# Metal Oxide Resistors, Special Purpose, High Voltage

## FEATURES

- Low TCR: ± 200 ppm/°C standard; ± 100 ppm/°C; ± 50 ppm/°C available
- Tolerance: ± 1 % standard to 1 GΩ; ± 5 % above 1 GΩ; ± 0.5 % available in ± 50 ppm/°C only. Special tolerance and/or temperature coefficient matching available.
- High voltage (up to 8 kV)
- For oil bath or open air operation
- Matched sets available
- Special testing available upon request
- Material categorization: For definitions of compliance please see www.vishay.com/doc?99912

Pb Available

e3 RoHS* COMPLIANT

**Note**

* Lead (Pb)-containing terminations are not RoHS-compliant. Exemptions may apply.

## STANDARD ELECTRICAL SPECIFICATIONS

| GLOBAL MODEL | HISTORICAL MODEL | POWER RATING $P_{25\,°C}$ (1) W | POWER RATING $P_{70\,°C}$ (1) W | POWER RATING $P_{125\,°C}$ (1) W | MAXIMUM WORKING VOLTAGE (2) V | RESISTANCE RANGE (3) Ω | TOLERANCE ± % | TEMPERATURE COEFFICIENT ± ppm/°C |
|---|---|---|---|---|---|---|---|---|
| RNX025 | RNX-1/4 | 0.5 | 0.36 | 0.25 | 750 | 1M to 22M | 0.5, 1, 2, 5, 10 | 50 |
| | | | | | | 1K to 100M | 1, 2, 5, 10 | 100, 200 |
| | | | | | | 100 to 100K | 1, 2, 5, 10 | Non-inductive (4) |
| RNX038 | RNX-3/8 | 1.0 | 0.72 | 0.5 | 1.5K | 1M to 50M | 0.5, 1, 2, 5, 10 | 50 |
| | | | | | | 1K to 100M | 1, 2, 5, 10 | 100 |
| | | | | | | 1K to 1G | 1, 2, 5, 10 | 200 |
| | | | | | | 100 to 100K | 1, 2, 5, 10 | Non-inductive (4) |
| RNX050 | RNX-1/2 | 1.2 | 0.86 | 0.6 | 2K | 1M to 100M | 0.5, 1, 2, 5, 10 | 50 |
| | | | | | | 1K to 250M | 1, 2, 5, 10 | 100 |
| | | | | | | 1K to 2G | 1, 2, 5, 10 | 200 |
| | | | | | | 100 to 100K | 1, 2, 5, 10 | Non-inductive (4) |
| RNX075 | RNX-3/4 | 2.0 | 1.44 | 1.0 | 3K | 1M to 100M | 0.5, 1, 2, 5, 10 | 50 |
| | | | | | | 1K to 500M | 1, 2, 5, 10 | 100 |
| | | | | | | 1K to 2G | 1, 2, 5, 10 | 200 |
| | | | | | | 100 to 100K | 1, 2, 5, 10 | Non-inductive (4) |
| RNX100 | RNX-1 | 2.5 | 1.8 | 1.25 | 4K | 1M to 100M | 0.5, 1, 2, 5, 10 | 50 |
| | | | | | | 1K to 500M | 1, 2, 5, 10 | 100 |
| | | | | | | 1K to 2G | 1, 2, 5, 10 | 200 |
| | | | | | | 100 to 1M | 1, 2, 5, 10 | Non-inductive (4) |
| RNX125 | RNX-1-1/4 | 3.0 | 2.16 | 1.5 | 5K | 1K to 500M | 1, 2, 5, 10 | 100 |
| | | | | | | 1K to 2G | 1, 2, 5, 10 | 200 |
| | | | | | | 100 to 1M | 1, 2, 5, 10 | Non-inductive (4) |
| RNX150 | RNX-1-1/2 | 4.0 | 2.88 | 2.0 | 6K | 1K to 500M | 1, 2, 5, 10 | 100 |
| | | | | | | 1K to 2G | 1, 2, 5, 10 | 200 |
| | | | | | | 100 to 1M | 1, 2, 5, 10 | Non-inductive (4) |
| RNX200 | RNX-2 | 5.0 | 3.6 | 2.5 | 8K | 1K to 500M | 1, 2, 5, 10 | 100 |
| | | | | | | 1K to 2G | 1, 2, 5, 10 | 200 |
| | | | | | | 100 to 1M | 1, 2, 5, 10 | Non-inductive (4) |

