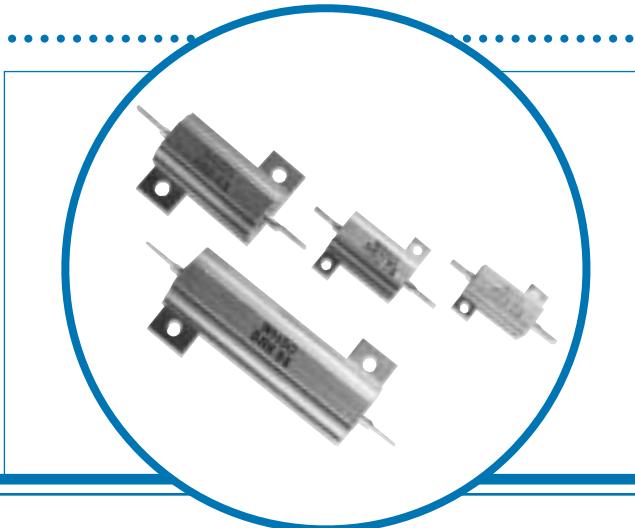


Aluminium Housed Wirewound Resistors

WH Series

- **High power dissipation for size**
- **All welded construction**
- **Suitable for severe environments**
- **Designed for excellent thermal conductivity to heatsink**



Electrical Data

	WH5	WH10	WH25	WH50	Notes
Power rating at 25°C watts	10	15	25	50*	Mounted on standard heatsink
Resistance range ohms	0R01 to 10K	0R01 to 20K	0R01 to 44K	0R015 to 120K	
TCR (-55° to 200°C) ppm/°C	<10Ω : ±75	≥ to <100 : ±50	≥100Ω : ±25		
Resistance tolerance %		1, 2, 5, 10			
Low value limits ohms	1 at 1%	0.5 at 2%	0.05 at 5%	0.01 at 10%	WH50 0.015 at 10%

Approved CECC 40203 - 006	AA	BA	CA	DA	
Power rating at 25°C watts	10	15	25	40	Mounted on standard heatsink
Resistance range ohms	0.05 to 3.4K	0.05 to 15K	0.05 to 33K	0.05 to 82K	
TCR (-55° to 200°C) ppm/°C		≥5Ω ≤ 10Ω ± 100	>10Ω ± 50		
Resistance tolerance %		1, 2, 5			
Low value limits ohms	1 at 1%	0.5 at 2%	0.05 at 5%		WH50 0.015 at 10%

Limiting element voltage volts	150	250	500	1250	
Standard values	E24 preferred range				
Thermal impedance °C/watt	16.0	10.0	6.0	3.5	Mounted on standard heatsink
Ambient temperature range °C	-55 to 200				

*For load at maximum rating mount on heatsink 30.5 cm x 30.5 cm x 1.5 mm

Construction

Cap and lead assemblies are fitted to a high purity ceramic substrate. The resistive element is wound onto the substrate and welded to the caps. The wound rod is then moulded and fitted into an aluminium housing to give optimum stability and reliability.

Marking

The resistors are legend marked with type reference, resistance value and tolerance which will withstand all accepted industrial cleaning fluids. Values are marked in accordance with IEC 62.

Terminations

Material	Solder dipped, copper clad steel 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

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.

Aluminium Housed Wirewound Resistors

WH Series



Physical Data

Dimensions (mm)					
Type	A	B	C	E	F
	Max	± 0.3	± 0.3	Min	Max
WH5	30.0	12.4	11.3	1.9	17
WH10	36.5	15.9	14.3	1.9	21
WH25	51.0	19.8	18.3	2.8	28
WH50	72.5	21.4	39.7	2.8	30
Type	G	H	L	M	N
	Max	Dia ± 0.2	Max	± 0.5	Max
WH5	9	2.4	17.0	4.3	1.8
WH10	11	2.4	21.0	5.2	2.2
WH25	15	3.3	29.0	7.2	2.6
WH50	16	3.3	51.0	7.9	2.6

Technical drawing of the WH Series resistor showing dimensions and tolerances. The drawing includes two views of the resistor. The top view shows dimensions A (width), B (height), C (lead spacing), E (lead thickness), F (lead height), G (lead diameter), H (lead pitch), and I (lead length). The bottom view shows dimensions L (body length), M (body width), N (body height), and a minimum value of 2.0 min. Tolerances are indicated as ± 0.3 for A, B, C, and E; ± 0.5 for F; and ± 0.2 for M.

