

# 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:  $\pm 0.5\% \Delta R$
- 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	0.010-75K	520
850	50	0.005-100K	1170

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

### CHARACTERISTICS

<b>Housing</b>	Metal, anodized aluminum
<b>Internal Coating</b>	Silicone
<b>Core</b>	Ceramic
<b>Terminals</b>	Solder-coated axial
<b>Derating</b>	Linearly from 100% @ +25°C to 0% @ +275°C.
<b>Tolerance</b>	$\pm 1\%$ and $\pm 5\%$ (other tolerances available).
<b>Power rating</b>	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.
<b>Maximum ohmic values</b>	See chart.
<b>Overload</b>	5 times rated wattage for 5 seconds.
<b>Temperature coefficient</b>	Under 1 $\Omega$ : $\pm 90$ ppm/°C; 1 to 9.99 $\Omega$ : $\pm 50$ ppm/°C; 10 $\Omega$ and over: $\pm 20$ ppm/°C.
<b>Dielectric withstanding voltage</b>	5W and 10W rating, 1000 VAC; 25 and 50W ratings, 2250 VAC.

(continued)

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### DIMENSIONS

(in./mm)



Dimensions have changed as of August 2015

	A max.	B max.	C max.	D max.	E max.	F ±.3mm	G ±.3mm	H max.	J max.	K max.	L ±.25mm
805	0.65" / 16.5	1.18" / 30.0	0.35" / 8.8	0.33" / 8.5	0.63" / 15.9	0.44" / 11.3	0.49" / 12.4	0.18" / 4.5	0.09" / 2.4	0.07" / 1.8	0.09" / 2.4
810	0.83" / 21.0	1.44" / 36.5	0.43" / 11.0	0.44" / 11.2	0.78" / 19.9	0.56" / 14.3	0.63" / 15.9	0.22" / 5.5	0.11" / 2.8	0.07" / 1.8	0.09" / 2.4
825	1.10" / 28.0	2.01" / 51.0	0.58" / 14.8	0.56" / 14.2	1.07" / 27.3	0.72" / 18.3	0.78" / 19.8	0.30" / 7.7	0.20" / 5.2	0.10" / 2.6	0.13" / 3.2
850	1.10" / 28.0	2.85" / 72.5	0.58" / 14.8	0.56" / 14.2	1.93" / 49.1	1.56" / 39.7	0.84" / 21.4	0.33" / 8.4	0.20" / 5.2	0.10" / 2.6	0.13" / 3.2

### ORDERING INFORMATION

Ohmic value	Wattage				Ohmic value	Wattage				Ohmic value	Wattage					
	Part No. Prefix	5	10	25		50	Part No. Prefix	5	10		25	50	Part No. Prefix	5	10	25
0.005 — R005	805F		✓	✓	20 — 20R	805F	✓	✓	1,500 — 1K5	805F	✓	✓	✓	✓		
0.010 — R010	810F		✓	✓	25 — 25R	810F	✓	✓	2,000 — 2K0	810F	✓	✓	✓	✓		
0.025 — R025	825F		✓	✓	30 — 30R	825F	✓	✓	2,500 — 2K5	825F	✓	✓	✓	✓		
0.1 — R10	850F		✓	✓	40 — 40R	850F	✓	✓	3,000 — 3K0	850F	✓	✓	✓	✓		
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		✓	✓	✓	✓		

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

**805NF5R0E**

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

✓ = 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.

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