

# 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( $\pm 0.05$ ).
- Superior electrical TCR performances narrowed to C7( $\pm 5$ ) 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 ( $\Omega$ )	0.1 ~ 22M						
Resistance tolerance (%)	A5 ( $\pm 0.05$ ), B ( $\pm 0.10$ ), C ( $\pm 0.25$ ), D ( $\pm 0.5$ ), F ( $\pm 1$ ), J ( $\pm 5.0$ )						
Temperature coefficient (ppm/ $^{\circ}$ C)	C7 ( $\pm 5$ ), C6 ( $\pm 10$ ), C5 ( $\pm 15$ ), C3 ( $\pm 25$ ), C2 ( $\pm 50$ ), C1 ( $\pm 100$ )						
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 $\Omega$						
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 $\pm 0.1$	0.45	0.5	0.6	0.7	0.8	0.8
	H $\pm 2$	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 ( $\Omega$ )	0.1 ~ 22M								
Resistance tolerance (%)	A5 ( $\pm 0.05$ ), B ( $\pm 0.10$ ), C ( $\pm 0.25$ ), D ( $\pm 0.50$ ), F ( $\pm 1.0$ ), J ( $\pm 5.0$ )								
Temperature coefficient (ppm/ $^{\circ}$ C)	C7 ( $\pm 5$ ), C6 ( $\pm 10$ ), C5 ( $\pm 15$ ), C3 ( $\pm 25$ ), C2 ( $\pm 50$ ), C1 ( $\pm 100$ )								
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 $\Omega$								
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 $\pm 0.1$	0.5	0.6	0.6	0.6	0.7	0.8	0.8	0.8
	H $\pm 2$	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

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❷
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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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