

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



### FEATURES

- Resistance values up to 6 MΩ
- Resistance tolerances down to  $\pm 0.01\%$
- Temperature coefficients down to 2 ppm/°C
- Material categorization:  
For definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



### STANDARD ELECTRICAL SPECIFICATIONS

GLOBAL MODEL	POWER RATING $P_{25\text{ }^{\circ}\text{C}}$ W	RESISTANCE RANGE $\Omega$	RESISTANCE RANGE $\Omega$	MAXIMUM WORKING VOLTAGE V
		$\pm 0.01\%$ , $\pm 0.02\%$ , $\pm 0.05\%$ , $\pm 0.1\%$	$\pm 0.25\%$ , $\pm 0.5\%$ , $\pm 1\%$	
MR301	0.120	10 to 400K	1 to 400K	150
MR302	0.175	10 to 750K	1 to 750K	200
MR303	0.200	10 to 750K	1 to 750K	200
MR304	0.150	10 to 500K	1 to 500K	100
MR305	0.200	10 to 1.0M	1 to 1.0M	200
MR306	0.250	10 to 1.2M	1 to 1.2M	300
MR307	0.330	10 to 2.5M	1 to 2.5M	400
MR308	0.400	10 to 3.8M	1 to 3.8M	300
MR310	0.500	10 to 3.8M	1 to 3.8 M	400
MR311	0.500	10 to 3.8M	1 to 3.8M	400
MR312	0.750	10 to 6.0M	1 to 6.0M	600
MR314	1.000	10 to 6.0M	1 to 6.0M	800
MR315	1.500	10 to 6.0M	1 to 6.0M	900
MR316	2.000	10 to 6.0M	1 to 6.0M	1000

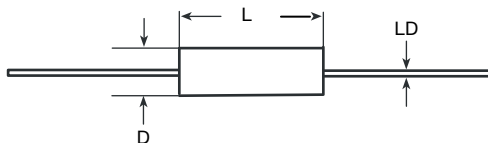
### GLOBAL PART NUMBER INFORMATION

Global Part Numbering example: **MR30615K000QAE66** (visit [www.vishay.net](http://www.vishay.net) SAP parts manual for all options)

<b>M</b>	<b>R</b>	<b>3</b>	<b>0</b>	<b>6</b>	<b>1</b>	<b>5</b>	<b>K</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>Q</b>	<b>A</b>	<b>E</b>	<b>6</b>	<b>6</b>		
GLOBAL MODEL (5 digits)					VALUE (6 digits)			TOLERANCE (1 digit)		TC (1 digits)		PACKAGING CODE (3 digits)			SPECIAL (up to 2 digits)		
(See Standard Electrical Specifications Global Model column for options)					<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 $\Omega$			<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> = $\pm 1.0\%$		<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		<b>E66</b> = Lead (Pb)-free bulk pack			(Dash Number) From <b>1</b> to <b>99</b> as applicable <b>S</b> = 0.025" terminal		

Historical Part Number example: **MR306W15K0Q**

<b>MR306</b>	<b>W = STANDARD</b>	<b>15 k<math>\Omega</math></b>	<b>0.02 %</b>
HISTORICAL MODEL	TC	RESISTANCE VALUE	TOLERANCE

**DIMENSIONS** in inches [millimeters]


MODEL	DIMENSIONS in inches [millimeters]		
	$L \pm 0.025$ [0.635]	$D \pm 0.005$ [0.127]	$LD \pm 0.002$ [0.051]
MR301	0.250 [6.35]	0.187 [4.75]	0.025 [0.635]
MR302	0.375 [9.52]	0.187 [4.75]	0.025 [0.635]
MR303	0.450 [11.43]	0.187 [4.75]	0.025 [0.635]
MR304	0.250 [6.35]	0.250 [6.35]	0.025 [0.635]
MR305	0.375 [9.52]	0.250 [6.35]	0.032 [0.813] <sup>(1)</sup>
MR306	0.500 [12.70]	0.250 [6.35]	0.032 [0.813] <sup>(1)</sup>
MR307	0.750 [19.05]	0.250 [6.35]	0.032 [0.813] <sup>(1)</sup>
MR308	0.500 [12.70]	0.375 [9.52]	0.032 [0.813]
MR310	0.750 [19.05]	0.375 [9.52]	0.032 [0.813]
MR311	0.750 [19.05]	0.375 [9.52]	0.032 [0.813]
MR312	1.000 [25.40]	0.375 [9.52]	0.032 [0.813]
MR314	1.000 [25.40]	0.500 [12.70]	0.032 [0.813]
MR315	1.500 [38.10]	0.500 [12.70]	0.032 [0.813]
MR316	2.000 [50.80]	0.500 [12.70]	0.032 [0.813]

**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

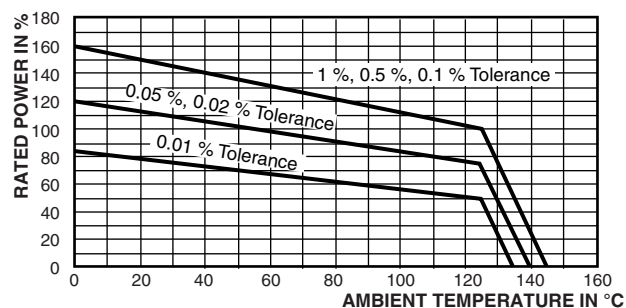
**Encapsulant:** Epoxy

**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	MR300 RESISTOR CHARACTERISTICS
Temperature Coefficient	ppm/°C	$\pm 10 > 100 \Omega$ ; $\pm 20$ for $10 \Omega$ to $100 \Omega$ ; $\pm 30$ for $1 \Omega$ to $9.99 \Omega$
Terminal Strength	lb	4.5
Dielectric Withstanding Voltage	$V_{AC}$	750
Operating Temperature Range	°C	- 55 to 145
Maximum Working Voltage	V	$(P \times R)^{1/2}$



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