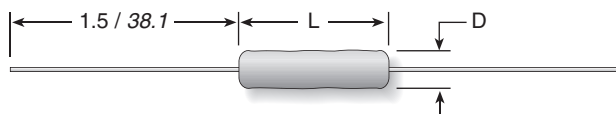


90 Series

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



Series	Wattage*	Ohms	Dimensions (in. / mm)		Voltage	Lead ga.
			Length	Diam.		
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 available on special order

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.

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.

FEATURES

- Molded Construction provides consistent shape and size (Permits mounting in clips which extends power rating).
- Meets MIL-R-26 requirements for insulated resistors.
- All-welded construction.
- Flame resistant lead free vitreous enamel coating.
- Higher ratings in smaller sizes.
- Heat sink mounting clips available.

- 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.

STOCK PART NUMBERS FOR STANDARD RESISTANCE VALUES

Wattage						Wattage						Wattage						Wattage						Wattage										
Ohmic value	Part No. Prefix	Suffix	1.5	2.25	3.25	5	11	Ohmic value	Part No. Prefix	Suffix	1.5	2.25	3.25	5	11	Ohmic value	Part No. Prefix	Suffix	1.5	2.25	3.25	5	11	Ohmic value	Part No. Prefix	Suffix	3.25	5	11	Ohmic value	Part No. Prefix	Suffix	5	11
1.1	1R1	✓	✓	✓	✓	✓	24	24R	✓	✓	✓	✓	✓	✓	360	360	✓	✓	✓	✓	✓	✓	✓	3,600	3K6	✓	✓	✓	14,000	14K	✓	✓	✓	
1.2	1R2	✓	✓	✓	✓	✓	25	25R	✓	✓	✓	✓	✓	✓	390	390	✓	✓	✓	✓	✓	✓	✓	3,900	3K9	✓	✓	✓	15,000	15K	✓	+	+	
1.3	1R3	✓	✓	✓	✓	✓	27	27R	✓	✓	✓	✓	✓	✓	400	400	✓	✓	✓	✓	✓	✓	✓	4,000	4K0	✓	✓	✓	16,000	16K	+	✓	✓	
1.5	1R5	✓	✓	✓	✓	✓	30	30R	✓	✓	✓	✓	✓	✓	430	430	✓	✓	✓	✓	✓	✓	✓	4,300	4K3	+	✓	✓	17,000	17K	+	✓	✓	
1.6	1R6	✓	✓	✓	✓	✓	33	33R	✓	✓	✓	✓	+	+	450	450	✓	✓	✓	✓	✓	✓	✓	4,500	4K5	✓	✓	✓	18,000	18K	✓	✓	✓	
1.8	1R8	✓	✓	✓	✓	✓	35	35R	✓	✓	✓	✓	✓	✓	470	470	✓	+	✓	✓	✓	✓	✓	4,700	4K7	✓	✓	✓	20,000	20K	+	✓	✓	
2	2R0	✓	✓	+	✓	✓	36	36R	✓	✓	✓	✓	✓	✓	500	500	✓	✓	✓	✓	✓	✓	✓	5,000	5K0	✓	+	✓	22,000	22K	✓	✓	✓	
2.2	2R2	✓	✓	✓	✓	✓	39	39R	✓	✓	✓	✓	✓	✓	510	510	✓	✓	✓	✓	✓	✓	✓	5,100	5K1	✓	✓	✓	24,000	24K	✓	✓	✓	
2.4	2R4	+	✓	✓	✓	✓	40	40R	✓	✓	✓	✓	✓	✓	560	560	✓	✓	✓	✓	✓	✓	✓	5,600	5K6	+	+	✓	25,000	25K	✓	✓	✓	
2.7	2R7	✓	✓	✓	✓	✓	43	43R	✓	✓	✓	✓	✓	✓	600	600	✓	✓	✓	✓	✓	✓	✓	6,000	6K0	✓	✓	✓	27,000	27K	✓	+	+	
3	3R0	✓	✓	✓	✓	✓	47	47R	✓	✓	✓	✓	✓	✓	620	620	✓	✓	✓	✓	✓	✓	✓	6,200	6K2	✓	✓	✓	30,000	30K	✓	✓	✓	
