

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*
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 ⁽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
RNX050	RNX-1/2	1.2	0.86	0.6	2K	100 to 100K	1, 2, 5, 10	Non-inductive ⁽⁴⁾
						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 ⁽⁴⁾
						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 ⁽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)

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 K = kΩ M = MΩ G = GΩ 910R = 910 Ω 10M0 = 10 MΩ 1G00 = 1.0 GΩ	D = ± 0.5 % F = ± 1 % G = ± 2 % J = ± 5 % K = ± 10 %	H = 50 ppm K = 100 ppm N = 200 ppm	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	Blank = Standard (Dash number) (Up to 3 digits) From 1 to 999 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)

1.50 $\pm$ 0.125 (38.10 $\pm$ 3.18) 0.025 $\pm$ 0.002 (1) (0.64 $\pm$ 0.05) 0.140 $\pm$ 0.015 - 0.010 (3.56 $\pm$ 0.38 - 0.25) L L₁ max.	GLOBAL MODEL	L	L ₁ MAX.
	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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