Metal Oxide Resistors, Special Purpose, High Voltage

FEATURES

- Low TCR: ± 200 ppm/°C standard; ± 100 ppm/°C, ± 50 ppm/°C available
- Tolerance: ± 1 %; ± 2 %; ± 5 %; ± 10 %
- High Voltage (up to 45 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
ROX050	ROX-1/2	2.0	1.4	1.0	2K	1M to 100M	1, 2, 5, 10	50
						1K to 100M	1, 2, 5, 10	100
						1K to 1G	1, 2, 5, 10	200
ROX075	ROX-3/4	3.0	2.16	1.5	5K	1M to 100M	1, 2, 5, 10	50
						1K to 500M	1, 2, 5, 10	100
						1K to 3G	1, 2, 5, 10	200
						100 to 1M	1, 2, 5, 10	Non-inductive (4)
ROX100	ROX-1	4.0	2.88	2.0	7.5K	1M to 100M	1, 2, 5, 10	50
						1K to 500M	1, 2, 5, 10	100
						1K to 3G	1, 2, 5, 10	200
						100 to 1M	1, 2, 5, 10	Non-inductive (4)
ROX150	ROX-1-1/2	5.0	3.6	2.5	11K	1M to 100M	1, 2, 5, 10	50
						1K to 500M	1, 2, 5, 10	100
						1K to 3G	1, 2, 5, 10	200
						100 to 1M	1, 2, 5, 10	Non-inductive (4)
ROX200	ROX-2	6.0	4.32	3.0	15K	1M to 500M	1, 2, 5, 10	50
						1K to 1G	1, 2, 5, 10	100
						1K to 3G	1, 2, 5, 10	200
						100 to 1M	1, 2, 5, 10	Non-inductive (4)
ROX300	ROX-3	10.0	7.2	5.0	22.5K	1M to 500M	1, 2, 5, 10	50
						1K to 1G	1, 2, 5, 10	100
						1K to 3G	1, 2, 5, 10	200
						400 to 10M	1, 2, 5, 10	Non-inductive (4)
ROX400	ROX-4	12.0	8.64	6.0	30K	1M to 500M	1, 2, 5, 10	50
						1K to 1G	1, 2, 5, 10	100
						1K to 3G	1, 2, 5, 10	200
						500 to 10M	1, 2, 5, 10	Non-inductive (4)
ROX500	ROX-5	16.0	11.52	8.0	37.5K	1M to 500M	1, 2, 5, 10	50
						1K to 1G	1, 2, 5, 10	100
						1K to 3G	1, 2, 5, 10	200
						500 to 10M	1, 2, 5, 10	Non-inductive (4)
ROX600	ROX-6	20.0	14.4	10.0	45K	1M to 500M	1, 2, 5, 10	50
						1K to 1G	1, 2, 5, 10	100
						1K to 3G	1, 2, 5, 10	200
						500 to 10M	1, 2, 5, 10	Non-inductive (4)

Notes

- **All resistance values are calibrated at 100 V_{DC}. Calibration at other voltages available.**
- ± 1 % not available above 1 GΩ
- Part marking: Print marked - Dale, model, value, tolerance, temperature coefficient, date code

(1) Increase wattage by 40 % for 0.040" (1.02 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

TECHNICAL SPECIFICATIONS

PARAMETER	UNIT	ROX050	ROX075	ROX100	ROX150	ROX200	ROX300	ROX400	ROX500	ROX600
Insulation Resistance	Ω	≥ 10^{11}								
Category Temperature Range	°C	Epoxy coated = - 55/+ 180; Silicone coated = - 55/+ 230								

For technical questions, contact: ff2aresistors@vishay.com

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GLOBAL PART NUMBER INFORMATION

New Global Part Numbering: ROX300100MGNF5 (preferred part numbering format)

R	O	X	3	0	0	1	0	0	M	G	N	F	5					

GLOBAL MODEL	RESISTANCE VALUE	TOLERANCE CODE	TEMP. COEFFICIENT	PACKAGING [1]	CONSTRUCTION	SPECIAL
(See Electrical Specifications table)	**R** = Ω **K** = kΩ **M** = MΩ **G** = GΩ **910R** = 910 Ω **10M0** = 10 MΩ **1G00** = 1.0 GΩ	**F** = ± 1 % **G** = ± 2 % **J** = ± 5 % **K** = ± 10 %	**H** = 50 ppm **K** = 100 ppm **N** = 200 ppm	**EL** = Lead (Pb)-free, lacer (all, except 3, 4, 5, 6) **EE** = Lead (Pb)-free, T/R (1/2, 3/4, 1 only) **EM** = Lead (Pb)-free, foam (3, 4, 5, 6 only) **LB** = Tin/lead, lacer (all, except 3, 4, 5, 6) **RF** = Tin/lead, T/R (1/2, 3/4, 1 only) **F5** = Tin/lead, foam (3, 4, 5, 6 only)	(Up to 2 digits) Blank = Standard **N** = Non-inductive **P** = 0.040 Ø leads **S** = Solid body, axial **T** = Threaded terminals **Y** = One end axial, one threaded terminal	Blank = Standard (Dash number) (Up to 3 digits) From **1 to 999** as applicable

Historical Part Number example: ROX-3100MGN (will continue to be accepted)

