

Wirewound Resistor, Ultra Precision, Epoxy Molded, Axial Lead



FEATURES

- Resistance values up to 6 M Ω
- Resistance tolerances down to $\pm 0.005\%$
- Tighter tolerances and lower resistance values available, please contact factory
- Temperature coefficients down to ± 2 ppm/ $^{\circ}\text{C}$, and up to 6000 ppm/ $^{\circ}\text{C}$
- Matched resistance sets available in tolerances down to $\pm 0.001\%$, and in temperature coefficients down to ± 0.5 ppm/ $^{\circ}\text{C}$, please contact factory
- Custom design capability available, please contact factory
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912



RoHS
COMPLIANT
HALOGEN
FREE
GREEN
(5-2008)

STANDARD ELECTRICAL SPECIFICATIONS

GLOBAL MODEL	POWER RATING W ⁽¹⁾	RESISTANCE RANGE Ω $\pm 0.1\%, \pm 0.25\%,$ $\pm 0.5\%, \pm 1\%$	RESISTANCE RANGE Ω $\pm 0.05\%, \pm 0.1\%,$ $\pm 0.25\%, \pm 0.5\%, \pm 1\%$	RESISTANCE RANGE Ω $\pm 0.01\%, \pm 0.05\%,$ $\pm 0.1\%, \pm 0.25\%,$ $\pm 0.5\%, \pm 1\%$	RESISTANCE RANGE Ω $\pm 0.005\%, \pm 0.01\%,$ $\pm 0.05\%, \pm 0.1\%,$ $\pm 0.25\%, \pm 0.5\%, \pm 1\%$	MAXIMUM WORKING VOLTAGE V ⁽²⁾
MR101	0.120	1 to 400K	5 to 400K	50 to 400K	1K to 400K	150
MR102	0.175	1 to 750K	5 to 750K	50 to 750K	1K to 750K	200
MR103	0.200	1 to 750K	5 to 750K	50 to 750K	1K to 750K	200
MR104	0.150	1 to 500K	5 to 500K	50 to 500K	1K to 500K	100
MR105	0.200	1 to 1.0M	5 to 1.0M	50 to 1.0M	1K to 1.0M	200
MR106	0.250	1 to 1.2M	5 to 1.2M	50 to 1.2M	1K to 1.2M	300
MR107	0.330	1 to 2.5M	5 to 2.5M	50 to 2.5M	1K to 2.5M	400
MR108	0.400	1 to 3.8M	5 to 3.8M	50 to 3.8M	1K to 3.8M	300
MR110	0.500	1 to 3.8M	5 to 3.8M	50 to 3.8M	1K to 3.8M	400
MR111	0.500	1 to 3.8M	5 to 3.8M	50 to 3.8M	1K to 3.8M	400
MR112	0.750	1 to 6.0M	5 to 6.0M	50 to 6.0M	1K to 6.0M	600
MR114	1.000	1 to 6.0M	5 to 6.0M	50 to 6.0M	1K to 6.0M	800
MR115	1.500	1 to 6.0M	5 to 6.0M	50 to 6.0M	1K to 6.0M	900
MR116	2.000	1 to 6.0M	5 to 6.0M	50 to 6.0M	1K to 6.0M	1000

Notes

⁽¹⁾ Power rating is based on tolerance, please see derating chart.

⁽²⁾ The maximum working voltage is the highest voltage that can be applied to the resistor. Below this value, the maximum voltage that can continuously be applied is given by $(P \times R)^{1/2}$.

