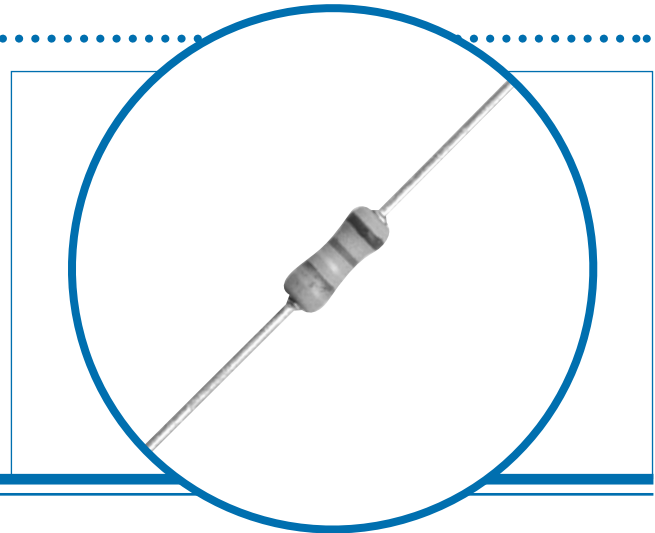


# High Voltage Metal Film Resistors

## MH Series

- **BSEN 60065 Approval for MH37 in value range 680K to 3M**
- **High working voltage to 3.5KV**
- **Small size**
- **High pulse load capability**
- **Robust cement coating**
- **Value up to 10M**

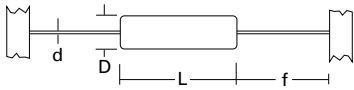


## Electrical Data

		MH25	MH37
Power rating at 70°C max	watts	0.25	0.5
Resistance range	ohms	100K - 10M	100K - 3M
Limiting element voltage	volts dc or ac peak	1,600	3,500
Isolation voltage	volts	700	
TCR	ppm/°C	100	
Resistance tolerance	%	1, 2, 5	
Standard values		E24 and E96 preferred	
Thermal impedance	°C/watt	140	112
Ambient temperature range	°C	- 55 to 155	

## Physical Data

Dimensions (mm) and Weight (g)							
Type	L max	D max	f min	d nom	PCB mounting centres	Min Bend Radius	Wt.nom
MH25	6.2	2.5	21.0	0.6	10.2	0.6	0.3
MH37	9.0	3.7	19.6	0.8	12.7	1.2	0.5



### Construction

Thin film material is sputtered on to high grade ceramic rods. Nickel plated steel caps are force fitted and the termination wires are welded to the caps. The value is obtained by a helical cut in the film and finally the resistor body is protected by a cement protection applied so that the terminations remain completely clear.

### Marking

1% tolerance resistors are colour coded with 5 bands. 2% and 5% tolerance have 4. Band IEC 62 colours are used.

### Terminations

#### Material

Solder-coated copper wire.

#### Strength

The terminations satisfy the requirements of IEC 68.2.21.

#### Solderability

The terminations meet the requirements of IEC 115-1, Clause 4.17.3.2

### Solvent resistance

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

### 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	Typical
Load at rated voltage : 1000 hrs at 70°C	Δ R%	1.5	0.4
Derating from rated power at 70°C		Zero at 155°C	
Overload	Δ R%	1.0	0.25
56 days at DHSS	Δ R%	1.5	0.2
Climatic	Δ R%	1.5	0.2
Climatic category		55/155/56	
Temperature rapid change	Δ R%	0.5	0.05
Resistance to solder heat	Δ R%	0.5	0.05
Vibration and bump	Δ R%	0.5	0.05
Voltage proof	volts	700 min	

### Application Notes

To ensure reliable performance at high voltages care should be taken to avoid potential sources of ionic contamination contacting the resistor body, for example, flux applied by spraying, encapsulation materials or contaminants from the environment of use.

### Packaging

All MH series resistors are supplied tape packed ready for loading on automatic sequencing and insertion machines.

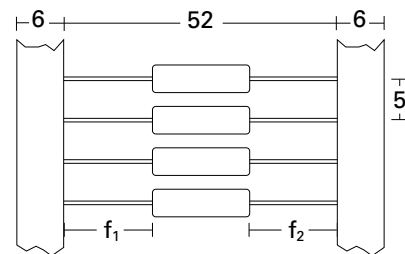
Component wires will not protrude beyond the outside edge of the tape.

Alternative packing available by request.

Lead Formed Resistors can also be supplied. Standard options of Lancet, Radial and Goal Post forming are shown in the Lead Form information sheet.

### Standard Quantities Per Package

Type	MH25	MH37
Ammo pack	5000	2500



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

## Ordering Procedure

Specify type reference, value and tolerance as shown in this example of MH25 10MR 1%:

Type ..... **MH25** **10MO** **F**

Resistance value .....  
(IEC62 code)

Tolerance .....  
(IEC62 code)

F	1%
G	2%
J	5%