# 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: ±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 | 0.010-75K | 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** | ±1% and ±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: ±90 ppm/°C; 1 to 9.99Ω: ±50 ppm/°C; 10Ω and over: ±20 ppm/°C. |
| **Dielectric withstanding voltage** | 5W and 10W rating,1000 VAC; 25 and 50W ratings, 2250 VAC. |

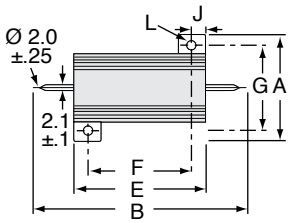
(continued)

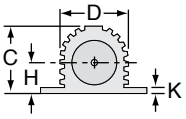
# 89 Series

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

## 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 | Part No. Prefix ➤ Suffix ▼ | Wattage 5 (805F) | 10 (810F) | 25 (825F) | 50 (850F) |
|---|---|---|---|---|---|
| 0.005 | R005 | | | ✔ | ✔ |
| 0.010 | R010 | | | ✔ | ✔ |
| 0.025 | R025 | | | ✔ | ✔ |
| 0.1 | R10 | | | ✔ | ✔ |
| 0.3 | R30 | | | ✔ | ✤ |
| 0.5 | R50 | | | ✔ | ✤ |
| 0.7 | R70 | | | ✤ | ✤ |
| 1.0 | 1R0 | ✔ | ✔ | ✔ | ✔ |
| 1.5 | 1R5 | ✤ | ✔ | | |
| 2.0 | 2R0 | ✤ | ✔ | ✔ | ✔ |
| 3.0 | 3R0 | ✔ | ✔ | ✔ | ✔ |
| 4.0 | 4R0 | ✤ | ✔ | | |
| 5.0 | 5R0 | ✔ | ✔ | ✔ | ✔ |
| 10.0 | 10R | ✔ | ✔ | ✔ | ✔ |
| 15.0 | 15R | ✔ | ✔ | ✔ | ✔ |
| 20 | 20R | ✔ | ✔ | | |
| 25 | 25R | ✔ | ✔ | ✔ | ✔ |
| 30 | 30R | ✤ | ✤ | | |
| 40 | 40R | ✤ | ✔ | | |
| 50 | 50R | ✔ | ✔ | ✔ | ✔ |
| 75 | 75R | ✔ | ✤ | ✔ | ✔ |
| 100 | 100 | ✔ | ✔ | ✔ | ✔ |
| 150 | 150 | ✔ | ✔ | ✔ | ✔ |
| 200 | 200 | ✤ | ✤ | ✔ | ✔ |
| 250 | 250 | ✔ | ✔ | ✔ | ✔ |
| 300 | 300 | ✔ | ✤ | | |
| 400 | 400 | ✤ | ✤ | | |
| 500 | 500 | ✔ | ✤ | ✔ | ✔ |
| 750 | 750 | ✤ | ✤ | ✔ | ✔ |
| 1,000 | 1K0 | ✤ | ✔ | ✔ | ✔ |
| 1,500 | 1K5 | ✔ | ✤ | ✤ | ✔ |
| 2,000 | 2K0 | ✔ | ✔ | ✤ | ✤ |
| 2,500 | 2K5 | ✔ | ✔ | | |
| 3,000 | 3K0 | ✤ | ✔ | ✔ | ✤ |
| 3,500 | 3K5 | ✤ | ✤ | | |
| 4,000 | 4K0 | ✔ | ✔ | | |
| 4,500 | 4K5 | ✤ | ✤ | | |
| 5,000 | 5K0 | ✔ | ✔ | ✔ | ✔ |
| 6,000 | 6K0 | ✤ | ✤ | | |
| 10,000 | 10K | ✔ | ✤ | ✔ | ✔ |
| 15,000 | 15K | ✔ | ✔ | ✤ | ✤ |
| 20,000 | 20K | ✤ | ✤ | | |
| 25,000 | 25K | ✔ | ✤ | ✤ | ✤ |
| 50,000 | 50K | | ✤ | | |
| 75,000 | 75K | | | ✤ | |
| 100,000 | 100K | | | | ✤ |

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

**RoHS Compliant**

**805 N F 5R0 E**

| 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.**

# Mouser Electronics

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