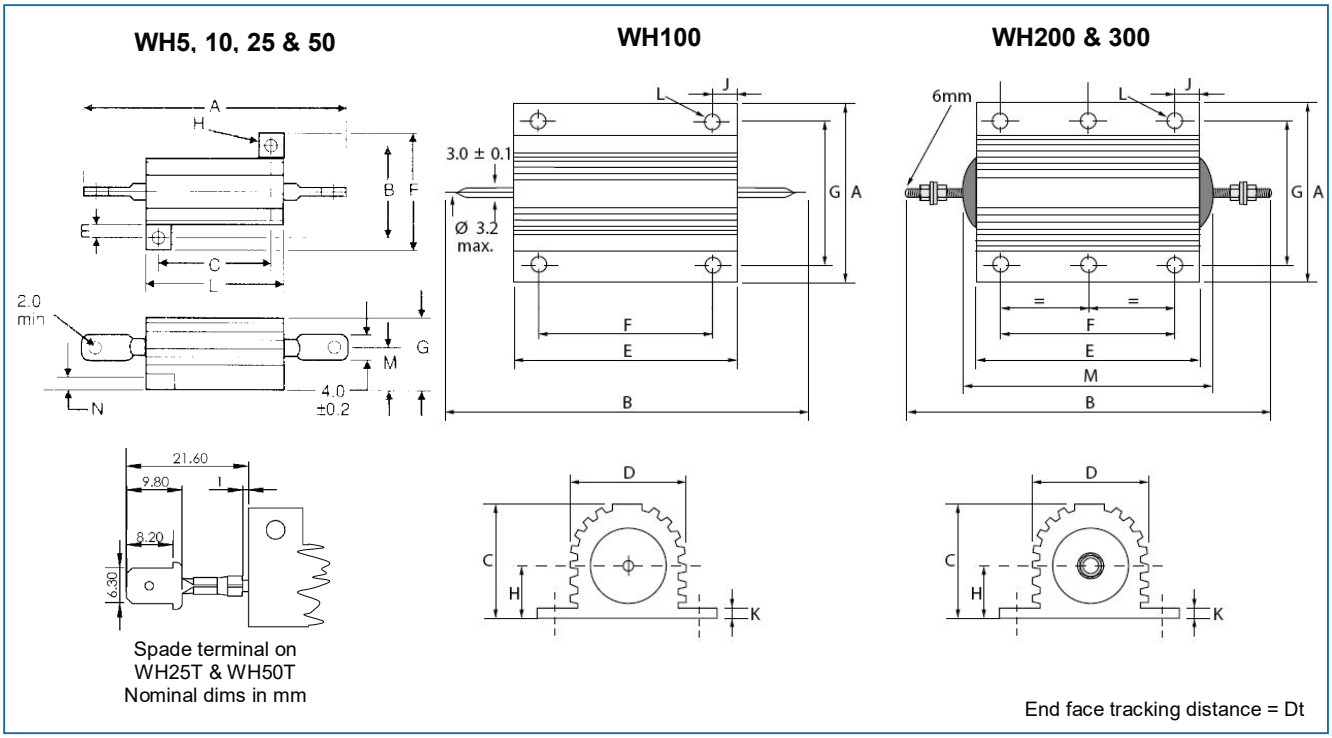
Physical Data

Dimensions (mm) & Weight (g)												
WH5, 10, 25 & 50												
Type	**A Max**	**B ±0.3**	**C ±0.3**	**E Min**	**F Max**	**G Max**	**H Dia ±0.2**	**L Max**	**M ±0.5**	**N Max**	**Dt Min**	**Wt Nom**
WH5	30	12.4	11.3	1.9	17	9	2.4	17.0	4.3	1.8	2.5	3.6
WH10	36.5	15.9	14.3	1.9	21	11	2.4	21.0	5.2	2.2	2.9	5.6
WH25	51 [1]	19.8	18.3	2.8	28	15	3.3	29.0	7.2	2.6	4.3	13
WH50	72.5 [2]	21.4	39.7	2.8	30	16	3.3	51.0	7.9	2.6	5.1	29

