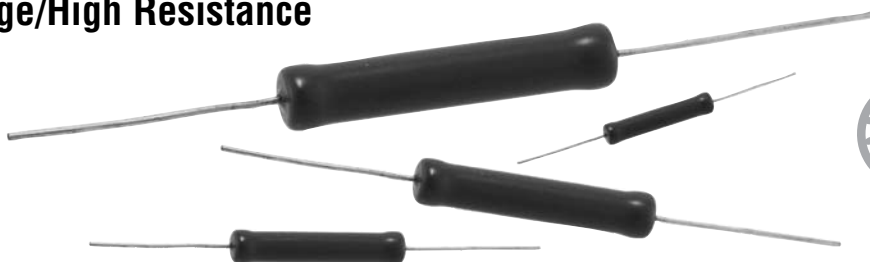


# Maxi-Mox

## Precision Thick Film Axial Terminal High Voltage/High Resistance



Maxi-Mox resistors are also versatile. Suitable for industrial applications requiring still more power for high voltage switching, industrial control, and high voltage current limiting.

### FEATURES

- Wide resistance ranges
- Voltage rating to 50KV
- Power rating to 12.5 watts
- Silicone or epoxy coating
- Non-inductive available

### APPLICATIONS

- HV power supplies
- Power distribution
- Medical instrumentation
- Avionics

### SERIES SPECIFICATIONS

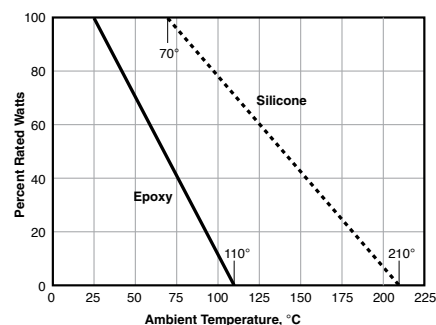
| Ohmite Series                               | Resistance Range ( $\Omega$ ) | Power @70°C  | Voltage Rating | Available Tolerances* | Capacitance (pf) |
|---------------------------------------------|-------------------------------|--------------|----------------|-----------------------|------------------|
| <b>• High-temperature (silicone coated)</b> |                               |              |                |                       |                  |
| MOX-1-12                                    | 250 $\Omega$ to 300,000M      | 2.5W         | 10.0KV         | 1% to 20%             | 0.75             |
| MOX-2-12                                    | 500 $\Omega$ to 700,000M      | 5.0W         | 20.0KV         | 1% to 20%             | 0.60             |
| MOX-3-12                                    | 750 $\Omega$ to 1,000,000M    | 7.5W         | 30.0KV         | 1% to 20%             | 0.50             |
| MOX-4-12                                    | 1K to 1,000,000M              | 10.0W        | 40.0KV         | 1% to 20%             | 0.40             |
| MOX-5-12                                    | 1.25K to 1,000,000M           | 12.5W        | 50.0KV         | 1% to 20%             | 0.30             |
| <b>• Standard (epoxy coated)</b>            |                               | <b>@25°C</b> |                |                       |                  |
| MOX-1-13                                    | 250 $\Omega$ to 300,000M      | 2.0W         | 10.0KV         | 0.1% to 20%           | 0.75             |
| MOX-2-13                                    | 500 $\Omega$ to 700,000M      | 3.0W         | 20.0KV         | 0.1% to 20%           | 0.60             |
| MOX-3-13                                    | 750 $\Omega$ to 1,000,000M    | 4.0W         | 30.0KV         | 0.1% to 20%           | 0.50             |
| MOX-4-13                                    | 1K to 1,000,000M              | 5.0W         | 40.0KV         | 0.1% to 20%           | 0.40             |
| MOX-5-13                                    | 1.25K to 1,000,000M           | 6.0W         | 50.0KV         | 0.1% to 20%           | 0.30             |

\*Some tolerances are not available over the entire resistance range.

### CHARACTERISTICS

|                                |                                                         |
|--------------------------------|---------------------------------------------------------|
| <b>Core</b>                    | Alumina                                                 |
| <b>Resistor</b>                | Thick Film                                              |
| <b>Terminal</b>                | RoHS solder composition is 96% Sn, 3.5% Ag, 0.5% Cu     |
| <b>Resistance Range</b>        | 250 $\Omega$ to 1 Teraohm                               |
| <b>Power Rating</b>            | 2.0W to 12.5W                                           |
| <b>Voltage Rating</b>          | 10KV to 50KV                                            |
| <b>Tolerance</b>               | 0.5% to 20%; not all tolerances available in all values |
| <b>Operating Temperature</b>   | -55°C to +210°C                                         |
| <b>Temperature Coefficient</b> | 25ppm/°C 0° to 85°C available                           |

### DERATING



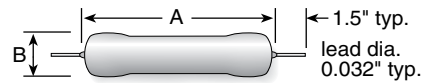
(continued)