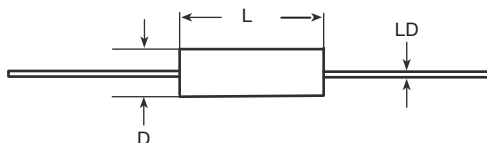
GLOBAL PART NUMBER INFORMATION

Global Part Numbering example: **MR106250R00TAE66** (visit www.vishay.net SAP parts manual for all options)

M	R	1	0	6	2	5	0	R	0	0	T	A	E	6	6		
GLOBAL MODEL (5 digits)					VALUE (6 digits)			TOLERANCE (1 digit)		TC (1 digit)		PACKAGING CODE (3 digits)			SPECIAL (up to 2 digits)		
(see Standard Electrical Specifications Global Model column for options)					R = decimal K = thousand M = million 1R5000 = 1.5 Ω 1K5000 = 1.5 kΩ 1M0000 = 1 MΩ			S = ± 0.005 % T = ± 0.01 % Q = ± 0.02 % A = ± 0.05 % B = ± 0.1 % C = ± 0.25 % D = ± 0.5 % F = ± 1.0 %		A = standard, 10 to 30 (W) B = 3900 (Ω) C = 4500 (M) D = 6000 (N) E = 3500 (P) Y = 10 (≥ 1 Ω) G = 5 (≥ 10 Ω) J = 2 (≥ 100 Ω)		E66 = lead (Pb)-free bulk pack			(dash number) From 1 to 99 as applicable S = 0.025" terminal		

Historical Part Number example: **MR106W250R0T**

MR106	W = STANDARD	250 Ω	0.01 %
HISTORICAL MODEL	TC	RESISTANCE VALUE	TOLERANCE

DIMENSIONS in inches [millimeters]


GLOBAL MODEL	DIMENSIONS in inches [millimeters]		
	$L \pm 0.025$ [0.635]	$D \pm 0.005$ [0.127]	$LD \pm 0.002$ [0.051]
MR101	0.250 [6.35]	0.187 [4.75]	0.025 [0.635]
MR102	0.375 [9.52]	0.187 [4.75]	0.025 [0.635]
MR103	0.450 [11.43]	0.187 [4.75]	0.025 [0.635]
MR104	0.250 [6.35]	0.250 [6.35]	0.025 [0.635]
MR105	0.375 [9.52]	0.250 [6.35]	0.032 [0.813] ⁽¹⁾
MR106	0.500 [12.70]	0.250 [6.35]	0.032 [0.813] ⁽¹⁾
MR107	0.750 [19.05]	0.250 [6.35]	0.032 [0.813] ⁽¹⁾
MR108	0.500 [12.70]	0.375 [9.52]	0.032 [0.813]
MR110	0.750 [19.05]	0.375 [9.52]	0.032 [0.813]
MR111	0.750 [19.05]	0.375 [9.52]	0.032 [0.813]
MR112	1.000 [25.40]	0.375 [9.52]	0.032 [0.813]
MR114	1.000 [25.40]	0.500 [12.70]	0.032 [0.813]
MR115	1.500 [38.10]	0.500 [12.70]	0.032 [0.813]
MR116	2.000 [50.80]	0.500 [12.70]	0.032 [0.813]

Note

⁽¹⁾ 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

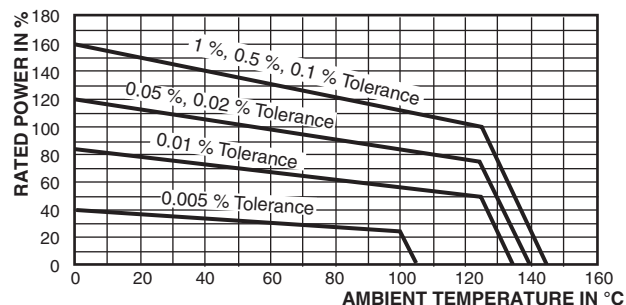
Encapsulant: epoxy

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	MR100 RESISTOR CHARACTERISTICS
Temperature Coefficient	ppm/°C	± 10 for $> 100 \Omega$; ± 20 for 10Ω to 100Ω ; ± 30 for $< 10 \Omega$
Terminal Strength	lb	4.5
Dielectric Withstanding Voltage	V_{AC}	750
Operating Temperature Range	°C	-55 to +145 (see derating chart)



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