

# MO series Metal Oxide Flame-Proof Resistors

## ◆ Features

- » High power-to-size ratio for significant space savings
- » Excellent long-time stability
- » Complete flameproof construction UL-1412
- » High surge/overload capability
- » Wide resistance range: 0.1Ω ~ 22MΩ
- » Controlled temperature coefficient
- » Resistance standard tolerance: ± 5% (consult factory for ± 2% ± 1%)
- » Non-inductive design, resistance range: 0.1Ω ~ 100Ω

## ◆ Power Ratings Dimensions

- » Standard Type: 1/4W ~ 5W
- » Miniature Type: 1/2Ws ~ 7Ws
- » Ultra Miniature Type: 1Wss ~ 3Wss



## ◆ Dimensions

Type		Dimensions (mm)			
Standard	Miniature	L	D	H	d
MO25 (1/4W)	MOS50 (1/2WS)	6.3 ± 0.5	2.3 ± 0.3	28 ± 2.0	0.55 ± 0.05
MO50 (1/2W)	MOS100 (1WS)	9.0 ± 0.5	3.2 ± 0.5	26 ± 2.0	0.55 ± 0.05
MO100 (1W)	MOS200 (2WS)	11.5 ± 1.0	4.5 ± 0.5	35 ± 2.0	0.8 ± 0.05
MO200 (2W)	MOS300 (3WS)	15.5 ± 1.0	5.0 ± 0.5	32 ± 2.0	0.8 ± 0.05
MO300 (3W)	MOS500 (5WS)	17.5 ± 1.0	6.5 ± 0.5	35 ± 2.0	0.8 ± 0.05
MO500 (5W)	MOS700 (7WS)	24.5 ± 1.0	8.5 ± 0.5	35 ± 2.0	0.8 ± 0.05

### ◆ Part Number

MO	100	J	2K3	T
Type	Watt	Tolerance	R value	Packing
MO	1/4W = 25	J = ± 5%	2.3K = 2K3	T = Taping Box
MOS	1/2W = 50	G = ± 2%	10KΩ = 10K	B = Bulk
MOU	1W = 100	F = ± 1%		R = Taping Reel
	2W = 200			M = M Type
	3W = 300			MB = MB Lead Form
	5W = 500			MK = MK Lead Form
	7W = 700			F = F Lead Form
				FC = FC Lead Form
				FCK = FCK Lead Form
				FKK = FKK Lead Form
				PANA = PANA Lead Form (Only for 1/4W)

### ◆ Electrical Characteristics

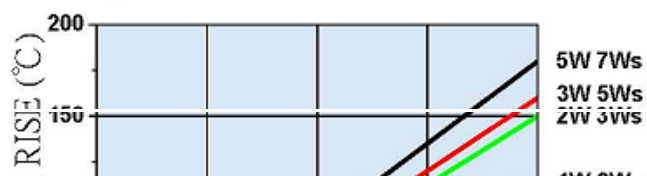
Power rating at 70°C	1/4W	1/2WS	1/2W	1WS	1W	2WS	2W	3WS	3W	5WS	5W	7WS
Operating Temp. Range	- 55°C ~ +235°C											
Max. Working Voltage	200V	250V	250V	300V	500V	500V	550V	750V	800V	1000V	1000V	1000V
Max. Overload Voltage	350V	400V	400V	500V	600V	600V	600V	800V	1000V	1000V	1000V	1000V
Dielectric Withstanding volt.	350V	350V	350V	400V	500V	500V	500V	600V	750V	750V	750V	750V
Temp. Coefficient	± 300ppm/°C											
Value range ± 5%, ± 2%, ± 1%	1Ω ~ 510KΩ, E24 series											

