

Wirewound Resistor, Ultra Precision, Epoxy Molded, Radial Lead


FEATURES

- Resistance values up to 1 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/ $^{\circ}$ C, and up to 6000 ppm/ $^{\circ}$ C
- Matched resistance sets available in tolerances down to $\pm 0.001\%$, and in temperature coefficients down to ± 0.5 ppm/ $^{\circ}$ 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⁾ |
| MR602 | 0.250 | 1 to 600K | 5 to 600K | 50 to 600K | 1K to 600K | 150 |
| MR604 | 0.125 | 1 to 500K | 5 to 500K | 50 to 500K | 1K to 500K | 150 |
| MR605 | 0.125 | 1 to 500K | 5 to 500K | 50 to 500K | 1K to 500K | 150 |
| MR606 | 0.125 | 1 to 500K | 5 to 500K | 50 to 500K | 1K to 500K | 150 |
| MR612 | 0.400 | 1 to 800K | 5 to 800K | 50 to 800K | 1K to 800K | 300 |
| MR614 | 0.500 | 1 to 1M | 5 to 1M | 50 to 1M | 1K to 1M | 400 |

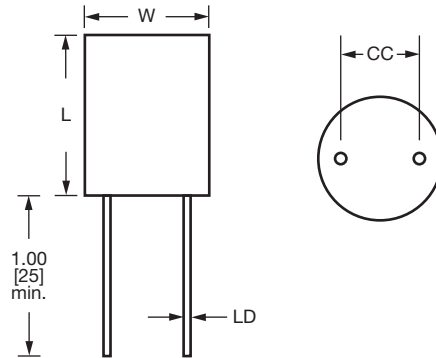
Notes

- (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: MR612250R00AAE66 (visit www.vishay.net SAP parts manual for all options) | | | | | | | | | | | | | | | | | |
| M | R | 6 | 1 | 2 | 2 | 5 | 0 | R | 0 | 0 | A | 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) | | | | | |
| MR602 MR604 MR605 MR606 MR612 MR614 | | R = decimal K = thousand M = million 1R5000 = 1.5 Ω 1K5000 = 1.5 k Ω 1M0000 = 1 M Ω | | | 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 = $\pm 1.0\%$ | | 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 ($\geq 100 \Omega$) | | E66 = lead (Pb)-free bulk pack | | | (dash number) from 1 to 99 as applicable | | | | | |
| Historical Part Number example: MR612W250R0A | | | | | | | | | | | | | | | | | |
| MR612 | | W = STANDARD | | | 250 Ω | | 0.05 % | | | | | | | | | | |
| HISTORICAL MODEL | | TC | | | RESISTANCE VALUE | | TOLERANCE | | | | | | | | | | |



DIMENSIONS in inches [millimeters]



| GLOBAL MODEL | DIMENSIONS in inches [millimeters] | | | |
|--------------|------------------------------------|-------------------|------------------------------|--------------------|
| | L ± 0.025 [0.635] | W ± 0.005 [0.127] | LD ± 0.002 [0.051] | CC ± 0.015 [0.381] |
| MR602 | 0.500 [12.70] | 0.250 [6.35] | 0.025 [0.635] | 0.150 [3.81] |
| MR604 | 0.312 [7.92] | 0.250 [6.35] | 0.025 [0.635] | 0.150 [3.81] |
| MR605 | 0.312 [7.92] | 0.250 [6.35] | 0.025 [0.635] | 0.200 [5.08] |
| MR606 | 0.375 [9.53] | 0.250 [6.35] | 0.025 [0.635] | 0.150 [3.81] |
| MR612 | 0.500 [12.70] | 0.375 [9.53] | 0.032 [0.813] | 0.200 [5.08] |
| MR614 | 0.500 [12.70] | 0.500 [12.70] | 0.032 [0.813] ⁽¹⁾ | 0.300 [7.62] |

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

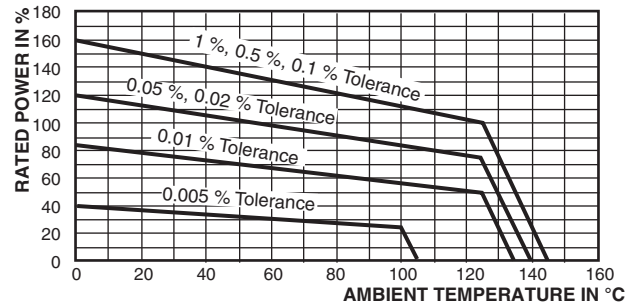
Standard Terminals: 100 % matte tinned copper

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 | MR600 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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