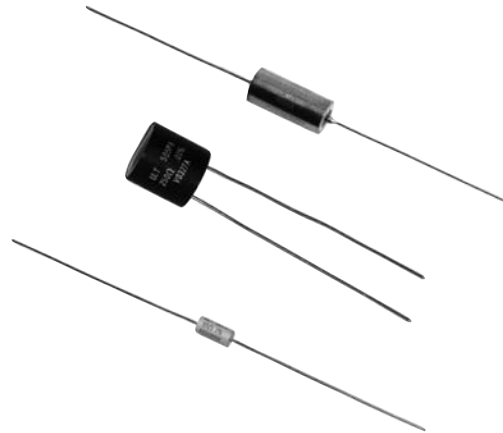


# HPW Series

## High Precision Welded Axial and Radial

### 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



**ULTRONIX**<sup>®</sup>  
A Division of Ohmite Mfg. Co.

### SERIES SPECIFICATIONS

Type	Max. Ohms	Power Rating	
		@125°C (Watts)	Max. Volts
118A	192k	0.05	150
102A	334k	0.10	150
101A	410k	0.10	300
153A	435k	0.10	
103A	633k	0.10	150
105A	820k	0.125	
184A	820k	0.125	300
185A*	961k	0.125	300
202A	968k	0.25	200
203A	1.7 M	0.25	200
205A*	1.93 M	0.33	400
207A*	3.0 M	0.50	800
308A	3.0 M	0.60	800
210A*	4.10 M	0.50	800
307A	5.63 M	0.60	
310A	7.68 M	1.00	800
505A	10 M	1.00	
510A*	24 M	1.25	800
515A*	35 M	1.50	1200
517A	43 M	1.75	1200
520A*	43 M	2.00	1200
203PA	1.48 M	0.25	150
305PA	3.3 M	0.50	

\*Available in hermetically sealed

### CHARACTERISTICS

<b>Minimum Values</b>	0.1Ω for ±1% and ±0.5%; 10Ω for ±0.1% and tighter
<b>Resistance Tolerance</b>	±0.005%, ±0.01%, ±0.02%, ±0.05%, ±0.1%, ±0.5%, and ±1%, depending on style and value
<b>Temperature Coefficient (TCR)</b>	±10ppm/°C standard for 10Ω and above. Higher TC's on low ohmic values. TC match to ±1ppm/°C. High TC's upto +6000ppm/°C are available
<b>Working temperature range</b>	-60°C to +150°C
<b>All Welded Construction</b>	The combination of all welded construction and compatible materials provide the most reliable means of interconnects possible.
<b>Butt Weld of Tab to Terminal</b>	A tab material of 800 ohm alloy (the same as the resistance wire) is butt welded to the terminal and molded deep into the resistor bobbin. This design parameter assures the least possible DC transients due to thermal EMF.
<b>Bobbin Design</b>	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.
<b>Encapsulation Material</b>	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.
<b>Terminal Materials</b>	The standard terminal material is hot solder dipped copper (C5N).

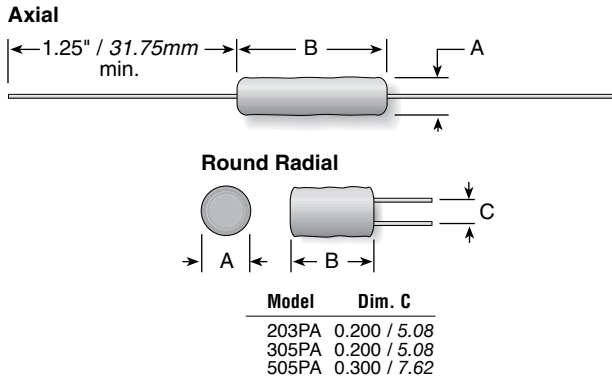
(continued)

# HPW Series

## High Precision Welded Axial and Radial

### DIMENSIONS

(±.020 in./ ±.508 mm)



Type	Power Rating	A	B	AWG	Lead Diam.
118A	0.05	0.130 / 3.30	0.180 / 4.57	26	0.016 / 0.406
102A	0.10	0.110 / 2.79	0.250 / 6.35	24	0.020 / 0.508
101A	0.10	0.130 / 3.30	0.375 / 9.53	22	0.026 / 0.660
153A	0.10	0.150 / 3.81	0.245 / 6.22	22	0.026 / 0.660
103A	0.10	0.150 / 3.81	0.300 / 7.62	22	0.026 / 0.660
105A	0.125	0.160 / 4.06	0.500 / 12.70	22	0.026 / 0.660
184A	0.125	0.187 / 4.75	0.375 / 9.53	22	0.026 / 0.660
185A*	0.125	0.187 / 4.75	0.500 / 12.70	22	0.026 / 0.660
202A	0.25	0.250 / 6.35	0.310 / 7.87	22	0.026 / 0.660
203A	0.25	0.250 / 6.35	0.343 / 8.71	20	0.032 / 0.813
205A*	0.33	0.250 / 6.35	0.500 / 12.70	20	0.032 / 0.813
207A*	0.50	0.250 / 6.35	0.750 / 19.05	20	0.032 / 0.813
308A	0.60	0.312 / 7.93	0.810 / 20.57	20	0.032 / 0.813
210A*	0.50	0.250 / 6.35	1.00 / 25.40	20	0.032 / 0.813
307A	0.60	0.375 / 9.53	0.750 / 19.05	20	0.032 / 0.813
310A	1.00	0.375 / 9.53	1.00 / 25.40	20	0.032 / 0.813
505A	1.00	0.500 / 12.70	0.500 / 12.70	20	0.032 / 0.813
510A*	1.25	0.500 / 12.70	1.00 / 25.40	20	0.032 / 0.813
515A*	1.50	0.500 / 12.70	1.50 / 38.10	20	0.032 / 0.813
517A	1.75	0.500 / 12.70	1.75 / 44.45	20	0.032 / 0.813
520A*	2.00	0.500 / 12.70	2.00 / 50.8	20	0.032 / 0.813
203PA	0.25	0.270 / 6.86	0.320 / 8.13	22	0.026 / 0.660
305PA	0.50	0.375 / 9.53	0.500 / 12.70	20	0.032 / 0.813

\*Available in hermetically sealed

### HOW TO ORDER

**2 0 3 A 1 M 7 0 0 T**

Type	Format*	Resistance	Tolerance*
A = axial	1R000 = 1 Ω	V = 0.005%	
PA = round radial	10R00 = 10 Ω	T = 0.01%	
	100R0 = 100 Ω	Q = 0.02%	
	1K000 = 1000 Ω	A = 0.05%	
	10K00 = 10 KΩ	B = 0.1%	
	100K0 = 100 KΩ	C = 0.25%	
	1M700 = 1.7 MΩ	D = 0.5%	
		F = 1.0%	

\*All formats and tolerances not available in all values