

89 Series

Metal-Mite® Aluminum Housed Axial Terminal Wirewound, 1% Tolerance



The 89 Series is a high-performance axial type resistor. These molded-construction metal-housed resistors 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: $\pm 0.5\%$ ΔR
- High power to size ratio
- Metal housing allows chassis mounting and provides heat sink capability

SERIES SPECIFICATIONS

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

CHARACTERISTICS

Housing	Metal, anodized aluminum
Internal Coating	Silicone
Core	Ceramic
Terminals	Solder-coated axial
Derating	Linearly from 100% @ +25°C to 0% @ +275°C.
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 1 Ω : ± 90 ppm/°C; 1 to 9.99 Ω : ± 50 ppm/°C; 10 Ω and over: ± 20 ppm/°C.
Dielectric withstanding voltage	5W and 10W rating, 1000 VAC; 25 and 50W ratings, 2250 VAC.

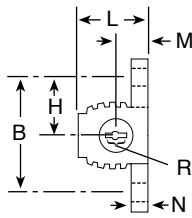
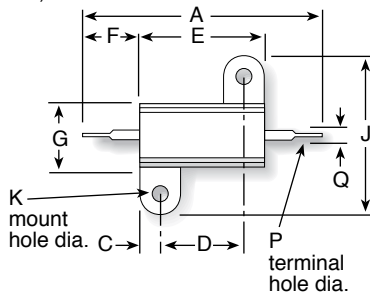
(continued)

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DIMENSIONS

(in./mm)



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

Tolerance
F = 1%
J = 5%

Ohms
R005 = 0.005 Ω
R10 = 0.1 Ω
1R0 = 1.0 Ω
250 = 250 Ω
1K0 = 1,000 Ω
1K5 = 1,500 Ω
25K = 25,000 Ω

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

Wattage				Wattage				Wattage			
Ohmic value	Part No.	Prefix	Suffix	Ohmic value	Part No.	Prefix	Suffix	Ohmic value	Part No.	Prefix	Suffix
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.

Mouser Electronics

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[89NF3R7](#)