

## 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:  $\pm 1\%$ ;  $\pm 2\%$ ;  $\pm 5\%$ ;  $\pm 10\%$
- High Voltage (up to 45 kV)
- For oil bath or open air operation
- Matched sets available
- Special testing available upon request
- Compliant to RoHS Directive 2002/95/EC


**RoHS\***  
COMPLIANT

**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				
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
ROX075	ROX-3/4	3.0	2.16	1.5	5K	1K to 1G	1, 2, 5, 10	200
						1M to 100M	1, 2, 5, 10	50
						1K to 500M	1, 2, 5, 10	100
ROX100	ROX-1	4.0	2.88	2.0	7.5K	1K to 3G	1, 2, 5, 10	200
						100 to 1M	1, 2, 5, 10	Non-inductive <sup>(4)</sup>
						1M to 100M	1, 2, 5, 10	50
						1K to 500M	1, 2, 5, 10	100
ROX150	ROX-1-1/2	5.0	3.6	2.5	11K	1K to 3G	1, 2, 5, 10	200
						100 to 1M	1, 2, 5, 10	Non-inductive <sup>(4)</sup>
						1M to 100M	1, 2, 5, 10	50
ROX200	ROX-2	6.0	4.32	3.0	15K	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 <sup>(4)</sup>
						1M to 500M	1, 2, 5, 10	50
ROX300	ROX-3	10.0	7.2	5.0	22.5K	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 <sup>(4)</sup>
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 <sup>(4)</sup>
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 <sup>(4)</sup>
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 <sup>(4)</sup>

**Notes**

- All resistance values are calibrated at 100 V<sub>DC</sub>. Calibration at other voltages available.
- $\pm 1\%$  not available above 1 G $\Omega$
- Part marking: Print marked - Dale, model, value, tolerance, temperature coefficient, date code
- <sup>(1)</sup> Increase wattage by 40 % for 0.040" (1.02 mm) diameter leads
- <sup>(2)</sup> Continuous working voltage shall be  $\sqrt{P \times R}$  or maximum working voltage, whichever is less.
- <sup>(3)</sup> For resistance values above and below those listed please contact us
- <sup>(4)</sup> Non-inductive  $\pm 200$  ppm/ $^{\circ}\text{C}$  TCR only

**TECHNICAL SPECIFICATIONS**

PARAMETER	UNIT	ROX050	ROX075	ROX100	ROX150	ROX200	ROX300	ROX400	ROX500	ROX600	
Insulation Resistance	$\Omega$	$\geq 10^{11}$									
Category Temperature Range	$^{\circ}\text{C}$	Epoxy coated = - 55/+ 180; Silicone coated = - 55/+ 230									

\* Pb containing terminations are not RoHS compliant, exemptions may apply

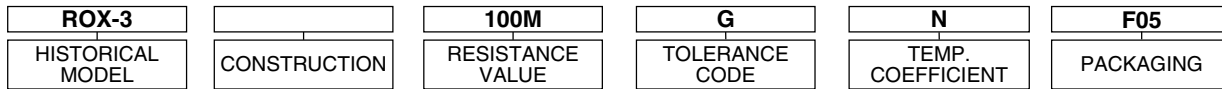
**GLOBAL PART NUMBER INFORMATION**

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



GLOBAL MODEL (See 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 F = ± 1 % G = ± 2 % J = ± 5 % K = ± 10 %	TEMP. COEFFICIENT H = 50 ppm K = 100 ppm N = 200 ppm	PACKAGING (1) EL = Lead (Pb)-free, lacer EE = Lead (Pb)-free, T/R (1000 pieces) EM = Lead (Pb)-free, foam LB = Tin/lead, lacer RF = Tin/lead, T/R (1000 pieces) F5 = Tin/lead, foam	CONSTRUCTION (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	SPECIAL Blank = Standard (Dash number) (Up to 3 digits) From 1 to 999 as applicable
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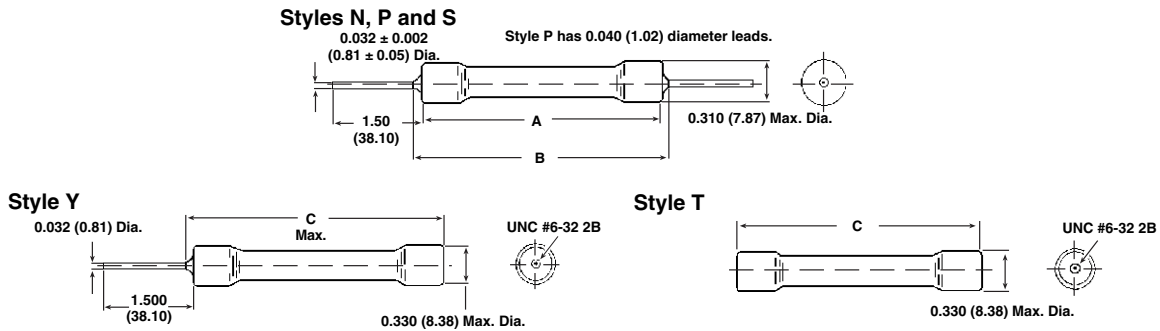
Historical Part Number example: ROX-3100MGN (will continue to be accepted)



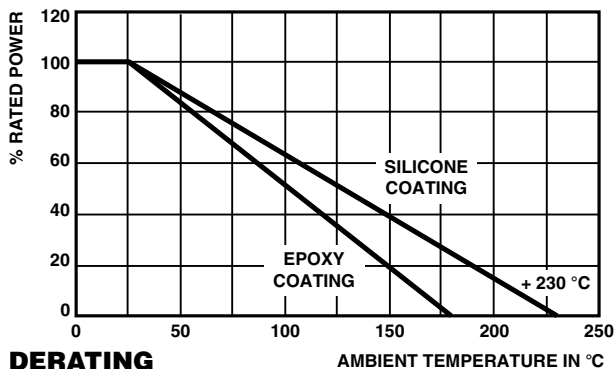
**Note**

(1) Some packaging codes are model specific.

**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)



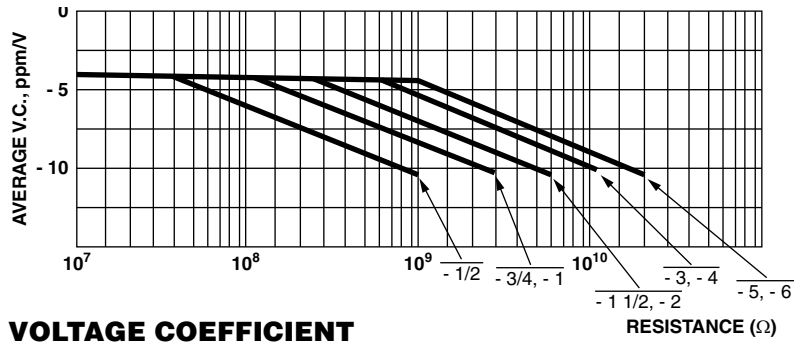
**DERATING**

**MECHANICAL SPECIFICATIONS**

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

**MATERIAL SPECIFICATIONS**

<b>Element</b>	High temperature fired cermet film
<b>Core</b>	High purity 96 % alumina, tubular or solid
<b>Coating</b>	Blue flame-retardant epoxy on ROX050 thru ROX200. Black flameproof silicone on ROX300 thru ROX600
<b>Termination</b>	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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