

The 89 Series is a high-performance axial type resistor. These molded-construction metal housings are available in higher power ratings than standard axial resistors and are better suited to withstanding vibration, shock and harsh environmental conditions.

The 89 Series Metal-Mite® resistors are aluminum housed to maintain high stability during operation and to permit secure mounting to chassis surfaces.

The metal housing also provides heat-sinking capabilities.

## FEATURES

- High Stability:  $\pm 0.5\%$   $\Delta R$ .
- High power to size ratio.
- Metal housing allows chassis mounting and provides heat sink capability.

**As of September 2006, the 89 Series is no longer offered as Mil. Spec.**

## SPECIFICATIONS

### Material

**Housing:** Metal, anodized aluminum.

**Internal Coating:** Silicone.

**Core:** Ceramic.

**Terminals:** Solder-coated axial.

**Derating:** Linearly from 100% @ +25°C to 0% @ +275°C.

### Electrical

**Tolerance:**  $\pm 1\%$  and  $\pm 5\%$  (other tolerances available).

**Power rating:** Rating is based on chassis mounting area and temperature stability. Proper heat sink as follows: 5W and 10W units, 4" x 6" x 2" x .040" Aluminum chassis; 25W units, 5" x 7" x 2" x .040" Aluminum chassis; 50W units, 12" x 12" x .059" Aluminum panel.

### Maximum ohmic values:

See chart.

**Overload:** 5 times rated wattage for 5 seconds.

### Temperature coefficient:

Under 1Ω:  $\pm 90$  ppm/°C  
1 to 9.99Ω:  $\pm 50$  ppm/°C  
10Ω and over:  $\pm 20$  ppm/°C.

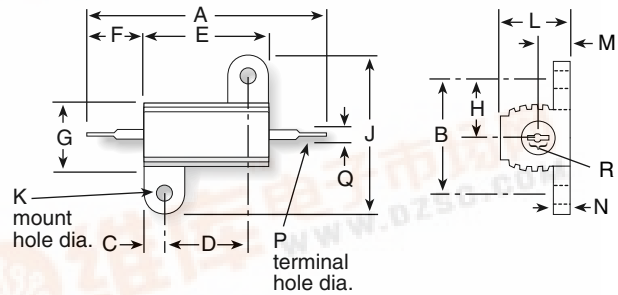
### Dielectric withstanding voltage:

5W and 10W rating, 1000 VAC;  
25 and 50W ratings, 2250 VAC.



# 89 Series

## Metal-Mite® Aluminum Housed Axial Term. Wirewound, 1% Tolerance



Series	Wattage	Ohms	Voltage
805	5	0.10-25K	210
810	10	0.10-50K	320
825	25	0.005-75K	520
850	50	0.005-100K	1170

Non-Inductive versions available. Insert "N" before tolerance code. Example: 850NF560

Series (Industrial)	Dimensions			
	5 watt	10 watt	25 watt	50 watt
805	810	825	850	
Dim. A (in. $\pm 0.062$ / mm $\pm 1.57$ )	1.125 / 28.59	1.375 / 34.93	1.938 / 49.23	2.781 / 70.64
Dim. B (in. $\pm 0.010$ / mm $\pm 0.25$ )	0.490 / 12.45	0.625 / 15.88	0.781 / 19.84	0.844 / 21.44
Dim. C (in. $\pm 0.031$ / mm $\pm 0.79$ )	0.078 / 1.98	0.094 / 2.39	0.172 / 4.37	0.188 / 4.78
Dim. D (in. $\pm 0.010$ / mm $\pm 0.25$ )	0.444 / 11.28	0.562 / 14.28	0.719 / 18.26	1.562 / 39.68
Dim. E (in. $\pm 0.062$ / mm $\pm 1.57$ )	0.600 / 15.24	0.750 / 19.05	1.062 / 26.98	1.938 / 49.23
Dim. F (in. $\pm 0.062$ / mm $\pm 1.57$ )	0.266 / 6.76	0.312 / 7.93	0.438 / 11.13	0.438 / 11.13
Dim. G (in. $\pm 0.062$ / mm $\pm 1.57$ )	0.334 / 8.48	0.438 / 11.13	0.531 / 13.49	0.594 / 15.09
Dim. H (in. $\pm 0.031$ / mm $\pm 0.79$ )	0.245 / 6.22	0.312 / 7.93	0.391 / 9.93	0.422 / 10.72
Dim. J (in. $\pm 0.031$ / mm $\pm 0.79$ )	0.646 / 16.41	0.812 / 20.63	1.094 / 27.79	1.156 / 29.36
Dim. K (in. $\pm 0.005$ / mm $\pm 0.13$ )	0.093 / 2.36	0.094 / 2.39	0.125 / 3.18	0.125 / 3.18
Dim. L (in. $\pm 0.031$ / mm $\pm 0.79$ )	0.320 / 8.13	0.406 / 10.31	0.562 / 14.28	0.625 / 15.88
Dim. M (in. $\pm 0.062$ / mm $\pm 1.57$ )	0.133 / 3.38	0.203 / 5.16	0.281 / 7.14	0.312 / 7.92
Dim. N (in. $\pm 0.031$ / mm $\pm 0.79$ )	0.065 / 1.65	0.094 / 2.39	0.094 / 2.39	0.094 / 2.39
Dim. P (in. $\pm 0.005$ / mm $\pm 0.13$ )	0.050 / 1.27	0.085 / 2.16	0.085 / 2.16	0.085 / 2.16
Q min AWG	16	12	12	12
Dim. R (in., min/mm, min)	0.085/ 2.16	0.140/ 3.56	0.140/ 3.56	0.140/ 3.56

