

RN

•Features

1. The RN series are formed by depositing Ni-Cr base metal on a ceramic body by sputtering or vacuum deposit on techniques. The resistor is protected by several protective coatings to give excellent resistance to heat and moisture.
2. Extremely stable device, with long life and durability.
3. RN1/6 and RN1/4S are suitable for high density applications.
4. Stability Class : 2%



•Dimensions

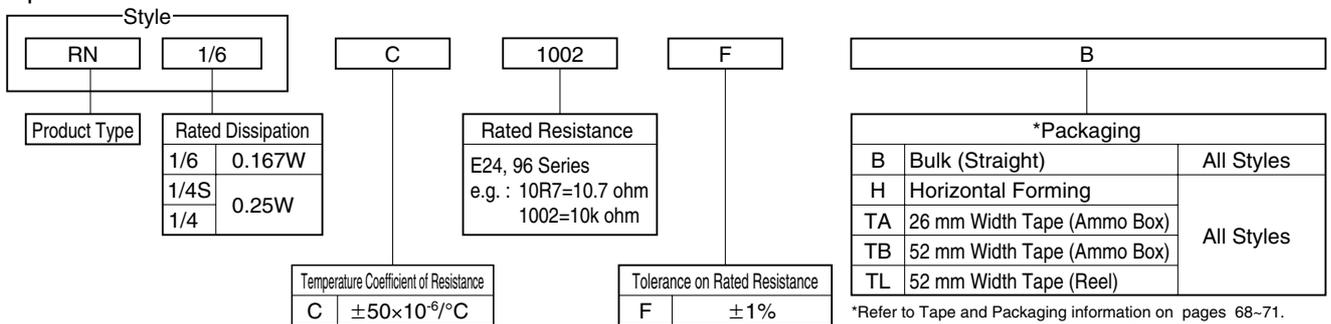
Style	L	D	H	d	*Unit weight/pc.
RN1/6	3.2±0.2	1.8±0.1	30±3	0.43±0.03	105mg
RN1/4S					
RN1/4	6.5±0.5	2.3±0.2	30±3	0.6 ±0.05	212mg

Unit : mm

• Color coding uses 5 bands. *Values for reference

•Part Number Description

Example



FIXED METAL FILM RESISTORS

RN

●Ratings

Style	Rated Dissipation at 70°C W	Limiting Element Voltage V	Temperature Coefficient of Resistance 10 ³ /°C	Rated Resistance Range	Tolerance on Rated Resistance	Preferred Number Series for Resistors	Isolation Voltage V	Category Temperature Range °C
RN1/6	0.167	200	± 50	10 ohm-1M ohm	F(±1%)	E96 E24	300	-55~+155
RN1/4S	0.25	250						
RN1/4							500	

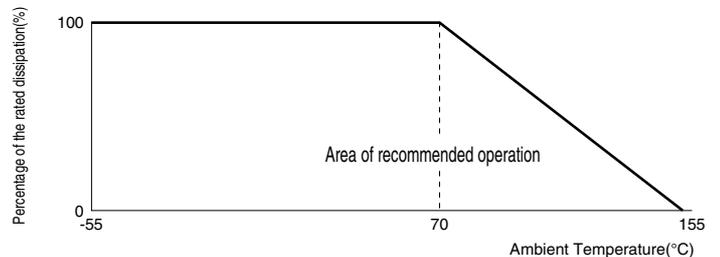
Note1. Rated Voltage = $\sqrt{(\text{Rated Dissipation}) \times (\text{Rated Resistance})}$. (d.c. or a.c. r.m.s. Voltage)

Note2. Limiting Element Voltage can only be applied to resistors when the resistance value is equal to or higher than the critical resistance value.

Note3. Critical Resistance Value is the resistance value at which the rated voltage is equal to the limiting element voltage.

●Derating Curve

The derated values of dissipation for temperatures in excess of 70°C shall be indicated by the following Curve.



●Climatic Category

55/155/56

Lower Category Temperature	-55°C
Upper Category Temperature	+155°C
Duration of the Damp heat, Steady-State Test	56 days

●Performance Characteristics JIS C 5201-1 : 1998

Description	Requirements	Test Methods
Voltage proof	No breakdown or flashover	Clause 4.7 V-block method RN1/6, 1/4S 300Va.c.,60s RN1/4 500Va.c.,60s
Variation of resistance with temperature	See Ratings Table	Clause 4.8 Measuring temperature : +20°C/-55°C/ +20°C/+155°C/+20°C
Overload	$\Delta R_{\leq \pm}(0.5\%+0.05 \text{ ohm})$ No visible damage, legible marking	Clause 4.13 The applied voltage shall be 2.5 times of the rated voltage or twice the limiting element voltage, whichever is the less severe, 5s.
Robustness of terminations	Tensile $\Delta R_{\leq \pm}(0.5\%+0.05 \text{ ohm})$ No visible damage	Clause 4.16.2 RN1/6, 1/4S :5N for 5~10s RN1/4 :10N for 5~10s
	Bending $\Delta R_{\leq \pm}(0.5\%+0.05 \text{ ohm})$ No visible damage	Clause 4.16.3 RN1/6, 1/4S :2.5N twice RN1/4 :5N twice
	Torsion $\Delta R_{\leq \pm}(0.5\%+0.05 \text{ ohm})$ No visible damage	Clause 4.16.4 180°C, 2 rotation
Solderability	In accordance with Clause 4.17.4.5	Clause 4.17 235°C, 2s
Resistance to soldering heat	$\Delta R_{\leq \pm}(0.5\%+0.05 \text{ ohm})$ No visible damage, legible marking	Clause 4.18 After immersion into the flux, the immersion into solder shall be carried out in Solder bath at 350°C for 3.5s.
Rapid change of temperature	$\Delta R_{\leq \pm}(0.5\%+0.05 \text{ ohm})$ No visible damage	Clause 4.19 5 cycles between -55°C and +155°C.
Climatic sequence	$\Delta R_{\leq \pm}(2\% \pm 0.1 \text{ ohm})$ Insulation resistance : $R_{\geq 100M} \text{ ohm}$ No visible damage	Clause 4.23 Dry/Damp heat(12+12h cycle), first cycle./ Cold/Damp heat(12+12h cycle), remaining cycle./ D.C.Load.
Damp test, steady state	$\Delta R_{\leq \pm}(2\% \pm 0.1 \text{ ohm})$ Insulation resistance : $R_{\geq 100M} \text{ ohm}$ No visible damage, legible marking	Clause 4.24 40°C, 95%R.H., 56 days, test a),b) and c) of Clause 4.24.2.1
Endurance at 70°C	$\Delta R_{\leq \pm}(2\% \pm 0.1 \text{ ohm})$ No visible damage Insulation resistance : $R_{\geq 1G} \text{ ohm}$	Clause 4.25.1 Rated voltage, 1.5h "ON", 0.5h "OFF", 70°C, 1,000h.
Endurance at the upper category temperature	$\Delta R_{\leq \pm}(2\% \pm 0.1 \text{ ohm})$ No visible damage Insulation resistance : $R_{\geq 1G} \text{ ohm}$	Clause 4.25.3 155°C, no-load, 1,000h.