Metal Oxide Resistors, Special Purpose, High Voltage

FEATURES

- Low TCR: ± 200 ppm/°C standard ± 100 ppm/°C, ± 50 ppm/°C available
- Tolerances: ± 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
- Lead (Pb)-free version is RoHS compliant

Pb Available

e3

RoHS* COMPLIANT

STANDARD ELECTRICAL SPECIFICATIONS

GLOBAL MODEL	HISTORICAL MODEL	POWER RATING			VOLTAGE RATING	RESISTANCE RANGE Ω***			
		$P_{25\ °C}$ W**	$P_{70\ °C}$ W**	$P_{125\ °C}$ W**	V≅	200 ppm	100 ppm	50 ppm	NON-INDUCTIVE ****
ROX050	ROX-1/2	2.0	1.4	1.0	2 kV	1K - 1G	1K - 100M	1M - 100M	-
ROX075	ROX-3/4	3.0	2.16	1.5	5 kV	1K - 3G	1K - 500M	1M - 100M	100R - 1M
ROX100	ROX-1	4.0	2.88	2.0	7.5 kV	1K - 3G	1K - 500M	1M - 100M	100R - 1M
ROX150	ROX-1-1/2	5.0	3.6	2.5	11 kV	1K - 3G	1K - 500M	1M - 100M	100R - 1M
ROX200	ROX-2	6.0	4.32	3.0	15 kV	1K - 3G	1K - 1G	1M - 500M	100R - 1M
ROX300	ROX-3	10.0	7.2	5.0	22.5 kV	1K - 3G	1K - 1G	1M - 500M	400R - 10M
ROX400	ROX-4	12.0	8.64	6.0	30 kV	1K - 3G	1K - 1G	1M - 500M	500R - 10M
ROX500	ROX-5	16.0	11.52	8.0	37.5 kV	1K - 3G	1K - 1G	1M - 500M	500R - 10M
ROX600	ROX-6	20.0	14.4	10.0	45 kV	1K - 3G	1K - 1G	1M - 500M	500R - 10M

** Increase wattage by 40 % for 0.040" [1.02 mm] diameter leads.
*** For resistance values above and below those listed please contact us.
**** Non inductive ± 200 ppm/°C TC only.

NOTE:

- **All resistance values are calibrated at 100 VDC. Calibration at other voltages available**
- ± 1 % not available above 1G ohm
- Part Marking: print marked - DALE, model, value, tolerance, temperature coefficient, date code

TECHNICAL SPECIFICATIONS

PARAMETER	UNIT	ROX050	ROX075	ROX100	ROX150	ROX200	ROX300	ROX400	ROX500	ROX600
Insulation Resistance	Ω	≥ 10^{11}								
Category Temperature Range	°C	- 55/+ 155								

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**	CONSTRUCTION	SPECIAL
(see Electrical Specifications table)	**R** = Decimal **K** = Thousand **M** = Million **G** = Billion **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 **EE** = Lead (Pb)-free, T/R (1000pcs) **EM** = Lead (Pb)-free, Foam **LB** = Tin/Lead, Lacer **RF** = Tin/Lead, T/R (1000pcs) **F5** = Tin/Lead, Foam	(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 **1-999** as applicable

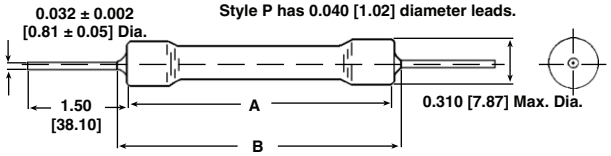
Historical Part Number example: ROX-3100MGN (will continue to be accepted)

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

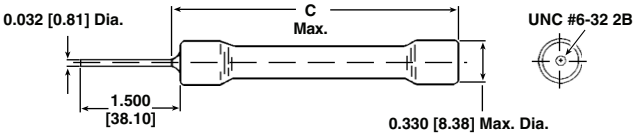
** **NOTE:** Some packaging codes are model specific.
* Pb containing terminations are not RoHS compliant, exemptions may apply

DIMENSIONS

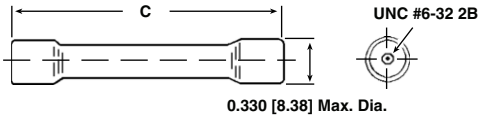
Styles N, P and S



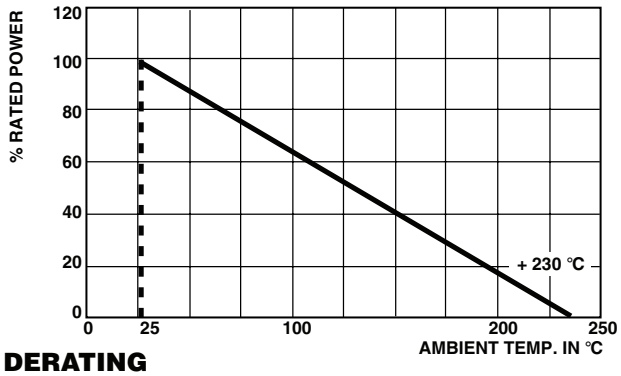
Style Y



Style T



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 [29.72 ± 0.56]	1.050 [26.67]
ROX100	0.920 ± 0.032 [23.37 ± 0.81]	1.020 [25.91]	1.288 ± 0.022 [32.77 ± 0.56]	1.170 [29.72]
ROX150	1.550 ± 0.032 [39.37 ± 0.81]	1.650 [41.91]	1.918 ± 0.022 [48.77 ± 0.56]	1.800 [45.72]
ROX200	2.050 ± 0.032 [52.07 ± 0.81]	2.150 [54.61]	2.418 ± 0.022 [61.47 ± 0.56]	2.300 [58.42]
ROX300	3.050 ± 0.032 [77.47 ± 0.81]	3.150 [80.01]	3.418 ± 0.022 [86.87 ± 0.56]	3.300 [83.82]
ROX400	4.050 ± 0.032 [102.87 ± 0.81]	4.150 [105.41]	4.418 ± 0.022 [112.27 ± 0.56]	4.300 [109.22]
ROX500	5.050 ± 0.032 [128.27 ± 0.81]	5.150 [130.81]	5.418 ± 0.022 [137.67 ± 0.56]	5.300 [134.62]
ROX600	6.050 ± 0.032 [153.67 ±± 0.81]	6.150 [156.21]	6.418 ± 0.022 [163.07 ± 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 flameproof on ROX050 thru ROX200. Black 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

Notice

Specifications of the products displayed herein are subject to change without notice. Vishay Intertechnology, Inc., or anyone on its behalf, assumes no responsibility or liability for any errors or inaccuracies.

Information contained herein is intended to provide a product description only. No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document. Except as provided in Vishay's terms and conditions of sale for such products, Vishay assumes no liability whatsoever, and disclaims any express or implied warranty, relating to sale and/or use of Vishay products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright, or other intellectual property right.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Vishay for any damages resulting from such improper use or sale.