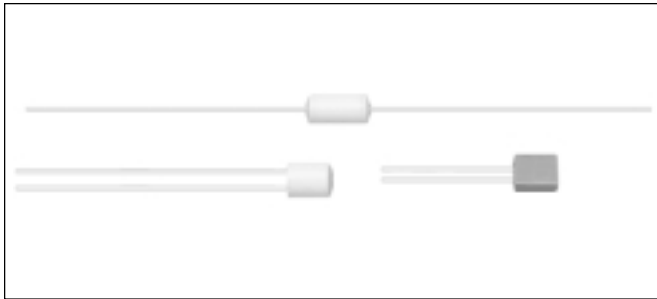


## Commercial Discrete Wirewound Resistors

### Axial and Radial Models



#### FEATURES

- High precision
- All welded construction
- Molded thermosetting plastic bobbin
- Wide ohmic range combined with tight tolerance
- Excellent long-term stability
- Inherent low temperature coefficient
- Extremely low Thermal EMF
- Low voltage coefficient
- Low noise

#### STANDARD ELECTRICAL SPECIFICATIONS

	MODELS	MAXIMUM RESISTANCE VALUE (Ohms)	POWER RATING @ 125°C (Watts)
AXIAL	123A	111k	0.05
	118A	192k	0.05
	122A	199k	0.05
	102A	334k	0.10
	102AL	334k	0.10
	101A	410k	0.10
	153A	435k	0.10
	103A	633k	0.10
	135A	750k	0.10
	105A	820k	0.125
	184A	820k	0.125
	185A*	961k	0.125
	202A	968k	0.25
	204A	1.42 M	0.25
	203A	1.7 M	0.25
	205A*	1.93 M	0.33
	207A*	3.0 M	0.50
	308A	3.0 M	0.60
	210A*	4.10 M	0.50
	307A	5.63 M	0.60
310A	7.68 M	1.00	
505A	10 M	1.00	
510A*	24 M	1.25	
515A*	35 M	1.50	
517A	43 M	1.75	
520A*	43 M	2.00	
RADIAL	101P	453k	0.125
	102P	821k	0.125
	203PC	1.59 M	0.25
	203PA	1.48 M	0.25
	305PA	3.3 M	0.50
505PA	9.5 M	1.00	

\* Available in hermetically sealed. See page 7.

#### ELECTRICAL SPECIFICATIONS

**Minimum Values:** 0.1 ohm for  $\pm 1\%$  and  $\pm 0.5\%$ .  
10 ohm for  $\pm 0.1\%$  and tighter.

**Resistance Tolerance:**  $\pm 0.005\%$ ,  $\pm 0.01\%$ ,  $\pm 0.02\%$ ,  $\pm 0.05\%$ ,  $\pm 0.1\%$ ,  $\pm 0.5\%$ , and  $\pm 1\%$ , depending on style and value.

**Temperature Coefficient:**  $\pm 10$  ppm/ $^{\circ}\text{C}$  standard for 10 ohm and above. Higher T. C.'s on low ohmic values. T. C. match to  $\pm 1$  ppm/ $^{\circ}\text{C}$ . High T. C.'s up to + 6000 ppm/ $^{\circ}\text{C}$  are available.

**Standard temperature range:**  $-10^{\circ}\text{C}$  to  $+80^{\circ}\text{C}$ .

**Working temperature range:**  $-60^{\circ}\text{C}$  to  $+145^{\circ}\text{C}$ .

#### CONSTRUCTION

**All Welded Construction:** The combination of all welded construction and compatible materials provide the most reliable means of interconnects possible.

**Butt Weld of Tab to Lead:** A tab material of 800 ohm alloy (the same as the resistance wire) is butt welded to the lead and molded deep into the resistor bobbin. This design parameter assures the least possible D. C. transients due to thermal EMF.

**Bobbin Design:** The ratio of the height of the Pi wall to the width of the Pi and to the diameter of the bobbin mandrel are critical to the basic stability of a wirewound resistor. These parameters are optimized for each wire size, wattage size and range of resistor values.

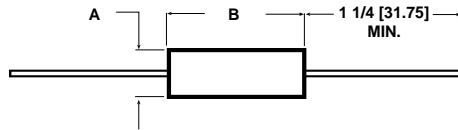
**Encapsulation Material:** Both the bobbin and the final encapsulation material are thermosetting alkyd polyester. The resulting resistor is virtually a homogeneous mass with an identical coefficient of expansion which is unaffected by the most violent of temperature cycling. All types are unaffected by application of solvents.

