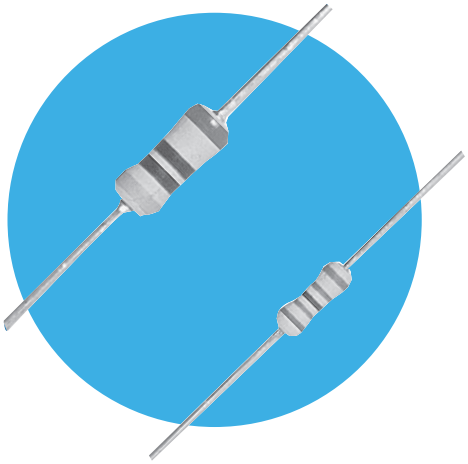
Resistors

Flameproof Power Metal Film Resistors

MFP Series

- Smallest size for power rating
- Resistance range 0.1 ohms to 1M ohms
- Flameproof protection



All parts are Pb-free and comply with EU Directive 2011/65/EU (RoHS2)

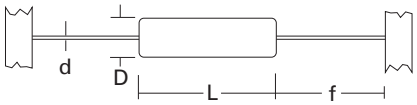
Electrical Data

		MFP1	MFP2
Power rating at 70°C	watts	<1 Ω: 0.7 >=1 Ω: 1.0	2
Resistance range	ohms	0R1 – 1M	1R0 – 1M
Limiting element voltage	volts	350	
TCR	ppm/°C	< 1 Ω: 300 1 Ω - 9.1 Ω: 200 ≥10 Ω: 50	100
Resistance tolerance	%	1, 2, 5	
Standard values		E24 preferred	
Thermal impedance	°C/watt	120	82
Ambient temperature range	°C	-55 to 155	

Physical Data

Dimensions (mm) & Weight (g)

Type	L Max	D Max	f min	d nom	PCB mounting centres	Min. bend radius	Wt.nom
MFP1	6.2	2.5	21.0	0.6	10.2	0.6	0.3
MFP2	10.0	4.0	27.0	0.8	18.4	1.2	0.55



Construction

The resistance element is a precisely controlled thin film of metal alloy on a high purity ceramic core, protected by a cement 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 4 or 5 bands depending on value and tolerance. IEC 62 colours are used.

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.

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.

Performance Data

		Maximum
Load at rated power : 1000 hours at 70°C	ΔR %	5
Shelf life : 12 months at room temperature	ΔR %	2
Derating from rated power at 70°C	ΔR %	zero at 155°C
Climatic	ΔR %	3
Climatic category		50/155/56
Temperature rapid change	ΔR %	0.5
Resistance to solder heat	ΔR %	0.5
Voltage proof	volts	500 min

Application Notes

1. If the resistors are to dissipate full rated power, it is recommended that the terminations should not be soldered closer than 4mm 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. MFP resistors an also be supplied pre-formed.

Type	MFP1	MFP2
b (mm)	52	68

Packaging

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

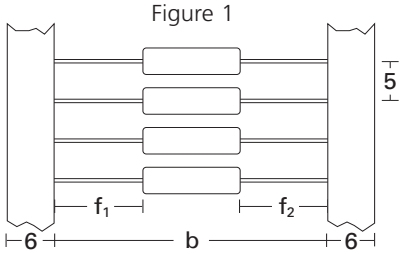
The standard taping method and critical dimensions are shown in Figure 1.

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

Alternative packaging available by request.

Lead Formed resistors can also be supplied. Standard options of Lancet, Radial and Goalpost forming are shown in lead Form Information section.

Figure 1



Body location $f_1 - f_2 \leq 1.4$ mm

Ordering Procedure

Example: MFP2 at 4.7 kilohms and 1% tolerance in ammo pack box of 2000 pieces –

M F P 2 – 4 K 7 F I

Type

Value (use IEC62 code)

Tolerance (use IEC62 code)

F	1%
G	2%
J	5%

Packing

I	Ammo	MFP1	5000/box	Standard
		MFP2	2000/box	

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