

# 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
Power rating	Resistance value										
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25W	12,000Ω										
50W	35,000Ω										
100W	75,000Ω										
<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)

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## 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)	Non-inductive Blank = Standard N = Non-inductive	RoHS Compliant
<b>L</b>	<b>25</b>	<b>J 100 E</b>
Series	Wattage	Tolerance
Coating Blank = Vitreous C = Centohm S = Silicone		J = 5% K = 10%
		Ohms 1R0 = 1Ω 250 = 250Ω 1K0 = 1,000Ω 25K = 25,000Ω 25K5 = 25,500Ω

#### Made-to-order

Non-inductive Blank = Standard N = Non-inductive	Core Diameter See "Core and Terminal Selection"	RoHS Compliant
<b>270</b>	<b>50</b>	<b>K 405 R 00 J E</b>
Coating 270 = Vitreous 470 = Silicone Ceramic	Wattage	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"	Tolerance J = 5% K = 10%

See website for custom core and terminal info

#### Standard part numbers for 270 series

Ohmic value	12 Watt		Ohmic value	12 Watt		Ohmic value	Wattage													
	Part No.	Prefix		Part No.	Prefix		Part No.	Prefix	25	50	100	175	225	500	1000					
0.51	✓ L12JKR51E		180	✓ L12J180E	1	1R0E	✓	✓	✓	✓	✓	✓	✓	✓	2,500	2K5E	✓	✓	✓	✓
1	✓ L12J1R0E		270	✓ L12J270E	2	2R0E	✓	✓	✓	✓	✓	✓	✓	✓	3,000	3K0E	✓	✓	✓	✓
3.3	✓ L12J3R3E		330	✓ L12J330E	3	3R0E	✓	✓	✓	✓	✓	✓	✓	✓	3,500	3K5E	✓	✓	✓	✓
4.7	✓ L12J4R7E		390	✓ L12J390E	4	4R0E	✓	✓	✓	✓	✓	✓	✓	✓	4,000	4K0E	✓	✓	✓	✓
10	✓ L12J10RE		470	✓ L12J470E	5	5R0E	✓	✓	✓	✓	✓	✓	✓	✓	5,000	5K0E	✓	✓	✓	✓
12	✓ L12J12RE		560	✓ L12J560E	10	10RE	✓	✓	✓	✓	✓	✓	✓	✓	6,000	6K0E	✓	✓	✓	✓
15	✓ L12J15RE		1000	✓ L12J1K0E	15	15RE	✓	✓	✓	✓	✓	✓	✓	✓	7,500	7K5E	✓	✓	✓	✓
22	✓ L12J22RE		1200	✓ L12J1K2E	25	25RE	✓	✓	✓	✓	✓	✓	✓	✓	10,000	10KE	✓	✓	✓	✓
27	✓ L12J27RE		1500	✓ L12J1K5E	50	50RE	✓	✓	✓	✓	✓	✓	✓	✓	12,000	12KE	✓	✓	✓	✓
33	✓ L12J33RE		2200	✓ L12J2K2E	75	75RE	✓	✓	✓	✓	✓	✓	✓	✓	15,000	15KE	✓	✓	✓	✓
47	✓ L12J47RE		2700	✓ L12J2K7E	100	100E	✓	✓	✓	✓	✓	✓	✓	✓	20,000	20KE	✓	✓	✓	✓
68	✓ L12J68RE		4700	✓ L12J4K7E	125	125E	✓	✓	✓	✓	✓	✓	✓	✓	25,000	25KE	✓	✓	✓	✓
82	✓ L12J82RE		10000	✓ L12J10KE	150	150E	✓	✓	✓	✓	✓	✓	✓	✓	30,000	30KE	✓	✓	✓	✓
100	✓ L12J100E		18000	✓ L12J18KE	200	200E	✓	✓	✓	✓	✓	✓	✓	✓	35,000	35KE	✓	✓	✓	✓
150	✓ L12J150E		22000	✓ L12J22KE	250	250E	✓	✓	✓	✓	✓	✓	✓	✓	40,000	40KE	✓	✓	✓	✓
			51000	✓ L12J51KE	500	500E	✓	✓	✓	✓	✓	✓	✓	✓	50,000	50KE	✓	✓	✓	✓
					750	750E	✓	✓	✓	✓	✓	✓	✓	✓	60,000	60KE	✓	✓	✓	✓
					800	800E	✓	✓	✓	✓	✓	✓	✓	✓	75,000	75KE	✓	✓	✓	✓
					1,000	1K0E	✓	✓	✓	✓	✓	✓	✓	✓	100,000	100KE	✓	✓	✓	✓
					1,500	1K5E	✓	✓	✓	✓	✓	✓	✓	✓	150,000	150KE	✓	✓	✓	✓
					2,000	2K0E	✓	✓	✓	✓	✓	✓	✓	✓	200,000	200KE	✓	✓	✓	✓
															250,000	250KE	✓	✓	✓	✓

✓ = 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.