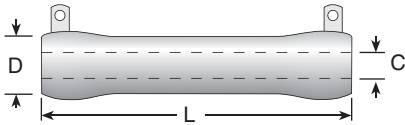


# 270 Series

## Vitreous Enamel Power Resistors



Series	Wattage	Ohms	Dimensions (in. / mm)			Core Voltage
			L Length	D Diam.	C I. D.	
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.  
Other sizes available. Consult factory.  
Also available in low cost Centohm coating. Consult Factory.

Power limitations for high resistance values:	Power rating	Resistance value
When resistance exceeds the resistance values listed at right, derate the Power Rating by 25% to improve reliability:	12W	3,900Ω
	25W	12,000Ω
	50W	35,000Ω
	100W	75,000Ω

No power derating necessary for ratings higher than 100 watts.

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.
- RoHS compliant product available Jan. 2006 Add "E" suffix to part number to specify.

### 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% 1Ω and over (J)  
±10% under 1Ω (K)

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

**Overload:** 10 times rated wattage for 5 seconds.

##### Temperature coefficient:

1 to 20Ω: ±400 ppm/°C.  
Above 20Ω: ±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 34  
for mounting hardware

### STOCK PART NUMBERS FOR STANDARD RESISTANCE VALUES

Ohmic value	12 Watt		Ohmic value	12 Watt		Wattage						Ohmic value	Part No. Prefix Suffix		Wattage																					
	12 Watt	12 Watt		25	50	100	175	225	500	1000	25		50	100	175	225	500	1000																		
0.51	✓ L12JKR51		470	✓ L12J470													4,000	— 4K0	✓	✓																
1	✓ L12J1R0		560	✓ L12J560													5,000	— 5K0	+	✓	✓	✓	✓													
1.5	✱ L12J1R5		680	✱ L12J680													6,000	— 6K0	✓	✓	✓	✓	✓													
2.2	✱ L12J2R2		820	✱ L12J820													7,500	— 7K5	✓	✓	✓	✓	✱	✓												
3.3	✓ L12J3R3		1000	✓ L12J1K0													8,000	— 8K0	✓	✱																
4.7	✓ L12J4R7		1200	✓ L12J1K2													10,000	— 10K	✓	✓	✓	✓	✓													
6.8	✱ L12J6R8		1500	✓ L12J1K5													12,000	— 12K	✓	✱																
10	✓ L12J10R		1800	✱ L12J1K8													15,000	— 15K	✓	✓	✓	✓	✱	✓												
12	✓ L12J12R		2200	✓ L12J2K2													20,000	— 20K	✓	✓	✓	✓	✱	+												
15	✱ L12J15R		2700	✓ L12J2K7													25,000	— 25K	✓	✓	✓	✱	✓													
18	✱ L12J18R		3300	✱ L12J3K3													30,000	— 30K	✱																	
22	✓ L12J22R		3900	✱ L12J3K9													35,000	— 35K	✓	✓																
27	✓ L12J27R		4700	✓ L12J4K7													40,000	— 40K	✓	✓		✱	✱	✱	✓											
33	✓ L12J33R		5600	✓ L12J5K6													50,000	— 50K	✓	✓		+	✱	✱	✱	+										
39	✱ L12J39R		6800	✱ L12J6K8													60,000	— 60K	✓	✓		✱	✱	✱	✓											
47	✓ L12J47R		8200	✱ L12J8K2													70,000	— 70K	✱																	
56	✱ L12J56R		10000	✓ L12J10K													75,000	— 75K	✓	✓		✱	✱	✱	✓											
68	✓ L12J68R		12000	✱ L12J12K													80,000	— 80K	✱																	
82	✓ L12J82R		15000	✓ L12J15K													100,000	— 100K	✓	+	+	✓	+	+	+											
100	✓ L12J100		18000	✓ L12J18K													125,000	— 125K	✱																	
120	✱ L12J120		22000	✓ L12J22K													150,000	— 150K	✓																	
150	✓ L12J150		27000	✱ L12J27K													175,000	— 175K	✓																	
180	✓ L12J180		33000	✱ L12J33K													200,000	— 200K	✓																	
220	✱ L12J220		39000	✱ L12J39K													250,000	— 250K	✓																	
270	✓ L12J270		47000	✱ L12J47K																																
330	✓ L12J330		51000	✓ L12J51K																																
390	✓ L12J390																																			

- ✱ = 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.  
Red outlined values supplied in Silicone-Ceramic coatings instead of vitreous enamel.