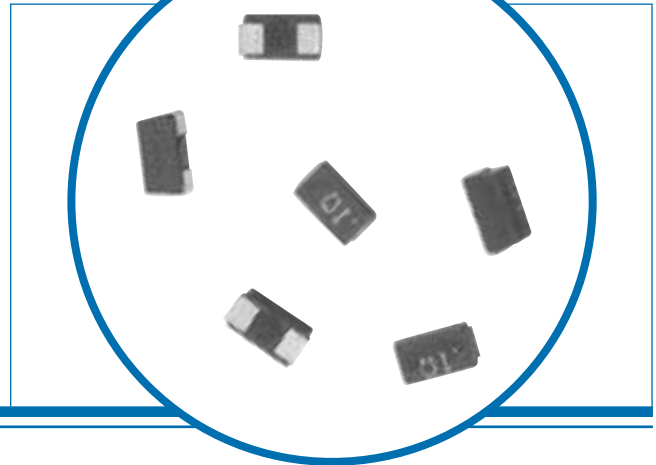


# Moulded Surface Mount Wirewound Resistors

WSM Series

- **Ideal for automatic pick and place**
- **Direct replacement for Axial resistors**
- **All welded construction**



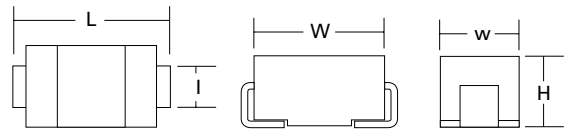
## Electrical Data

		WSM1	WSM2	WSM3
Power rating at 70°C	watts	1	2	3
Resistance range	ohms	0R01 to 1K	0R01 to 2K	0R01 to 3K
Limiting element voltage	volts	100		
TCR	ppm/°C	< 1 Ω : 100 ≥ 1 Ω : 20	< 1 Ω : 100 ≥ 1 Ω : 20	≤0.03 Ω 700 ≤0.1 Ω : 200 ≤10R 100 >10R 20
Resistance tolerance	%		*1, 2, 5, 10	
Standard values			E24 preferred	
Ambient temperature range	°C		-55 to 155	

\*Note 5% or 10% preferred below 0.1 ohms

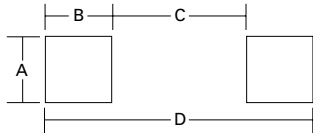
## Physical Data

Dimensions (mm)					
Type	L max	I Nom	W Max	w Max	H Max
WSM1	7.9	2.54	7	4.2	3.94
WSM2	12	3.1	10.5	6.6	5.5
WSM3	18	3.1	16	7	6.5



## Recommended Pad Sizes

Type	A	B	C	D
WSM1	2.9	2.6	2.8	8.1
WSM2	3.4	4.0	6	14
WSM3	3.4	4.5	11	20



### Construction

A high purity ceramic substrate is assembled with interference fit end caps to which are welded the terminations. The resistive element is wound on the substrate and welded to the caps. The unit is then moulded.

### Flammability

The resistor coating is a flame retardant epoxy to UL 94.

### Marking

WSM resistors are legend marked with type value and tolerance.

WSM1 Resistors are marked with value and tolerance.

### 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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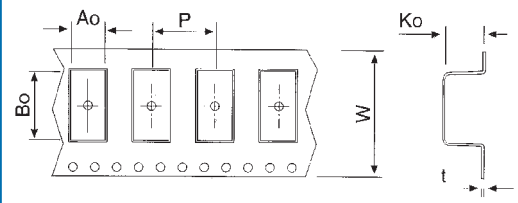
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# Moulded Surface Mount Wirewound Resistors

WSM Series

## Physical Data

Dimensions (mm)							
	Ao	Bo	Ko	W	P	t	Po
<b>WSM1</b>	4.2	7.62	4.2	16	8	0.36	4 ± 0.1
<b>WSM2</b>	6.75	11.95	5.22	24	12	0.36	4 ± 0.1
<b>WSM3</b>	7.3	18.3	6.7	32	12	0.4	4 ± 0.1



All other dimensions as per EIA481 standard

## Performance Data

		<b>WSM1</b>	<b>WSM2</b>	<b>WSM3</b>
Load at rated power: 1000 hrs @ 70°C	ΔR%	2 ± 0.001Ω	2 ± 0.001Ω	3 ± 0.001Ω
Dry heat 1000 hrs @ 155°C	ΔR%	2 ± 0.001Ω	2 ± 0.001Ω	3 ± 0.001Ω
Short term overload	ΔR%		2 ± 0.001Ω	
Derating from rated power @ 70°C			zero at 155°C	
Moisture	ΔR%	1 ± 0.001Ω	1 ± 0.001Ω	1.5 ± 0.001Ω
Temperature cycling	ΔR%		1 ± 0.001Ω	
Resistance to solder heat	ΔR%		1 ± 0.001Ω	
Isolation voltage	V		1,000	
Insulation resistance	ohms		>1000M	
Substrate bend	ΔR%		0.2 ± 0.001Ω	

Note: The power ratings to be applied depend upon the board used and the ambient temperature.