LEADFREE
RoHS Compliant

RN (Standard), RNM (Miniature)

Introduction

RN and RNM series are a group of metal film-fixed resistors applying high Aluminum content base material vacuum sputtered by Ni-Cr alloy and excellent heat-and wet-proof special resin for protective coating.
Those resistors are manufactured through integrated automatic production system and then have good stable and uniform property. Furthermore, they show excellent performance regardless open in air.

Features

1. Power rating: 1/8W, 1/4W, 1/2W, 1W, 2W
2. Resistance tolerance: ±0.1%, ±0.25%, ±0.5%, ±1%, ±2%, ±5%
3. TCR: ±25ppm, ±50ppm, ±100ppm, ±200ppm

Dimensions and Structure

Type		L	D	d	H (Min)	Units
Style	MIL Style					
RN-1/8	RN-50	3.7 ± 0.4	1.7 ± 0.2	0.45 ± 0.05	25	mm
RNM-1/4	RN-50					
RN-1/4	RN-55	6.5 ± 0.5	2.3 ± 0.2	0.50 ± 0.05	25	mm
RNM-1/2	RN-55					
RN-1/2	RN-60	9.0 ± 1.0	3.5 ± 0.5	0.55 ± 0.05	25	mm
RNM-1	RN-60					
RN-1	RN-65	12.0 ± 1.0	4.5 ± 0.5	0.73 ± 0.05	25	mm
RNM-2	RN-65					
RN-2	RN-70	16.0 ± 1.0	5.0 ± 0.5	0.75 ± 0.05	25	mm

Electrical Specifications

Style	Power Rating (W)	Max. Working Voltage	Max. Overload Voltage	Resistance Range		
				± 25PPM/°C ± 50PPM/°C ± 100PPM/°C	± 200PPM/°C	Remarks
RN-1/8	0.125	150	300	1Ω - 22M1Ω	5.11Ω - 5.11MΩ	Other resistance values available upon request. (up to 34MΩ)
RNM-1/4	0.25	200	400			
RN-1/4	0.25	250	500			
RNM-1/2	0.50	250	400			
RN-1/2	0.50	350	500			
RNM-1	1.0	400	600			
RN-1	1.0	500	700			
RNM-2	2.0	500	700			
RN-2	2.0	500	1000			

Part Numbering System

RN — 1/4 5% 2R2 TR ____

Type
RN
RNM

Code	Power Rating
1/8	0.125W
1/4	0.25W
1/2	0.50W
1	1.0W
2	2.0W

Code	Tolrance
0.1%	±0.1%
0.25%	±0.25%
0.5%	±0.5%
1%	±1%
2%	±2%
5%	±5%

Code	Nominal Resistance
2R2	2.2 Ohms
22R	22 Ohms
2K2	2.2 x 10^3 Ohms
22K	22 x 10^3 Ohms
22M	22 x 10^6 Ohms

Code	Packaging
B	Bulk
TR	Tape & Reel
TB	Tape & Box
PATR	Avisert T/R
PNTR	Panasert T/R

Code	TCR
Nil	25 ppm (±0.1%)
Nil	50 ppm (±1%)
200	200 ppm
100	100 ppm
50	50 ppm
25	25 ppm

