20 Series

Vitreous Enamel Conformal Axial Terminal Wirewound, 5% Tolerance Std.



The 20 Series axial terminal resistors are both durable and economical. They have all the electrical attributes of the more expensive 90 Series resistors, including all-welded construction. They offer the durability of a lead free conformal vitreous enamel coating and are ideal for computer, communications and industrial applications in which cost, quality, and reliability are key considerations.

FEATURES

- Rugged vitreous enamel coating withstands high humidity and temperature cycling.
- Durable construction, recommended for industrial applications where reliability is paramount.
- All-welded construction
- Flame resistant lead free vitreous enamel coating
- RoHS compliant; Add "E" suffix to part number to specify.

SERIES SPECIFICATIONS

Series	Wattage	Ohms	Max. Voltage*
21	1	1.0-3.0K	75
22	2	1.0-3.0K	65
23	3	0.1-10K	135
25	5	0.1-28K	330
27	7	0.1-25K	450
20	10	0.1-100K	720

12.5 watt size available on special order

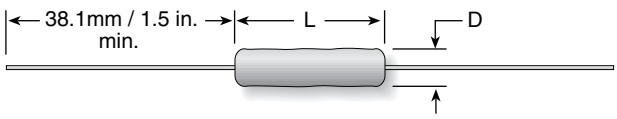
*Maximum Voltage is based on Ohm's Law [V= √(P*R)] as limited by the resistance value of specified product

CHARACTERISTICS

Coating	Conformal lead free vitreous enamel
Core	Ceramic.
Terminals	Solder-coated axial. RoHS solder composition is 96% Sn, 3.5% Ag, 0.5% Cu
Derating	Linearly from 100% @ +25°C to 0% @ +350°C
Tolerance	±5% standard; other tolerances available
Power rating	Based on 25°C free air rating (other wattages available)
Overload	Under 7 watts: 5 times rated wattage for 5 seconds; 7 watts and over: 10 times rated wattage for 5 seconds
Temperature coefficient	1 to 9.99 ohms: ±50 ppm/°C; 10 ohms and over: ±30 ppm/°C

DIMENSIONS

(mm/in. max.)



Series	Wattage	Length* (max.)	Diam.* (max.)	Lead ga.
21	1	10.7 / 0.421	4.0 / 0.156	24
22	2	10.7 / 0.421	5.6 / 0.219	20
23	3	13.1 / 0.515	5.6 / 0.220	20
25	5	25.8 / 1.015	7.0 / 0.276	20
27	7	32.1 / 1.265	10.0 / 0.394	20
20	10	47.2 / 1.859	10.0 / 0.394	20

*For units below 1Ω, add 15% to body diameter, 10% to body length.

(continued)

