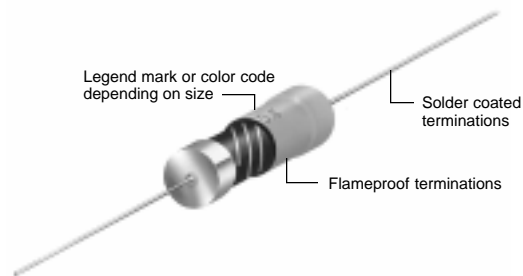


# POWER METAL OXIDE RESISTOR



## MO-S SERIES

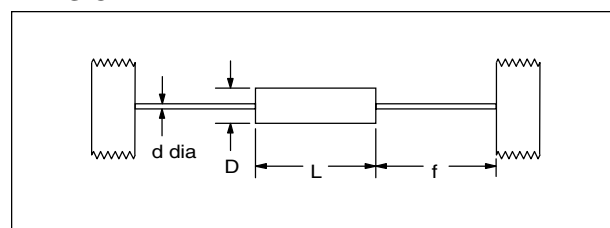
- Small size for power rating
- Range of 5 sizes: 0.5 watt to 5 watt at 70°C
- Flameproof protection



### ELECTRICAL DATA:

		MO1/2S	MO1S	MO2S	MO3S	MO5S
<b>Power Rating at 70°C</b>	watts	0.5	1.0	2.0	3.0	5.0
<b>Resistance Range</b>	ohms	10 - 50K	10 - 100K			
<b>Limiting Element Voltage</b>	volts	250	350			500
<b>TCR</b>	ppm/°C	350				
<b>Isolation Voltage</b>	volts	350	500			700
<b>Resistance Tolerance</b>	%	5, 10				
<b>Standard Values</b>		E24 Preferred				
<b>Thermal Impedance</b>	°C/watt	140	110	80	60	35
<b>Operating Temperature Range</b>	°C	-55 to +155				

### PHYSICAL DATA:



#### DIMENSIONS (Inches and (mm)) & WEIGHT (G)

Type	L max	D max	f min	d nom	PCB mounting centers	Min Bend Radius	Wt. nom
MO1/2S	0.244 (6.2)	0.090 (2.3)	0.039 (21.0)	0.024 (0.6)	0.402 (10.2)	0.024 (0.6)	0.3
MO1S	0.354 (9.0)	0.134 (3.4)	0.772 (19.6)	0.031 (0.8)	0.500 (12.7)	0.047 (1.2)	0.5
MO2S	0.492 (12.5)	0.165 (4.2)	0.700 (17.8)	0.031 (0.8)	0.724 (18.4)	0.047 (1.2)	0.9
MO3S	0.571 (14.5)	0.201 (5.1)	0.937 (23.8)	0.031 (0.8)	0.799 (20.3)	0.047 (1.2)	1.1
MO5S	0.984 (25.0)	0.335 (8.5)	1.086 (27.6)	0.031 (0.8)	1.236 (31.4)	0.047 (1.2)	4.3

### PERFORMANCE DATA:

	Maximum		Maximum
<b>Load at Rated Power: 1000 hrs at 70°C</b>	ΔR%	5	<b>Climatic Category</b>
<b>Shelf Life: 12 months at room temperature</b>	ΔR%	2	<b>Temperature Rapid Change</b>
<b>Derating from Rated Power at 70°C</b>		zero at 235°C	<b>Resistance to Solder Heat</b>
<b>Climatic</b>	ΔR%	1	

### Construction:

The Tin Oxide resistance element is deposited onto a high purity ceramic rod. End caps are force fitted and termination wires are welded to the end caps. The element is adjusted to the required resistance value by a helical cut; finally a cement protection is applied to the resistor body prior to marking with indelible ink.

### Termination:

**MATERIAL:** Resistor sizes up to and including the MO3-S use solder coated copper terminations. MO5-S use solder coated steel cored terminations.

**STRENGTH:** The terminations meet the requirements of IEC 68.2.21.

**SOLDERABILITY:** The terminations meet the requirements of IEC 115-1, Clause 4.17.3.2.

### Marking:

MO1/2S & MO1S resistors are color coated with 4 bands. IEC 62 colors are used. For larger sizes type reference, resistance value and tolerance are legend marked. The resistance value marking conforms to IEC 62.

