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: ±0.5% ΔR.
- 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: ±1% and ±5% (other tolerances available).

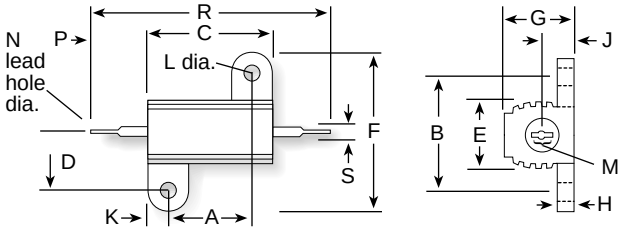
Power rating: Rating is based on chassis mounting area and temperature stability. Proper heat sink as follows: 5W and 10W units, 4" x 6" x 2" x .040" Aluminum chassis; 25W units, 5" x 7" x 2" x .040" Aluminum chassis; 50W units, 12" x 12" x .059" Aluminum panel.

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.



Series	Wattage	Ohms	Dimensions (in. / *mm*) Length	Height	Width	Voltage
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

	5 watt	10 watt	25 watt	50 watt
Dim. A (in. ±.005/mm ±.127)	0.444/11.28	0.562/14.27	.0719/18.26	1.563/39.70
Dim. B (in. ±.005/mm ±.127)	0.490/12.45	0.625/15.88	0.781/19.84	0.844/21.44
Dim. C (in. ±.031/mm ±.787)	0.600/15.24	0.750/19.05	1.062/26.97	1.968/49.99
Dim. D (in. ±.0025/mm ±.064)	0.245/ 6.22	0.312/ 7.93	0.391/9.93	0.422/10.72
Dim. E (in. ±.015/mm ±.381)	0.334/ 8.48	0.420/10.67	0.550/13.97	0.630/16.00
Dim. F (in. ±.015/mm ±.381)	0.646/16.41	0.800/20.32	1.080/27.43	1.140/28.96
Dim. G (in. ±.015/mm ±.381)	0.320/ 8.13	0.390/ 9.91	0.546/13.87	0.610/15.49
Dim. H (in. ±.010/mm ±.254)	0.060/ 1.52	0.075/ 1.90	0.088/ 2.24	0.088/ 2.24
Dim. J (in. ±.015/mm ±.381)	0.156/ 3.90	0.183/ 4.65	0.231/ 2.54	0.260/ 2.54
Dim. K (in. ±.010/mm ±.254)	0.078/ 1.98	0.093/ 2.36	0.172/ 4.37	0.196/ 4.98
Dim. L (in. ±.005/mm ±.127)	0.093/ 2.36	0.093/ 2.36	0.125/ 3.18	0.125/ 3.18
Dim. M (in., min/mm, min)	0.085/ 2.16	0.140/ 3.56	0.140/ 3.56	0.140/ 3.56
Dim. N (in. ±.005/mm ±.127)	0.050/ 1.27	0.086/ 2.18	0.086/ 2.18	0.086/ 2.18
Dim. P (in. ±.062/mm ±1.58)	0.266/ 6.76	0.312/ 7.92	0.438/11.13	0.438/11.13
Dim. R (in. ±.062/mm ±1.58)	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

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				✣

✣ = 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.