

# MX500 Series Precision High Voltage Resistors

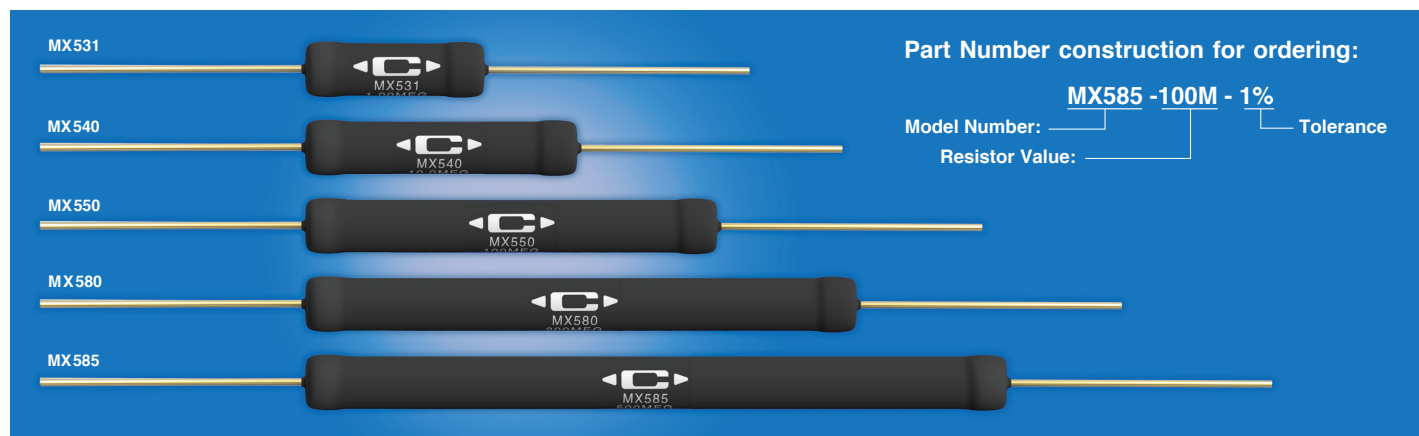


## Caddock Precision High Voltage Resistors for Commercial and Industrial Applications

The NEW RoHS compliant MX500 Series Precision High Voltage Resistors were specifically developed for use in Commercial and Industrial High Voltage Applications. These resistors combine the proven performance of Caddock's Micronox® resistance system with construction and operating specifications optimized for these general purpose applications. For demanding High Voltage Applications that require a wider operating temp. range or greater stability, we recommend Caddock's **Type MG Precision High Voltage Resistors** or **Type TG Low TC Precision High Voltage Resistors** (capable of operating from -55°C to +125°C, with derating to +225°C).

Performance features of the MX500 Series Resistors are:

- Five Models with Voltage Ratings from 7.5 KV to 32 KV
- Resistance Range from 1 Megohm to 1,000 Megohms
- Temperature Coefficient: 80 ppm/°C, from 0°C to +70°C
- Resistance Tolerance: 1%
- Excellent Long Term Stability
- Non-Inductive Design
- The MX500 Series High Voltage Resistors utilize our well-proven High Temperature Silicone Conformal Coating



