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* 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 ± %	TEMPERATURE COEFFICIENT ± ppm/°C
		$P_{25\,°C}$ (1) W	$P_{70\,°C}$ (1) W	$P_{125\,°C}$ (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/°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 **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)

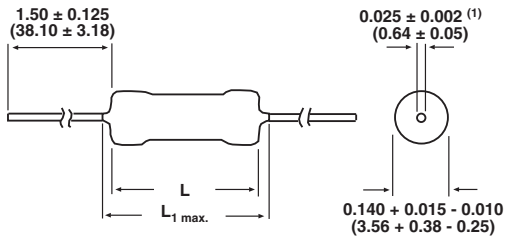
RNX-1/2		10K0	K	K	L05
HISTORICAL MODEL	CONSTRUCTION	RESISTANCE VALUE	TOLERANCE CODE	TEMP. COEFFICIENT	PACKAGING

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)

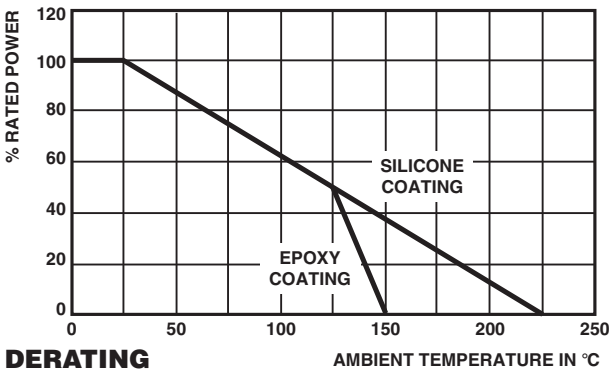
DIMENSIONS in inches (millimeters)



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.

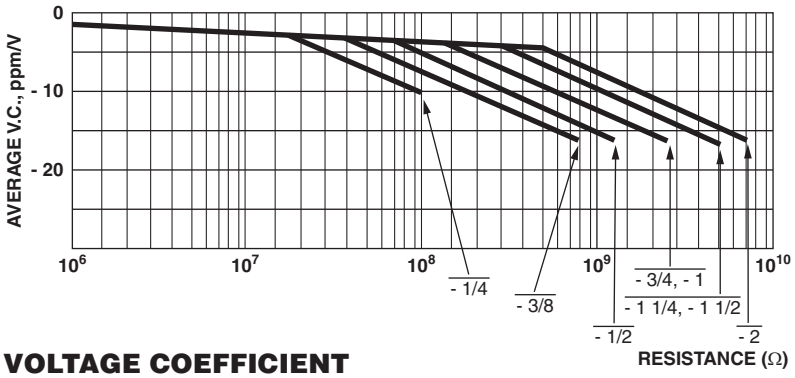
MECHANICAL SPECIFICATIONS

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

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VOLTAGE COEFFICIENT

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