

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

Coating	Lead free vitreous enamel. Large models (500 watts and up) are supplied in Silicone Ceramic. Also available in low-cost Centohm coating; Consult factory.										
Core	Tubular ceramic.										
Terminals	Solder coated radial lug. RoHS solder composition is 96% Sn, 3.5% Ag, 0.5% Cu										
Derating	Linearly from 100% @ +25°C to 0% @ +350°C.										
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)										
Max. amps	use the formula $\sqrt{P/R}$										
Power limitations for high resistance values	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										
12W	3,900Ω										
25W	12,000Ω										
50W	35,000Ω										
100W	75,000Ω										
Mounting Hardware	see https://www.ohmite.com/assets/docs/hardware_resistor.pdf										

(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

* <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
L	25	J 100 E
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
270	50 K	405 R 00 J E
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	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		

Ohmic value	Part No. Prefix Suffix	Wattage					
		25	50	100	175	225	500
1	1R0E	✓	✓	✓	✓	✓	
2	2R0E	✓	✓	✓	✓	✓	
3	3R0E	✓	✓	✓	✓	✓	
4	4R0E	✓	✓	✓	✓	✓	
5	5R0E	✓	✓	✓	✓	✓	
10	10RE	✓	✓	✓	✓	✓	
15	15RE	✓					
25	25RE	✓	✓	✓	✓	✓	
50	50RE	✓	✓	✓	✓	✓	
75	75RE	✓	✓	✓	✓	✓	
100	100E	✓	✓	✓	✓	✓	
125	125E		✓	✓	✓		
150	150E	✓	✓	✓	✓		
200	200E	✓	✓				
250	250E	✓	✓	✓	✓		
500	500E	✓	✓	✓	✓	✓	
750	750E	✓	✓	✓	✓		
800	800E	✓	✓				
1,000	1K0E	✓	✓	✓	✓	✓	
1,500	1K5E	✓	✓	✓	✓		
2,000	2K0E	✓	✓	✓	✓	✓	

Ohmic value	Part No. Prefix Suffix	Wattage					
		25	50	100	175	225	500
2,500	2K5E	✓	✓	✓	✓	✓	
3,000	3K0E	✓	✓	✓	✓	✓	
3,500	3K5E	✓					
4,000	4K0E	✓	✓				
5,000	5K0E	✓	✓	✓	✓	✓	
6,000	6K0E	✓					
7,500	7K5E	✓	✓	✓			
10,000	10KE	✓	✓	✓	✓	✓	
12,000	12KE	✓					
15,000	15KE	✓	✓	✓	✓	✓	
20,000	20KE	✓	✓	✓	✓	✓	
25,000	25KE	✓	✓	✓	✓	✓	
30,000	30KE		✓	✓	✓	✓	
35,000	35KE		✓				
40,000	40KE	✓					
50,000	50KE	✓	✓	✓	✓	✓	
60,000	60KE		✓	✓	✓	✓	
75,000	75KE		✓	✓	✓	✓	
100,000	100KE	✓	✓	✓	✓	✓	
150,000	150KE		✓	✓	✓	✓	
200,000	200KE		✓	✓	✓	✓	
250,000	250KE		✓				

✓ = Standard values; check availability using the worldwide inventory search at www.ohmite.com

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