

## 90 Series\*

### Vitreous Enamel Molded Axial Lead Wirewound Resistors 5% Tolerance

Axial Lead Resistors

#### 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** vitreous enamel coating.



When you need the highest quality silicone-free wirewound axial lead resistor 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.

The durable vitreous enamel coating, which is totally silicone-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.

#### Specifications

##### • Material

Coating: Molded vitreous enamel.

Core: Ceramic.

Terminals: Solder coated axial lead.

Weight:

Power Rating Watts	1½	2¼	3¾	5	11
Average Weight	0.5 gms	0.8 gms	1.2 gms	1.8 gms	6.4 gms

##### • Electrical

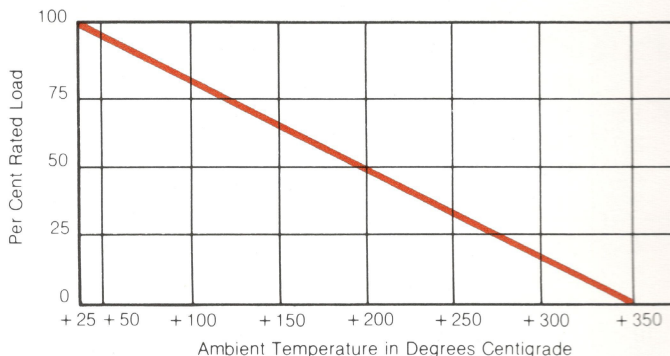
Tolerance: ±5% (other tolerances available).

Power Rating: Based on 25°C free air rating.

Maximum Operating Voltage:

Power Rating Watts	1½	2¼	3¾	5	11
Maximum Voltage	150	85	200	495	1080

Derating:



Overload:

- Under 5 watts: 5 times rated wattage for 5 seconds.
- 5 watts and over: 10 times rated wattage for 5 seconds.

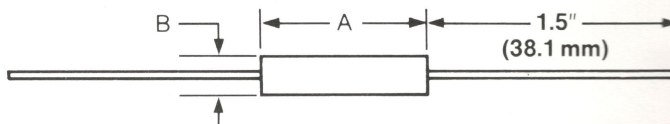
Temperature Coefficient:

- 1 to 9.99 Ohms: ±100 ppm/°C.
- 10 Ohms and over: ±30 ppm/°C.

Dielectric Withstanding Voltage:

- 1000 VAC: 2, 3, 5, 7 and 10 watt rating.
- 500 VAC: 1 watt rating.

##### • Dimensions



Power Rating Watts	Body Dimensions				Leads Ga.
	Max. Lgth.—A		Max. Dia—B		
	in.	mm	in.	mm	
1½	.437	11.1	.140	3.6	24
2¼	.390	9.9	.219	5.6	20
3¾	.562	14.3	.234	5.9	20
5	.953	24.2	.234	5.9	20
11	1.796	45.6	.343	8.7	20



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### Stock Part Numbers<sup>1</sup> For Standard Resistance Values

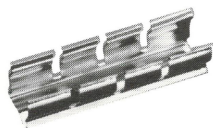
(Non Standard Values Available By Special Order. Contact Nearest Ohmite Sales Office.)