Performance Data

	CECC 40203-006	Actual		Notes
		Maximum	Typical	
Load at commercial rating: 1000 hrs at 25°C	ΔR %	1.0	1.0	0.4
Load at CECC rating: 1000 hours at 25°C	ΔR %	1.0	1.0	0.4
Dry heat: 1000 hours at 200°C	ΔR %	1.0	1.0	0.4
Derating from 25°C	Zero at 200°C			
Short term overload	ΔR %	1.0	1.0	0.2
Climatic sequence	ΔR %	1.0	1.0	0.4
Climatic category	55/200/56			
Long term damp heat	ΔR %	1.0	0.5	0.2
Temperature rapid change	ΔR %	0.25	0.25	0.1
Resistance to solder heat	ΔR %	0.25	0.25	0.05
Vibration and bump	ΔR %	0.25	0.25	0.025
Noise (in decade of frequency)	$\mu V/V$	Not specified	zero	zero
Insulation resistance.	ohms	>1Gohm	>20Gohm	>100Gohm
Isolation voltage : WH5 and 10 : WH25 and 50	volts AC peak	1000 min	1500 min	See application notes
	volts AC peak	2000 min	3000 min	
Pulse handling	Data available by request			

Aluminium Housed Wirewound Resistors

WH Series

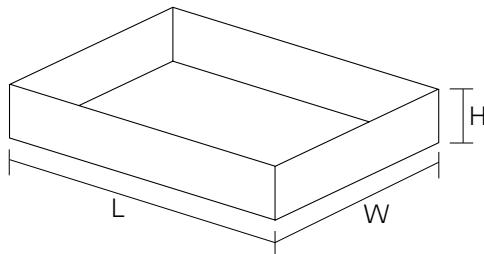
Application Notes

Reference aluminium heatsink dimension

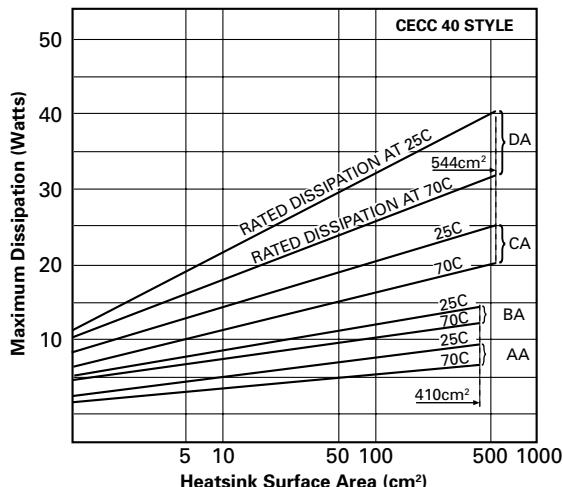
CECC 40203-006	L cm	W cm	H cm	Reference area sq. cm
AA (WH5)	15.5	10	5	410
BA (WH10)				
CA (WH25)	18	13	5	544
DA (WH50)				

Aluminium thickness 1mm

Reference chassis



Graph 1



WH50 only

To load at maximum commercial rating (50W) mount on heatsink 30.5cm x 30.5cm x 1.5mm.

Derating must be applied when resistors are mounted on a heat sink of smaller dimensions than defined in Graph 1.

It is recommended that the resistor base should be coated with heatsink compound before mounting to obtain the stated operating characteristics.

The heatsink compound increases thermal conductivity to the heatsink.

After soldering care should be taken to ensure that there are no flux residues on the moulding compound, otherwise insulation resistance will be reduced.

Packaging

Resistors are packed in plastic bags and boxed for maximum protection.

Ordering Procedure

Example: WH25 at 3.3 kilohms and 5% tolerance in a box of 50 pieces –

Type	WH 25 - 3 K 3 J I
Value (use IEC62 code)	
Tolerance (use IEC62 code)	
F 1% J 5%	
G 2% K 10%	
Packing	
I Bulk All sizes	50/box Standard

For CECC released product state on order the CECC number and style. Example: WH25-3K3JI CECC40203-006 CA

For SnPb finish instead of Pb-free replace the packing suffix with **PB**. Example: WH25-3K3JPB