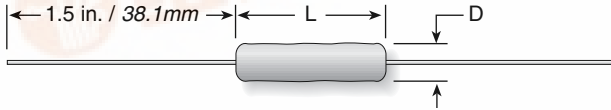


90 Series

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



Series	Wattage*	Ohms	Dimensions (in. / mm) Length	Diam.	Voltage	Lead ga.
91	1.5	0.1Ω-3.6K	0.452 / 11.5	0.140 / 3.6	150	24
92	2.25	0.1Ω-3.5K	0.405 / 10.3	0.219 / 5.6	85	20
93	3.25	0.1Ω-10.5K	0.577 / 14.7	0.234 / 5.9	200	20
95	5.0	0.1Ω-25K	0.968 / 24.6	0.234 / 5.9	495	20
90	11.0	0.1Ω-91K	1.796 / 45.6	0.343 / 8.7	1080	20

* 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
91 NJR 10 E	
90 Series Series-Lead Free Vitreous Enamel Molded Axial Term. Wirewound	Wattage 1 = 1.5W 2 = 2.25W 3 = 3.25W 5 = 5W 0 = 11W
	Tolerance J = 5%
	Resistance Value 1R0 = 1.0Ω 10R = 10.0Ω 250 = 250Ω 1K0 = 1,000Ω 4K5 = 4,500Ω 51K = 51,000Ω

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When you need the highest quality wirewound axial terminal 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; add "E" suffix to part number to specify.

SPECIFICATIONS

Material

Coating: Molded lead free vitreous enamel.

Core: Ceramic.

Terminals: Solder-coated copper clad axial. RoHS solder composition is 96% Sn, 3.5% Ag, 0.5% Cu

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: 1W rating
1000 VAC: 2, 3, 5 and 11W

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.

STANDARD PART NUMBERS FOR 90 SERIES

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			✓	✓	✓	✓	✓																		

✓ = 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.

Check product availability at www.ohmite.com

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FEATURES

- Prevents severe vibration or mechanical shock to resistor
- Increases 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
- Sold in bags of ten (10)



Mounting Clip For 90 Series

STANDARD PART NUMBERS FOR 90 SERIES MOUNTING CLIP

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	+

- + = Most popular standard values
 ✓ = Standard values
 + = Non-standard values subject to minimum handling charge per item