| Model No. | ①<br>Wattage | ②<br>Max. Continuous Oper. Volt. | ③<br>TC ppm/°C | Tol. | Resistance Range |           | Dimensions in inches and (millimeters) |                    |                              |                              |
|-----------|--------------|----------------------------------|----------------|------|------------------|-----------|----------------------------------------|--------------------|------------------------------|------------------------------|
|           |              |                                  |                |      | Min.             | Max.      | A                                      | ACL                | B                            | C                            |
| MX531     | 2.0          | 7,500                            | 80             | 1%   | 1 Meg            | 150 Meg   | 0.95 ±0.06<br>(24.1 ±1.5)              | 1.15 Max<br>(29.2) | 0.290 ±0.020<br>(7.37 ±0.51) | 0.040 ±0.002<br>(1.02 ±0.05) |
| MX540     | 3.5          | 11,000                           | 80             | 1%   | 1 Meg            | 300 Meg   | 1.45 ±0.06<br>(36.8 ±1.5)              | 1.65 Max<br>(41.9) | 0.290 ±0.020<br>(7.37 ±0.51) | 0.040 ±0.002<br>(1.02 ±0.05) |
| MX550     | 5.0          | 16,000                           | 80             | 1%   | 1 Meg            | 500 Meg   | 2.10 ±0.07<br>(53.3 ±1.8)              | 2.30 Max<br>(58.4) | 0.290 ±0.020<br>(7.37 ±0.51) | 0.040 ±0.002<br>(1.02 ±0.05) |
| MX580     | 7.5          | 24,000                           | 80             | 1%   | 1 Meg            | 750 Meg   | 3.10 ±0.07<br>(78.7 ±1.8)              | 3.30 Max<br>(83.8) | 0.290 ±0.020<br>(7.37 ±0.51) | 0.040 ±0.002<br>(1.02 ±0.05) |
| MX585     | 10.0         | 32,000                           | 80             | 1%   | 1 Meg            | 1,000 Meg | 3.95 ±0.12<br>(100 ±3.0)               | 4.17 Max<br>(105)  | 0.290 ±0.020<br>(7.37 ±0.51) | 0.040 ±0.002<br>(1.02 ±0.05) |

### Specifications:

- ① **Power Rating (Wattage):** Maximum continuous power in free-air up to +70°C.
- ② **Operating Voltage (rms AC or DC):** Maximum Continuous Operating Voltage applied in free-air up to +70°C, not to exceed rated power
- ③ **Temperature Coefficient:** 80 ppm/°C ref. to +25°C, ΔR taken at 0°C and +70°C.  
**Thermal Shock:** Mil-Std-202, Method 107, Cond. A, ΔR, 0.20% max.  
**Moisture Resistance:** Mil-Std-202, Method 106, ΔR, 1.0% max.  
**Load Life:** 1,000 hours at rated voltage at +70°C, not to exceed rated power, ΔR 0.50% max.  
**Solderable Leads:** Lead finish is an ultra-thin gold plate.  
**Encapsulation:** High Temperature Silicone Conformal.  
**Voltage Coefficient:** Type MX Precision High Voltage Resistors provide Low VC. For typical VC performance or assistance to optimize the VC for your application contact Caddock Applications Engineering.

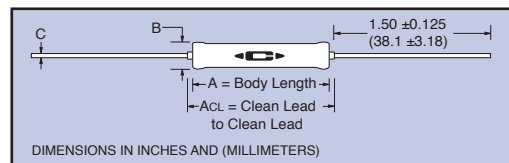
**Long Term Stability Note:** The Caddock Type MG High Voltage Resistor Models, which are similar in construction to the MX500 Series High Voltage Resistor Models (but with modestly lower Maximum Continuous Operating Voltage Ratings), have demonstrated excellent Long Term Stability of 0.02% per 1,000 hours, in over 50,000 hours of continuous testing.

### Standard Resistance Values:

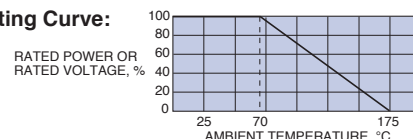
Tolerance: ±1% Standard

|          |          |         |          |
|----------|----------|---------|----------|
| 1.00 Meg | 10.0 Meg | 100 Meg | 1000 Meg |
| 2.00 Meg | 20.0 Meg | 200 Meg |          |
| 2.50 Meg | 25.0 Meg | 250 Meg |          |
| 5.00 Meg | 50.0 Meg | 500 Meg |          |

**Non-standard resistance values are available at a minimum quantity of 50 pieces.** Please contact Caddock Applications Engineering.



### Derating Curve:



**CADDOCK ELECTRONICS, INC.**

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For Caddock Distributors listed by country see caddock.com/contact/dist.html

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