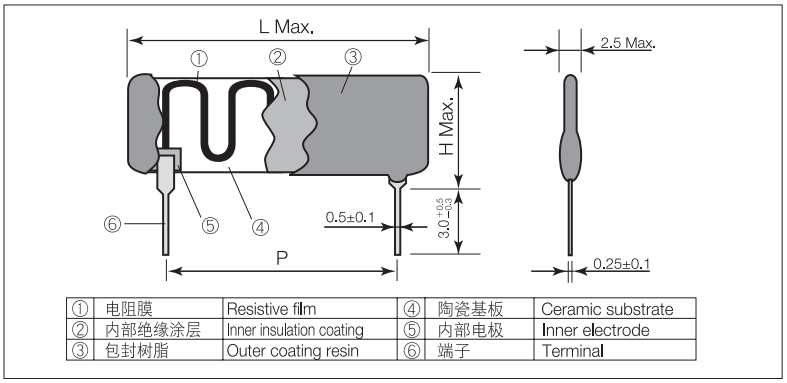
EU RoHS

## RK92 高压厚膜电阻器
**Thick Film Resistors For High Voltage**




外观颜色：黑色　Coating color：Black

### ■ 结构图　Construction




| | | | | | |
|---|---|---|---|---|---|
| ① | 电阻膜 | Resistive film | ④ | 陶瓷基板 | Ceramic substrate |
| ② | 内部绝缘涂层 | Inner insulation coating | ⑤ | 内部电极 | Inner electrode |
| ③ | 包封树脂 | Outer coating resin | ⑥ | 端子 | Terminal |

### ■ 特点　Features

- 是高电压电路用的高电阻值产品。
- 是薄型的SIP形状。
- 使用了相当于UL94V-0的难燃性涂料。
- 由于使用了厚膜电阻（$RuO_2$系），因此对寿命•长期变化十分稳定。
- 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。
- High resistance resistors for high voltage circuits.
- Thin SIP shape.
- The flame retardant coats corresponding to UL94V-0 are used.
- Thick film resistors ($RuO_2$) ensure high stabilities in life and change in aging.
- 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.

### ■ 用途　Applications

| | |
|---|---|
| ● 复印机 | PPCs |
| ● LBP | LBPs |
| ● 空调 | Air conditioners |
| ● 高频加热器 | Microwave ovens |
| ● 回扫变压器等高电压电路 | High voltage circuits for fly-back transformers, etc. |

### ■ 参考标准　Reference Standards

IEC 60115-1
JIS C 5201-1

### ■ 外形尺寸　Dimensions

| 型号 Type | 尺寸 Dimensions（mm） | | | Weight (g) (1000pcs) |
|---|---|---|---|---|
| | L Max. | H Max. | P±0.2 | |
| 4L | 12.7 | 5.08 | 10.16 | 196 |
| 5L | 15.3 | | 12.7 | 227 |
| 6L | 17.8 | | 15.24 | 258 |
| 3C | 10.8 | 6.5 | 7.62 | 194 |
| 5C | 15.8 | | 12.7 | 286 |
| 7C | 20.9 | | 17.78 | 377 |
| 8C | 23.5 | | 20.32 | 422 |
| 9C | 26.0 | | 22.86 | 468 |

### ■ 品名构成　Type Designation

实例　Example

RK92 – 5L – D – 107 – J

| RK92 | 5L | D | 107 | J |
|---|---|---|---|---|
| 品种 Product Code | 形状 Style | 端子表面材质 Terminal Surface Material | 公称电阻值 Nominal Resistance | 阻值允许偏差 Resistance Tolerance |
| | 4L<br>5L<br>6L<br>3C<br>5C<br>7C<br>8C<br>9C | D：SnAgCu<br>（L：Sn/Pb） | F：4 digits<br>G,J,K,M：3 digits | F：±1%<br>G：±2%<br>J：±5%<br>K：± 10%<br>M：± 20% |

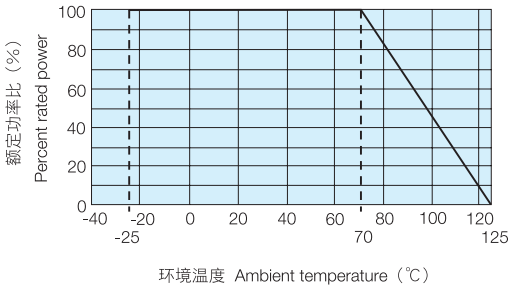
预知关于此产品含有的环境负荷物质详情（除EU-RoHS以外），请与我们联系。
端子表面材质，以无铅品为准。
Contact us when you have control request for environmental hazardous material other than the substance specified by EU-RoHS.
The terminal surface material lead free is standard.

### ■ 额定值　Ratings

| 型　号 Type | 额定功率 Power Rating | 电阻值范围 Resistance Range（Ω） | | | | | 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 |
|---|---|---|---|---|---|---|---|---|---|---|
| | | F：±1% | G：±2% | J：±5% | K：±10% | M：±20% | | | | |
| 4L | 0.5W | 2M～10M | 2M～10M | – | – | – | ±300 | 1kV | +70℃ | −25℃～+125℃ |
| 5L | 0.5W | 1M～500M | 1M～500M | 1M～1G | 1M～1G | 1M～1G | | 10kV | | |
| 6L | 0.6W | 1M～500M | 1M～500M | 1M～1G | 1M～1G | 1M～1G | | | | |
| 3C | 0.5W | 1M～500M | 1M～500M | 1M～1G | 1M～1G | 1M～1G | | 7kV | | |
| 5C | 0.75W | 1M～500M | 1M～500M | 1M～1G | 1M～1G | 1M～1G | | | | |
| 7C | 0.85W | 1M～500M | 1M～500M | 1M～1G | 1M～1G | 1M～1G | | 10kV | | |
| 8C | 1.0W | 1M～500M | 1M～500M | 1M～1G | 1M～1G | 1M～1G | | | | |
| 9C | 1.1W | 1M～500M | 1M～500M | 1M～1G | 1M～1G | 1M～1G | | | | |

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的值为额定电压。
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 70ºC or above, a power rating shall be derated in accordance with the above derating curve.

## ■ 性能　Performance

| 试验项目<br>Test Items | 标准值　Performance Requirements<br>ΔR±（%+0.05 Ω） | | 试验方法<br>Test Methods |
|---|---|---|---|
| | 保证值　Limit | 代表值　Limit | |
| 电阻值<br>Resistance | 在规定的允许偏差内<br>Within specified tolerance | – | +25℃ |
| 电阻温度系数<br>T.C.R. | 在规定值以内<br>Within specified T.C.R. | – | 室温/100℃<br>Room temperature+100℃ |
| 耐焊接热<br>Resistance to soldering heat | 1 | 0.5 | 260℃±5℃, 10s±1s |
| 温度突变<br>Temperature cycling | 1 | 0.5 | −25℃（30min.）/+125℃（30min.）5 cycles |
| 耐湿负荷<br>Moisture resistance | 5 | 3 | 40℃±2℃, 90%～95%RH, 1000h |
| 耐久性<br>Endurance | 5 | 3 | 室温　Room temperature　1000h<br>额定电压　Rated voltage |

## ■ 使用注意事项　Precautions for Use

- 无铅端子品的波峰焊接条件是260℃，最大10秒以内。
- The conditions for lead-free terminal resistors are set up at 260℃Max. within 10 sec.