# Maxi-Mox

## Precision Thick Film Axial Terminal High Voltage/High Resistance

### DIMENSIONS

| Ohmite Series                               | Power | A max.<br>(in/mm) | B max.<br>(in/mm) |
|---------------------------------------------|-------|-------------------|-------------------|
| <b>• High-temperature (silicone coated)</b> |       |                   |                   |
| MOX-1-12                                    | 2.5W  | 1.120" / 28.45    | 0.310" / 7.87     |
| MOX-2-12                                    | 5.0W  | 2.120" / 53.85    | 0.310" / 7.87     |
| MOX-3-12                                    | 7.5W  | 3.120" / 79.24    | 0.310" / 7.87     |
| MOX-4-12                                    | 10.0W | 4.120" / 104.65   | 0.310" / 7.87     |
| MOX-5-12                                    | 12.5W | 5.120" / 130.05   | 0.310" / 7.87     |
| <b>• Standard (epoxy coated)</b>            |       |                   |                   |
| MOX-1-13                                    | 2.0W  | 1.140" / 28.96    | 0.345" / 8.76     |
| MOX-2-13                                    | 3.0W  | 2.140" / 54.36    | 0.345" / 8.76     |
| MOX-3-13                                    | 4.0W  | 3.140" / 79.76    | 0.345" / 8.76     |
| MOX-4-13                                    | 5.0W  | 4.140" / 105.16   | 0.345" / 8.76     |
| MOX-5-13                                    | 6.0W  | 5.140" / 130.56   | 0.345" / 8.76     |



### PERFORMANCE DATA

| Characteristic                         | Test Method                                      | Specification                               |
|----------------------------------------|--------------------------------------------------|---------------------------------------------|
| <b>Humidity</b>                        | MIL-STD-202, Method 103B, Condition B            | ±0.25%                                      |
| <b>Dielectric Withstanding Voltage</b> | MIL-STD-202, Method 301, 750V                    | ±0.25%                                      |
| <b>Insulation Resistance</b>           | MIL-STD-202, Method 302, Condition A or B        | >10,000 M or greater dry                    |
| <b>Thermal Shock</b>                   | MIL-STD-202, Method 107G, Condition B, B-1, or F | ±0.20%                                      |
| <b>Load Life</b>                       | MIL-STD-202, Method 108A, Condition D            | ±1.0%                                       |
| <b>Resistance to Solvents</b>          | MIL-STD-202, Method 215G                         | Acceptable for High Reliability Series only |
| <b>Terminal Strength</b>               | MIL-STD-202, Method 211A, Condition A or B       | ±0.25%                                      |
| <b>Shock (Specified Pulse)</b>         | MIL-STD-202, Method 213B, Condition I            | ±0.25%                                      |
| <b>Vibration High Frequency</b>        | MIL-STD-202, Method 204D, Condition D            | ±0.20%                                      |
| <b>Power Conditioning</b>              | MIL-R-49462A, Par 4.8                            | ±0.50%                                      |
| <b>Solderability</b>                   | MIL-STD-202, Method 208F                         | >95% Coverage                               |

### TEMP. AND VOLTAGE COEFFICIENTS OF RESISTANCE

| Resistor Series | Temp. Coeff. of Resistance* |             |                 | Voltage Coeff. of Resistance** |                 |
|-----------------|-----------------------------|-------------|-----------------|--------------------------------|-----------------|
|                 | 25 PPM/°C                   | 50 PPM/°C   | 100 PPM/°C      | < 2PPM/Volt                    | < 5PPM/Volt     |
| MOX-1           | 1K-99M                      | 100M-450M   | 451M-30,000M    | 250Ω-1,000M                    | 1,001M-100,000M |
| MOX-2           | 1K-199M                     | 200M-1,000M | 1,001M-60,000M  | 500Ω-2,600M                    | 2,601M-200,000M |
| MOX-3           | 1K-299M                     | 300M-1,500M | 1,501M-90,000M  | 750Ω-4,000M                    | 4,001M-300,000M |
| MOX-4           | 1K-399M                     | 400M-2,000M | 2,001M-120,000M | 1K-5,300M                      | 5,301M-400,000M |
| MOX-5           | 1K-499M                     | 500M-2,500M | 2,501M-150,000M | 1.25K-6,700M                   | 6,701M-500,000M |

\*TCR of 25ppm for temperature range of 0°C-85°C. TCR of 50ppm and 100ppm for -55°C to 125°C. Consult factory for TCR values operating higher than 125°C

\*\*For tighter VCs please contact Ohmite.

### ORDERING INFORMATION

|                 |                      |                        |                                                                                                                                                            |                                                              |                |                                                                                      |
|-----------------|----------------------|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|----------------|--------------------------------------------------------------------------------------|
| <b>MOX-1</b>    | <b>N</b>             | <b>-1</b>              | <b>3</b>                                                                                                                                                   | <b>1006</b>                                                  | <b>F</b>       | <b>E</b>                                                                             |
|                 |                      |                        |                                                                                                                                                            |                                                              |                |                                                                                      |
| Maxi Mox Series | Style<br>1,2,3,4,5,8 | Terminal<br>1 = 0.032" | Ohms<br>First 3 digits are significant; 4th digit is multiplier (# of zeroes to follow). Examples:<br>1000 = 100Ω<br>1503 = 150,000Ω<br>5005 = 50,000,000Ω | Coating<br>2 = Black silicone<br>3 = Epoxy<br>6 = No coating | RoHS Compliant | Tolerance<br>D = 0.5%<br>F = 1%<br>G = 2%<br>J = 5%<br>K = 10%<br>M = 15%<br>P = 20% |

Not all tolerances  
available in  
all values.

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### Офис по работе с юридическими лицами:

105318, г.Москва, ул.Щербаковская д.3, офис 1107, 1118, ДЦ «Щербаковский»

Телефон: +7 495 668-12-70 (многоканальный)

Факс: +7 495 668-12-70 (доб.304)

E-mail: [info@moschip.ru](mailto:info@moschip.ru)

Skype отдела продаж:

moschip.ru

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