



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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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

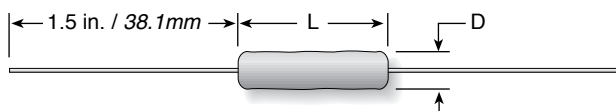
*Maximum Voltage is based on Ohm's Law [$V=\sqrt{P \cdot R}$] as limited by the resistance value of specified product

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

(in./mm max.)



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

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

(continued)

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

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.

