



Metal Oxide Resistors, Special Purpose, High Voltage



FEATURES

- Low TCR: ± 200 ppm/ $^{\circ}\text{C}$ standard; ± 100 ppm/ $^{\circ}\text{C}$; ± 50 ppm/ $^{\circ}\text{C}$ available
- Tolerance: $\pm 1\%$ standard to 1 G Ω ; $\pm 5\%$ above 1 G Ω ; $\pm 0.5\%$ available in ± 50 ppm/ $^{\circ}\text{C}$ 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



RoHS*
Available

Note

* This datasheet provides information about parts that are RoHS-compliant and / or parts that are non RoHS-compliant. For example, parts with lead (Pb) terminations are not RoHS-compliant. Please see the information / tables in this datasheet for details

STANDARD ELECTRICAL SPECIFICATIONS

| GLOBAL MODEL | HISTORICAL MODEL | POWER RATING | | | MAXIMUM WORKING VOLTAGE ⁽²⁾ V | RESISTANCE RANGE ⁽³⁾ Ω | TOLERANCE $\pm \%$ | TEMPERATURE COEFFICIENT \pm ppm/ $^{\circ}\text{C}$ |
|--------------|------------------|--|--|---|---|---|-----------------------|--|
| | | $P_{25^{\circ}\text{C}}$ ⁽¹⁾ W | $P_{70^{\circ}\text{C}}$ ⁽¹⁾ W | $P_{125^{\circ}\text{C}}$ ⁽¹⁾ W | | | | |
| 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/ $^{\circ}\text{C}$ TCR only



TECHNICAL SPECIFICATIONS

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

GLOBAL PART NUMBER INFORMATION

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

| | | | | | | | | | | | | | | | | |
|---|---|--|---|--|--|--|--|--|--|--|---|--|---------|--|--|--|
| <div>R</div> <div>N</div> <div>X</div> <div>0</div> <div>5</div> <div>0</div> <div>1</div> <div>0</div> <div>K</div> <div>0</div> <div>K</div> <div>K</div> <div>L</div> <div>B</div> <div></div> <div></div> <div></div> <div></div> | | | | | | | | | | | | | | | | |
| GLOBAL MODEL (See Standard Electrical Specifications table) | RESISTANCE VALUE R = Ω K = kΩ M = MΩ G = GΩ 910R = 910 Ω 10M0 = 10 MΩ 1G00 = 1.0 GΩ | | TOLERANCE CODE D = ± 0.5 % F = ± 1 % G = ± 2 % J = ± 5 % K = ± 10 % | | TEMP. COEFFICIENT H = 50 ppm K = 100 ppm N = 200 ppm | | PACKAGING ⁽¹⁾ | | | | CONSTRUCTION | | SPECIAL | | | |
| | | | | | | | EL = Lead (Pb)-free, lacer EE = Lead (Pb)-free, T/R (1/4, 3/8, 1/2, 3/4, 1 only) LB = Tin/lead, lacer RC = Tin/lead, T/R (1/4, 3/8, 1/2, 3/4, 1 only) | | | | Blank = Standard N = Non-inductive P = 0.032" Ø leads | | | | | |

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

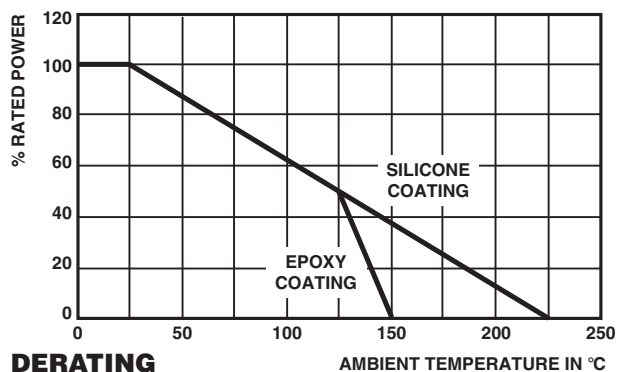
- (1) Some packaging codes are model specific
 • For additional information on packaging, refer to the Through-Hole Resistor Packaging document (www.vishay.com/doc?31544)

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)

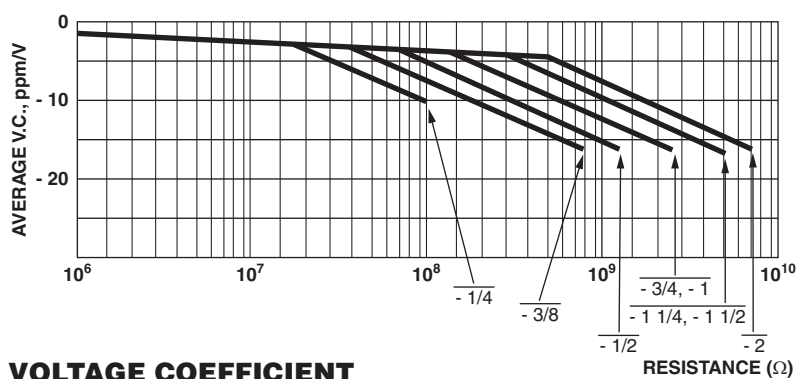


MATERIAL SPECIFICATIONS

| | |
|-------------|---|
| 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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