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Characteristics

Requirements	Characteristics	Test Method
Non-Combustability	Flame Resistance. Not burns continuously for more than 5 seconds. Overload burning resistance. Not fume under the overload of less than 5 time of rated power. The volume of fumes emitted under the overload of more than 5 time of rated power is less than of stilled fumes emitted by one cigarette. During the test the height of fumes does not over 3mm and the burning does not continue for more than 3 seconds.	MIL-STD-02 Method 111 JIS C 5202 7.12 EIAJ-RC 2658 5.1
		(All resistance measurememts should be perfomed after stabilization or conditioning periods)
DC Resistance	Within specified tolerance	MIL-STD-202 Method 303
Temperature Coefficient	As buyer requested ± 25PPM˚C, ±50PPM, ± 100PPM˚C	MIL-STD-202 Method 304
Dielectric Strength	No flashover or damage	MIL-STD-202 Method 301 1/8W,1/6W 300V 1 minute 1/4W 500V 1 minute 1/2W 700V 1 minute 1W, 2W 750V 1 minute
Insulation Resistance	At least 1,000MΩ	MIL-STD-202 Method 302 100V 1 minute
Terminal Strength	Lead is not break or loose	MIL-STD-202 Method 211
Resistance to Soldering Heat	ΔR within ±(0.25%+0.05Ω)	MIL-STD-202 Method 210 350˚C, 3 ± 0.05 sec.
Solderability	At least 95% coverage	MIL-STD-202 Method 218 260˚C, 5 sec.
Termal Shock	ΔR within ±(0.5%+0.05Ω)	MIL-STD-202 Method 107 - 55˚C, 3 + 155˚C, 5 cycles
Short Time Overload	ΔR within ±(0.5%+0.05Ω)	MIL-R-10509 Para 4,6,6 2.5 times rated working voltage, 5 seconds
Humidity	ΔR within ±(1%+0.05Ω) No mechanical damage	MIL-STD-202 Method 103 40˚C, RH95% 1000 hours
Low Temperature Operation	ΔR within ±(0.5%+0.05Ω)	MIL-R-10509 Para 4,6,5 Rated working voltage, at-65˚C 45 minutes.
Load Life	ΔR within ±(1%+0.05Ω)	MIL-STD-202 Method108 Rated working voltage 1 1/2hours on, 1/2 hours off for total 1000 hours
Resistance to Solvent	Color bands legible No mechanical damage	MIL-STD-202 Method 215

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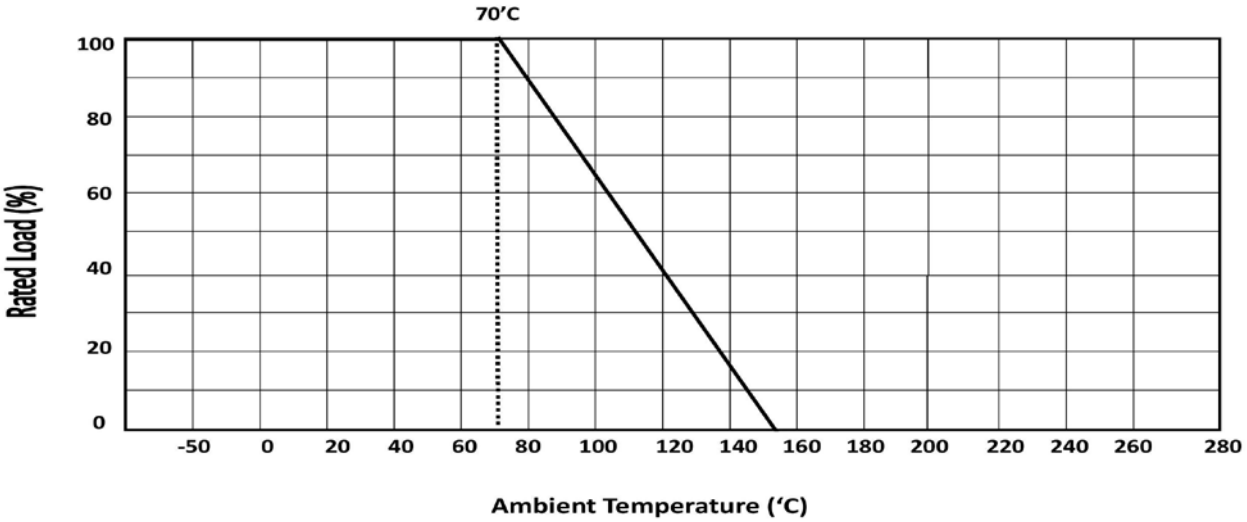
Derating Curve



Current Noise