**Notes**

- **All resistance values are calibrated at 100 $V_{DC}$. Calibration at other voltages available.**
- Part marking: Print marked - DALE, model, value, tolerance, TCR, date code (model and date omitted on RNX-1/4)
- Special modifications:
  - Special preconditioning (power aging, temperature cycling etc.) to customer specifications
  - Non-helixed resistors can be supplied for critical high frequency applications (non-inductive)

(1) Increase wattage by 25 % for 0.032" (0.813 mm) diameter leads

(2) Continuous working voltage shall be $\sqrt{P \times R}$ or maximum working voltage, whichever is less.

(3) For resistance values above and below those listed please contact us

(4) Non-inductive ± 200 ppm/°C TCR only



For technical questions, contact: ff2aresistors@vishay.com
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## TECHNICAL SPECIFICATIONS

| PARAMETER | UNIT | RNX025 | RNX038 | RNX050 | RNX075 | RNX100 | RNX125 | RNX150 | RNX200 |
|---|---|---|---|---|---|---|---|---|---|
| Insulation Resistance | Ω | ≥ $10^{11}$ | | | | | | | |
| Category Temperature Range | °C | Epoxy coated = - 55/+ 150; silicone coated = - 55/+ 225 | | | | | | | |

## GLOBAL PART NUMBER INFORMATION

**New Global Part Numbering: RNX05010K0KKLB (preferred part numbering format)**

| R | N | X | 0 | 5 | 0 | 1 | 0 | K | 0 | K | K | L | B | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

| GLOBAL MODEL | RESISTANCE VALUE | TOLERANCE CODE | TEMP. COEFFICIENT | PACKAGING (1) | CONSTRUCTION | SPECIAL |
|---|---|---|---|---|---|---|
| (See Standard Electrical Specifications table) | **R** = Ω<br>**K** = kΩ<br>**M** = MΩ<br>**G** = GΩ<br>**910R** = 910 Ω<br>**10M0** = 10 MΩ<br>**1G00** = 1.0 GΩ | **D** = ± 0.5 %<br>**F** = ± 1 %<br>**G** = ± 2 %<br>**J** = ± 5 %<br>**K** = ± 10 % | **H** = 50 ppm<br>**K** = 100 ppm<br>**N** = 200 ppm | **EL** = Lead (Pb)-free, lacer<br>**EE** = Lead (Pb)-free, T/R<br>(1/4, 3/8, 1/2, 3/4, 1 only)<br>**LB** = Tin/lead, lacer<br>**RC** = Tin/lead, T/R<br>(1/4, 3/8, 1/2, 3/4, 1 only) | Blank = Standard<br>**N** = Non-inductive<br>**P** = 0.032" Ø leads | Blank = Standard<br>(Dash number)<br>(Up to 3 digits)<br>From **1 to 999**<br>as applicable |

**Historical Part Number example: RNX-1/210K0KK (will continue to be accepted)**

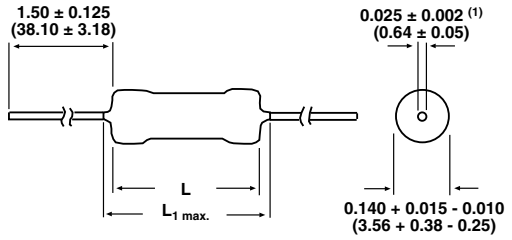
| RNX-1/2 | | 10K0 | K | K | L05 |
|---|---|---|---|---|---|
| HISTORICAL MODEL | CONSTRUCTION | RESISTANCE VALUE | TOLERANCE CODE | TEMP. COEFFICIENT | PACKAGING |

**Notes**

(1) Some packaging codes are model specific

- For additional information on packaging, refer to the Through-Hole Resistor Packaging document (www.vishay.com/doc?31544).

