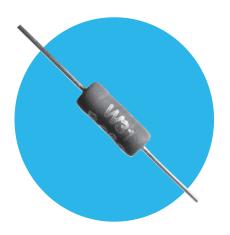
## **Resistors**

# **Cement Coated Wirewound Resistors**

#### **W30 Series**

- Values down to 10m ohms
- Tolerance to 1%
- Flameproof protection
- Custom built to meet pulse requirements
- Surface mount ZI-form option







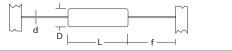
All Pb-free parts comply with EU Directive 2011/65/EU (RoHS2)

## **Electrical Data**

		W31	Notes
Power rating at 25°C	watts	3.0	
Power rating at 70°C	watts	2.5	
Resistance range	ohms	0R01 to 10K	
TCR (-55 to 155°C)	ppm/°C	See below	
Resistance tolerance	%	<r10: 5="">=R10: 1, 2, 5</r10:>	
Standard values		E24 series preferred	Other values to special order
Thermal impedance	°C/watt	83	
Ambient temperature range	°C	-55 to 155	
Limiting element voltage	volts	100	
TCR	ppm/°C	R01: ±1000	
	•	>R01 - ≤R033: ±500	
		>R033 - ≤R091: ±200	
		>R091 - ≤10R: ±150	
	•••	>10R: ±100	

## Physical Data

Maximum D	ximum Dimensions (mm) and Weight (g)				$\sim$	
Туре	L max.	D max.	f min.	d nom.	Wt.nom.	d d
W31	13	5.6 (note 1)	22.75	0.8	1.0	



Note 1: 5.8 for values ≤0R1

### Construction

A high quality ceramic substrate is assembled with interference fit end caps to which are welded the element

to the body, providing an effective seal which is impervious to moisture, shock, vibration, fungus and salt spray.

### **Terminations**

Material Solder coated copper.

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

W31 resistors are legend marked with type reference, resistance value and tolerance. Values are marked in accordance with IEC 62.

#### **Solvent Resistance**

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

## **Flammability**

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

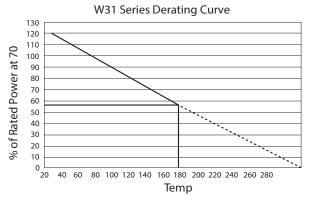
#### General Note

### **W30 Series**



## Performance Data

		Maximum	Typical	
Load: 1000 hrs 3 watts @ 25°C	ΔR%	5.0 + .001Ω	3.5	
1000 hrs 2.5 watts @ 70°C	ΔR%	5.0 + .001Ω	3.5	
Dry heat: 1000 hrs at 200°C	ΔR%	5.0 + .001Ω	3.5	
Derating from room temperature		see derating curve		
Short term overload 10 x rated power for 5 seconds	ΔR%	5.0 + .001Ω	1.0	
Climatic	ΔR%	5.0 + .001Ω	3.5	
Climatic category		55/200/56		
Long term damp heat: 56 days	ΔR%	3.0 + .001Ω	1.0	
Temperature rapid change	ΔR%	2.0 + .001Ω	1.5	
Resistance to solder heat	ΔR%	5.0 + .001Ω	2.0	
Vibration and bump	ΔR%	5.0 + .001Ω	2.0	
Voltage proof	volts	500 min		
Pulse handling		Data available by request		



## **Application Notes**

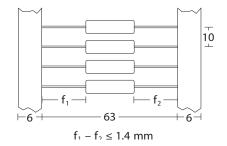
The terminations should not be bent closer than 1.6mm from the body, and the recommended minimum bend radius is 1.2mm.

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**

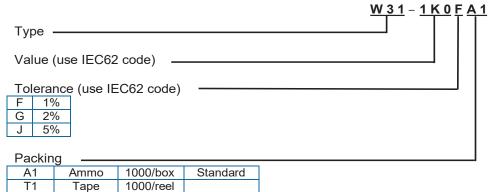
The standard method of packaging is taped in ammo packs. Can be provided on reels by request.

These products are also available in a range of lead forming options. In particular, it is available in ZI-form SMD format packed in blister tape see http://www.ttelectronics.com/themes/ttelectronics/datasheets/resistors/ZI-form.pdf



## Ordering Procedure

Example: W31 at 1 kilohms and 1% tolerance packed in a box of 1000 pieces



#### General Note