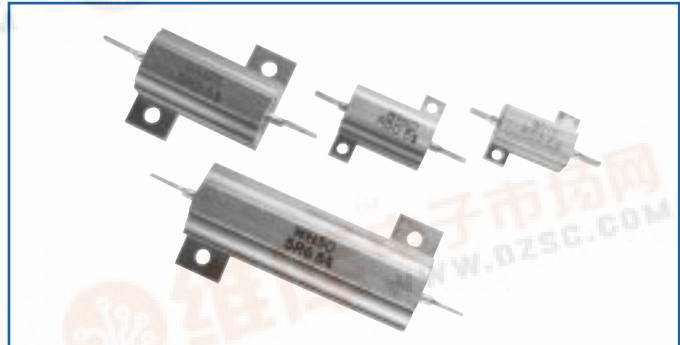


# Chassis Mounting Wirewound Resistors



## WH SERIES

- High quality ceramic substrate
- All welded construction
- Anodised extruded aluminium case
- High power dissipation for size
- Suitable for severe environments
- Designed for excellent thermal conductivity to heatsink



## Electrical Data

		WH5	EH10	WH25	WH50	NOTES
Power rating at 25°C	watts	10	15	25	50*	Mounted on standard heatsink
Resistance range	ohms	0.01 to 10k	0.01 to 20k	0.01 to 44k	0.015 to 120k	
TCR (-55° to 200°C)	ppm/°C	$<10\Omega : \pm 75$		$\geq$ to $<100 : \pm 50$	$\geq 100\Omega : \pm 25$	
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	$\geq 5\Omega \leq 10\Omega \pm 100$		$> 10\Omega \pm 50$		
Resistance tolerance	%	1, 2, 5				
Low value limits	ohms	1 at 1%	0.5 at 2%	0.05 at 5%		

Limiting element voltage	volts	150	250	500	1250	
Standard values		E24 preferred range				Other values to special order
Thermal impedance	°C/watt	16.0	10.0	6.0	3.5	Mounted on standard heatsink
Operating 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.

### 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

### MARKING

The resistors are legend marked with type reference, resistance value and tolerance. Values are marked in accordance with IEC 62.

### SOLVENT RESISTANCE

Resistor and marking withstand all accepted industrial cleaning fluids.

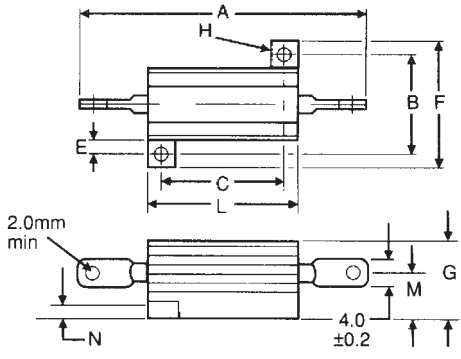
### General Note

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.



## 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



## 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: 100 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	0-0.25
Noise (in decade of frequency)	μV/V	Not specified		zero
Insulation resistance.	ohms	>1Gohm	>20Tohm	>100Gohm
Isolation voltage : WH5 and 10	volts AC peak	1000 min	1500 min	See application notes
: WH25 and 50	volts AC peak	2000 min	3000 min	

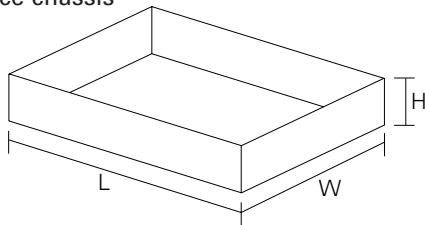
### APPLICATION NOTES

Reference aluminium heatsink dimension

CECC 40203-006	L CM	W CM	H CM	REFERENCE AREA SQ. CM
AA, BA	15.5	10	5	410
CA, DA	18	13	5	544

Aluminium thickness 1mm

Reference chassis



Derating must be applied when resistors are mounted on a heat sink of smaller dimensions than defined in the table for reference heatsink.

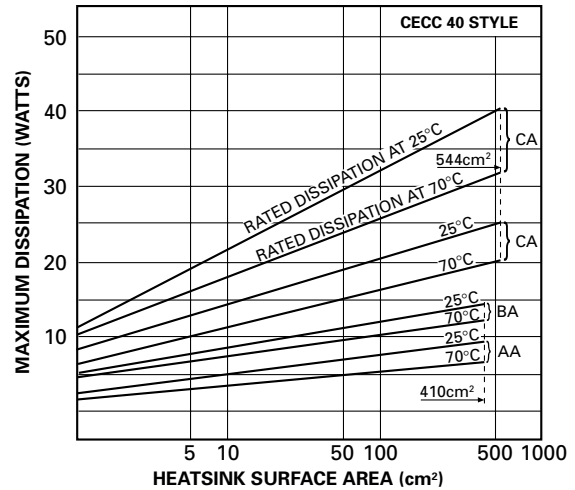
It is recommended that the resistor base should be coated with silicone grease before mounting to obtain the stated operating characteristics.

The grease 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.



### WH50 ONLY

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

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