

# Mini-Mox



## 0.25 Watt and 0.5 Watt Precision Thick Film Axial Terminal High Voltage/High Resistance



### FEATURES

- RoHS compliant
- Wide resistance ranges
- 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 1%, the Mini-Mox resistor works well in precision circuits.

### SERIES SPECIFICATIONS

| Ohmite Series | Resistance Range (Ohms) | Power @25°C | Voltage Rating | Available Tolerances* |
|---------------|-------------------------|-------------|----------------|-----------------------|
| MOX200        | 500K to 1,500M          | 0.25W       | 500V           | 0.1% to 20%           |
| MOX300        | 500K to 2,500M          | 0.50W       | 1,000V         | 0.1% to 20%           |

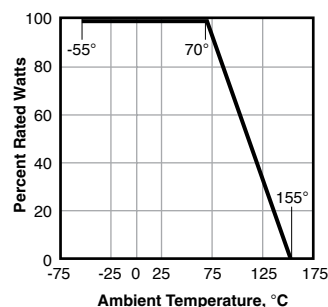
\*Some tolerances are not available over the entire resistance range.

### CHARACTERISTICS

|                                   |  |                                |                                     |
|-----------------------------------|--|--------------------------------|-------------------------------------|
| <b>Resistor</b>                   | Metal Oxide  |                                |                                     |
| <b>Coating</b>                    | Epoxy  |                                |                                     |
| <b>Core</b>                       | Alumina  |                                |                                     |
| <b>Terminals</b>                  | Solder-coated axial. RoHS solder composition is 96% Sn, 3.5% Ag, 0.5% Cu |                                |                                     |
| <b>Resistance Range</b>           | 500K to 1,500MΩ  |                                |                                     |
| <b>Power Rating</b>               | 0.25W to 0.5W  |                                |                                     |
| <b>Voltage Rating</b>             | 500V to 1,000V   |                                |                                     |
| <b>Tolerance</b>                  | 0.1% to 20%  |                                |                                     |
|                                   | <b>Tolerance</b>   | <b>Maximum Value Available</b> |                                     |
|                                   |  | <b>MOX200</b>                  | <b>MOX300</b>                       |
|                                   | 0.10%  | 10MΩ                           | 10MΩ                                |
|                                   | 0.25%  | 10MΩ                           | 10MΩ                                |
|                                   | 0.50%  | 10MΩ                           | 10MΩ                                |
|                                   | 1%-20%   | 1500MΩ                         | 2500MΩ                              |
| <b>Operating Temperature</b>      | -55°C to +155°C  |                                |                                     |
| <b>Max. Overload Voltage</b>      | 1,000V (MOX200); 1,500V (MOX300)   |                                |                                     |
| <b>Max. Pulse Voltage</b>         | 1,500V (MOX200); 3,000V (MOX300)   |                                |                                     |
| <b>Temp. Coeff. of Resistance</b> | <b>Series</b>  | <b>100 PPM/°C</b>              | <b>200 PPM/°C</b> <b>300 PPM/°C</b> |
|                                   | MOX200   | 500K-100MΩ                     | 101M-1000MΩ   1001M-1500MΩ          |
|                                   | MOX300   | 500K-100MΩ                     | 101M-1000MΩ   1001M-2500MΩ          |

| Characteristic                      | Test Method                   | Specification    |
|-------------------------------------|-------------------------------|------------------|
| <b>Short time overload</b>          | Rated Power x2.5, 5 sec.      | ±0.5% max.       |
| <b>Resistance to soldering heat</b> | 260°C ±5°C, 10 ±1 sec.        | ±0.5% max.       |
| <b>Temperature cycling</b>          | -55°C/+155°C, 5 cycles        | ±0.5% max.       |
| <b>Withstanding voltage</b>         | 500 VDC, 60 ±10 sec.          | ±0.5% max.       |
| <b>Insulation resistance</b>        | 500 VDC                       | 10,000MΩ or more |
| <b>Moisture resistance</b>          | 40°C ±2°C, 90-95%RH, 1000 hr. | ±1.5% max.       |
| <b>Load life</b>                    | 70°C ±3°C, 1000 hr.           | ±2% max.         |

### Derating



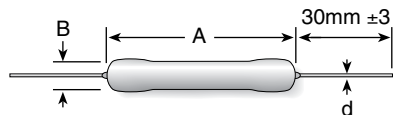
(continued)

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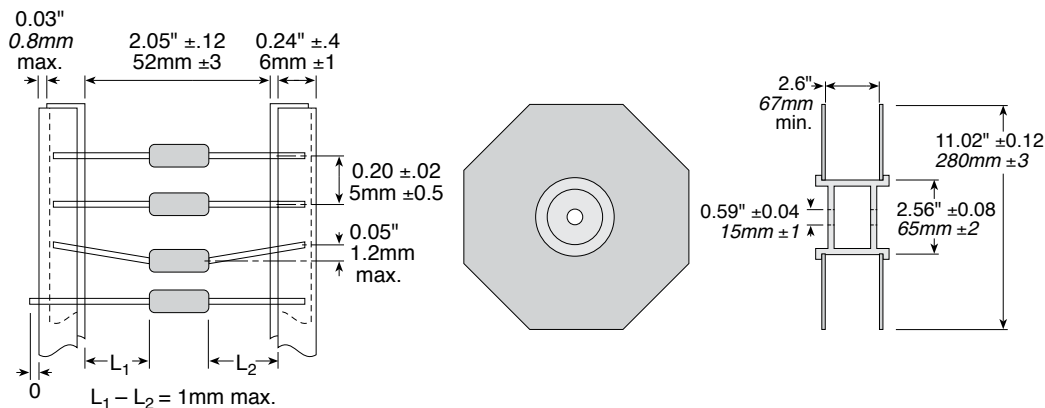
### DIMENSIONS

(mm)



| Series | Power Rating | A max.<br>(in/mm) | B ±0.5mm<br>(in/mm) | d ±0.05mm<br>(in/mm) |
|--------|--------------|-------------------|---------------------|----------------------|
| MOX200 | 0.25W        | 0.26" / 6.5       | 0.09" / 2.2         | 0.024" / 0.6         |
| MOX300 | 0.50W        | 0.35" / 9         | 0.13" / 3.3         | 0.025" / 0.65        |

### Tape and reel



### HOW TO ORDER

|   |  |   |                                      |
|---|--|---|--------------------------------------|
|   |  | RoHS<br>Compliant   | Tape and reel<br>2500 qty./reel std. |
| <b>MOX200001003FER</b>                              |  |   |                                      |
| <b>Mini Mox Series</b><br>MOX-20000 or<br>MOX-30000 | <b>Ohms</b><br>First 3 digits are<br>significant; 4th digit is<br>multiplier (# of zeroes<br>to follow). Examples:<br>10R2 = 10.2 ohms<br>1000 = 100 ohms<br>1503 = 150,000 ohms | <b>Tolerance</b><br>B = 0.10% G = 2%<br>C = 0.25% J = 5%<br>D = 0.5% K = 10%<br>F = 1% M = 15%<br>P = 20% |                                      |