## ORDERING INFORMATION

Non-Inductive Winding  
Optional (blank = std. winding)

**805NF5R0E**

Series	Tolerance	Ohms	RoHS Compliant
805 = 5 Watt	F = 1%	R005 = 0.005Ω	✓
810 = 10 watt	J = 5%	R10 = 0.1Ω	✓
825 = 25 watt		1R0 = 1.0Ω	✓
850 = 50 watt		250 = 250Ω	✓
		1K0 = 1,000Ω	✓
		1K5 = 1,500Ω	✓
		25K = 25,000Ω	✓

## STANDARD PART NUMBERS

Ohmic value	Wattage				Ohmic value	Wattage				Ohmic value	Wattage					
	Part No. Prefix Suffix	5	10	25		50	Part No. Prefix Suffix	5	10		25	50	Part No. Prefix Suffix	5	10	25
0.005	R005		✓	✓	20	20R	✓	✓	✓	✓	1,500	1K5	✓	✓	✓	✓
0.010	R010		✓	✓	25	25R	✓	✓	✓	✓	2,000	2K0	✓	✓	✓	✓
0.025	R025		✓	✓	30	30R	✓	✓	✓	✓	2,500	2K5	✓	✓	✓	✓
0.1	R10	✓	✓	✓	40	40R	✓	✓	✓	✓	3,000	3K0	✓	✓	✓	✓
0.3	R30	✓	✓	✓	50	50R	✓	✓	✓	✓	3,500	3K5	✓	✓	✓	✓
0.5	R50	✓	✓	✓	75	75R	✓	✓	✓	✓	4,000	4K0	✓	✓	✓	✓
0.7	R70	✓	✓	✓	100	100	✓	✓	✓	✓	4,500	4K5	✓	✓	✓	✓
1.0	1R0	✓	✓	✓	150	150	✓	✓	✓	✓	5,000	5K0	✓	✓	✓	✓
1.5	1R5	✓	✓	✓	200	200	✓	✓	✓	✓	6,000	6K0	✓	✓	✓	✓
2.0	2R0	✓	✓	✓	250	250	✓	✓	✓	✓	10,000	10K	✓	✓	✓	✓
3.0	3R0	✓	✓	✓	300	300	✓	✓	✓	✓	15,000	15K	✓	✓	✓	✓
4.0	4R0	✓	✓	✓	400	400	✓	✓	✓	✓	20,000	20K	✓	✓	✓	✓
5.0	5R0	✓	✓	✓	500	500	✓	✓	✓	✓	25,000	25K	✓	✓	✓	✓
10.0	10R	✓	✓	✓	750	750	✓	✓	✓	✓	50,000	50K	✓	✓	✓	✓
15.0	15R	✓	✓	✓	1,000	1K0	✓	✓	✓	✓	75,000	75K	✓	✓	✓	✓
											100,000	100K	✓	✓	✓	✓

✓ = 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](http://www.ohmite.com)

