

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.

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:

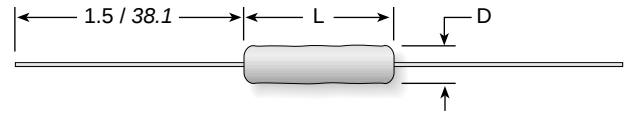
1 to 9.99Ω: ±100 ppm/°C
10Ω and over: ±30 ppm/°C

Dielectric withstanding voltage:

500 VAC: 1 watt rating
1000 VAC: 2, 3, 5 and 11 watt rating.

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.

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	—1R0	⊕	⊕	⊕	⊕	⊕		22	—22R	✓	✓	✓	✓	✓	✓		350	—350	✓	✓	✓	✓	✓	✓		3,500	—3K5	✓	✓	✓		13,000	—13K	✓	⊕				
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	✓	✓	✓	✓	✓	✓															
7.5	—7R5	✓	✓	✓	✓	✓		130	—130	⊕	✓	✓	✓	✓	✓		1,400	—1K4	⊕	✓	✓	⊕	⊕	✓															
8.2	—8R2	⊕	✓	✓	✓	✓		150	—150	✓	✓	✓	✓	✓	✓		1,500	—1K5	✓	✓	✓	✓	✓	✓															
9.1	—9R1	⊕	⊕	✓	✓	⊕		160	—160	✓	⊕	✓	✓	✓	✓		1,600	—1K6	⊕	⊕	✓	✓	✓	✓															
10	—10R	✓	✓	✓	✓	⊕		180	—180	✓	✓	✓	✓	✓	✓		1,800	—1K8	✓	⊕	✓	✓	✓	✓															
11	—11R	✓	✓	✓	✓	✓		200	—200	✓	✓	✓	✓	✓	✓		2,000	—2K0	✓	✓	✓	✓	✓	✓															
12	—12R	✓	✓	✓	✓	✓		220	—220	✓	✓	⊕	✓	✓	✓		2,200	—2K2	✓	✓	✓	✓	✓	✓															
13	—13R	⊕	⊕	✓	✓	⊕		240	—240	⊕	⊕	✓	✓	✓	✓		2,400	—2K4	✓	✓	⊕	✓	✓	⊕															
15	—15R	✓	✓	✓	✓	✓		250	—250	✓	✓	✓	✓	✓	✓		2,500	—2K5	✓	✓	✓	✓	⊕	⊕															
16	—16R	✓	⊕	✓	✓	✓		270	—270	✓	✓	✓	✓	✓	✓		2,700	—2K7	⊕	✓	✓	✓	✓	✓															
18	—18R	✓	✓	✓	✓	✓		300	—300	✓	✓	✓	✓	✓	✓		3,000	—3K0	✓	✓	✓	✓	✓	✓															
20	—20R	✓	✓	✓	✓	✓		330	—330	✓	✓	✓	✓	✓	⊕		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.

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Mounting Clip

For 90 Series resistor



- 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

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

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