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ORDERING INFORMATION

Standard part numbers

Ohmic value	Part No. Prefix ➤ Suffix ⮟	Wattage 1 — 21J	2 — 22J	3 — 23J	5 — 25J	7 — 27J	10 — 20J
0.10	R10			✓	✓		✓
0.13	R13			✓	✓		✓
0.15	R15			✓	✓		✓
0.20	R20			✓	✓		✓
0.25	R25			✓	✓		✓
0.30	R30			✓	✓		✓
0.33	R33			✓	✓		✓
0.50	R50			✓	✓		✓
0.75	R75			✓	✓		✓
1	1R0	✓	✓	✓	✓	✓	✓
1.5	1R5	✓	✓	✓	✓	✓	✓
2	2R0	✓	✓	✓	✓	✤	✓
2.2	2R2	✓	✓	✓	✓	✤	✓
3	3R0	✓	✓	✓	✓	✓	✓
4	4R0	✓	✤	✓	✓	✤	✓
5	5R0	✓	✓	✓	✓	✤	✓
7.5	7R5	✓	✓	✓	✓	✤	✓
10	10R	✓	✓	✓	✓	✤	✓
12	12R	✤	✤	✓	✓	✤	✓
15	15R	✓	✤	✓	✤	✓	✓
18	18R	✓	✤	✓	✓	✤	✓
20	20R	✓	✓	✓	✓	✤	✓
22	22R	✓	✓	✓	✓	✤	✓
25	25R	✤	✓	✓	✓	✤	✓
27	27R	✓	✓	✓	✓	✤	✤
30	30R	✓	✓	✓	✓	✤	✓
33	33R	✓	✓	✓	✓	✓	✓
35	35R	✤	✤	✤	✓	✤	✤
39	39R	✓	✓	✓	✤	✤	✓
40	40R	✓	✤	✓	✓	✤	✓
47	47R	✓	✓	✓	✓	✤	✓
50	50R	✓	✓	✓	✓	✓	✓
56	56R	✤	✓	✓	✓	✤	✤
62	62R	✤	✤	✓	✓	✤	✓
68	68R	✓	✓	✓	✓	✤	✓
75	75R	✓	✓	✓	✓	✤	✓
82	82R	✓	✓	✓	✓	✤	✓
100	100	✓	✤	✓	✓	✓	✓
120	120	✓	✓	✓	✓	✤	✓
125	125	✤	✤	✓	✓	✓	✓
150	150	✓	✓	✓	✓	✤	✓
180	180	✓	✓	✓	✓	✤	✓
200	200	✓	✓	✓	✓	✓	✓
220	220	✓	✓	✓	✓	✤	✓
225	225	✤	✤	✤	✤	✤	✤
250	250	✓	✓	✓	✓	✤	✓
270	270	✓	✓	✓	✓	✤	✤
300	300	✓	✓	✓	✓	✤	✓
330	330	✓	✓	✓	✓	✤	✓
350	350	✤	✓	✤	✓	✤	✓
390	390	✓	✤	✓	✤	✤	✤
400	400	✤	✤	✓	✓	✤	✓
450	450	✤	✤	✤	✓	✤	✓
470	470	✓	✓	✓	✓	✤	✓
500	500	✓	✓	✓	✓	✓	✓
560	560	✓	✓	✓	✓	✤	✤
600	600	✓	✓	✓	✓	✤	✓
680	680	✓	✤	✓	✓	✤	✓
750	750	✓	✓	✓	✓	✤	✓
800	800	✓	✤	✓	✓	✤	✤
820	820	✓	✓	✓	✓	✤	✓
900	900	✤	✓	✓	✓	✤	✤
1,000	1K0	✓	✓	✓	✓	✓	✓
1,100	1K1	✤	✤	✓	✓	✤	✓
1,200	1K2	✓	✓	✓	✓	✤	✓
1,500	1K5	✓	✓	✓	✓	✤	✓
1,800	1K8	✓	✓	✓	✤	✤	✤
2,000	2K0	✤	✓	✓	✓	✤	✓
2,200	2K2	✓	✓	✓	✓	✤	✓
2,500	2K5	✓	✓	✓	✓	✤	✓
2,700	2K7	✓	✓	✓	✤	✤	✓
3,000	3K0	✓	✓	✓	✓	✤	✓
3,300	3K3			✓	✓	✤	✤
3,500	3K5			✤	✓	✤	✤
3,900	3K9			✓	✓	✤	✓
4,000	4K0			✓	✓	✤	✓
4,500	4K5			✤	✓	✤	✤
4,700	4K7			✓	✓	✤	✓
5,000	5K0			✓	✓	✓	✓
6,000	6K0			✓	✓	✓	✓
6,800	6K8			✓	✓	✤	✤
7,000	7K0			✓	✓	✤	✤
7,500	7K5			✓	✓	✤	✓
8,000	8K0			✓	✓	✤	✓
9,000	9K0			✓	✤	✤	✤
10,000	10K			✓	✓	✤	✓
12,000	12K				✓	✤	✓
13,000	13K					✤	✓
15,000	15K				✓	✤	✓
17,000	17K					✤	✤
20,000	20K				✓	✓	✓
22,000	22K				✓	✤	✤
25,000	25K				✓	✤	✓
30,000	30K						✓
33,000	33K						✤
35,000	35K						✤
40,000	40K						✓
50,000	50K						✓

✓ = 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.

RoHS Compliant

21JR10E

20 Series	Wattage	Tolerance	Resistance Value
Vitreous Enamel Axial Lead Wirewound	1 = 1W 2 3 5 7 0 = 10W	J = 5%	R10 = 0.10Ω 1R0 = 1.0Ω 10R = 10.0Ω 250 = 250Ω 1K0 = 1,000Ω 4K5 = 4,500Ω 50K = 50,000Ω

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