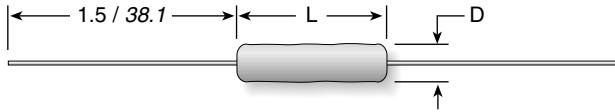


90 Series



Lead Free Vitreous Enamel Molded Axial Lead Wirewound Resistors, 5% Tolerance Standard



Series	Wattage*	Ohms	Dimensions (in. / mm)			Voltage	Lead ga.
			Length	Diam.	Voltage		
91	1.5	0.1Ω-3.6K	0.437 / 11.1	0.150 / 3.6	150	24	
92	2.25	0.1Ω-3.5K	0.390 / 9.9	0.219 / 5.6	85	20	
93	3.25	0.1Ω-10.5K	0.562 / 14.3	0.234 / 5.9	200	20	
95	5.0	0.1Ω-25K	0.953 / 24.2	0.234 / 5.9	495	20	
90	11.0	0.1Ω-91K	1.796 / 45.6	0.343 / 8.7	1080	20	

15 watt and non-inductive types available on special order

* 2x power ratings by using heat-sink mounting clips shown on following page.

Note: Due to space restrictions, parts are stamped with wattage ratings reduced to the nearest whole number. The actual wattage ratings are as published in this catalog.

ORDERING INFORMATION								
Non-Inductive Winding Optional (blank = std. winding)					RoHS Compliant			
9 1 N J R 1 0 E								
90 Series	Wattage	Tolerance	Resistance Value					
Series-Lead	1 = 1.5W 2 = 2.25W 3 = 3.25W 5 = 5W 0 = 11W	J = 5%	1R0 = 1.0Ω 10R = 10.0Ω 250 = 250Ω 1K0 = 1,000Ω 4K5 = 4,500Ω 51K = 51,000Ω					
Free Vitreous Enamel Molded Axial Lead Wirewound								

When you need the highest quality wirewound axial lead resistors available, choose Ohmite's 90 Series resistors.

They are manufactured by a unique process that molds the vitreous enamel over the resistive element, helping to ensure consistent dimensions. This uniformity permits 90 Series resistors to be mounted in clips, creating a heat-sinking benefit (see next page).

The durable vitreous enamel coating, which is totally lead free, permits the 90 Series resistors to maintain a hard coating while operating at high temperatures. Mechanical integrity is enhanced by the all-welded construction.

- RoHS compliant product available Jan. 2006 Add "E" suffix to part number to specify.

SPECIFICATIONS

Material

Coating: Molded lead free vitreous enamel.

Core: Ceramic.

Terminals: Solder-coated copper clad axial lead.

Derating: Linearly from

100% @ +25°C to
0% @ +350°C.

Electrical

Tolerance: ±5%

(other tolerances available).

Power rating: Based on 25°C free air rating. (other wattages available*).

Maximum ohmic values:

See chart.

Overload:

Under 11 watts: 5 times rated wattage for 5 seconds.

11 watts: 10 times rated wattage for 5 seconds.

Temperature coefficient:

1 to 9.99Ω: ±100 ppm/°C
10Ω and over: ±30 ppm/°C

Dielectric withstanding voltage:

