

# Metal Oxide Resistors, Special Purpose, High Voltage



## FEATURES

- Low TCR:  $\pm 200$  ppm/ $^{\circ}\text{C}$  standard;  $\pm 100$  ppm/ $^{\circ}\text{C}$ ;  $\pm 50$  ppm/ $^{\circ}\text{C}$  available
- Tolerance:  $\pm 1\%$  standard to 1 G $\Omega$ ;  $\pm 5\%$  above 1 G $\Omega$ ;  $\pm 0.5\%$  available in  $\pm 50$  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](http://www.vishay.com/doc?99912)


**RoHS\***  
COMPLIANT

## Note

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

## STANDARD ELECTRICAL SPECIFICATIONS

GLOBAL MODEL	HISTORICAL MODEL	POWER RATING			MAXIMUM WORKING VOLTAGE <sup>(2)</sup> V	RESISTANCE RANGE <sup>(3)</sup> $\Omega$	TOLERANCE $\pm\%$	TEMPERATURE COEFFICIENT $\pm$ ppm/ $^{\circ}\text{C}$
		$P_{25^{\circ}\text{C}}$ <sup>(1)</sup> W	$P_{70^{\circ}\text{C}}$ <sup>(1)</sup> W	$P_{125^{\circ}\text{C}}$ <sup>(1)</sup> 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 <sup>(4)</sup>
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
RNX050	RNX-1/2	1.2	0.86	0.6	2K	100 to 100K	1, 2, 5, 10	Non-inductive <sup>(4)</sup>
						1M to 100M	0.5, 1, 2, 5, 10	50
						1K to 250M	1, 2, 5, 10	100
RNX075	RNX-3/4	2.0	1.44	1.0	3K	1K to 2G	1, 2, 5, 10	200
						100 to 100K	1, 2, 5, 10	Non-inductive <sup>(4)</sup>
						1M to 100M	0.5, 1, 2, 5, 10	50
RNX100	RNX-1	2.5	1.8	1.25	4K	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 <sup>(4)</sup>
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 <sup>(4)</sup>
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 <sup>(4)</sup>
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 <sup>(4)</sup>

## Notes

- All resistance values are calibrated at 100 V<sub>DC</sub>. 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  $\pm 200$  ppm/ $^{\circ}\text{C}$  TCR only

**TECHNICAL SPECIFICATIONS**

PARAMETER	UNIT	RNX025	RNX038	RNX050	RNX075	RNX100	RNX125	RNX150	RNX200
Insulation Resistance	$\Omega$	$\geq 10^{11}$							
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><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></div>																
GLOBAL MODEL	RESISTANCE VALUE	TOLERANCE CODE	TEMP. COEFFICIENT	PACKAGING (1)		CONSTRUCTION		SPECIAL								
(See Standard Electrical Specifications table)	<div>R = Ω</div> <div>K = kΩ</div> <div>M = MΩ</div> <div>G = GΩ</div> <div>910R = 910 Ω</div> <div>10M0 = 10 MΩ</div> <div>1G00 = 1.0 GΩ</div>	<div>D = ± 0.5 %</div> <div>F = ± 1 %</div> <div>G = ± 2 %</div> <div>J = ± 5 %</div> <div>K = ± 10 %</div>	<div>H = 50 ppm</div> <div>K = 100 ppm</div> <div>N = 200 ppm</div>	<div>EL = Lead (Pb)-free, lacer</div> <div>EE = Lead (Pb)-free, T/R</div> <div>(1/4, 3/8, 1/2, 3/4, 1 only)</div>	<div>LB = Tin/lead, lacer</div> <div>RC = Tin/lead, T/R</div> <div>(1/4, 3/8, 1/2, 3/4, 1 only)</div>	<div>Blank = Standard</div> <div>N = Non-inductive</div> <div>P = 0.032" Ø leads</div>	<div>Blank = Standard</div> <div>(Dash number)</div> <div>(Up to 3 digits)</div> <div>From 1 to 999</div> <div>as applicable</div>									

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

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

**Notes**

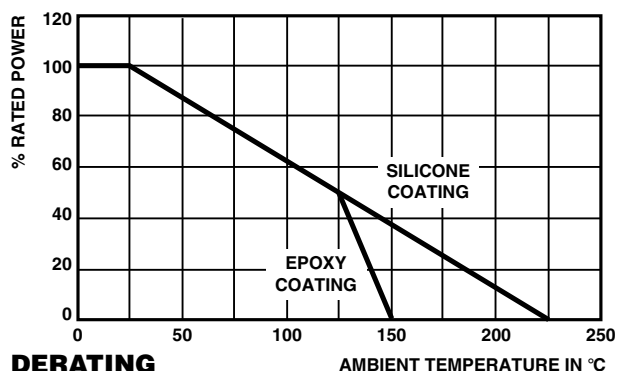
- (1) Some packaging codes are model specific
- For additional information on packaging, refer to the Through-Hole Resistor Packaging document ([www.vishay.com/doc?31544](http://www.vishay.com/doc?31544)).

**DIMENSIONS** in inches (millimeters)

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

**Note**

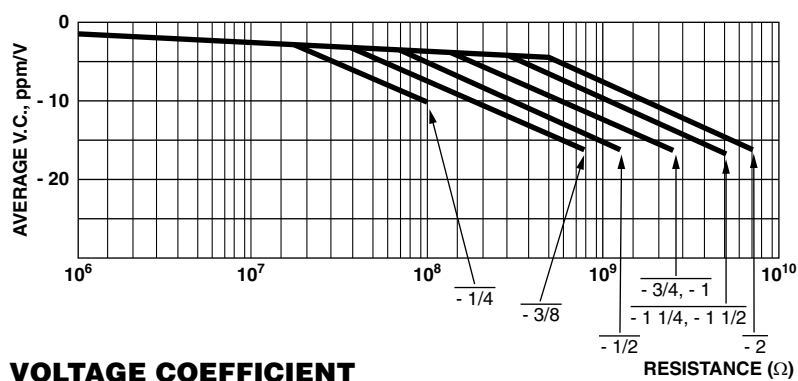
- (1) Available with 0.032" (0.813 mm) leads  $\pm$  0.002" (0.051 mm)


**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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