Ohms	Part No.					Ohms	Part No.					Ohms	Part No.		
	1½ Watt	2¼ Watt	3¼ Watt	5 Watt	11 Watt		1½ Watt	2¼ Watt	3¼ Watt	5 Watt	11 Watt		3¼ Watt	5 Watt	11 Watt
1	91J1R0	92J1R0	93J1R0	95J1R0	90J1R0	180	91J180	92J180	93J180	95J180	90J180	9,100	93J9K1	(95J9K1)	(90J9K1)
1.1	91J1R1	(92J1R1)	(93J1R1)	95J1R1	(90J1R1)	200	91J200	92J200	93J200	95J200	90J200	10,000	93J10K	95J10K	90J10K
1.2	91J1R2	92J1R2	(93J1R2)	95J1R2	(90J1R2)	220	91J220	92J220	93J220	95J220	90J220	11,000		95J11K	(90J11K)
1.3	(91J1R3)	92J1R3	93J1R3	(95J1R3)	90J1R3	240	(91J240)	(92J240)	93J240	95J240	90J240	12,000		95J12K	90J12K
1.5	91J1R5	92J1R5	93J1R5	95J1R5	90J1R5	250	91J250	92J250	93J250	95J250	90J250	13,000		95J13K	(90J13K)
1.6	(91J1R6)	(92J1R6)	(93J1R6)	(95J1R6)	(90J1R6)	270	91J270	92J270	93J270	95J270	90J270	14,000		95J14K	(90J14K)
1.8	91J1R8	(92J1R8)	(93J1R8)	95J1R8	90J1R8	300	91J300	92J300	93J300	95J300	90J300	15,000		95J15K	90J15K
2	91J2R0	92J2R0	93J2R0	95J2R0	90J2R0	330	91J330	92J330	93J330	95J330	90J330	16,000		95J16K	(90J16K)
2.2	91J2R2	92J2R2	93J2R2	95J2R2	90J2R2	350	91J350	92J350	93J350	95J350	(90J350)	17,000		(95J17K)	(90J17K)
2.4	91J2R4	(92J2R4)	(93J2R4)	95J2R4	90J2R4	360	91J360	92J360	93J360	95J360	(90J360)	18,000		95J18K	90J18K
2.7	91J2R7	92J2R7	93J2R7	95J2R7	90J2R7	390	91J390	92J390	93J390	95J390	90J390	20,000		95J20K	90J20K
3	91J3R0	92J3R0	93J3R0	95J3R0	90J3R0	400	91J400	92J400	93J400	95J400	90J400	22,000		95J22K	90J22K
3.3	91J3R3	92J3R3	93J3R3	95J3R3	90J3R3	430	91J430	92J430	93J430	95J430	(90J430)	24,000		(95J24K)	(90J24K)
3.6	(91J3R6)	(92J3R6)	(93J3R6)	95J3R6	(90J3R6)	450	(91J450)	92J450	93J450	(95J450)	(90J450)	25,000		90J25K	90J25K
3.9	91J3R9	92J3R9	93J3R9	95J3R9	90J3R9	470	91J470	92J470	93J470	95J470	90J470	27,000		90J27K	90J27K
4	91J4R0	92J4R0	93J4R0	95J4R0	90J4R0	500	91J500	92J500	93J500	95J500	90J500	30,000			90J30K
4.3	(91J4R3)	92J4R3	(93J4R3)	95J4R3	90J4R3	510	(91J510)	92J510	93J510	95J510	(90J510)	33,000			90J33K
4.7	91J4R7	92J4R7	93J4R7	95J4R7	90J4R7	560	91J560	92J560	93J560	95J560	90J560	35,000			(90J35K)
5	91J5R0	92J5R0	93J5R0	95J5R0	90J5R0	600	91J600	(92J600)	93J600	95J600	90J600	36,000			90J36K
5.1	(91J5R1)	92J5R1	93J5R1	(95J5R1)	(90J5R1)	620	91J620	(92J620)	93J620	(95J620)	(90J620)	39,000			90J39K
5.6	91J5R6	92J5R6	93J5R6	95J5R6	90J5R6	680	91J680	92J680	93J680	95J680	90J680	40,000			90J40K
6.2	(91J6R2)	92J6R2	93J6R2	95J6R2	90J6R2	700	(91J700)	92J700	93J700	95J700	(90J700)	43,000			90J43K
6.8	91J6R8	(92J6R8)	93J6R8	95J6R8	90J6R8	750	91J750	92J750	93J750	95J750	90J750	45,000			(90J45K)
7.5	(91J7R5)	92J7R5	93J7R5	95J7R5	90J7R5	800	91J800	(92J800)	93J800	95J800	90J800	47,000			90J47K
8.2	(91J8R2)	92J8R2	93J8R2	95J8R2	90J8R2	820	91J820	92J820	93J820	95J820	90J820	50,000			90J50K
9.1	(91J9R1)	(92J9R1)	93J9R1	95J9R1	(90J9R1)	900	(91J900)	(92J900)	93J900	95J900	(90J900)	51,000			(90J51K)
10	91J10R	92J10R	93J10R	95J10R	90J10R	910	(91J910)	(92J910)	93J910	(95J910)	(90J910)				
11	(91J11R)	(92J11R)	(93J11R)	95J11R	90J11R	1,000	91J1K0	92J1K0	93J1K0	95J1K0	90J1K0				
12	91J12R	92J12R	93J12R	95J12R	90J12R	1,100	(91J1K1)	92J1K1	93J1K1	(95J1K1)	(90J1K1)				
13	(91J13R)	(92J13R)	93J13R	95J13R	(90J13R)	1,200	91J1K2	92J1K2	93J1K2	95J1K2	90J1K2				
15	91J15R	92J15R	93J15R	95J15R	90J15R	1,300	91J1K3	92J1K3	93J1K3	95J1K3	90J1K3				
16	91J16R	(92J16R)	93J16R	95J16R	90J16R	1,400	(91J1K4)	92J1K4	(93J1K4)	(95J1K4)	90J1K4				
18	91J18R	92J18R	93J18R	95J18R	90J18R	1,500	91J1K5	92J1K5	93J1K5	95J1K5	90J1K5				
20	91J20R	92J20R	93J20R	95J20R	90J20R	1,600	(91J1K6)	(92J1K6)	93J1K6	95J1K6	90J1K6				
22	91J22R	92J22R	93J22R	95J22R	90J22R	1,800	91J1K8	92J1K8	93J1K8	95J1K8	90J1K8				
24	(91J24R)	(92J24R)	93J24R	95J24R	90J24R	2,000	91J2K0	92J2K0	93J2K0	95J2K0	90J2K0				
25	(91J25R)	92J25R	93J25R	95J25R	90J25R	2,200	91J2K2	92J2K2	93J2K2	95J2K2	90J2K2				
27	91J27R	92J27R	93J27R	95J27R	90J27R	2,400	91J2K4	92J2K4	93J2K4	95J2K4	(90J2K4)				
30	91J30R	92J30R	93J30R	95J30R	90J30R	2,500	91J2K5	92J2K5	93J2K5	95J2K5	90J2K5				
33	91J33R	(92J33R)	93J33R	95J33R	90J33R	2,700	(91J2K7)	92J2K7	93J2K7	95J2K7	90J2K7				
35	91J35R	(92J35R)	93J35R	95J35R	90J35R	3,000	91J3K0	92J3K0	93J3K0	95J3K0	90J3K0				
36	91J36R	(92J36R)	(93J36R)	95J36R	(90J36R)	3,300			93J3K3	95J3K3	90J3K3				
39	91J39R	92J39R	93J39R	95J39R	90J39R	3,500			93J3K5	95J3K5	90J3K5				
40	(91J40R)	92J40R	93J40R	95J40R	90J40R	3,600			93J3K6	95J3K6	90J3K6				
43	(91J43R)	92J43R	93J43R	95J43R	90J43R	3,900			93J3K9	95J3K9	90J3K9				
47	91J47R	92J47R	93J47R	95J47R	90J47R	4,000			93J4K0	95J4K0	90J4K0				
50	91J50R	92J50R	93J50R	95J50R	90J50R	4,300			(93J4K3)	95J4K3	90J4K3				
51	(91J51R)	(92J51R)	93J51R	95J51R	(90J51R)	4,500			93J4K5	95J4K5	90J4K5				
56	91J56R	92J56R	93J56R	95J56R	90J56R	4,700			93J4K7	95J4K7	90J4K7				
62	91J62R	92J62R	93J62R	95J62R	90J62R	5,000			93J5K0	95J5K0	90J5K0				
68	91J68R	92J68R	93J68R	95J68R	90J68R	5,100			(93J5K1)	95J5K1	90J5K1				
75	91J75R	92J75R	93J75R	95J75R	90J75R	5,600			93J6K0	95J6K0	90J6K0				
82	91J82R	92J82R	93J82R	95J82R	90J82R	6,000			93J6K2	95J6K2	(90J6K2)				
91	91J91R	(92J91R)	93J91R	95J91R	90J91R	6,200			93J6K8	95J6K8	90J6K8				
100	91J100	92J100	93J100	95J100	90J100	6,800			93J7K0	95J7K0	90J7K0				
110	91J110	92J110	93J110	95J110	90J110	7,000			93J7K5	95J7K5	90J7K5				
120	91J120	92J120	93J120	95J120	90J120	7,500			93J8K0	95J8K0	90J8K0				
130	(91J130)	92J130	93J130	95J130	90J130	8,000			93J8K2	95J8K2	90J8K2				
150	91J150	92J150	93J150	95J150	90J150	8,200			93J9K0	95J9K0	(90J9K0)				
160	91J160	(92J160)	93J160	95J160	90J160	9,000									

