# RN / RNM Series

## General Purpose Metal Film Resistors



Stackpole Electronics, Inc.
Resistive Product Solutions

Features:

- ✓ Precision metal film
- ✓ Superior electrical, TCR performances
- ✓ Flame-retardant coatings are standard
- ✓ Panasert available (selected sizes: contact factory)
- ✓ RNM (mini) an ideal choice where size constraints apply
- ✓ RN 5% replaces MP series
- ✓ RoHS compliant / lead-free available (RNF/RNMF)
- ✓ Lower or higher resistance values may be possible (contact factory)

## Electrical Specifications

| Type / Code | Mil Ref | Power Rating (Watts) @ 70ºC | Maximum Working Voltage① | Maximum Pulse Voltage | Resistance Temperature Coefficient | Ohmic Range and Tolerance | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 0.1% | 0.25% | 0.5% | 1% | 2%, 5% |
| RN 1/8 | RN 50 | 0.125W | 200V | 400V | ±25 ppm/ºC<br>±50 ppm/ºC<br>±100 ppm/ºC | 100Ω - 100K<br>100Ω - 100K<br>100Ω - 100K | 100Ω - 100K<br>100Ω - 100K<br>100Ω - 100K | 49.9Ω - 499K<br>10Ω - 1M<br>10Ω - 1M | 49.9Ω - 499K<br>1Ω - 1M<br>0.1Ω - 4.9M | -<br>-<br>1Ω - 2.2M |
| RN 1/4 | RN 55 | 0.250W | 250V | 500V | ±10 ppm/ºC<br>±25 ppm/ºC<br>±50 ppm/ºC<br>±100 ppm/ºC | 100Ω - 100K<br>1Ω - 2.2M<br>1Ω - 2.2M<br>1Ω - 2.2M | -<br>1Ω - 2.2M<br>1Ω - 2.2M<br>1Ω - 2.2M | -<br>1Ω - 2.2M<br>1Ω - 2.2M<br>1Ω - 2.2M | -<br>10Ω - 1M<br>1Ω - 1M<br>0.1Ω - 1M | -<br>-<br>-<br>1Ω - 10M |
| RN 1/2 | RN 60 | 0.500W | 350V | 700V | ±25 ppm/ºC<br>±50 ppm/ºC<br>±100 ppm/ºC | 100Ω - 100K<br>100Ω - 100K<br>100Ω - 100K | 100Ω - 100K<br>100Ω - 100K<br>100Ω - 100K | 49.9Ω - 499K<br>10Ω - 1M<br>10Ω - 1M | 49.9Ω - 499K<br>10Ω - 1M<br>0.1Ω - 5.1M | -<br>-<br>1Ω - 10M |
| RN 1 | RN 65 | 1.000W | 350V | 700V | ±25 ppm/ºC<br>±50 ppm/ºC<br>±100 ppm/ºC | -<br>-<br>- | -<br>-<br>- | 100Ω - 51K<br>10Ω - 100K<br>100Ω - 51K | 10Ω - 100K<br>10Ω - 1M<br>1Ω - 1M | -<br>-<br>- |
| RNM 1/4 | - | 0.250W | 200V | 400V | ±25 ppm/ºC<br>±50 ppm/ºC<br>±100 ppm/ºC | 100Ω - 100K<br>100Ω - 100K<br>100Ω - 100K | 100Ω - 100K<br>100Ω - 100K<br>100Ω - 100K | 49.9Ω - 499K<br>10Ω - 1M<br>10Ω - 1M | 49.9Ω - 499K<br>1Ω - 1M<br>0.1Ω - 1M | -<br>-<br>1Ω - 1M |
| RNM 1/2 | RL 07 | 0.500W | 350V | 600V | ±25 ppm/ºC<br>±50 ppm/ºC<br>±100 ppm/ºC | 100Ω - 294K<br>49.9Ω - 1M<br>49.9Ω - 1M | 100Ω - 294K<br>49.9Ω - 1M<br>49.9Ω - 1M | 49.9Ω - 1M<br>10Ω - 1M<br>10Ω - 1M | 49.9Ω - 1M<br>1Ω - 1M<br>0.1Ω - 1M | -<br>-<br>1Ω - 1M |

① Lesser of √PR or maximum working voltage.

