

# 270 Series

## Vitreous Enamel Power



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 available
- “Fast on” option – see terminal 538, <https://www.ohmite.com/assets/docs/terminals.pdf>

### SERIES SPECIFICATIONS

Series	Wattage	Ohms	Core Code	Voltage	Std. Terminal
L12	12	0.1-51K	D	565	57
L25	25	0.15-100K	K	625	40
L50	50	0.38-260K	K	1625	40
L100	100	0.23-101K	M	2845	40
L175	175	0.13-101K	P	3595	46
L225	225	0.16-129K	P	4595	46
L500	500	0.38-218K	S	4970	45
L1000	1000	0.69-392K	S	8900	45

Non-Inductive versions available; Other sizes available; Also available in low cost Centohm or Silicone coating; Consult Ohmite.

\* Maximum Voltage is based on Ohm's Law  $[V=\sqrt{P \cdot R}]$  as limited by the resistance value of specified product

### CHARACTERISTICS

<b>Coating</b>	Lead free vitreous enamel. Large models (500 watts and up) are supplied in Silicone Ceramic. Also available in low-cost Centohm coating; Consult factory.										
<b>Core</b>	Tubular ceramic.										
<b>Terminals</b>	Solder coated radial lug. RoHS solder composition is 96% Sn, 3.5% Ag, 0.5% Cu										
<b>Derating</b>	Linearly from 100% @ +25°C to 0% @ +350°C.										
<b>Tolerance</b>	±5% 1Ω and over (J); ±10% under 1Ω (K)										
<b>Power rating</b>	Based on 25°C free air rating.										
<b>Overload</b>	10 times rated wattage for 5 seconds.										
<b>Temperature coefficient</b>	1 to 20Ω: ±400 ppm/°C; Above 20Ω: ±260 ppm/°C										
<b>Dielectric withstanding voltage</b>	1000 VAC: 12 to 100 watt rating. 3000 VAC: 175 to 225 watt rating (Measured from terminal to mounting bracket)										
<b>Max. amps</b>	use the formula $\sqrt{P/R}$										
<b>Power limitations for high resistance values</b>	When resistance exceeds the resistance values listed, derate the Power Rating by 25% to improve reliability. <i>No power derating necessary for ratings higher than 100W.</i>										
	<table border="1"> <thead> <tr> <th>Power rating</th> <th>Resistance value</th> </tr> </thead> <tbody> <tr> <td>12W</td> <td>3,900Ω</td> </tr> <tr> <td>25W</td> <td>12,000Ω</td> </tr> <tr> <td>50W</td> <td>35,000Ω</td> </tr> <tr> <td>100W</td> <td>75,000Ω</td> </tr> </tbody> </table>	Power rating	Resistance value	12W	3,900Ω	25W	12,000Ω	50W	35,000Ω	100W	75,000Ω
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25W	12,000Ω										
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<b>Mounting Hardware</b>	see <a href="https://www.ohmite.com/assets/docs/hardware_resistor.pdf">https://www.ohmite.com/assets/docs/hardware_resistor.pdf</a>										

(continued)

# 270 Series

## Vitreous Enamel Power

### DIMENSIONS

in./mm



Series	Wattage	L		D		C	Core Code*	Std. Term.**
L12	12	1.75 / 44.4	0.313 / 7.94	0.188 / 4.76	D	57		
L25	25	2.0 / 50.8	0.562 / 14.3	0.313 / 7.94	K	40		
L50	50	4.0 / 101.6	0.562 / 14.3	0.313 / 7.94	K	40		
L100	100	6.5 / 165.1	0.750 / 19.1	0.50 / 12.7	M	40		
L175	175	8.5 / 215.9	1.125 / 28.6	0.75 / 19.1	P	46		
L225	225	10.5 / 266.7	1.125 / 28.6	0.75 / 19.1	P	46		
L500	500	12.0 / 304.8	2.50 / 63.5	1.75 / 44.5	S	45		
L1000	1000	20.0 / 508.0	2.50 / 63.5	1.75 / 44.5	S	45		

\* <https://www.ohmite.com/assets/docs/200-210-270-custom.pdf>

\*\* <https://www.ohmite.com/assets/docs/terminals.pdf>

### ORDERING INFORMATION

#### Standard

F = Fast on (optional)  
Blank = Standard  
N = Non-inductive  
RoHS Compliant

**L 25 J 1 0 0 E**

Series: L  
Wattage: 25  
Tolerance: J = 5%, K = 10%  
Ohms: 1R0 = 1Ω, 250 = 250Ω, 1K0 = 1,000Ω, 25K = 25,000Ω, 25K5 = 25,500Ω

Coating: Blank = Vitreous, C = Centohm, S = Silicone

#### Made-to-order

Non-inductive  
Blank = Standard  
N = Non-inductive  
Core Diameter  
See "Core and Terminal Selection"  
RoHS Compliant

**2 7 0 5 0 K 4 0 5 R 0 0 J E**

Coating: 270 = Vitreous, 470 = Silicone Ceramic  
Wattage: 50  
Ohms: R500 = 0.500Ω, 1R00 = 1Ω, 250R = 250Ω, 1K00 = 1,000Ω, 25K0 = 25,000Ω, 25K5 = 25,500Ω  
Terminal Type: See "Resistor Terminals for Tubular Cores"

See website for custom core and terminal info

#### Standard part numbers for 270 series

Ohmic value	Wattage		Ohmic value	Wattage	
	12 Watt	12 Watt		12 Watt	12 Watt
0.51	✓ L12JKR51E	180	✓ L12J180E	125J	25
1	✓ L12J1R0E	270	✓ L12J270E	L50J	50
3.3	✓ L12J3R3E	330	✓ L12J330E	L100J	100
4.7	✓ L12J4R7E	390	✓ L12J390E	L175J	175
10	✓ L12J10RE	470	✓ L12J470E	L225J	225
12	✓ L12J12RE	560	✓ L12J560E	L500J	500
15	✓ L12J15RE	1000	✓ L12J1K0E	L1000J	1000
22	✓ L12J22RE	1200	✓ L12J1K2E		
27	✓ L12J27RE	1500	✓ L12J1K5E		
33	✓ L12J33RE	2200	✓ L12J2K2E		
47	✓ L12J47RE	2700	✓ L12J2K7E		
68	✓ L12J68RE	4700	✓ L12J4K7E		
82	✓ L12J82RE	10000	✓ L12J10KE		
100	✓ L12J100E	18000	✓ L12J18KE		
150	✓ L12J150E	22000	✓ L12J22KE		
		51000	✓ L12J51KE		

✓ = Standard values; check availability using the worldwide inventory search at [www.ohmite.com](http://www.ohmite.com)

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