**Lead Materials:** The standard lead material is hot solder dipped copper (C5N). Other available materials are bare nickel (N1N) and gold plated nickel (N2N).



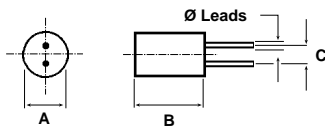
**DIMENSIONS in inches [millimeters]**

**Axial Models**

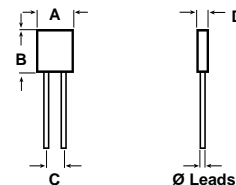


MODEL	DIMENSIONS ± .020 [.508]				Ø LEADS	
	DIAMETER A	LENGTH B	C	D	AWG	DIAMETER
123A	0.100 [2.54]	0.230 [5.84]	—	—	24*	0.020 [0.508]
118A	0.130 [3.30]	0.180 [4.57]	—	—	26	0.016 [0.406]
122A	0.123 [3.12]	0.218 [5.54]	—	—	24	0.020 [0.508]
102A	0.110 [2.79]	0.250 [6.35]	—	—	24	0.020 [0.508]
102AL	0.130 [3.30]	0.313 [7.95]	—	—	24	0.020 [0.508]
101A	0.130 [3.30]	0.375 [9.53]	—	—	22*	0.026 [0.660]
153A	0.150 [3.81]	0.245 [6.22]	—	—	22	0.026 [0.660]
103A	0.150 [3.81]	0.300 [7.62]	—	—	22	0.026 [0.660]
105A	0.160 [4.06]	0.500 [12.70]	—	—	22	0.026 [0.660]
135A	0.150 [3.81]	0.310 [7.87]	—	—	22	0.026 [0.660]
184A	0.187 [4.75]	0.375 [9.53]	—	—	22	0.026 [0.660]
185A	0.187 [4.75]	0.500 [12.70]	—	—	22	0.026 [0.660]
202A	0.250 [6.35]	0.310 [7.87]	—	—	22	0.026 [0.660]
204A	0.250 [6.35]	0.375 [9.53]	—	—	20	0.032 [0.813]
203A	0.250 [6.35]	0.343 [8.71]	—	—	20	0.032 [0.813]
205A	0.250 [6.35]	0.500 [12.70]	—	—	20*	0.032 [0.813]
207A	0.250 [6.35]	0.750 [19.05]	—	—	20*	0.032 [0.813]
308A	0.312 [7.93]	0.810 [20.57]	—	—	20	0.032 [0.813]
210A	0.250 [6.35]	1.00 [25.40]	—	—	20	0.032 [0.813]
307A	0.375 [9.53]	0.750 [19.05]	—	—	20	0.032 [0.813]
310A	0.375 [9.53]	1.00 [25.40]	—	—	20	0.032 [0.813]
505A	0.500 [12.70]	0.500 [12.70]	—	—	20	0.032 [0.813]
510A	0.500 [12.70]	1.00 [25.40]	—	—	20	0.032 [0.813]
515A	0.500 [12.70]	1.50 [38.10]	—	—	20	0.032 [0.813]
517A	0.500 [12.70]	1.75 [44.45]	—	—	20	0.032 [0.813]
520A	0.500 [12.70]	2.00 [50.8]	—	—	20	0.032 [0.813]
101P	0.300 [7.62]	0.320 [8.13]	0.150 [3.81]	0.110 [2.79]	22	0.026 [0.660]
102P	0.250 [6.35]	0.250 [6.35]	0.125 [3.18]	0.125 [3.18]	22*	0.026 [0.660]
203PC	0.250 [7.92]	0.312 [7.93]	0.150 [3.81]	—	22	0.026 [0.660]
203PA	0.270 [6.86]	0.320 [8.13]	0.200 [5.08]	—	22	0.026 [0.660]
305PA	0.375 [9.53]	0.500 [12.70]	0.200 [5.08]	—	20	0.032 [0.813]
505PA	0.500 [12.70]	0.500 [12.70]	0.300 [7.62]	—	20	0.032 [0.813]

**Round Radial Models**



**Flat Radial Models**



\* Different lead gauges available – Contact Factory for part number.

PART MARKING
— ULTRONIX Logo
— Model
— Resistance value
— Resistance tolerance
— Date code

ORDERING INFORMATION		
<b>203A</b> MODEL	<b>1000</b> RESISTANCE VALUE	<b>T</b> TOLERANCE
		T = ± 0.01% Q = ± 0.02% A = ± 0.05% B = ± 0.1% F = ± 1.0%

This datasheet has been download from:

[www.datasheetcatalog.com](http://www.datasheetcatalog.com)

Datasheets for electronics components.