High Voltage Power Resistors Series MS500
High Power, Non-Inductive, High Temperature

High Voltage Power Resistors Series MS500 combine proprietary non-inductive resistance system, power film technology and design to achieve high stability, increased power rating and high operating voltages up to 50 kV.

MS500 Power Film Resistors cover a wide resistance range from 1 Ohm up to 10 MegOhm and operating temperatures from −55°C to +275°C. These resistors are ideally suited for high power and high frequency applications.

<table>
<thead>
<tr>
<th>Model</th>
<th>Wattage</th>
<th>Max. Operating Voltage*</th>
<th>Dimensions in millimeters ± 1.00 [Dimensions in inches ± 0.04]</th>
</tr>
</thead>
<tbody>
<tr>
<td>MS500.10</td>
<td>23.00</td>
<td>12’000</td>
<td>L: 81 ± 1 [3.19 ± 0.04] B: 14.00 [0.55] C: 13.50 [0.53] D: 10.00 [0.40] G: M4</td>
</tr>
<tr>
<td>MS500.20</td>
<td>38.00</td>
<td>27’000</td>
<td>L: 156 ± 1.5 [6.14 ± 0.06] B: 14.00 [0.55] C: 13.50 [0.53] D: 10.00 [0.40] G: M4</td>
</tr>
<tr>
<td>MS500.50</td>
<td>83.00</td>
<td>23’000</td>
<td>L: 158 ± 1.5 [6.22 ± 0.06] B: 31.50 [1.24] C: 30.50 [1.20] D: 17.00 [0.67] G: M8</td>
</tr>
<tr>
<td>MS500.70</td>
<td>113.00</td>
<td>33’000</td>
<td>L: 208 ± 2 [8.19 ± 0.08] B: 31.50 [1.24] C: 30.50 [1.20] D: 17.00 [0.67] G: M8</td>
</tr>
<tr>
<td>MS500.100</td>
<td>165.00</td>
<td>50’000</td>
<td>L: 308 ± 3 [12.12 ± 0.12] B: 31.50 [1.24] C: 30.50 [1.20] D: 17.00 [0.67] G: M8</td>
</tr>
</tbody>
</table>

* DC or AC peak in dry air.

**Characteristics**

- **Resistance Values**: from 1Ω to as high as 10MΩ
- **Tolerances**: 1%, 2%, 5%, 10% (other tolerances to 0.05% on request)
- **Temperature Coefficients**: 25, 50 and 100 ppm/°C (other temperature coefficients to 10 ppm/°C on request)
- **Operating Temperature**: -55...+275°C (extended temperature range to 350°C available)
- **Insulation Resistance**: > 10'000 MΩ 500 Volt 25 °C 75% relative humidity
- **Dielectric Strength**: > 1'000 Volt 25 °C 75% relative humidity
- **Thermal Shock**: Δ R/R < 0.5% typ., 1% max. MIL Std. 202, method 107 Cond. C IEC 68 - 2 - 14
- **Overload**: Δ R/R < 0.5% typ., 1% max. 1.5 x Pnom, 5 sec (do not exceed max. voltage)
- **Moisture Resistance**: Δ R/R < 0.5% typ., 1% max. MIL Std. 202, method 106 IEC 68 - 2 - 3
- **Load Life**: Δ R/R < 0.5% typ., 1% max. 1000 hours at rated power IEC 115 - 1
- **Continuous Working Voltage**: Power Limited = \sqrt{(P x R)}
- **Encapsulation**: Silicone Conformal Coating Core Material Al₂O₃ (96%)
- **Lead Material**: Brass Caps (lug terminations avail.) Resistor Material Ruthenium Oxide

* Temperature Coefficient referenced to 25°C, ΔR taken at +125°C.

**Derating Curve**

![Derating Curve Image](image-url)

© Nicrom Electronic
Via Roncaglia 22, CH-6883 Novazzano, Switzerland
Fax: ++41 91 682 99 86 Phone: ++41 91 682 67 01
Version 130625
www.nicrom-electronic.com
info@nicrom-electronic.com
Specifications subject to changes without notice