WH100, 200 & 300														
	A Max	**B Max**	**C Max**	**D Max**	**E Max**	**F ±0.3**	**G ±0.3**	**H Max**	**J Max**	**K Max**	**L Nom [3]**	**M Max**	**Dt Min**	**Wt. Nom**
WH100	47.5	88	24.1	27.3	65.2	35	37	11.8	15.4	3.7	4.4	-	7.0	115
WH200	72.5	145.7	41.8	45.5	89.7	70	57.2	20.5	10.4	5.5	5.1	103.4	15	475
WH300	72.5	184.4	41.8	45.5	127.7	104	59	20.5	12.4	5.5	6.6	141.4	15	700

Note 1: A_{max} for WH25T is 71.3 Note 2: A_{max} for WH50T is 95.5 Note 3: WH100: ±0.25, WH200 & 300: ±0.45



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 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

WH5-100

Material	Pb-free solder dipped, copper clad steel
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

WH25T & 50T	6.35mm (¼") spade terminal
WH200 & 300	
Material	M6 threaded steel terminal with a set of four nuts and washers
Strength	Termination robustness 50N max Tightening torque 5Nm max

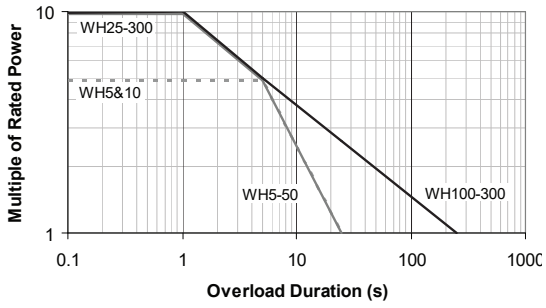
Performance Data

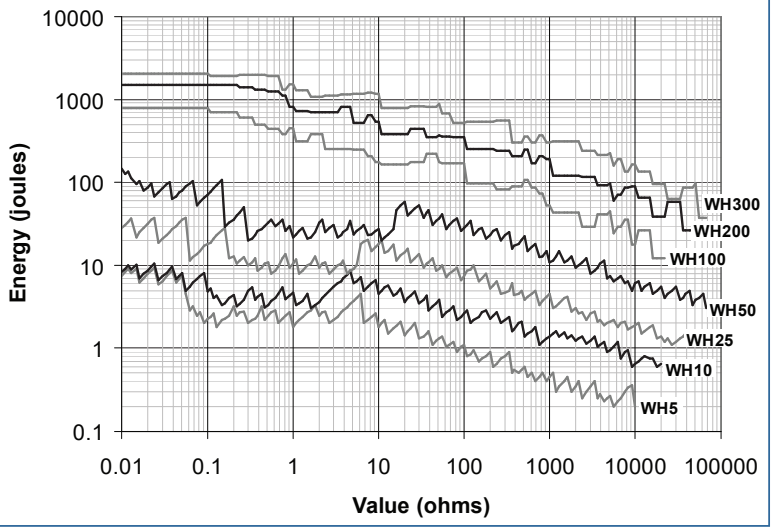
		WH5, 10, 25 & 50			WH100, 200 & 300
		CECC 40203-006 Requirements	Actual		Maximum
			Maximum	Typical	
Load at commercial rating: 1000hrs at 25°C	**ΔR%**	1	1	0.4	2
Load at CECC rating: 1000hrs at 25°C	**ΔR%**	1	1	0.4	N/A
Dry heat: 1000hrs at 200°C	**ΔR%**	1	1	0.4	2
Derating from 25°C		Zero at 200°C, see derating graph			
Short-term overload	**ΔR%**	1	1	0.2	
Climatic sequence	**ΔR%**	1	1	0.4	
Climatic category		55/200/56			
Long-term damp heat	**ΔR%**	1	0.5	0.2	
Temperature rapid change	**ΔR%**	0.25	0.25	0.1	0.25
Resistance to solder heat	**ΔR%**	0.25	0.25	0.05	WH100: 0.5
Vibration and bump	**ΔR%**	0.25	0.25	0.025	
Noise (in decade of frequency)	**µV/V**	Not specified	0	0	0
Insulation resistance	**ohms**	1G min	10G min		
Pulse and overload performance		Not specified	See graphs		

Note: A 0.05 ohm addition is to be added to the performance of all resistors < 10 ohms.