Value Range for standard resistance, below or over this resistance on request

● POWER GRAPH



● HOT-SPOT TEMPERATURE

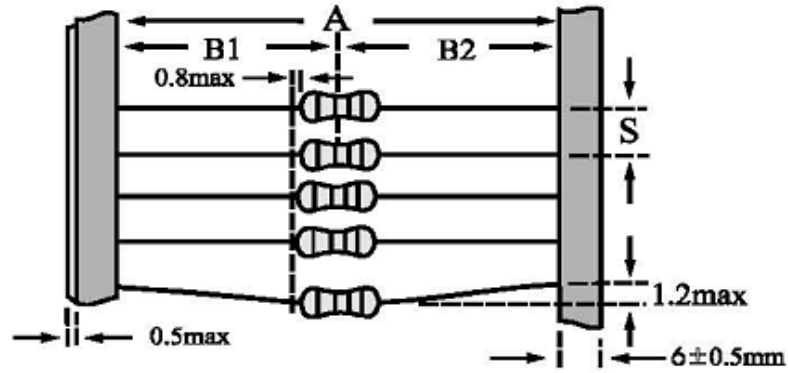


## ◆ Environmental Characteristics

Performance Test	Test Method	Appraise
Short time overload	JIS-C-5202 5.5 2.5 times RCWV for 5 seconds	±(0.25%+0.05Ω)
Temperature Coefficient (T.C.R)	Resistance value at room Temperature and room Temperature+100°C	By Type
Dielectric Withstanding Voltage	JIS-C5202 5.7 In V-Block for 60 seconds	By Type
Pulse Overload	JIS-C5202 5.8 4 times RCWV for 10000cycles(1sec.on , 25secs.off)	±(1%+0.05Ω)
Insulation Resistance	JIS-C5202 5.6 In V-Block	> 10000MΩ
Load Life	JIS-C5202 7.10 70°C at RCWV for 1000hrs. (1.5hrs. on , 0.5hrs.off)	±(1.5%+0.05Ω)
Load Life in Humidity	JIS-C5202 7.9 40±2°C 90~95%RH at RCWV for 1000hrs. (1.5hrs. on , 0.5hrs.off)	±(1.5%+0.05Ω)
Solder Ability	JIS-C5202 6.5 260±5°C for 2±0.5 seconds	95% min. coverage
Resistance to Solvent	JIS-C5202 6.9 Trichloroethane for 1 min. with ultrasonic	No deterioration of coatings and markings
Terminal Strength	Direct load for 10 sec. In the direction off the terminal leads.	Tensile: ≥2.5kg

Rated continuous Working Voltage (RCWV) =  $\sqrt{\text{POWER. RATING} * \text{RESISTANCE. VALUE}}$

## ◆ Packing Methods Bandoleer for Axial leads

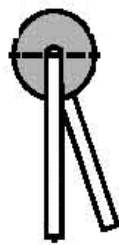
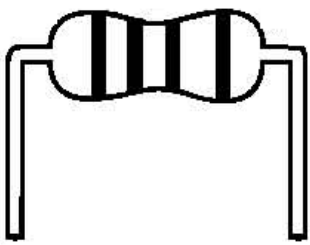


Type	Dimensions (mm)			
	A	B1-B2	S (spacing)	Max. deviation of spacing
1/8W 1/6W 1/4WS 0.4W (0204) 1/2WSS	52	+1	1.2	5
		-0		
	26	+1	1	
		-0		
1/4W 1/2WS 0.6W(0207) 1WSS	52	+1	1.2	5
		-0		
	26	+1	1	
		-0		
1/3W	52	+1	1.2	5
		-0		
1/2W 1WS 2WSS	52	+1	1.2	5
		-0		
1W 2WS 3WSS	52	+1	1.5	5
		-0		
	73	+1		
		-0		
2W 3WS 4WSS	52	+1	1.5	10
		-0		
	73	+1		
		-0		
3W 5WS	52	+1	1.5	10
		-0		
	73	+1		
		-0		
5W 7WS	88	+1	1.5	10
		-0		

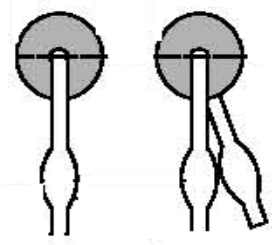
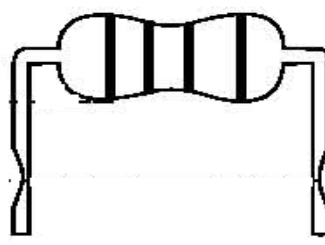
1 mm per 10 spacing

### ◆ Lead Forming

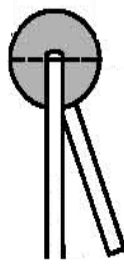
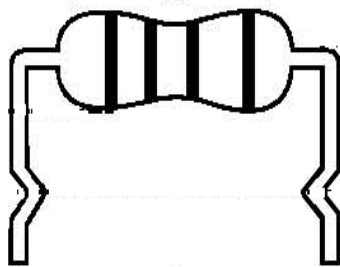
**M Lead Form**



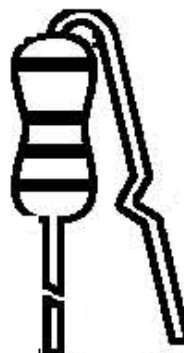
**MB Lead Form**



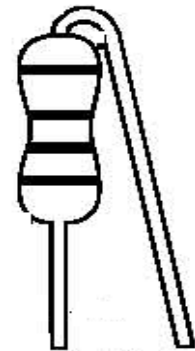
**MK Lead Form**



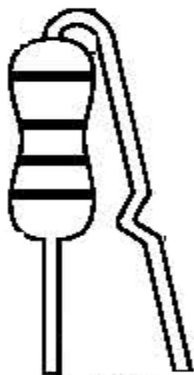
**F Lead Form**



**FC Lead Form**



**FCK Lead Form**



**FKK Lead Form**

