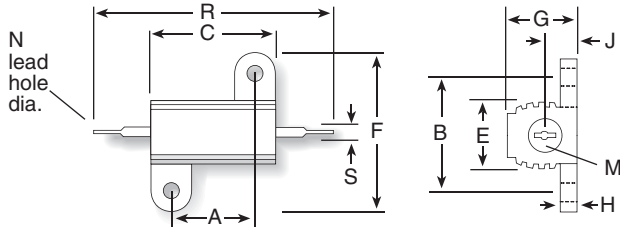


# 89 Series

## Metal-Mite® MIL-R-18546 Approved Aluminum Housed Axial Lead Wirewound Resistors 1% Tolerance



The 89 Series are high-performance axial-lead type resistors. These molded-construction metal-housed resistors are available in higher power ratings than standard axial-lead 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, allowing the units to exceed the power ratings set by MIL specifications. Use the 89 Series resistors with the confidence that they meet or exceed MIL-R-18546 specifications.

### FEATURES

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

### SPECIFICATIONS

#### Material

**Housing:** Metal, anodized aluminum.

**Internal Coating:** Silicone.

**Core:** Ceramic.

**Terminals:** Solder-coated axial lead.

**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.

Series	Wattage	Ohms	Dimensions (in. / mm)		Width	Voltage
			Length	Height		
805 (RE60G)	5	0.10-25K	1.125 / 28.58	0.320 / 8.13	0.646 / 16.41	210
810 (RE65G)	10	0.10-50K	1.375 / 34.93	0.390 / 9.91	0.800 / 20.32	320
825 (RE70G)	25	0.005-75K	1.938 / 49.23	0.546 / 13.87	1.080 / 27.43	520
850 (RE75G)	50	0.005-100K	2.781 / 70.64	0.610 / 15.49	1.140 / 28.96	1170

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

Dim. (in. $\pm .010$ /mm $\pm .254$ )	5 watt	10 watt	25 watt	50 watt
Dim. A	0.444/11.28	0.562/14.27	0.719/18.26	1.563/39.70
Dim. B	0.490/12.45	0.625/15.88	0.781/19.84	0.844/21.44
Dim. C	0.600/15.24	0.750/19.05	1.062/26.97	1.968/49.99
Dim. E	0.334/ 8.48	0.420/10.67	0.550/13.97	0.630/16.00
Dim. F	0.646/16.41	0.800/20.32	1.080/27.43	1.140/28.96
Dim. G	0.320/ 8.13	0.390/ 9.91	0.546/13.87	0.610/15.49
Dim. H	0.060/ 1.52	0.075/ 1.90	0.088/ 2.24	0.088/ 2.24
Dim. J	0.156/ 3.90	0.183/ 4.65	0.231/ 2.54	0.260/ 2.54
Dim. M	0.085/ 2.16	0.140/ 3.56	0.140/ 3.56	0.140/ 3.56
Dim. N	0.050/ 1.27	0.086/ 2.18	0.086/ 2.18	0.086/ 2.18
Dim. R	1.125/28.58	1.375/34.93	1.938/49.23	2.781/70.64
S min AWG	16	12	12	12
Diam. S (mm)	1.29	2.05	2.05	2.05

### STOCK PART NUMBERS FOR STANDARD RESISTANCE VALUES

Wattage				Wattage				Wattage									
Ohmic value	Part No. Prefix	5	10	25	50	Ohmic value	Part No. Prefix	5	10	25	50	Ohmic value	Part No. Prefix	5	10	25	50
	Suffix	805F	810F	825F	850F		Suffix	805F	810F	825F	850F		Suffix	805F	810F	825F	850F
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	R10	+	+	+	+	150	150	✓	✓	+	+	5,000	5K0	✓	✓	✓	✓
1.5	R15	✖	✓			200	200	✖	✖	✓	✓	6,000	6K0	✖	✖		
2.0	R20	✖	✓	+	+	250	250	✓	✓	+	✓	10,000	10K	✓	✖	+	✓
3.0	R30	✓	✓	+	+	300	300	+	✖			15,000	15K	+	✓	✖	✖
4.0	R40	✓	✓			400	400	✖	✖			20,000	20K	✖	✓		
5.0	R50	✓	+	+	✓	500	500	✓	✖	✓	+	25,000	25K	+	✖	✖	✖
10.0	R10	✓	+	+	+	750	750	✖	✖	+	✓	50,000	50K	✖	✖		
15.0	R15	+	✓	+	+	1,000	1K0	✖	✓	+	✓	75,000	75K	✖	✖		
												100,000	100K				✖

+ = Most popular stock values  
 ✓ = Stock values  
 ✖ = Non-stock 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.