270 Series

Vitreous Enamel Power Resistors

Select 270 Type fixed resistors for applications requiring wattage ratings from 12 to 1000 watts.

The 270 Type resistors are equipped with lug terminals suitable for soldering or sturdy bolt connection. When secure mounting is required, the hollow core of these resistors permit fastening with spring-type brackets, thru bolts or thru bolts with slotted-steel brackets.

Suitable for rugged applications, the 270 Type resistors feature all-welded construction and durable lead free vitreous enamel coating.

Mounting brackets not included with resistors.

FEATURES

- **Terminals suitable for soldering or bolt connection.**
- **High wattage applications.**
- **Rugged lead free vitreous enamel coating.**
- **Flame resistant coating.**
- **All-welded construction.**

SPECIFICATIONS

MATERIAL

Coating: Lead free vitreous enamel.

Core: Tubular ceramic.

Terminals: Solder coated radial lug.

Derating: Linearly from 100% @ +25°C to 0% @ +350°C.

ELECTRICAL

Tolerance: ±5% 1 ohm and over (J) ±10% under 1 ohm.(K)

Power rating: Based on 25°C free air rating.

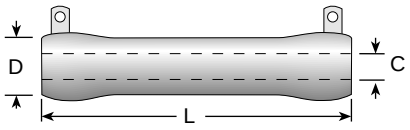
Overload: 10 times rated wattage for 5 seconds.

Temperature coefficient: 1 to 20 ohms: ±400 ppm/°C. Above 20 ohms: ±260 ppm/°C

Dielectric withstanding voltage: 1000 VAC: 12 to 100 watt rating. 3000 VAC: 175 to 225 watt rating (Measured from terminal to mounting bracket)

To calculate max. amps: use the formula $\sqrt{P/R}$.

See page 21 for mounting hardware



Series	Wattage	Ohms	Dimensions (in. / *mm*) L Length	D Diam.	C I.D. Core	Voltage
L12	12	0.1-51K	1.75 / 44.4	0.313 / 7.94	0.188 / 4.76	565
L25	25	0.15-100K	2.0 / *50.8*	0.562 / *14.3*	0.313 / *7.94*	625
L50	50	0.38-260K	4.0 / *101.6*	0.562 / *14.3*	0.313 / *7.94*	1625
L100	100	0.23-101K	6.5 / *165.1*	0.750 / *19.1*	0.50 / *12.7*	2845
L175	175	0.13-101K	8.5 / *215.9*	1.125 / *28.6*	0.75 / *19.1*	3595
L225	225	0.16-129K	10.5 / *266.7*	1.125 / *28.6*	0.75 / *19.1*	4595
L500	500	0.38-218K	12.0 / *304.8*	2.50 / *63.5*	1.75 / 44.5	4970
L1000	1000	0.69-392K	20.0 / *508.0*	2.50 / *63.5*	1.75 / 44.5	8900

Non-Inductive versions available from stock.
Other sizes available. Consult factory.

Power limitations for high resistance values: When resistance exceeds the resistance values listed at right, derate the Power Rating by 25% to improve reliability:

Power rating	Resistance value
12W	3,900Ω
25W	12,000Ω
50W	35,000Ω
100W	75,000Ω

No power derating necessary for ratings higher than 100 watts.

STOCK PART NUMBERS FOR STANDARD RESISTANCE VALUES

Ohmic value	12 Watt		Ohmic value	12 Watt	
0.51	✓	L12JKR51	470	✓	L12J470
1	✓	L12J1R0	560	✓	L12J560
1.5	✣	L12J1R5	680	✣	L12J680
2.2	✣	L12J2R2	820	✣	L12J820
3.3	✓	L12J3R3	1000	✓	L12J1K0
4.7	✓	L12J4R7	1200	✓	L12J1K2
6.8	✣	L12J6R8	1500	✓	L12J1K5
10	✓	L12J10R	1800	✣	L12J1K8
12	✓	L12J12R	2200	✓	L12J2K2
15	+	L12J15R	2700	✓	L12J2K7
18	✣	L12J18R	3300	✣	L12J3K3
22	✓	L12J22R	3900	✣	L12J3K9
27	✓	L12J27R	4700	✓	L12J4K7
33	✓	L12J33R	5600	✣	L12J5K6
39	✣	L12J39R	6800	✣	L12J6K8
47	✓	L12J47R	8200	✣	L12J8K2
56	✣	L12J56R	10000	✓	L12J10K
68	✓	L12J68R	12000	✣	L12J12K
82	✓	L12J82R	15000	✣	L12J15K
100	✓	L12J100	18000	✓	L12J18K
120	✣	L12J120	22000	✓	L12J22K
150	✓	L12J150	27000	✣	L12J27K
180	✓	L12J180	33000	✣	L12J33K
220	✣	L12J220	39000	✣	L12J39K
270	✓	L12J270	47000	✣	L12J47K
330	✓	L12J330	51000	✓	L12J51K
390	✓	L12J390			

Ohmic value	Part No. Prefix ➡ / Suffix ⬇	Wattage 25 L25J	50 L50J	100 L100J	175 L175J	225 L225J	500 L500J	1000 L1000J
1	1R0	+	+	+	✓	+		
2	2R0	+	✓	+	✓	✓		
3	3R0	+	✓	✓	✓	✓		
4	4R0	✓	✓	✓	✓	✓		
5	5R0	+	+	+	✓	+	+	+
10	10R	+	+	+	✓	+		
15	15R	+						
25	25R	+	+	+	✓	+		
50	50R	+	+	+	✓	+		
75	75R	+	+	✓	✓	✓		
100	100	+	+	+	✓	+	+	+
125	125			✓	✓			
150	150	✓	✓	+	✓	+		
200	200	✓	✓					
250	250	✓	+	+	✓	+		
500	500	✓	+	+	✓	+	+	+
750	750	✓	✓	✓	✣	+		
800	800	✓	✓					
1,000	1K0	+	+	+	✓	+	+	+
1,500	1K5	✓	✓	✓	✣	✓		
2,000	2K0	+	✓	✓	✓	+		
2,500	2K5	✓	✓	✓	✣	✓		
3,000	3K0	✓	✓	✓	✓	✓		
3,500	3K5	+						

Ohmic value	Part No. Prefix ➡ / Suffix ⬇	Wattage 25 L25J	50 L50J	100 L100J	175 L175J	225 L225J	500 L500J	1000 L1000J
4,000	4K0	✓	✓					
5,000	5K0	+	✓	✓	✓	✓		
6,000	6K0	✓						
7,500	7K5	✓	✓	✓	✣	✓		
8,000	8K0		✣					
10,000	10K	✓	✓	✓	✓	✓		
12,000	12K	✓	✣					
15,000	15K	✓	✓	✓	✣	✓		
20,000	20K	✓	✓	✓	✣	+		
25,000	25K	✓	✓	✣	✣	✓		
30,000	30K	✣		✓	✣	✓		
35,000	35K	✣	✓					
40,000	40K	✓		✣	✣	✓		
50,000	50K	✓	✓	+	✣	+		
60,000	60K	✣		✣	✣	✓		
70,000	70K	✣						
75,000	75K		✓	✣	✓	✓		
80,000	80K	✣						
100,000	100K	✓	+	+	✓	+		
125,000	125K		✣					
150,000	150K		✓					
175,000	175K		✣					
200,000	200K		✓					
250,000	250K		✓					

+ = 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.

OHMITE Ohmite Manufacturing Company
3601 Howard St. Skokie, Illinois 60076
Tel. 847/675-2600 Fax 847/675-1505
Website: www.ohmite.com E-mail: ohmite@wwa.com

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