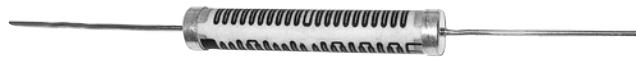


# Super Mox Series

## High Voltage



High-voltage Super Mox resistors have been developed to meet the precision temperature stability requirements of high-accuracy and high-voltage systems. Super Mox combines proprietary non-inductive resistance system and design to achieve low temperature coefficient, low voltage coefficients, high stability and increased high operating voltages. These resistors are designed to meet the demanding



Uncoated resistor element pictured for demonstration purposes only. Finished product is coated with silicone.

requirements of high voltage power supplies, electron microscopes, X-ray systems, high resolution CRT displays and geophysical instruments.

### SERIES SPECIFICATIONS

| Series | Power Rating (W) | Max. Oper. Voltage | Res. Range† (Ω) | VCR* |
|--------|------------------|--------------------|-----------------|------|
| MOX910 | 3.9              | 9.4Kv              | 600Ω-500M       | 0.40 |
|        |                  |                    | 500M-10G        | 0.75 |
| MOX920 | 4.6              | 13.8Kv             | 500Ω-1G         | 0.20 |
|        |                  |                    | 1G-50G          | 0.40 |
| MOX930 | 7.8              | 20Kv               | 400Ω-1G5        | 0.15 |
|        |                  |                    | 1G5-50G         | 0.30 |
| MOX940 | 11.7             | 30Kv               | 600Ω-2G5        | 0.10 |
|        |                  |                    | 2G5-50G         | 0.15 |
| MOX950 | 12.5             | 40Kv               | 800Ω-3G         | 0.08 |
|        |                  |                    | 3G-50G          | 0.12 |
| MOX960 | 15.5             | 50Kv               | 1M-4G           | 0.06 |
|        |                  |                    | 4G-50G          | 0.10 |
| MOX970 | 19.4             | 60Kv               | 1M-5G           | 0.04 |
|        |                  |                    | 5G-50G          | 0.08 |

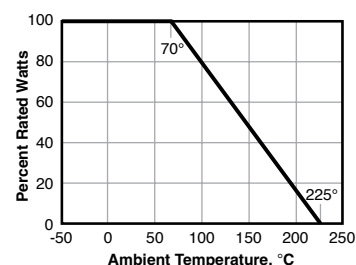
\* typical values, contact factory for details

† Contact factory for values outside of the listed resistance range

### CHARACTERISTICS

|                                 |  |                              |                               |  |
|---------------------------------|--|------------------------------|-------------------------------|--|
| <b>Tolerances</b>               | 0.10%, 0.25%, 0.5%, 1% (others on request)   | <b>Insulation Resistance</b> | >10,000 MΩ                    | 500 Volt 25 °C 75% relative humidity             |
| <b>Temperature Coefficients</b> | 5, 10, 25, 50 and 100ppm/°C (5ppm available from 20K to 10G, except MOX910, other on on request). Temperature coefficient referenced to 25°C, ΔR taken at +85°C. | <b>Dielectric Strength</b>   | >1,000 Volt                   | 25 °C 75% relative humidity                      |
| <b>Encapsulation</b>            | Silicone Conformal Coating   | <b>Thermal Shock</b>         | Δ R/R < 0.1% typ., 0.20% max. | MIL Std. 202, method 107 Cond. C (IEC 68 -2 -14) |
| <b>Terminal Material</b>        | Gold Plated  | <b>Overload</b>              | Δ R/R < 0.1% typ., 0.25% max. | 1,5 x Pnom, 5 sec (do not exceed max. voltage)   |
| <b>Core Material</b>            | Al <sub>2</sub> O <sub>3</sub> (96%)   | <b>Moisture Resistance</b>   | Δ R/R < 0.1% typ., 0.25% max. | MIL Std. 202, method 106 (IEC 68 -2 -3)          |
| <b>Resistor Material</b>        | Ruthenium Oxide  | <b>Load Life</b>             | Δ R/R < 0.2% typ., 0.5% max.  | 1000 hours at rated power (IEC 115 -1)           |
| <b>Operating Temperature</b>    | -55°C to 225°C   |                              |                               |  |

