

Wirewound Resistor, Ultra Precision, Epoxy Molded, Axial Lead


FEATURES

- Resistance values up to 250 k 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⁾
MR503	0.06	1 to 75K	5 to 75K	50 to 75K	1K to 75K	75
MR508	0.08	1 to 150K	5 to 150K	50 to 150K	1K to 150K	100
MR510	0.10	1 to 250K	5 to 250K	50 to 250K	1K to 250K	100
MR512	0.10	1 to 250K	5 to 250K	50 to 250K	1K to 250K	100

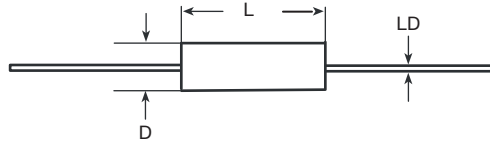
Notes

- ⁽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: MR50336R000FAE66 (visit 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) (see Standard Electrical Specifications Global Model column for options)				VALUE (6 digits) R = decimal K = thousand M = million 1R5000 = 1.5 Ω 1K5000 = 1.5 k Ω 1M0000 = 1 M Ω			TOLERANCE (1 digit) S = $\pm 0.005\%$ T = $\pm 0.01\%$ Q = $\pm 0.02\%$ A = $\pm 0.05\%$ B = $\pm 0.1\%$ C = $\pm 0.25\%$ D = $\pm 0.5\%$ F = $\pm 1.0\%$		TC (1 digit) A = standard, 10 to 30 (W) B = 3900 (Q) C = 4500 (M) D = 6000 (N) E = 3500 (P) Y = 10 ($\geq 1 \Omega$) G = 5 ($\geq 10 \Omega$) J = 2 ($\geq 100 \Omega$)		PACKAGING CODE (3 digits) E66 = lead (Pb)-free bulk pack			SPECIAL (up to 2 digits) (dash number) from 1 to 99 as applicable S = 0.025" terminal			
Historical Part Number example: MR503W36R0F																	
MR503				W = STANDARD				36 Ω				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] ⁽¹⁾
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

⁽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

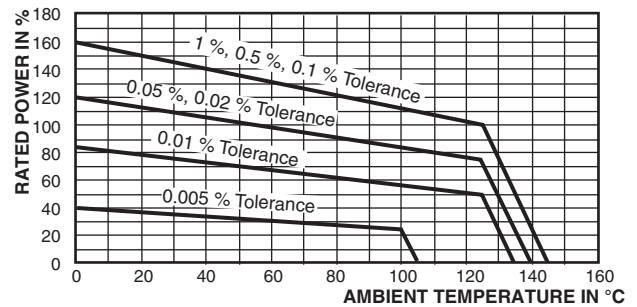
Standard Terminals: 100 % matte tinned copper

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	MR500 RESISTOR CHARACTERISTICS
Temperature Coefficient	ppm/°C	± 10 for > 100 Ω; ± 20 for 10 Ω to 100 Ω; ± 30 for < 10 Ω
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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