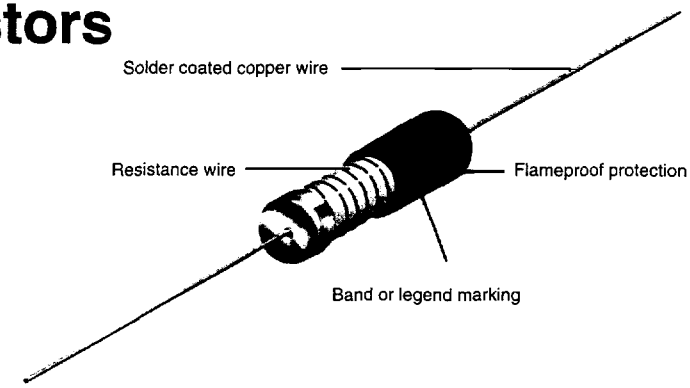
Welwyn

General Purpose Cement Coated Wirewound Resistors

WA80 SERIES



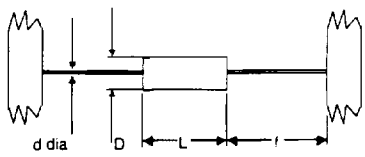
- **Flameproof cement coating**
- **All welded construction**
- **Resistance values down to 0.01 ohms**

ELECTRICAL DATA

		WA82	WA83	WA835	WA84	WA85	WA87
Power rating at 25°C	watts	1	2.0	2.5	3.0	5	7
Power rating at 70°C	watts	.86	1.6	2.0	2.5	4.3	6
Resistance range	ohms	0.068 to 430	0.05 to 900	0.05 to 900	0.01 to 2K2	0.1 to 4K5	0.15 to 10K
Limiting element voltage	volts	50	50	75	100	150	150
Isolation voltage	volts	250	250	250	350	500	700
TCR	ppm/°C	<1 Ω: 350				>1 Ω: 200	
Resistance tolerance	%	5, 10					
Values		E24 preferred					
Thermal impedance	°C/watt	140	110	82	90	54	35
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.
WA82	6.2	2.8	21.20	0.6	10.20	0.6	0.22
WA83	9.0	3.6	19.80	0.8	12.70	1.2	0.50
WA835	12.5	4.5	17.80	0.8	18.40	1.2	0.50
WA84	14.5	5.2	24.55	0.8	20.30	1.2	1.10
WA85	16.5	7.0	23.55	0.8	22.86	1.2	1.75
WA87	25.0	8.8	28.30	0.8	31.40	1.2	4.40



CONSTRUCTION

A high quality ceramic substrate is assembled with interference fit end caps to which are welded the element winding and termination wires. The resistive element is wound on the substrate and welded to the caps. Cement protection is applied to the resistor body before marking with indelible ink.

TERMINATIONS

Material Solder-coated copper wire on 82, 83 and 84, copper weld on 85 and 87.

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

WA85 and 87 resistors are legend marked with type reference, resistance value and tolerance. In conformance with IEC 62.

WA82, 83, 835 and 84 resistors RIO and above are colour coded with 4 bands in conformance with IEC 62. Values below RIO are 3 band marked, two digits and tolerance, there is no multiplier band.

SOLVENT RESISTANCE

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

FLAMMABILITY

The resistor coating will not burn under any condition of applied temperature or component overload.

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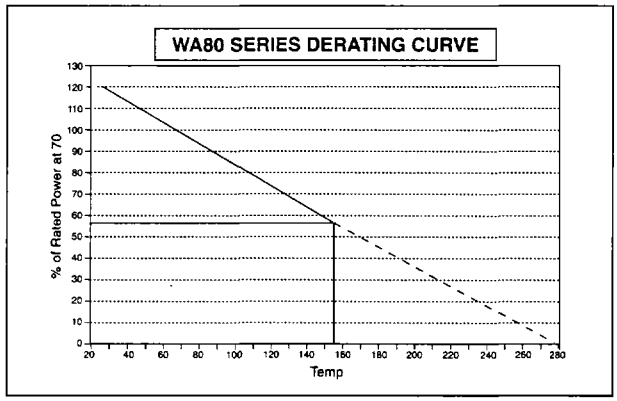
PERFORMANCE DATA

		MAXIMUM	TYPICAL
Load at rated power: 1000 hrs at 25 or 70°C	Δ R%	5.0 +.001	3.0
Dry heat: 1000 hrs at 200°C	Δ R%	5.0 +.001	3.0
Derating from rated power at 25°C		See derating curve	
Short term overload	Δ R%	5.0 +.001	1.0
Climatic	Δ R%	5.0 +.001	2.0
Climatic Category	Δ R%	55/200/56	
Long Term Damp Heat: 56 days	Δ R%	5.0 +.001	1.0
T.R.C. & Vibration	Δ R%	5.0 +.001	1.0
Robustness & Solder Heat	Δ R%	5.0 +.001	1.0



APPLICATION NOTES

Care must be taken when determining clearance between the resistor body and the P.C.B. or other components. Resistance is measured 6mm from body.

PACKAGING

All resistors are normally supplied tape packed ready for loading onto automatic sequencing and insertion machines. The standard taping method and critical dimensions are shown in Figure 2.

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

All taped resistors will be supplied either on reels or in ammopacks, depending upon quantities ordered.

A detailed Packaging Data Sheet is available upon request

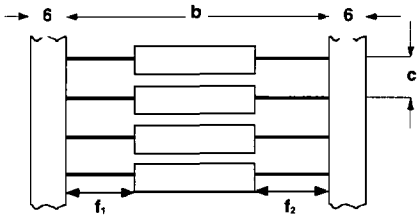


Figure 2 **Body location $f_1 - f_2 \leq 1.4$mm**

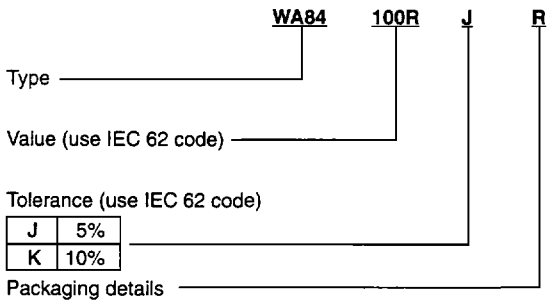
Type	WA82	WA83	WA835	WA84	WA85	WA87
b	52	52	52	67	67	85
c	5	5	5	10	10	10

STANDARD QUANTITIES PER PACKAGE

Type	Code	WA82	WA83	WA835	WA84	WA85	WA87
Reel	R	5000	2500	2500	1000	750	700
Large Ammopack	A	5000	2500	1500	1000	700	N/A

ORDERING PROCEDURE

Specify type references etc. as indicated in this example of WA84 100 ohms 5% resistors, taped and reeled.



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 test data and is considered accurate at time of going to print.

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