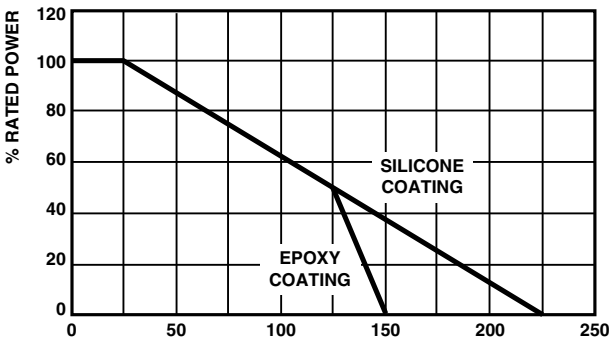
## DIMENSIONS in inches (millimeters)




| GLOBAL MODEL | L | $L_{1\ MAX.}$ |
|---|---|---|
| RNX025 | 0.290 ± 0.020 (7.37 ± 0.51) | 0.358 (9.09) |
| RNX038 | 0.420 ± 0.020 (10.67 ± 0.51) | 0.470 (11.94) |
| RNX050 | 0.540 ± 0.020 (13.72 ± 0.51) | 0.595 (15.11) |
| RNX075 | 0.790 ± 0.020 (20.07 ± 0.51) | 0.845 (21.46) |
| RNX100 | 1.040 ± 0.020 (26.42 ± 0.51) | 1.100 (27.94) |
| RNX125 | 1.290 ± 0.020 (32.77 ± 0.51) | 1.350 (34.29) |
| RNX150 | 1.540 ± 0.020 (39.12 ± 0.51) | 1.600 (40.64) |
| RNX200 | 2.040 ± 0.020 (51.82 ± 0.51) | 2.100 (53.34) |

**Note**

(1) Available with 0.032" (0.813 mm) leads ± 0.002" (0.051 mm)




**DERATING**

## MATERIAL SPECIFICATIONS

| | |
|---|---|
| Element | High temperature fired cermet film |
| Core | High purity 96 % alumina |
| Coating | Flame-retardant epoxy on RNX025 and RNX038, flameproof silicone on RNX050 to RNX200 |
| Termination | Standard lead material is solder-coated copper. Solderable and weldable. |

## MECHANICAL SPECIFICATIONS

| | |
|---|---|
| Terminal Strength | 5 pound pull test |
| Solderability | Continuous satisfactory coverage when tested in accordance with MIL-STD-202, method 208 |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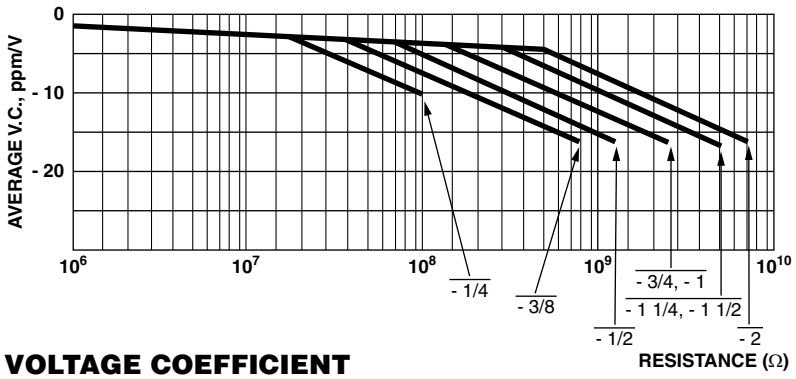


**VOLTAGE COEFFICIENT**


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