

Wirewound Resistor, Ultra Precision, Epoxy Molded, Axial Lead



FEATURES

- Resistance values up to 6 M Ω
- Resistance tolerances down to $\pm 0.01\%$
- Temperature coefficients down to 2 ppm/ $^{\circ}\text{C}$
- Material categorization:
For definitions of compliance please see 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 Ω | RESISTANCE RANGE Ω | MAXIMUM WORKING VOLTAGE V |
|--------------|--|--|--|------------------------------|
| | | $\pm 0.01\%$, $\pm 0.02\%$, $\pm 0.05\%$, $\pm 0.1\%$ | $\pm 0.25\%$, $\pm 0.5\%$, $\pm 1\%$ | |
| MR101 | 0.120 | 10 to 400K | 1 to 400K | 150 |
| MR102 | 0.175 | 10 to 750K | 1 to 750K | 200 |
| MR103 | 0.200 | 10 to 750K | 1 to 750K | 200 |
| MR104 | 0.150 | 10 to 500K | 1 to 500K | 100 |
| MR105 | 0.200 | 10 to 1.0M | 1 to 1.0M | 200 |
| MR106 | 0.250 | 10 to 1.2M | 1 to 1.2M | 300 |
| MR107 | 0.330 | 10 to 2.5M | 1 to 2.5M | 400 |
| MR108 | 0.400 | 10 to 3.8M | 1 to 3.8M | 300 |
| MR110 | 0.500 | 10 to 3.8M | 1 to 3.8 M | 400 |
| MR111 | 0.500 | 10 to 3.8M | 1 to 3.8M | 400 |
| MR112 | 0.750 | 10 to 6.0M | 1 to 6.0M | 600 |
| MR114 | 1.000 | 10 to 6.0M | 1 to 6.0M | 800 |
| MR115 | 1.500 | 10 to 6.0M | 1 to 6.0M | 900 |
| MR116 | 2.000 | 10 to 6.0M | 1 to 6.0M | 1000 |

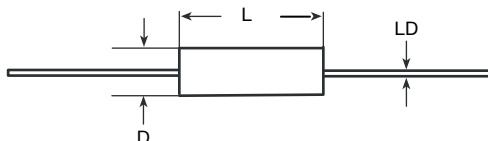
GLOBAL PART NUMBER INFORMATION

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 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 k Ω 1M0000 = 1 M Ω | | | 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 = $\pm 1.0\%$ | | A = Standard, 10 to 30 (W) B = 3900 (Q) C = 4500 (M) D = 6000 (N) G = 5 J = 2 | | 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

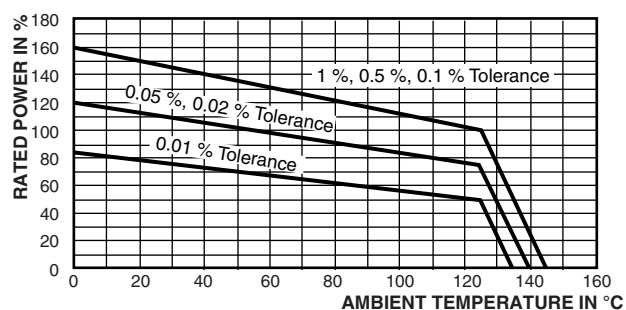
Encapsulant: Epoxy

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 | $\pm 10 > 100 \Omega$; ± 20 for 10Ω to 100Ω ; ± 30 for 1Ω to 9.99Ω |
| 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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