500 VAC: 1 watt rating

1000 VAC: 2, 3, 5 and 11 watt rating.

STANDARD PART NUMBERS FOR STANDARD RESISTANCE VALUES														
Ohmic value	Wattage					Wattage					Wattage			
	Part No. Prefix ► Suffix ▼	91J	92J	93J	95J	90J	91J	92J	93J	95J	90J	93J	95J	90J
1 — 1R0	+ + + + + ✓						22 — 22R	✓ ✓ ✓ ✓ ✓				350 — 350	✓ ✓ ✓ ✓ ✓	
1.1 — 1R1	✓ + + + + +						24 — 24R	◆ + + ✓ ✓ ✓				360 — 360	✓ ✓ ✓ ✓ ✓	
1.2 — 1R2	✓ ✓ ✓ ✓ ✓ +						25 — 25R	◆ ✓ ✓ ✓ ✓				390 — 390	✓ ✓ ✓ ✓ ✓	
1.3 — 1R3	✓ ✓ ✓ ✓ + +						27 — 27R	✓ ✓ ✓ ✓ ✓				400 — 400	✓ ✓ ✓ ✓ ✓	
1.5 — 1R5	✓ ✓ ✓ ✓ ✓ +						30 — 30R	✓ ✓ ✓ ✓ ✓				430 — 430	✓ ✓ ✓ ✓ ✓	
1.6 — 1R6	◆ + + + + +						33 — 33R	✓ + + + +				450 — 450	◆ + + + +	
1.8 — 1R8	✓ + + + + +						35 — 35R	✓ + + + +				470 — 470	✓ + + + +	
2 — 2R0	✓ ✓ + + + +						36 — 36R	✓ + + + +				500 — 500	✓ ✓ + + +	
2.2 — 2R2	✓ ✓ + + + +						39 — 39R	✓ + + + +				510 — 510	◆ + + + +	
2.4 — 2R4	◆ + + + + +						40 — 40R	◆ + + + +				560 — 560	✓ + + + +	
2.7 — 2R7	✓ ✓ ✓ ✓ ✓ +						43 — 43R	◆ + + + +				600 — 600	✓ + + + +	
3 — 3R0	✓ ✓ ✓ ✓ ✓ +						47 — 47R	✓ + + + +				620 — 620	✓ + + + +	
3.3 — 3R3	✓ ✓ ✓ ✓ ✓ +						50 — 50R	✓ + + + +				680 — 680	✓ + + + +	
3.6 — 3R6	◆ + + + + +						51 — 51R	◆ + + + +				700 — 700	◆ + + + +	
3.9 — 3R9	✓ ✓ ✓ ✓ ✓ +						56 — 56R	✓ + + + +				750 — 750	✓ + + + +	
4 — 4R0	✓ ✓ ✓ ✓ ✓ +						62 — 62R	✓ + + + +				800 — 800	✓ + + + +	
4.3 — 4R3	◆ + + + + +						68 — 68R	✓ + + + +				820 — 820	✓ + + + +	
4.7 — 4R7	✓ + + + + +						75 — 75R	✓ + + + +				900 — 900	◆ + + + +	
5 — 5R0	✓ ✓ + + + +						82 — 82R	✓ + + + +				910 — 910	◆ + + + +	
5.1 — 5R1	◆ + + + + +						91 — 91R	✓ + + + +				1,000 — 1,000	◆ + + + +	
5.6 — 5R6	✓ ✓ ✓ ✓ ✓ +						100 — 100	+ + + + +				1,100 — 1,100	—	
6.2 — 6R2	◆ + + + + +						110 — 110	✓ + + + +				1,200 — 1,200	✓ + + + +	
6.8 — 6R8	✓ + + + + +						120 — 120	✓ + + + +				1,300 — 1,300	✓ + + + +	
7.5 — 7R5	◆ + + + + +						130 — 130	◆ + + + +				1,400 — 1,400	✓ + + + +	
8.2 — 8R2	✓ + + + + +						150 — 150	✓ + + + +				1,500 — 1,500	✓ + + + +	
9.1 — 9R1	◆ + + + + +						160 — 160	✓ + + + +				1,600 — 1,600	✓ + + + +	
10 — 10R	✓ ✓ + + + +						180 — 180	✓ + + + +				1,800 — 1,800	✓ + + + +	
11 — 11R	◆ + + + + +						200 — 200	✓ + + + +				2,000 — 2,000	✓ + + + +	
12 — 12R	✓ + + + + +						220 — 220	✓ + + + +				2,200 — 2,200	✓ + + + +	
13 — 13R	◆ + + + + +						240 — 240	◆ + + + +				2,400 — 2,400	✓ + + + +	
15 — 15R	✓ + + + + +						250 — 250	✓ + + + +				2,500 — 2,500	✓ + + + +	
16 — 16R	✓ + + + + +						270 — 270	✓ + + + +				2,700 — 2,700	✓ + + + +	
18 — 18R	✓ + + + + +						300 — 300	✓ + + + +				3,000 — 3,000	✓ + + + +	
20 — 20R	✓ + + + + +						330 — 330	✓ + + + +				3,300 — 3,300	✓ + + + +	

✓ = Most popular standard values

◆ = Standard values

⊕ = Non-standard values subject to minimum handling charge per item

Shaded values involve very fine resistance wire and should not be used in critical applications without burn-in and/or thermal cycling.

- Prevent severe vibration or mechanical shock to resistor
- Increase resistor wattage up to 100% when mounted on metal surface (1.5 sq. in. by 0.040 in. thick min. per watt dissipated)
- Holes in clip base permit fastening to chassis surface with machine screws, eyelets or rivets



Mounting Clip

For 90 Series resistor

STANDARD PART NUMBERS

Part No.	Resistor rating (watts)	Clip length (in./mm)	Clip width (in./mm)	Clip height (in./mm)	No. of holes	Hole centers (in./mm)	Hole diameter (in./mm)
✓ 5900	1.5	0.40 / 10.319	0.150 / 3.810	0.250 / 6.350	1		0.71 / 1.803
✓ 5902	2.25	0.35 / 8.890	0.217 / 5.500	0.275 / 6.980	2	0.156 / 3.969	0.71 / 1.803
✚ 5904	3.25	0.50 / 12.700	0.257 / 6.500	0.319 / 8.103	2	0.250 / 6.350	0.093 / 2.362
✚ 5906	5.0	0.90 / 22.860	0.237 / 6.019	0.284 / 7.214	2	0.400 / 10.160	0.103 / 2.616
✚ 5908	11.0	1.75 / 44.450	0.333 / 8.458	0.377 / 9.576	2	0.800 / 20.320	0.103 / 2.616
✓ 5905	6.5	0.90 / 22.860	0.333 / 8.458	0.377 / 9.576	2	0.500 / 12.700	0.093 / 2.362

✚ = Most popular standard values

✓ = Standard values

✚ = Non-standard values subject to minimum handling charge per item