



# Wirewound Resistor, Ultra Precision, Epoxy Molded, Axial Lead



### FEATURES

- Resistance values up to 250 k $\Omega$
- Resistance tolerances down to  $\pm 0.01$  %
- Temperature coefficients down to 2 ppm/ $^{\circ}$ C
- Material categorization:  
For definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



RoHS COMPLIANT GREEN (5-2008)

STANDARD ELECTRICAL SPECIFICATIONS				
GLOBAL MODEL	POWER RATING $P_{25^{\circ}\text{C}}$ W	RESISTANCE RANGE $\Omega$ $\pm 0.01$ %, $\pm 0.02$ %, $\pm 0.1$ %	RESISTANCE RANGE $\Omega$ $\pm 0.25$ %, $\pm 0.5$ %, $\pm 1$ %	MAXIMUM WORKING VOLTAGE V
MR503	0.06	10 to 75K	1 to 75K	75
MR508	0.08	10 to 150K	1 to 150K	100
MR510	0.10	10 to 250K	1 to 250K	100
MR512	0.10	10 to 250K	1 to 250K	100

### GLOBAL PART NUMBER INFORMATION

Global Part Numbering example: MR50336R000FAE66 (visit [www.vishay.net](http://www.vishay.net) SAP parts manual for all options)

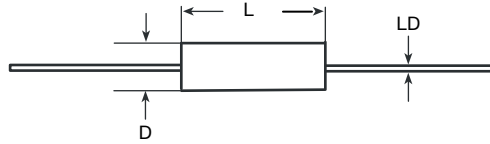
M	R	5	0	3	3	6	R	0	0	0	F	A	E	6	6		
GLOBAL MODEL (5 digits) <small>(See Standard Electrical Specifications Global Model column for options)</small>					VALUE (6 digits) <b>R</b> = Decimal <b>K</b> = Thousand <b>M</b> = Million <b>1R5000</b> = 1.5 $\Omega$ <b>1K5000</b> = 1.5 k $\Omega$ <b>1M0000</b> = 1 M $\Omega$			TOLERANCE (1 digit) <b>T</b> = $\pm 0.01$ % <b>Q</b> = $\pm 0.02$ % <b>A</b> = $\pm 0.05$ % <b>B</b> = $\pm 0.1$ % <b>C</b> = $\pm 0.25$ % <b>D</b> = $\pm 0.5$ % <b>F</b> = $\pm 1.0$ %		TC (1 digit) <b>A</b> = Standard, 10 to 30 (W) <b>B</b> = 3900 (Q) <b>C</b> = 4500 (M) <b>D</b> = 6000 (N) <b>G</b> = 5 <b>J</b> = 2		PACKAGING CODE (3 digits) <b>E66</b> = Lead (Pb)-free bulk pack			SPECIAL (up to 2 digits) <small>(Dash Number)</small> From <b>1</b> to <b>99</b> as applicable <b>S</b> = 0.025" terminal		

Historical Part Number example: MR503W36R0F

MR503	W = STANDARD	36 $\Omega$	1 %
HISTORICAL MODEL	TC	RESISTANCE VALUE	TOLERANCE



**DIMENSIONS** in inches [millimeters]



GLOBAL MODEL	DIMENSIONS in inches [millimeters]		
	L ± 0.025 [0.635]	D ± 0.005 [0.127]	LD ± 0.002 [0.051]
MR503	0.210 [5.33]	0.100 [2.54]	0.020 [0.508]
MR508	0.260 [6.60]	0.125 [3.18]	0.020 [0.508] <sup>(1)</sup>
MR510	0.375 [9.52]	0.125 [3.18]	0.020 [0.508]
MR512	0.312 [7.92]	0.156 [3.96]	0.020 [0.508]

**Note**

<sup>(1)</sup> 0.025" [0.635] available, this is called out by putting an "S" in the SPECIAL section of the part number

**MATERIAL SPECIFICATIONS**

**Element:** Nickel-chrome alloy, other materials available depending on TC requirements

**Core:** Molded epoxy

**Encapsulant:** Epoxy

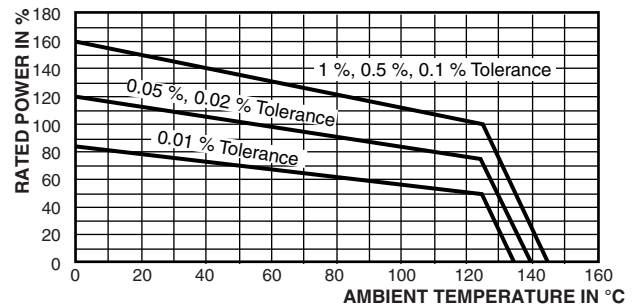
**Standard Terminals:** 100 % matte tinned copper

**Part Marking:** MILLS, model, value, tolerance, date code

**Note**

- Due to resistor size limitations some resistors will have minimal information marked on parts

**DERATING**



TECHNICAL SPECIFICATIONS		
PARAMETER	UNIT	MR500 RESISTOR CHARACTERISTICS
Temperature Coefficient	ppm/°C	± 10 > 100 Ω; ± 20 for 10 Ω to 100 Ω; ± 30 for 1 Ω to 9.99 Ω
Terminal Strength	lb	4.5
Dielectric Withstanding Voltage	V <sub>AC</sub>	750
Operating Temperature Range	°C	- 55 to 145
Maximum Working Voltage	V	(P × R) <sup>1/2</sup>



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