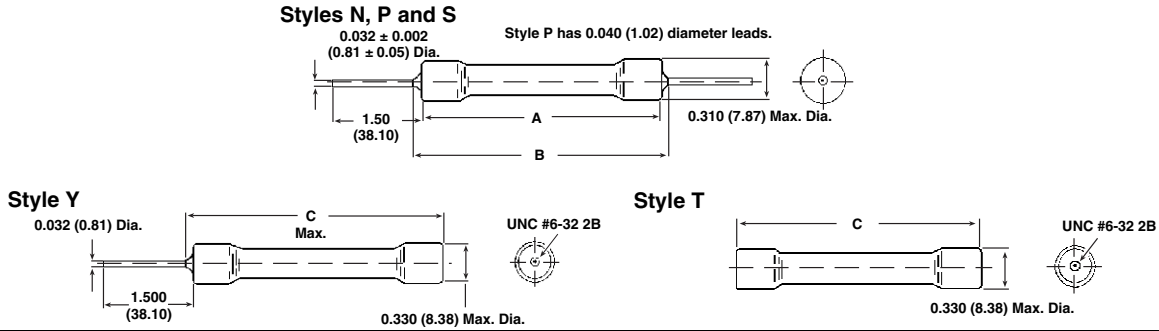
ROX-3		100M	G	N	F05
HISTORICAL MODEL	CONSTRUCTION	RESISTANCE VALUE	TOLERANCE CODE	TEMP. COEFFICIENT	PACKAGING

Notes

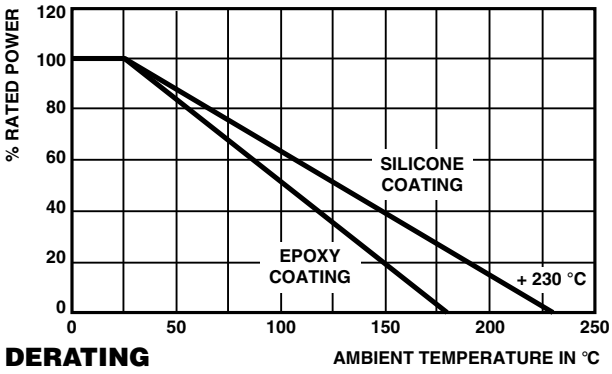
[1] Some packaging codes are model specific.

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

DIMENSIONS in inches (millimeters)



GLOBAL MODEL	STYLE N, P, S		STYLE T	STYLE Y
	A	B	C	C MAX.
ROX050	0.550 ± 0.032 (13.97 ± 0.81)	0.700 (17.78)	N/A	N/A
ROX075	0.800 ± 0.032 (20.32 ± 0.81)	0.900 (22.86)	1.168 ± 0.022 (29.66 ± 0.56)	1.050 (26.67)
ROX100	0.920 ± 0.032 (23.37 ± 0.81)	1.020 (25.91)	1.288 ± 0.022 (32.72 ± 0.56)	1.170 (29.72)
ROX150	1.550 ± 0.032 (39.37 ± 0.81)	1.650 (41.91)	1.918 ± 0.022 (48.72 ± 0.56)	1.800 (45.72)
ROX200	2.050 ± 0.032 (52.07 ± 0.81)	2.150 (54.61)	2.418 ± 0.022 (61.42 ± 0.56)	2.300 (58.42)
ROX300	3.050 ± 0.032 (77.47 ± 0.81)	3.150 (80.01)	3.418 ± 0.022 (86.82 ± 0.56)	3.300 (83.82)
ROX400	4.050 ± 0.032 (102.87 ± 0.81)	4.150 (105.41)	4.418 ± 0.022 (112.22 ± 0.56)	4.300 (109.22)
ROX500	5.050 ± 0.032 (128.27 ± 0.81)	5.150 (130.81)	5.418 ± 0.022 (137.62 ± 0.56)	5.300 (134.62)
ROX600	6.050 ± 0.032 (153.67 ± 0.81)	6.150 (156.21)	6.418 ± 0.022 (163.02 ± 0.56)	6.300 (160.02)



DERATING

MECHANICAL SPECIFICATIONS

Terminal Strength	10 pound pull test
Solderability	Continuous satisfactory coverage when tested in accordance with MIL-STD-202, Method 208

MATERIAL SPECIFICATIONS

Element	High temperature fired cermet film
Core	High purity 96 % alumina, tubular or solid
Coating	Blue flame-retardant epoxy on ROX050 thru ROX200. Black flameproof silicone on ROX300 thru ROX600
Termination	Standard lead material is solder-coated copper; solderable and weldable. 0.032" (0.813 mm) style P 0.040" (1.02 mm) available

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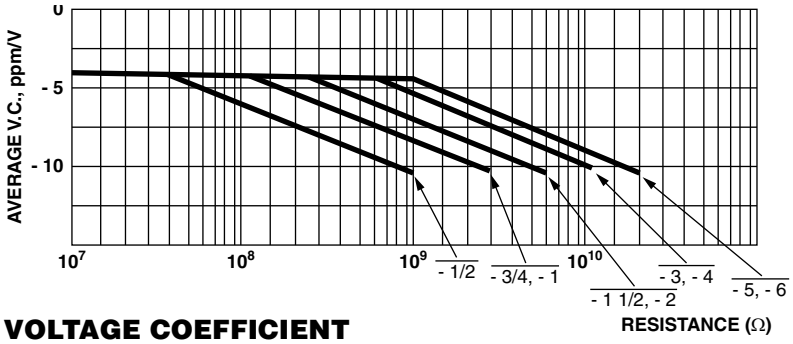

VOLTAGE COEFFICIENT

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