Wirewound Resistor, Ultra Precision, High Stability, Epoxy Molded, Axial Lead

FEATURES

- Stability of ± 20 ppm/year
- Resistance values up to 6 MΩ
- Resistance tolerances down to ± 0.005 %
- Tighter tolerances and lower resistance values available, please contact factory
- Temperature coefficients down to ± 2 ppm/°C, and up to 6000 ppm/°C
- Matched resistance sets available in tolerances down to ± 0.001 %, and in temperature coefficients down to ± 0.5 ppm/°C, please contact factory
- Custom design capability available, please contact factory
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

Pb-free

e3

RoHS COMPLIANT

HALOGEN FREE GREEN (5-2008)

STANDARD ELECTRICAL SPECIFICATIONS

GLOBAL MODEL	POWER RATING W (1)	RESISTANCE RANGE Ω ± 0.1 %, ± 0.25 %, ± 0.5 %, ± 1 %	RESISTANCE RANGE Ω ± 0.05 %, ± 0.1 %, ± 0.25 %, ± 0.5 %, ± 1 %	RESISTANCE RANGE Ω ± 0.01 %, ± 0.05 %, ± 0.1 %, ± 0.25 %, ± 0.5 %, ± 1 %	RESISTANCE RANGE Ω ± 0.005 %, ± 0.01 %, ± 0.05 %, ± 0.1 %, ± 0.25 %, ± 0.5 %, ± 1 %	MAXIMUM WORKING VOLTAGE V (2)
MR301	0.120	1 to 400K	5 to 400K	50 to 400K	1K to 400K	150
MR302	0.175	1 to 750K	5 to 750K	50 to 750K	1K to 750K	200
MR303	0.200	1 to 750K	5 to 750K	50 to 750K	1K to 750K	200
MR304	0.150	1 to 500K	5 to 500K	50 to 500K	1K to 500K	100
MR305	0.200	1 to 1.0M	5 to 1.0M	50 to 1.0M	1K to 1.0M	200
MR306	0.250	1 to 1.2M	5 to 1.2M	50 to 1.2M	1K to 1.2M	300
MR307	0.330	1 to 2.5M	5 to 2.5M	50 to 2.5M	1K to 2.5M	400
MR308	0.400	1 to 3.8M	5 to 3.8M	50 to 3.8M	1K to 3.8M	300
MR310	0.500	1 to 3.8 M	5 to 3.8 M	50 to 3.8 M	1K to 3.8 M	400
MR311	0.500	1 to 3.8M	5 to 3.8M	50 to 3.8M	1K to 3.8M	400
MR312	0.750	1 to 6.0M	5 to 6.0M	50 to 6.0M	1K to 6.0M	600
MR314	1.000	1 to 6.0M	5 to 6.0M	50 to 6.0M	1K to 6.0M	800
MR315	1.500	1 to 6.0M	5 to 6.0M	50 to 6.0M	1K to 6.0M	900
MR316	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: MR30615K000QAE66 (visit www.vishay.net SAP parts manual for all options)

M	R	3	0	6	1	5	K	0	0	0	Q	A	E	6	6		

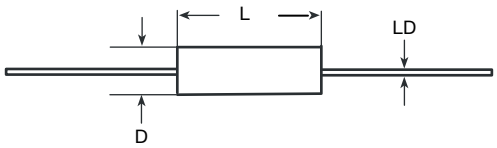
GLOBAL MODEL (5 digits)	VALUE (6 digits)	TOLERANCE (1 digit)	TC (1 digits)	PACKAGING CODE (3 digits)	SPECIAL (up to 2 digits)
(see Standard Electrical Specifications Global Model column for options)	**R** = decimal **K** = thousand **M** = million **1R5000** = 1.5 Ω **1K5000** = 1.5 kΩ **1M0000** = 1 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 (Q) **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: MR306W15K0Q

MR306	W = STANDARD	15 kΩ	0.02 %
HISTORICAL MODEL	TC	RESISTANCE VALUE	TOLERANCE

For technical questions, contact: ww2aresistors@vishay.com

DIMENSIONS in inches [millimeters]



MODEL	DIMENSIONS in inches [millimeters]		
	L ± 0.025 [0.635]	D ± 0.005 [0.127]	LD ± 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] (1)
MR306	0.500 [12.70]	0.250 [6.35]	0.032 [0.813] (1)
MR307	0.750 [19.05]	0.250 [6.35]	0.032 [0.813] (1)
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

(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

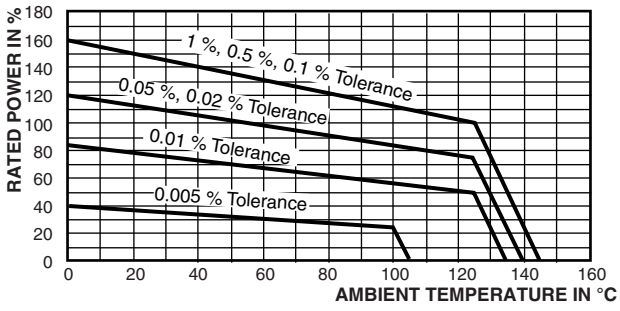
Standard Terminals: 100 % matte tinned copper

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	MR300 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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