

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

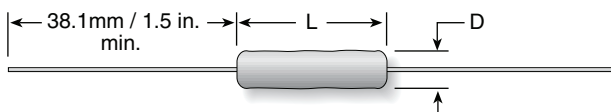
*Maximum Voltage is based on Ohm's Law $[V = \sqrt{(P \cdot R)}]$ as limited by the resistance value of specified product

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

✓ = 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.