3.3	3R3	✓	✓	✓	✓	✓	50	50R	✓	✓	✓	+	+	✓	680	680	✓	✓	✓	✓	✓	✓	✓	6,800	6K8	+	✓	✓	33,000	33K	✓	✓	✓	
3.6	3R6	✓	✓	✓	✓	✓	51	51R	✓	✓	✓	✓	✓	✓	700	700	✓	✓	✓	✓	✓	✓	✓	7,000	7K0	✓	✓	✓	35,000	35K	✓	✓	✓	
3.9	3R9	✓	✓	✓	✓	✓	56	56R	✓	✓	✓	✓	✓	✓	750	750	✓	✓	✓	✓	✓	✓	✓	7,500	7K5	✓	✓	✓	36,000	36K	✓	✓	✓	
4	4R0	✓	✓	✓	✓	✓	62	62R	✓	✓	✓	✓	✓	+	800	800	✓	✓	✓	✓	✓	✓	✓	8,000	8K0	✓	✓	✓	39,000	39K	✓	✓	✓	
4.3	4R3	✓	✓	✓	✓	✓	68	68R	✓	✓	✓	✓	✓	✓	820	820	✓	✓	✓	✓	✓	✓	✓	8,200	8K2	✓	✓	✓	40,000	40K	✓	✓	✓	
4.7	4R7	✓	✓	+	✓	✓	75	75R	✓	✓	✓	✓	✓	✓	900	900	✓	✓	✓	✓	✓	✓	✓	9,000	9K0	✓	✓	✓	43,000	43K	✓	✓	✓	
5	5R0	✓	✓	✓	+	+	82	82R	✓	✓	✓	✓	✓	✓	910	910	✓	✓	✓	✓	✓	✓	✓	9,100	9K1	✓	✓	✓	45,000	45K	✓	✓	✓	
5.1	5R1	✓	✓	✓	✓	✓	91	91R	✓	✓	✓	✓	✓	✓	1,000	1K0	+	✓	+	+	+	+	+	10,000	10K	+	+	+	47,000	47K	✓	✓	✓	
5.6	5R6	✓	✓	✓	✓	✓	100	100	+	+	+	+	+	✓	1,100	1K1	✓	✓	✓	✓	✓	✓	✓	11,000	11K	✓	✓	✓	50,000	50K	+	+	+	
6.2	6R2	✓	✓	✓	✓	✓	110	110	✓	✓	✓	✓	✓	✓	1,200	1K2	✓	+	✓	✓	✓	✓	✓	12,000	12K	+	✓	✓	51,000	51K	✓	✓	✓	
6.8	6R8	✓	✓	✓	+	✓	120	120	✓	✓	✓	✓	✓	✓	1,300	1K3	✓	✓	✓	✓	✓	✓	✓	1,300	1K3	✓	✓	✓						
7.5	7R5	✓	✓	✓	✓	✓	130	130	✓	✓	✓	✓	✓	✓	1,400	1K4	✓	✓	✓	✓	✓	✓	✓	1,400	1K4	✓	✓	✓						
8.2	8R2	✓	✓	✓	✓	✓	150	150	✓	✓	✓	✓	✓	✓	1,500	1K5	✓	✓	✓	✓	✓	✓	✓	1,500	1K5	✓	✓	✓						
9.1	9R1	✓	✓	✓	✓	✓	160	160	✓	✓	✓	✓	✓	✓	1,600	1K6	✓	✓	✓	✓	✓	✓	✓	1,600	1K6	✓	✓	✓						
10	10R	✓	✓	✓	+	✓	180	180	✓	✓	✓	✓	✓	✓	1,800	1K8	✓	+	✓	✓	✓	✓	✓	1,800	1K8	✓	✓	✓						
11	11R	✓	✓	✓	✓	✓	200	200	✓	✓	✓	✓	✓	✓	2,000	2K0	✓	✓	✓	✓	✓	✓	✓	2,000	2K0	✓	✓	✓						
12	12R	✓	✓	✓	✓	✓	220	220	✓	✓	✓	+	✓	✓	2,200	2K2	✓	✓	✓	✓	✓	✓	✓	2,200	2K2	✓	✓	✓						
13	13R	✓	✓	✓	✓	✓	240	240	✓	✓	✓	✓	✓	✓	2,400	2K4	✓	✓	✓	+	✓	✓	✓	2,400	2K4	✓	✓	✓						
15	15R	✓	✓	✓	✓	✓	250	250	✓	✓	✓	✓	✓	✓	2,500	2K5	✓	✓	✓	✓	+	+	✓	2,500	2K5	✓	✓	✓						
16	16R	✓	✓	✓	✓	✓	270	270	✓	✓	✓	✓	✓	✓	2,700	2K7	✓	✓	✓	✓	✓	✓	✓	2,700	2K7	✓	✓	✓						
18	18R	✓	✓	✓	✓	✓	300	300	✓	✓	✓	✓	✓	✓	3,000	3K0	✓	✓	✓	✓	✓	✓	✓	3,000	3K0	✓	✓	✓						
20	20R	✓	✓	✓	✓	✓	330	330	✓	✓	✓	✓	✓	+	3,300	3K3	✓	✓	✓	✓	✓	✓	✓	3,300	3K3	✓	✓	✓						

+ = Most popular stock values

✓ = Stock values

✗ = Non-stock 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

STOCK 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 stock values
- ✓ = Stock values
- + = Non-stock values subject to minimum handling charge per item