

Mini-Mox

Precision Thick Film Axial Terminal High Voltage/High Resistance



FEATURES

- Wide resistance ranges
- Silicone or epoxy coating
- Metal oxide resistive element

APPLICATIONS

- Avionics
- Medical electronics
- High gain feedback applications
- Current pulse limiters
- Vacuum and space application

The Mini-Mox resistor is very versatile, covering a wide resistance range as well as a wide range of operating voltages. Provided with tolerances down to 0.5%, the Mini-Mox resistor works well in precision circuits.

SERIES SPECIFICATIONS

| Ohmite Series | Resistance Range (Ohms) | Power | Voltage Rating | Available Tolerances* | Capacitance (pf) |
|---|-------------------------|--------------|----------------|-----------------------|------------------|
| • High-temperature (silicone coated) | | @70°C | | | |
| MOX-400-22 | 500Ω to 300,000M | 0.35W | 2,500V | 1% to 20% | 1.00 |
| MOX-750-22 | 750Ω to 600,000M | 0.70W | 5,000V | 1% to 20% | 0.75 |
| MOX1125-22 | 1K to 1,000,000M | 1.40W | 7,500V | 1% to 20% | 0.25 |
| • Standard (epoxy coated) | | @25°C | | | |
| MOX-400-23 | 500Ω to 300,000M | 0.75W | 2,500V | 0.5% to 20% | 1.00 |
| MOX-750-23 | 1K to 600,000M | 1.00W | 5,000V | 0.5% to 20% | 0.75 |
| MOX1125-23 | 1K to 1,000,000M | 1.50W | 7,500V | 0.5% to 20% | 0.25 |

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

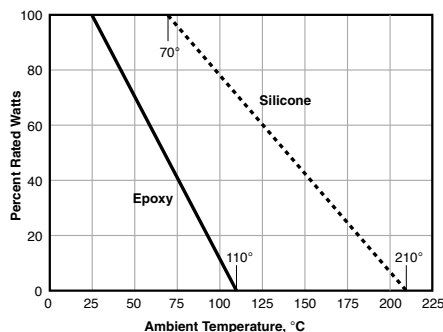
CHARACTERISTICS

| | |
|------------------------------|--|
| Resistor | Metal Oxide |
| Coating | Silicone or Epoxy |
| Core | Alumina |
| Terminals | Solder-coated axial. RoHS solder composition is 96% Sn, 3.5% Ag, 0.5% Cu |
| Resistance Range | 500Ω to 1 Teraohm |
| Power Rating | 0.35W to 1.5W |
| Voltage Rating | 2500V to 7.5KV |
| Tolerance | 0.5% to 20%; not all tolerances available in all values |
| Operating Temperature | -55°C to +220°C |
| Temp. Coefficient | 25ppm/°C 0° to 85°C available |

Performance Data

| Characteristic | Test Method | Specification |
|--|--|---|
| Humidity | MIL-STD-202, Method 103B, Condition B | ±0.25% |
| Dielectric Withstanding Voltage | MIL-STD-202, Method 301, 750V | ±0.25% |
| Insulation Resistance | MIL-STD-202, Method 302, Condition A or B | >10,000M or greater dry |
| Thermal Shock | MIL-STD-202, Method 107G, Condition B, B-1, or F | ±0.20% |
| Load Life | MIL-STD-202, Method 108A, Condition D | ±2.0% |
| Resistance to Solvents | MIL-STD-202, Method 215G | Acceptable for the Standard Series Only |
| Terminal Strength | MIL-STD-202, Method 211A, Condition A or B | ±0.25% |
| Shock (Specified Pulse) | MIL-STD-202, Method 213B, Condition I | ±0.25% |
| Vibration, High Frequency | MIL-STD-202, Method 204D, Condition D | ±.020% |
| Power Conditioning | MIL-R-49462A, Par 4.8 | ±0.50% |
| Solderability | MIL-STD-202, Method 208F | >95% Coverage |

Derating



(continued)

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STANDARD TEMP./VOLTAGE COEFFICIENTS OF RESISTANCE

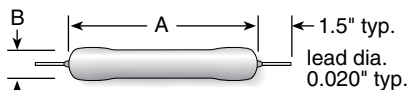
| Resistor Series | Temp. Coeff. of Resistance | | Voltage Coeff. of Resistance** | | |
|-----------------|----------------------------|-------------|--------------------------------|-------------|-----------------|
| | 25 PPM/°C | 50 PPM/°C | 100 PPM/°C | < 2PPM/Volt | < 5PPM/Volt |
| MOX-400 | 1K-99M | 100M-450M | 451M-30,000M | 1K-1,000M | 1,001M-100,000M |
| MOX-750 | 1K-199M | 200M-900M | 901M-70,000M | 1K-2,000M | 2,001M-100,000M |
| MOX1125 | 1K-299M | 300M-1,350M | 1,351M-100,000M | 1K-3,000M | 3,001M-100,000M |

*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.

DIMENSIONS

(in./mm)



| Series | Power | A max. | B max. |
|---|-------|----------------|---------------|
| • High-temperature (silicone coated) @70°C | | | |
| MOX-400-22 | 0.35W | 0.510" / 12.95 | 0.140" / 3.56 |
| MOX-750-22 | 0.70W | 0.820" / 20.83 | 0.140" / 3.56 |
| MOX1125-22 | 1.40W | 1.210" / 30.73 | 0.140" / 3.56 |
| • Standard (epoxy coated) @25°C | | | |
| MOX-400-23 | 0.75W | 0.580" / 14.78 | 0.165" / 4.19 |
| MOX-750-23 | 1.00W | 0.880" / 22.35 | 0.165" / 4.19 |
| MOX1125-23 | 1.50W | 1.270" / 32.26 | 0.165" / 4.19 |

HOW TO ORDER

| | | | |
|------------------------|--|---|---|
| | Style 200, 300, 400, 750, 1125 | Coating 2 = Black silicone 3 = Epoxy 6 = No coating | E = RoHS Compliant |
| MOX | 1125 | 23 | 1006FE |
| Mini Mox Series | Terminal 0 = MOX-200 or 300; MOX-200 Z or 300 Z = 50ppm 2 = 0.020" 7 = 0.032" | Ohms First 3 digits are significant; 4th digit is multiplier (# of zeroes to follow). Examples: 10R2 = 10.2 ohms 1000 = 100 ohms 1503 = 150,000 ohms | Tolerance D = 0.5% F = 1% G = 2% J = 5% K = 10% M = 15% P = 20% |

Not all tolerances available in all values.