

# Metal Oxide Resistors

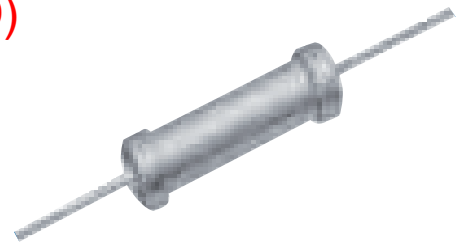


**NOT RECOMMENDED FOR NEW DESIGNS**  
**(WMO-S SERIES PREFERRED)**

## MO Series

### Features

- Flameproof
- Only available in RoHS compliant version
- Meets overload test of UL#1412
- Meets solvent test of method 215 of MIL-STD-202
- Low cost alternative for power carbon composition and wirewounds
- TCR  $\pm 200$  ppm
- Coating meets UL-94V-0



All parts are Pb-free and comply with EU Directive 2011/65/EU amended by (EU) 2015/863 (RoHS3)

### PERFORMANCE CHARACTERISTICS (Tested Per MIL-R-22684 Rev. C):

ELECTRICAL	MO 1/2	MO 1	MO 2	MO 3	MO 5
Power Ratings @ 70°C (watts)	1/2	1	2	3	5
Derated to 0 Load at	200°C	200°C	200°C	200°C	200°C
Maximum Working Voltage (volts)	250	350	350	500	750
Operating Temperature Range	-55°C to +200°C	-55°C to +200°C	-55°C to +200°C	-55°C to +200°C	-55°C to +200°C
Resistance Range (ohms)	0.1 - 75K ( $\pm 5\%$ ) 0.1 - 75K ( $\pm 1\%$ )	0.1 - 120K ( $\pm 5\%$ ) 0.1 - 100K ( $\pm 1\%$ )	0.1 - 150K ( $\pm 5\%$ ) 0.1 - 120K ( $\pm 1\%$ )	1 - 150K ( $\pm 5\%$ ) 10 - 10K ( $\pm 1\%$ )	1 - 180K ( $\pm 5\%$ ) 10 - 10K ( $\pm 1\%$ )
<b>Environmental</b> (Operating Temperature Range: -55°C to +200°C)					
Moisture Resistance	$\pm 1.5\%$	$\pm 1.5\%$	$\pm 1.5\%$	$\pm 1.5\%$	$\pm 1.5\%$
Thermal Shock	$\pm 1\%$	$\pm 1\%$	$\pm 1\%$	$\pm 1\%$	$\pm 1\%$
Load Life @ 70°C - 1000 hrs.	$\pm 2\%$	$\pm 2\%$	$\pm 2\%$	$\pm 2\%$	$\pm 2\%$
Shock and Vibration	$\pm 0.5\%$	$\pm 0.5\%$	$\pm 0.5\%$	$\pm 0.5\%$	$\pm 0.5\%$
Resistance to Soldering Heat	$\pm 0.55 + 0.05\Omega$	$\pm 0.55 + 0.05\Omega$	$\pm 0.55 + 0.05\Omega$	$\pm 0.55 + 0.05\Omega$	$\pm 0.55 + 0.05\Omega$
Terminal Strength	$\pm 0.5\%$	$\pm 0.5\%$	$\pm 0.5\%$	$\pm 0.5\%$	$\pm 0.5\%$
Dielectric Withstand Voltage	400V RMS	700V RMS	700V RMS	800V RMS	800V RMS
Maximum Pulse Voltage	400V	750V	1000V	1500V	1500V
Insulation Resistance	10,000 meg min.	10,000 meg min.	10,000 meg min.	10,000 meg min.	10,000 meg min.
Voltage Coefficient	0.001%/V	0.001%/V	0.001%/V	0.001%/V	0.001%/V
Short Time Overload	$\pm(0.5 + 0.05\Omega)$	$\pm(0.5 + 0.05\Omega)$	$\pm(0.5 + 0.05\Omega)$	$\pm(0.5 + 0.05\Omega)$	$\pm(0.5 + 0.05\Omega)$

