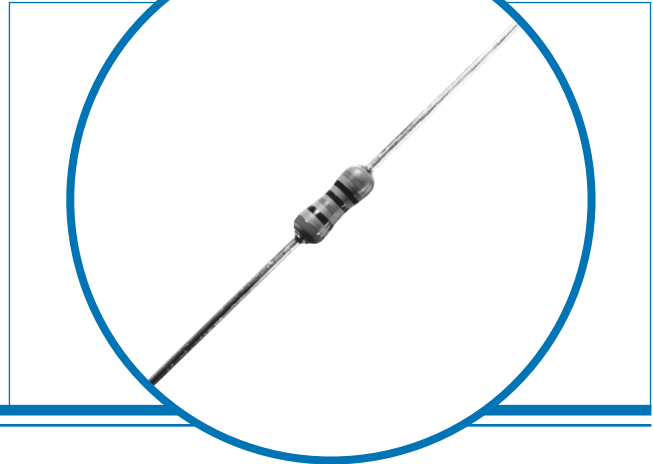


Metal Film Resistors

MFR4P Series

- **Smallest size for power rating**
- **Resistance range: 1 ohm to 1M ohms**
- **Temperature coefficient down to 50ppm/°C**




Electrical Data

		MFR4P
Power rating at 70°C	watts	0.6
Resistance range	ohms	0R22 to 1M
Limiting element voltage	volts	250
TCR	ppm/°C	<1R: 300 >=1R: 50
Resistance tolerance	%	0.5, 1, 2, 5*
Standard values		E24 preferred
Thermal impedance	°C/watt	130
Ambient temperature range	°C	-55 to 155

*Below 1 ohm 5% preferred

Physical Data

Dimensions (mm) & Weight (g)							
Type	L Max	D Max	f min	d nom	PCB mounting centres	Min. bend radius	Wt.nom
MFR4P	6.2	2.5	21.0	0.6	10.2	0.6	0.3



Construction

The resistance element is a precisely controlled thin film of metal alloy sputtered on to a high purity ceramic core, protected by a moisture-resistant, high dielectric strength coating applied so that terminations remain completely clear.

This permits a well defined body length, (clean lead to clean lead dimension L).

Terminations

Material Solder-coated copper wire.

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

Resistors are colour coded with 6 bands. IEC 62 colours are used.

Solvent Resistance

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

General Note

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

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Performance Data

		Maximum
Load at rated power : 1000 hours at 70°C	ΔR %	0.5
Shelf life : 12 months at room temperature	ΔR %	0.1
Derating		Zero at 155°C
Short term overload	ΔR %	0.5
Climatic	ΔR %	0.5
Climatic category		55/125/56
Long term damp heat	ΔR %	1
Temperature rapid change	ΔR %	0.5
Resistance to solder heat	ΔR %	0.5
Vibration and bump	ΔR %	0.5
Noise. (in a decade of frequency)	μV/V	0.1
Insulation resistance	ohms	>1G
Voltage proof	volts	500 min

Packaging

MFR4P resistors are supplied tape packed ready for loading onto automatic sequencing and insertion machines.

The standard taping method and critical dimensions are shown in Figure 1.

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

Alternative packaging available by request.

Standard Quantities Per Package

Type	MFR4P
Large ammo pack	5000

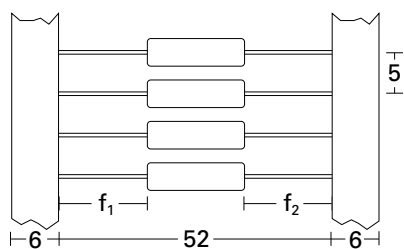


Figure 1

Body location $f_1 - f_2 \leq 1.4 \text{ mm}$

Lead Formed resistors can also be supplied. Standard options of Lancet, Radial and Goalpost forming are available by request.