### Solvent Resistance:

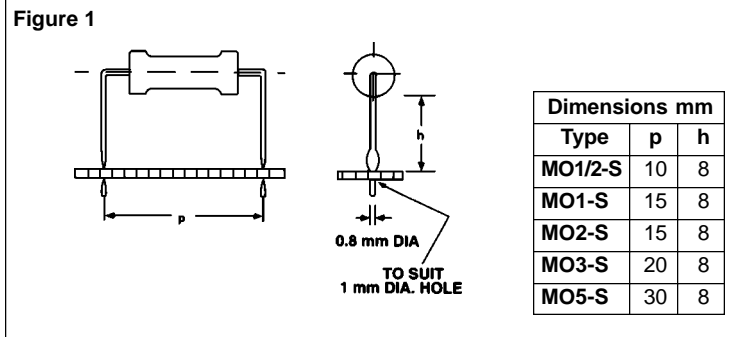
The body protection and marking are resistant to all normal industrial cleaning solvents suitable for printed circuits.

### Flammability:

The resistor coating will not burn or emit incandescent particles under any condition of applied temperature or power overload.

### MO-S SERIES APPLICATION NOTES:

1. If the resistors are to dissipate full rated power, it is recommended that the terminations should not be soldered closer than 4 mm from the body.
2. Due to operating temperature limitations imposed by some pcb materials, derating may be necessary. An estimate of the temperature rise to be expected can be calculated using the thermal impedance figures given under Electrical Data.
3. MO-S resistors can also be supplied pre-formed. See Figure 1.



### PACKAGING:

Our standard packaging method for MO-S resistors is tape packed ready for loading onto automatic sequencing and insertion machines.

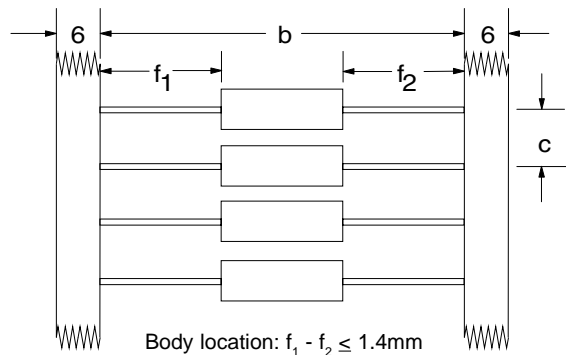
The standard taping method and critical dimensions are shown in Figure 2.

Component wires will not protrude beyond the outside edge of the tapes.

All taped resistors will be supplied either on reels or in ammo packs, depending upon quantities ordered.

Pre-formed resistors are supplied loose packed in plastic bags or boxes. This product and packaging is denoted code F.

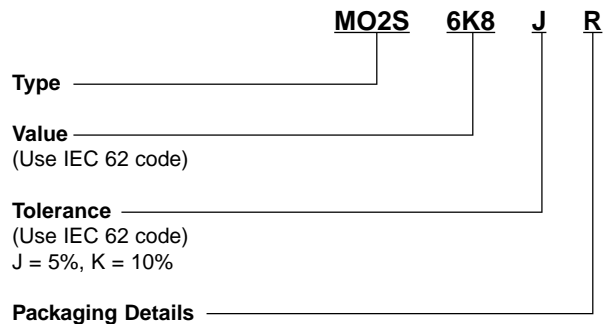
**Figure 2.**



Type	b	c
MO1/2S	52	5
MO1S	52	5
MO2S	52	5
MO3S	67	10
MO5S	85	10

### HOW TO ORDER:

Specify type reference etc. as indicated in this example of MO2S 6.8K ohm 5% resistors, taped and reeled.



### Standard Quantities Per Package

Type	Code	MO1/2S	MO1S	MO2S	MO3S	MO5S
Reel	R	5000	2500	2500	1000	700
Large Ammo Pack	A	5000	2500	1500	1000	-
Small Ammo Pack	A	2000	1000	1000	1000	-