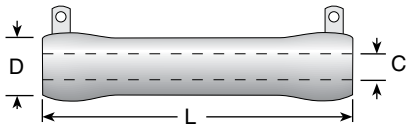
270 Series

Vitreous Enamel Power



See page 36 for mounting hardware

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, page 37

SPECIFICATIONS

Material

Coating: Lead free vitreous enamel. Very large models (750 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.

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 $\sqrt{P/R}$

Series	Wattage	Ohms	Dimensions (in. / *mm*) L	D	C	Core Code	Voltage	Standard Terminal
L12	12	0.1-51K	1.75 / 44.4	0.313 / 7.94	0.188 / 4.76	D	565	57
L25	25	0.15-100K	2.0 / 50.8	0.562 / 14.3	0.313 / 7.94	K	625	40
L50	50	0.38-260K	4.0 / 101.6	0.562 / 14.3	0.313 / 7.94	K	1625	40
L100	100	0.23-101K	6.5 / 165.1	0.750 / 19.1	0.50 / 12.7	M	2845	40
L175	175	0.13-101K	8.5 / 215.9	1.125 / 28.6	0.75 / 19.1	P	3595	46
L225	225	0.16-129K	10.5 / 266.7	1.125 / 28.6	0.75 / 19.1	P	4595	46
L500	500	0.38-218K	12.0 / 304.8	2.50 / 63.5	1.75 / 44.5	S	4970	45
L1000	1000	0.69-392K	20.0 / 508.0	2.50 / 63.5	1.75 / 44.5	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 [$V=\sqrt{P*R}$] as limited by the resistance value of specified product

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.

ORDERING INFO

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

L ■ ■ 25 J 100 E

- **Series**
- **Coating:** Blank = Vitreous; C = Centohm; S = Silicone
- **Wattage**
- **Tolerance:** J = 5%; K = 10%
- **Ohms:** 1R0 = 1 Ω; 250 = 250 Ω; 1K0 = 1,000 Ω; 25K = 25,000 Ω; 25K5 = 25,500 Ω

MADE-TO-ORDER PARTS

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

270 ■ 50 K 405 R00 J E

- **Coating:** 270 = Vitreous; 470 = Silicone Ceramic
- **Wattage**
- **Terminal Type:** See "Resistor Terminals for Tubular Cores"
- **Ohms:** R500 = 0.500 Ω; 1R00 = 1 Ω; 250R = 250 Ω; 1K00 = 1,000 Ω; 25K0 = 25,000 Ω; 25K5 = 25,500 Ω
- **Tolerance:** J = 5%; K = 10%

See website for custom core and terminal info

Power limitations for high resistance values: When resistance exceeds the resistance values listed, derate the Power Rating by 25% to improve reliability:

Power rating	Resistance value
12W	3,900Ω
25W	12,000Ω
50W	35,000Ω
100W	75,000Ω

No power derating necessary for ratings higher than 100W.

STANDARD PART NUMBERS FOR 270 SERIES

Ohmic value	12 Watt		Ohmic value	12 Watt	
0.51	✔	L12JKR51E	180	✔	L12J180E
1	✔	L12J1R0E	270	✔	L12J270E
3.3	✔	L12J3R3E	330	✔	L12J330E
4.7	✔	L12J4R7E	390	✔	L12J390E
10	✔	L12J10RE	470	✔	L12J470E
12	✔	L12J12RE	560	✔	L12J560E
15	✔	L12J15RE	1000	✔	L12J1K0E
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

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

Ohmic value	Part No. Prefix ➤ / Suffix ▼	Wattage 25	50	100	175	225	500	1000
		L25J	L50J	L100J	L175J	L225J	L500J	L1000J
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	1000
		L25J	L50J	L100J	L175J	L225J	L500J	L1000J
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		✔					

www.BDTIC.com/OHMITE