## How to Order

| SEI Type | Code | TCR | Nominal Resistance | Tolerance | Packaging |
|---|---|---|---|---|---|
| RN | 1/4 | T1 | 4.75K | 1% | R |

| Type | Description |
|---|---|
| RN | EIA standard |
| RNM | Mini |
| RNF | Standard RoHS |
| RNMF | Mini RoHS |
| PRN | Panasert |
| PRNF | Pana - RoHS |

| Code |
|---|
| 1/8 |
| 1/4 |
| 1/2 |
| 1 |

| TCR | |
|---|---|
| T1 | 100ppm |
| T2 | 50ppm |
| T9 | 25ppm |
| TB | 10ppm |

| Tolerance | Values |
|---|---|
| 0.1% | E96 |
| 0.25% | E96 |
| 0.5% | E96 |
| 1% | E96, E24 |
| 5% | E24 |

| SEI Types | Pkg Qty | Code | Description |
|---|---|---|---|
| 1/8, 1/4, RNM 1/2 | 5,000 | R | Reel |
| RN 1/2, 1 | 2,500 | | |
| 1/8, 1/4, RNM 1/2 | 5,000 | T | Ammo |
| 1/2 | 2,000 | | |
| 1 | 1,000 | | |
| 1/8, 1/4, 1/2 | 1,000 | A | Bulk |





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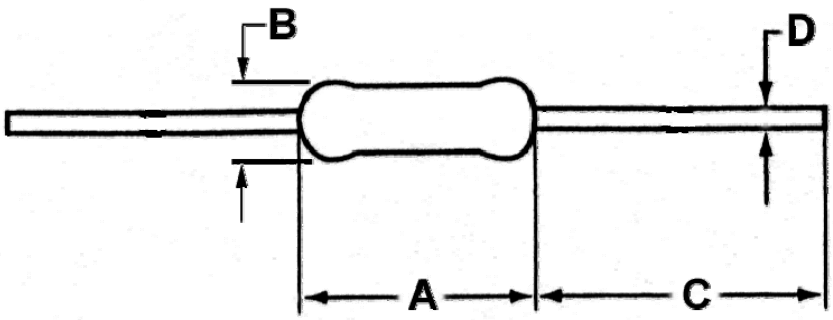


| Mechanical Specifications | | | | | |
|---|---|---|---|---|---|
| **Type / Code** | **A<br>Body Length** | **B<br>Body Diameter** | **C<br>Lead Length (Bulk)** | **D<br>Lead Diameter** | **Units** |
| RN 1/8 | 0.13 ± 0.010<br>3.2 ± 0.2 | 0.069 ± 0.010<br>1.75 ± 0.25 | 1.10 ± 0.08<br>28 ± 2 | 0.017 ± 0.003<br>0.44 ± 0.07 | inches<br>mm |
| RN 1/4 | 0.25 ± 0.026<br>6.35 ± 0.65 | 0.093 ± 0.010<br>2.35 ± 0.25 | 1.10 ± 0.08<br>28 ± 2 | 0.022 ± 0.004<br>0.56 ± 0.09 | inches<br>mm |
| RN 1/2 | 0.34 ± 0.030<br>8.75 ± 0.75 | 0.128 ± 0.030<br>3.25 ± 0.75 | 1.10 ± 0.12<br>28 ± 3 | 0.26 ± 0.004<br>0.65 ± 0.1 | inches<br>mm |
| RN 1 | 0.433 ± 0.04<br>11 ± 1 | 0.177 ± 0.02<br>4.50 ± 0.5 | 1.18 ± 0.12<br>30 ± 3 | 0.030 ± 0.002<br>0.75 ± 0.05 | inches<br>mm |
| RNM 1/4 | 0.13 ± 0.010<br>3.20 ± 0.2 | 0.070 ± 0.003<br>1.78 ± 0.08 | 1.10 ± 0.08<br>28 ± 2 | 0.017 ± 0.001<br>0.44 ± 0.02 | inches<br>mm |
| RNM 1/2 | 0.25 ± 0.026<br>6.35 ± 0.65 | 0.093 ± 0.010<br>2.35 ± 0.25 | 1.10 ± 0.08<br>28 ± 2 | 0.022 ± 0.002<br>0.56 ± 0.04 | inches<br>mm |

| Performance Characteristics | | |
|---|---|---|
| **Test** | **Standard / Method** | **Requirement** |
| Biased Humidity | MIL-STD 202, Method 103 | ± 1.5% |
| Resistance to Solder Heat | MIL-STD 202, Method 210 | ± 0.5% |
| Insulation Resistance | JIS C 5202 5.6 | ± 0.5% |
| Load Life | MIL-STD 202, Method 208 | ± 1% |
| Terminal Strength | MIL-STD 202, Method 211 | ± 0.2% |
| Temperature Cycling | JESD22 Method JA-104 | ± 1% |
| Moisture Resistance | MIL-STD 202, Method 106 | ± 0.5% |

Operating Temperature Range: -55ºC to +155ºC



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