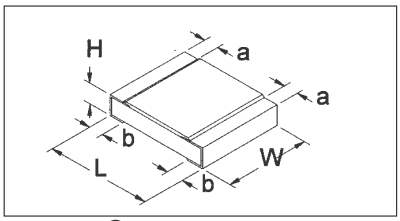
Thin Film Chip Resistors



FEATURES

- Surface Mount Devices (SMD)
- Precision Tolerances of ±0.5% to ±0.1%
- Temperature Coefficients of ±50ppm/°C and ±25ppm°C
- Precision Performance
- Space Saving Construction

PERFORMANCE CHARACTERISTICS (Tested per Mil-STD-202)

Dimensions in mm

Electrical (Operating Temperature Range -55°C to +155°C)

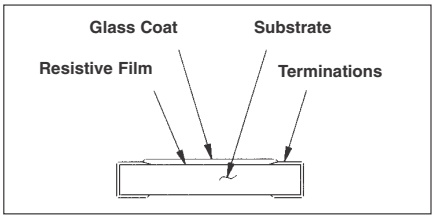
TYPE	Packaging Size	Power Rating (Watts)	Max. Working Voltage	Max. Overload Voltage	Resistance Temp. Coefficient	Resistance Range	Tolerance[1]
RN10	0805	1/10 @ 70°C	50V	100V	±50ppm/°C ±25ppm/°C	10Ohm - 1M 100Ohm - 100K	D = ±0.5% C=±0.25%, B=±0.1%
RN12	1206	1/8@ 70°C	100V	200V	±50ppm/°C ±25ppm/°C	10Ohm - 1M 49.9Ohm - 1M	D = ±0.5% C=±0.25%, B=±0.1%

ENVIRONMENTAL

	Specification	Typical	Test Method
Moisture Resistance, Thermal Shock	±(0.25%+0.05Ω)	≤0.1%	JIS C 5202 7.4
Load Life	±(0.5%+0.05Ω)	≤0.2%	JIS C 5202 7.10
Load Life in Moisture	±(0.5%+0.05Ω)	≤0.25%	JIS C 5202 7.9
Resistance to Soldering Heat	±(0.25%+0.05Ω)	≤0.05%	JIS C 5202 6.4, 260±5°C, 10 sec.
Solderability	min. 95% coverage	≥95%	JIS C 5202 6.5
Terminal Strength	±(0.2%+0.05Ω)	≤0.05%	EIAJ RC-2609A 6.6
Dielectric Withstanding Voltage	±(0.25%+0.05Ω)	≤0.05%	EIAJ RC-2609A 6.5 Test Voltage: 10@ 150VAC, RN12 @ 300VAC
Short Time Overload	±(0.25%+0.05Ω)	≤0.05%	JIS C 5202 7.4
Insulation Resistance	1,000 meg minimum	≥1,000 meg	EIAJ RC-2609A 6.36

MATERIALS

Feature	Material	Remarks (Reference Only)
Substrate	Alumina Porcelain	Purity 96% min.
Resistive Film	Nickel-Chromium Film	20 Microns Thick
Coating	Boro-Silicated Acid Lead Glass	20 Microns Thick
Terminations	90/10 Tin-Lead (Electrical Plated) over	3 Microns Thick
	Nickel (Electrical Plated) over	3 Microns Thick
	AG-PD (Silver-Palladium [Glaze Printed])	8 Microns Thick



Dimensions in mm

Feature	RN10	RN12
L - Body Length	.078±.008 (2.00±0.20)	.122±.004 (3.10±0.10)
W - Body Width	.049±.008 (1.25±0.20)	.061±.004 (1.55±0.10)
H - Body Height	.018±.004 (0.45±0.10)	.021+.004/-.002 (0.55+0.10/-0.05)
a - Top Termination	.016±.008 (0.40±0.20)	.018±.008 (0.45±0.20)
b - Bottom Termination	.012±.008/-.004 (0.30+0.20/-0.10)	.012+.008/-.004 (0.30+0.20/-0.10)

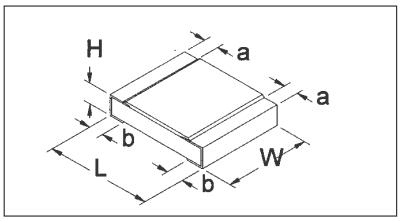
Notes: 1. Embossed taping available on RN12 only.

Ordering Information

Example: 0805 1/10 watt .1% 1k

RN — Thin Film
10 — Wattage
B — Tolerance *Note (B = .1%, C = .25%, D = .50%)
1001 — Resistance
CT — Packaging (Tape & Reel)

Thin Film Chip Resistors



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PERFORMANCE CHARACTERISTICS (Tested per Mil-STD-202)

Electrical (Operating Temperature Range -55°C to +155°C)

Dimensions in mm

TYPE	Packaging Size	Power Rating (Watts)	Max. Working Voltage	Max. Overload Voltage	Resistance Temp. Coefficient	Resistance Range	Tolerance[1]
RN04	0402	1/16 @ 70°C	25V	50V	±50ppm/°C ±25ppm/°C	10Ω - 97.6K 100Ω - 100K	D = ±0.5% C=±0.25%, B=±0.1%
RN06	0603	1/16 @ 70°C	50V	100V	±50ppm/°C ±25ppm/°C	10Ω - 97.6K 49.9Ω - 360K	D = ±0.5% C=±0.25%, B=±0.1%

ENVIRONMENTAL

	Specification	Typical	Test Method
Moisture Resistance, Thermal Shock	±(0.25%+0.05Ω)	≤0.1%	JIS C 5202 7.4
Load Life	±(0.5%+0.05Ω)	≤0.2%	JIS C 5202 7.10
Load Life in Moisture	±(0.5%+0.05Ω)	≤0.25%	JIS C 5202 7.9
Resistance to Soldering Heat	±(0.25%+0.05Ω)	≤0.05%	JIS C 5202 6.4, 260±5°C, 10 sec.
Solderability	min. 95% coverage	≥95%	JIS C 5202 6.5
Terminal Strength	±(0.2%+0.05Ω)	≤0.05%	EIAJ RC-2609A 6.6
Dielectric Withstanding Voltage	±(0.25%+0.05Ω)	≤0.05%	EIAJ RC-2609A 6.5 Test Voltage: 10@ 150VAC, RN12 @ 300VAC
Short Time Overload	±(0.25%+0.05Ω)	≤0.05%	JIS C 5202 7.4
Insulation Resistance	1,000 meg minimum	≥1,000 meg	EIAJ RC-2609A 6.36

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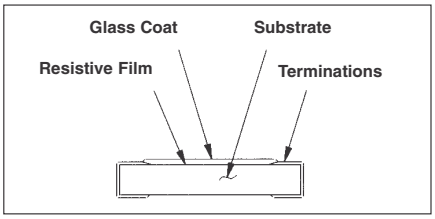

Dimensions in mm

Feature	RN04	RN06
L - Body Length	1.00±0.05	1.60±0.20
W - Body Width	0.50±0.05	0.80±0.20
H - Body Height	0.35±0.05	0.40+-0.10
a - Top Termination	0.20±0.10	0.30±0.20
b - Bottom Termination	0.20±0.10	0.30+-0.20

Notes: 1. Embossed taping available on RN12 only.

Ordering Information

Example: 0805 1/10 watt .1% 1k

RN | 10 | B | 1001 | CT

- RN — Thin Film
- 10 — Wattage
- B — Tolerance *Note
  - B = .1%
  - C = .25%
  - D = .50%
- 1001 — Resistance
- CT — Packaging (Tape & Reel)