

# 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, <http://www.ohmite.com/techdata/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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100W	75,000Ω										

**Mounting Hardware** see <http://www.ohmite.com/techdata/lug-mounting.php>

(continued)

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### 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

\* <http://www.ohmite.com/techdata/200-210-270-custom.pdf>

\*\* <http://www.ohmite.com/techdata/terminals.pdf>

### ORDERING INFORMATION

#### Standard

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

**L 25 J 1 0 0 E**

Coating: Blank = Vitreous, C = Centohm, S = Silicone  
 Series: L  
 Wattage: 25  
 Tolerance: 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

**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	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.