# High Precision Resistors

## Precision Metal-Film Resistors for Low-Cost Uses

### Preview

The RJ Series Precision Metal Film Resistors are manufactured using vacuum sputtering system to deposit multiple layers of mixed metals and passivative materials onto a carefully treated high grade ceramic substrate, the resistors are coated with layers of blue lacquer.

The metal-film technology is capable of supporting accuracy characteristics over a broad resistance range. Types include axial through-hole and metal film fusible resistor for special purpose.

The RJ Metal Film Resistors is designed as a low-cost alternative to traditional solutions for precision applications.

RJ Series equate Vishay, IRC, EBG, Panasonic Precision Devices with more competitive price and fast delivery. Contact us with your specific needs.

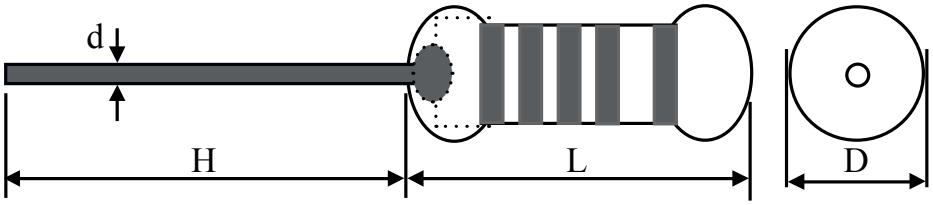
**Features :**

- High thermal conductivity and specific gravity rods.
- Power Rating : 0.16W~3W, precision tolerance tight to A5(±0.05).
- Superior electrical TCR performances narrowed to C7(±5) ppm/°C.
- Epoxy coating, precision metal film, Lead (Pb)-free and RoHS compliant.

**Applications :**

- Telecom, Measuring and Calibration Equipment, Industrial Process Control Systems, Audio, Vedio

## Quick Reference Data




| Type | | RJ72 | RJ73 | RJ74 | RJ16 | RJ17 | RJ18 |
|---|---|---|---|---|---|---|---|
| MIL-R-10509F type | | RN50 | RN55 | RN60 | RN65 | RN70 | RN75 |
| Resistance range (Ω) | | 0.1 ~ 22M | | | | | |
| Resistance tolerance (%) | | A5 ( ±0.05 ), B ( ±0.10 ), C ( ±0.25 ), D ( ±0.5 ), F ( ±1), J ( ±5.0) | | | | | |
| Temperature coefficient (ppm/°C) | | C7 ( ±5 ), C6 ( ±10 ), C5 ( ±15 ), C3 ( ±25 ), C2 ( ±50 ), C1 ( ±100 ) | | | | | |
| Climatic category (LCT/UCT/days) | | 55 / 125 / 56 | | | | | |
| Rated dissipation (W) *P70* | | 0.16 | 0.25 | 0.50 | 1.0 | 2.0 | 3.0 |
| Operating voltage (V) *Umax* | | 200 | 250 | 300 | 350 | 450 | 500 |
| Short time over load voltage (V) *Umax* | | 400 | 500 | 600 | 700 | 900 | 1000 |
| Operating Temperature range | | -55°C to 125°C | | | | | |
| Insulation voltage | | >500V | | | | | |
| Insulation resistance | | >1GΩ | | | | | |
| Dimensions (mm) | L (Max.) | 3.8 | 6 | 10 | 12 | 16 | 26 |
| | D (Max.) | 2.0 | 2.5 | 3.5 | 4.5 | 5.5 | 8.6 |
| | d ± 0.1 | 0.45 | 0.5 | 0.6 | 0.7 | 0.8 | 0.8 |
| | H ± 2 | 24 | 24 | 26 | 26 | 26 | 26 |

| Type | | RJ73S | RJ74S | RJ16M | RJ16S | RJ17M | RJ17S | RJ18M | RJ18S |
|---|---|---|---|---|---|---|---|---|---|
| MIL-R-10509F type | | RN50 | RN55 | RN60 | RN60 | RN65 | RN65 | RN70 | RN70 |
| Resistance range (Ω) | | 0.1 ~ 22M | | | | | | | |
| Resistance tolerance (%) | | A5 ( ±0.05 ), B ( ±0.10 ), C ( ±0.25 ), D ( ±0.50 ), F ( ±1.0 ), J ( ±5.0 ) | | | | | | | |
| Temperature coefficient (ppm/°C) | | C7 ( ±5 ), C6 ( ±10 ), C5 ( ±15 ), C3 ( ±25 ), C2 ( ±50 ), C1 ( ±100 ) | | | | | | | |
| Climatic category (LCT/UCT/days) | | 55 / 125 / 56 | | | | | | | |
| Rated dissipation (W) P70 | | 0.25 | 0.50 | 1.00 | 1.00 | 2.00 | 2.00 | 3.00 | 3.00 |
| Operating voltage (V) Umax | | 250 | 300 | 350 | 350 | 400 | 400 | 450 | 450 |
| Short time over load voltage (V) Umax | | 500 | 600 | 700 | 700 | 800 | 800 | 900 | 900 |
| Operating Temperature range | | -55°C to 125°C | | | | | | | |
| Insulation voltage | | >500V | | | | | | | |
| Insulation resistance | | >1GΩ | | | | | | | |
| Dimensions (mm) | L (Max.) | 3.8 | 6.0 | 6.3 | 10 | 10 | 12 | 12 | 16 |
| | D (Max.) | 2.00 | 2.54 | 2.54 | 3.50 | 3.50 | 4.50 | 4.50 | 5.50 |
| | d ± 0.1 | 0.5 | 0.6 | 0.6 | 0.6 | 0.7 | 0.8 | 0.8 | 0.8 |
| | H ± 2 | 24 | 24 | 24 | 26 | 26 | 26 | 26 | 26 |

Notice : Resistance out of range, tolerance and temperature coefficient match are under request.

## How to Order

| RJ16 | 22R | B | C6 | P |
|---|---|---|---|---|
| ❶ | ❷ | ❸ | ❹ | ❺ |

❶ Part Number: RJ72
RJ73
RJ74
RJ73S
RJ74S
RJ16M

❷ Rated Power (W)

| Code | Resistance Tolerance (%) |
|---|---|
| 22R | 22Ω |
| 220R | 220Ω |
| 2K2 | 2.2KΩ |
| 22K | 22KΩ |
| 2M2 | 2.2MΩ |
| 22M | 22MΩ |

❸ Resistance Tolerance (%)

| Code | Resistance Tolerance (%) |
|---|---|
| A5 | ±0.05 |
| B | ±0.10 |
| C | ±0.25 |
| D | ±0.5% |
| F | ±1.00 |
| J | ±5.00 |

❹ Temperature Coefficient (ppm/°C)

| Code | Temperature Coefficient (ppm/°C) |
|---|---|
| C7 | ±5 |
| C6 | ±10 |
| C5 | ±15 |
| C3 | ±25 |
| C2 | ±50 |
| C1 | ±100 |

❺ Packaging

| Code | Packaging |
|---|---|
| P | Bulk |
| TB | Taping Box |

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