### Derating



(continued)

# Super Mox Series

## High Voltage

### DIMENSIONS

(in./mm ±0.5mm)



| Series | L               |
|--------|-----------------|
| MOX910 | 1.07" / 27.2mm  |
| MOX920 | 1.56" / 39.5mm  |
| MOX930 | 2.05" / 52mm    |
| MOX940 | 3.06" / 77.6mm  |
| MOX950 | 4.06" / 103.2mm |
| MOX960 | 4.87" / 123.7mm |
| MOX970 | 6.05" / 153.7mm |

### ORDERING INFORMATION

|   |   |   |   |
|---|---|---|---|
|   | Coating<br>2 = conformal silicone standard  |   | E = RoHS compliant  |
| <b>MOX91021006JTE</b>   |   |   |   |
| <b>Super Mox Series</b><br>see chart for wattage  | <b>Ohms</b><br>First 3 digits are significant; 4th digit is multiplier (# of zeroes to follow). Examples:<br>1001 = 1000Ω<br>1503 = 150,000Ω<br>1006 = 100 MΩ | <b>Tolerance*</b><br>B = 0.10%<br>C = 0.25%<br>D = 0.5%<br>F = 1% | <b>TCR*</b><br>T = 100ppm<br>V = 50ppm<br>W = 25ppm<br>X = 15ppm<br>Y = 10ppm<br>Z = 5ppm |
| *Extremely tight tolerances and TCRs not available across the full resistance range. Consult factory. |   |   |   |

| Part Number    | Watts | Ohms<br>1% tol. | TCR    |
|----------------|-------|-----------------|--------|
| MOX91021004FVE | 3.9W  | 1M              | 50ppm  |
| MOX91025004FVE | 3.9W  | 5M              | 50ppm  |
| MOX91021005FVE | 3.9W  | 10M             | 50ppm  |
| MOX91022505FTE | 3.9W  | 25M             | 100ppm |
| MOX92021005FVE | 4.6W  | 10M             | 50ppm  |
| MOX92025005FVE | 4.6W  | 50M             | 50ppm  |
| MOX92021006FVE | 4.6W  | 100M            | 50ppm  |
| MOX92021007FTE | 4.6W  | 1000M           | 100ppm |
| MOX93021004FVE | 7.8W  | 1M              | 50ppm  |
| MOX93025004FVE | 7.8W  | 5M              | 50ppm  |
| MOX93021005FVE | 7.8W  | 10M             | 50ppm  |
| MOX93022505FTE | 7.8W  | 25M             | 100ppm |
| MOX94021005FVE | 11.7W | 10M             | 50ppm  |
| MOX94025005FVE | 11.7W | 50M             | 50ppm  |
| MOX94021006FVE | 11.7W | 100M            | 50ppm  |
| MOX94021007FTE | 11.7W | 1000M           | 100ppm |
| MOX95021004FVE | 12.5W | 1M              | 50ppm  |
| MOX95025004FVE | 12.5W | 5M              | 50ppm  |
| MOX95021005FVE | 12.5W | 10M             | 50ppm  |
| MOX95022505FTE | 12.5W | 25M             | 100ppm |
| MOX96021005FVE | 15.5W | 10M             | 50ppm  |
| MOX96025005FVE | 15.5W | 50M             | 50ppm  |
| MOX96021006FVE | 15.5W | 100M            | 50ppm  |
| MOX96021007FTE | 15.5W | 1000M           | 100ppm |
| MOX97021004FVE | 19.4W | 1M              | 50ppm  |
| MOX97025004FVE | 19.4W | 5M              | 50ppm  |
| MOX97021005FVE | 19.4W | 10M             | 50ppm  |
| MOX97022505FTE | 19.4W | 25M             | 100ppm |