

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/ $^{\circ}$ C.
- Epoxy coating, precision metal film, Lead (Pb)-free and RoHS compliant.

Applications :

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

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/ $^{\circ}$ C) | C7 (± 5), C6 (± 10), C5 (± 15), C3 (± 25), C2 (± 50), C1 (± 100) | | | | | | |
| Climatic category (LCT/UCT/days) | 55 / 125 / 56 | | | | | | |
| Rated dissipation (W) <i>P70</i> | 0.16 | 0.25 | 0.50 | 1.0 | 2.0 | 3.0 | |
| Operating voltage (V) <i>Umax</i> | 200 | 250 | 300 | 350 | 450 | 500 | |
| Short time over load voltage (V) <i>Umax</i> | 400 | 500 | 600 | 700 | 900 | 1000 | |
| Operating Temperature range | -55 $^{\circ}$ C to 125 $^{\circ}$ C | | | | | | |
| Insulation voltage | >500V | | | | | | |
| Insulation resistance | >1G Ω | | | | | | |
| 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/ $^{\circ}$ C) | C7 (± 5), C6 (± 10), C5 (± 15), C3 (± 25), C2 (± 50), C1 (± 100) | | | | | | | | |
| Climatic category (LCT/UCT/days) | 55 / 125 / 56 | | | | | | | | |
| Rated dissipation (W) <i>P70</i> | 0.25 | 0.50 | 1.00 | 1.00 | 2.00 | 2.00 | 3.00 | 3.00 | |
| Operating voltage (V) <i>Umax</i> | 250 | 300 | 350 | 350 | 400 | 400 | 450 | 450 | |
| Short time over load voltage (V) <i>Umax</i> | 500 | 600 | 700 | 700 | 800 | 800 | 900 | 900 | |
| Operating Temperature range | -55 $^{\circ}$ C to 125 $^{\circ}$ C | | | | | | | | |
| Insulation voltage | >500V | | | | | | | | |
| Insulation resistance | >1G Ω | | | | | | | | |
| 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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