Pulse and Overload Performance

For short durations of ≤0.1s the energy graph should be used. For longer durations the overload graph applies.





Application Notes

After soldering, care should be taken to ensure that there are no flux residues on the end faces of the moulding compound, otherwise insulation resistance will be reduced. The minimum surface tracking distances from termination to casing are shown in the Physical Data tables as dimension Dt.

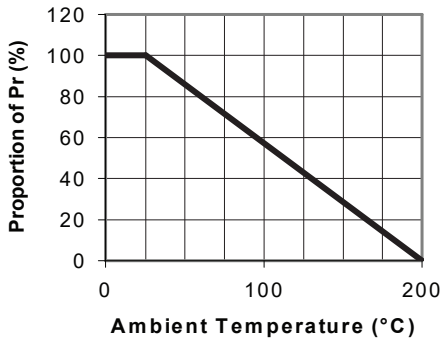
It is recommended that the resistor base should be coated thinly with heatsink compound before mounting to obtain the stated operating characteristics. The heatsink compound increases thermal conductivity to the heatsink.

The standard aluminium heatsinks are defined in the table below. If smaller heatsinks are used then derating should be applied as indicated in the graph below. If no heatsink is employed, use the ratings for 1cm².

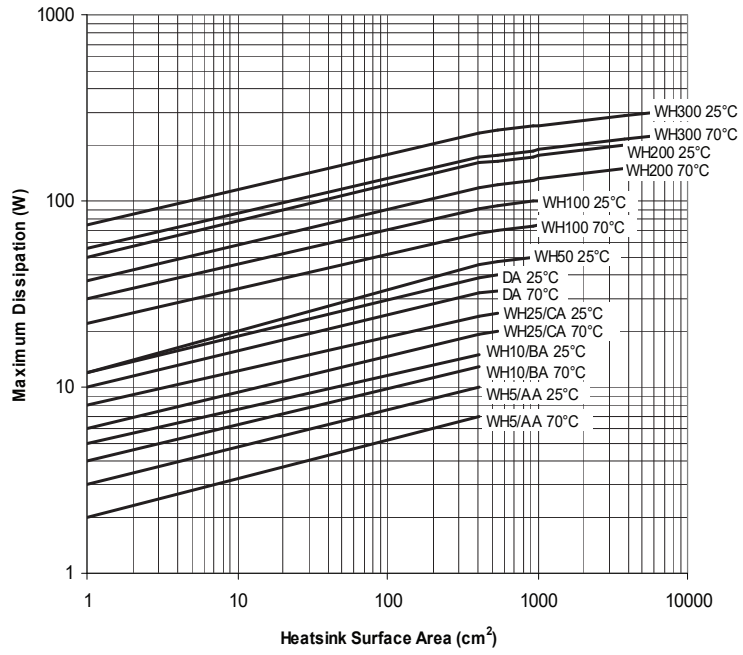
Reference heatsink dimensions

Type (CECC)	Thickness (mm)	Area (cm²)
WH5 (AA)	1	410
WH10 (BA)	1	410
WH25 (CA)	1	544
WH50 (DA)	1	544
WH50 @ 50W	1.5	930
WH100	3	1000
WH200	3	3800
WH300	3	5800

Derating for ambient temperature



Derating for reduced heatsink dimensions



Packaging

WH resistors are packed in plastic bags and boxed.

Ordering Procedure

Example: WH25 with spade terminals at 100 ohms with a 5% tolerance:

WH25T–100RJI

Type

Termination

	Standard
T	Spade terminal

Value (use IEC62 code)

Tolerance (use IEC62 code)

F	1%	J	5%
G	2%	K	10%

Packing

I	WH5, 10	Bulk	250/box	Standard
	WH25, 50		200/box	
	WH100		45/box	
	WH200, 300		10/box	

The following options apply toWH5, 10, 25 & 50 only:
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**