Axial Lead Resistors

### 90 Series Resistor Mounting Hardware

- Prevent severe vibration or mechanical shock to resistor.
- Increase resistor wattage up to 100% when mounted on metal surface (1½ sq. in. X .040" thick min. per watt dissipated) due to heat sink benefit of clip.
- Holes in clip base permit fastening to chassis surface with machine screws, eyelets or rivets.



Resistor Power Rating	Clip Stock No. and Dimensions											
	Cat. No.	Clip Length		Clip Width		Clip Height		No. of Holes	Hole Ctrs.		Hole Dia.	
		in.	mm	in.	mm	in.	mm		in.	mm	in.	mm
1½ Watt	5900	.40	10.319	.150	3.810	.250	6.350	1			.071	1.803
2¼ Watt	5902	.35	8.890	.217	5.500	.275	6.980	2	.156	3.969	.071	1.803
3¼ Watt	5904	.50	12.700	.257	6.500	.319	8.103	2	.250	6.350	.093	2.362
5 Watt	5906	.90	22.860	.237	6.019	.284	7.214	2	.400	10.160	.103	2.616
11 Watt	5908	1.75	44.450	.333	8.458	.377	9.576	2	.800	20.320	.103	2.616
For non-stock 6½ Watt	5905	.90	22.860	.333	8.458	.377	9.576	2	.500	12.700	.093	2.362

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