### DIMENSIONS (Inches and (mm)):

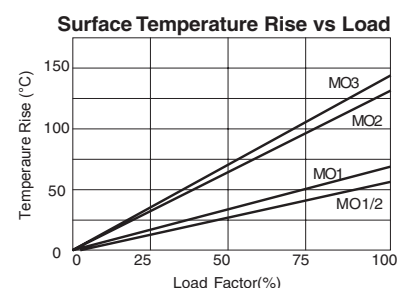
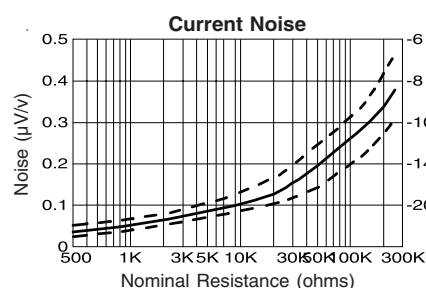
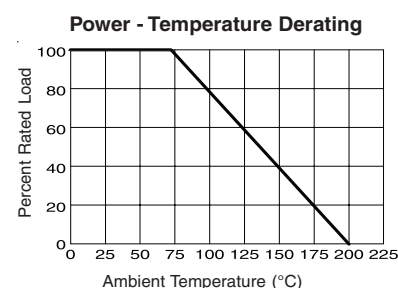
**PACKAGING:**  
MO 1: 2500/reel  
MO 2: 1000/reel  
MO 3: 1000/ammo box  
MO 5: 1000/bulk box  
All Above: 1000/bulk box

	A	B	C	D
MO 1/2	1.10 $\pm$ 0.08 (28.0 $\pm$ 2.0)	0.35 $\pm$ 0.04 (9.0 $\pm$ 1.0)	0.024 $\pm$ 0.002 (0.60 $\pm$ 0.05)	0.14 $\pm$ 0.02 (3.5 $\pm$ 0.5)
MO 1	1.10 $\pm$ 0.08 (28.0 $\pm$ 2.0)	0.43 $\pm$ 0.04 (11.0 $\pm$ 1.0)	0.028 $\pm$ 0.002 (0.70 $\pm$ 0.05)	0.18 $\pm$ 0.02 (4.5 $\pm$ 0.5)
MO 2	1.26 $\pm$ 0.12 (32.0 $\pm$ 3.0)	0.59 $\pm$ 0.02 (15.0 $\pm$ 0.5)	0.029 $\pm$ 0.002 (0.75 $\pm$ 0.05)	0.2 $\pm$ 0.04 (5.0 $\pm$ 1.0)
MO 3	1.38 $\pm$ 0.12 (35.0 $\pm$ 3.0)	0.71 $\pm$ 0.04 (17.5 $\pm$ 2.0)	0.031 $\pm$ 0.002 (0.80 $\pm$ 0.05)	0.26 $\pm$ 0.04 (6.5 $\pm$ 1.0)
MO 5	1.38 $\pm$ 0.12 (35.0 $\pm$ 3.0)	0.96 $\pm$ 0.04 (24.5 $\pm$ 1.0)	0.031 $\pm$ 0.002 (0.80 $\pm$ 0.05)	0.34 $\pm$ 0.04 (8.5 $\pm$ 1.0)

### HOW TO ORDER:

Sample Part No.: **MO-1 1001 J LF**

**IRC Type** — MO-1  
**Size** — 1001  
**Resistance Value** — J  
3 digit range and 1 digit multiplier  
**Tolerance** — LF  
J = 5%, F = 1%  
**RoHS Compliance** — LF = RoHS compliant construction



### General Note

TT Electronics reserves the right to make changes in product specification without notice or liability. All information is subject to TT Electronics' own data and is considered accurate at time of going to print.

BI Technologies IRC Welwyn

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