

# 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				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					

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

Series	Tolerance	Ohms
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 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.