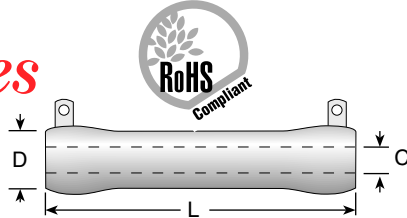


270 Series

Vitreous Enamel Power Resistors



Dimensions (in. / mm)						
Series	Wattage	Ohms	L Length	D Diam.	C I. D. Core	Max. Volt.*
L12	12	0.1-51K	1.75 / 44.4	0.313 / 7.94	0.188 / 4.76	565
L25	25	0.15-100K	2.0 / 50.8	0.562 / 14.3	0.313 / 7.94	625
L50	50	0.38-260K	4.0 / 101.6	0.562 / 14.3	0.313 / 7.94	1625
L100	100	0.23-101K	6.5 / 165.1	0.750 / 19.1	0.50 / 12.7	2845
L175	175	0.13-101K	8.5 / 215.9	1.125 / 28.6	0.75 / 19.1	3595
L225	225	0.16-129K	10.5 / 266.7	1.125 / 28.6	0.75 / 19.1	4595
L500	500	0.38-218K	12.0 / 304.8	2.50 / 63.5	1.75 / 44.5	4970
L1000	1000	0.69-392K	20.0 / 508.0	2.50 / 63.5	1.75 / 44.5	8900

Non-Inductive versions available; Other sizes available; Also available in low cost Centohm coating; Consult Factory.
* Maximum Voltage is based on Ohm's Law $[V=\sqrt{W \cdot R}]$ as limited by the resistance value of specified product

ORDERING INFO

RoHS Compliant			
Series	Wattage	Tolerance	Ohms
L	2	5	100
J	1	0	0
E			
F = 1%			1R0 = 1 Ω
H = 3%			250 = 250 Ω
J = 5%			1K0 = 1,000 Ω
K = 10%			25K = 25,000 Ω
			25K5 = 25,500 Ω

MADE-TO-ORDER PARTS

See page 40 for custom core and terminal info		Core Diameter See "Core and Terminal Selection"	Terminal Type See "Resistor Terminals for Tubular Cores"	RoHS Compliant	
2	7	0	5	0	K
4	0	5	R	0	0
J	E				
Coating	Wattage	Ohms	Tolerance		
270 = Vitreous		R500 = 0.500 Ω	F = 1%		
470 = Silicone Ceramic		1R00 = 1 Ω	H = 3%		
		250R = 250 Ω	J = 5%		
		1K00 = 1,000 Ω	K = 10%		
		25K0 = 25,000 Ω			
		25K5 = 25,500 Ω			

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

Power rating	Resistance value	No power derating necessary for ratings higher than 100W.
12W	3,900Ω	
25W	12,000Ω	
50W	35,000Ω	
100W	75,000Ω	

See page 34 for mounting hardware

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 product available Jan. 2006 Add "E" suffix to part number to specify.

SPECIFICATIONS

Material

Coating: Lead free vitreous enamel.

Core: Tubular ceramic.

Terminals: Solder coated radial lug.

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 $\sqrt{P/R}$

STANDARD PART NUMBERS FOR STANDARD RESISTANCE VALUES

Ohmic value			Ohmic value			Wattage							Wattage										
12 Watt			12 Watt			Ohmic value	Part No.	25	50	100	175	225	500	1000	Ohmic value	Part No.	25	50	100	175	225	500	1000
						Prefix	Suffix	L25J	L50J	L100J	L175J	L225J	L500J	L1000J	Prefix	Suffix	L25J	L50J	L100J	L175J	L225J	L500J	L1000J
0.51	✓	L12JKR51	470	✓	L12J470	1	—1R0	+	+	+	✓	+			4,000	—4K0	✓	✓					
1	✓	L12J1R0	560	✓	L12J560	2	—2R0	+	✓	+	✓	✓			5,000	—5K0	+	✓		✓	✓		
1.5	✱	L12J1R5	680	✱	L12J680	3	—3R0	+		✓	✓	✓			6,000	—6K0	✓			✓			
2.2	✱	L12J2R2	820	✱	L12J820	4	—4R0	✓	✓	✓	✓	✓			7,500	—7K5	✓	✓	✓	✱	✓		
3.3	✓	L12J3R3	1000	✓	L12J1K0	5	—5R0	+	+	+	✓	+	+	+	8,000	—8K0		✱					
4.7	✓	L12J4R7	1200	✓	L12J1K2	10	—10R	+	+	+	✓	+			10,000	—10K	✓	✓	✓	✓	✓		
6.8	✱	L12J6R8	1500	✓	L12J1K5	15	—15R	+							12,000	—12K	✓	✱					
10	✓	L12J10R	1800	✱	L12J1K8	25	—25R	+	+	+	✓	+			15,000	—15K	✓			✱		✓	
12	✓	L12J12R	2200	✓	L12J2K2	50	—50R	+	+	+	✓	+			20,000	—20K	✓	✓	✓	✓	✱	+	
15	+	L12J15R	2700	✓	L12J2K7	75	—75R	+	+	✓	✓	✓			25,000	—25K	✓	✓	✱	✱	✓		
18	✱	L12J18R	3300	✱	L12J3K3	100	—100	+	+	+	✓	+	+	+	30,000	—30K	✱		✓	✱	✓		
22	✓	L12J22R	3900	✱	L12J3K9	125	—125			✓	✓				35,000	—35K	✓	✓					
27	✓	L12J27R	4700	✓	L12J4K7	150	—150	✓	✓	+	✓	+			40,000	—40K	✓		✱	✱	✓		
33	✓	L12J33R	5600	✱	L12J5K6	200	—200	✓	✓						50,000	—50K	✓	✓	+		+		
39	✱	L12J39R	6800	✱	L12J6K8	250	—250	✓	+	+	✓	+			60,000	—60K	✱		✱	✱	✓		
47	✓	L12J47R	8200	✓	L12J8K2	500	—500	✓	+	+	✓	+	+	+	70,000	—70K	✱						
56	✱	L12J56R	10000	✓	L12J10K	750	—750	✓	✓	✓	✱	+			75,000	—75K		✓	✱	✓	✓		
68	✓	L12J68R	12000	✱	L12J12K	800	—800	✓	✓						80,000	—80K	✱						
82	✓	L12J82R	15000	✱	L12J15K	1,000	—1K0	+	+	+	✓	+	+	+	100,000	—100K	✓	+	+	✓	+		
100	✓	L12J100	18000	✓	L12J18K	1,500	—1K5	✓	✓	✓	✱	✓			125,000	—125K		✱					
120	✱	L12J120	22000	✓	L12J22K	2,000	—2K0	+	✓	✓	✓	+			150,000	—150K		✓					
150	✓	L12J150	27000	✱	L12J27K	2,500	—2K5	✓	✓	✓	✓	✓			175,000	—175K		✱					
180	✓	L12J180	33000	✱	L12J33K	3,000	—3K0	✓	✓	✓	✓	✓			200,000	—200K		✓					
220	✱	L12J220	39000	✱	L12J39K	3,500	—3K5	+							250,000	—250K	✓						
270	✓	L12J270	47000	✱	L12J47K																		
330	✓	L12J330	51000	✓	L12J51K																		
390	✓	L12J390																					

✱ = Most popular Standard values

✓ = Standard values

✱ = Non-Standard values subject to minimum handling charge per item

Shaded values involve very fine resistance wire and should not be used in critical applications without burn-in and/or thermal cycling.

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