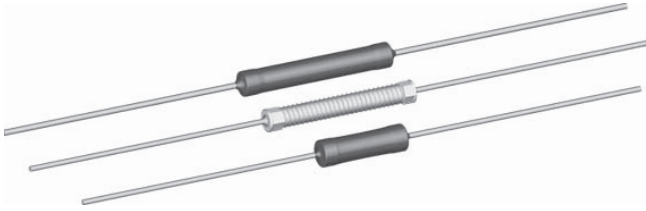


Wirewound Resistors, Commercial Power, Axial Lead



FEATURES

- High performance for low cost
- Axial leads
- Auto insertable
- CA-1, CA-2 and CA-5000 models are supplied with a high temperature silicone coating for additional environmental protection
- Lead forming available (designated as a CR style resistor)

APPLICATIONS

Kitchen appliances: Percolators, blenders, mixers, ranges, toasters, deep fryers. Automotive devices: Horns, ignitions, windshield wipers, voltage regulators, instrument gauges. Entertainment devices: Radios, televisions. Computers and power supplies.

STANDARD ELECTRICAL SPECIFICATIONS

MODEL*	POWER RATING $P_{25^{\circ}\text{C}}$ W	RESISTANCE RANGE Ω $\pm 10\%$ Standard, $\pm 5\%$ Available	WEIGHT (Typical) g
CA-1	1.0	0.1 - 1k	0.65
CA-2	2.0	0.1 - 2.4k	0.80
CA-4050	2.0	0.1 - 170	0.64
CA-4055	2.2	0.1 - 195	0.65
CA-4060	2.4	0.1 - 220	0.66
CA-4070	2.8	0.1 - 270	0.68
CA-4080	3.2	0.1 - 320	0.70
CA-4090	3.6	0.1 - 370	0.72
CA-4100	4.0	0.15 - 420	0.74
CA-4150	6.0	0.2 - 630	0.84
CA-4200	8.0	0.2 - 920	0.94
CA-4220	8.8	0.2 - 1.02k	0.98
CA-5050	2.5	0.1 - 2.7k	0.78
CA-5055	2.75	0.1 - 3.1k	0.80
CA-5060	3.0	0.1 - 3.5k	0.82
CA-5070	3.5	0.1 - 4.3k	0.86
CA-5080	4.0	0.1 - 5.1k	0.90
CA-5090	4.5	0.1 - 5.9k	0.94
CA-5100	5.0	0.15 - 6.7k	0.98
CA-5150	7.5	0.2 - 7k	1.19
CA-5200	10.0	0.2 - 7k	1.40
CA-5220	11.0	0.2 - 7k	1.48

*CA-4000 and CA-5000 model numbers are calculated from the CA-4000 power rating of 4 watts per inch and CA-5000 power rating of 5 watts per inch. The last three digits of the model number are the body length of the resistor in inches (decimal is between the first and second digit). Example: CA-5150 = 1.50 inches x 5 watts per inch = 7.5 watts.

TECHNICAL SPECIFICATIONS

PARAMETER	UNIT	CA-1	CA-2	CA-4000	CA-5000
Temperature Coefficient	ppm/ $^{\circ}\text{C}$	± 600 below 1.0 Ω , ± 300 1.0 Ω and above			
Power Rating	W	1	2	4 per inch	5 per inch
Short Time Overload	-	5 x rated power for 5 seconds			
Maximum Working Voltage	V	$(P \times R)^{1/2}$			
Dielectric Withstanding Voltage	V_{AC}	600	600	-	-
Operating Temperature Range	$^{\circ}\text{C}$	-65/+275			
Terminal Strength (minimum)	lb	10	10	10	10

NOTE: Wirewound CA resistors can reliably function as a fuse and as a resistor. Such components involve compromise between fusing and resistive functions; therefore, each design should be tailored to the application to ensure optimum performance. Contact factory by using the e-mail address at the bottom of this page for design assistance.

ORDERING INFORMATION

CA-4150
MODEL

350 Ω
RESISTANCE
 Ω

10%
TOLERANCE
 $\pm \%$

Example: A 1.50 inch body length (at 4 watts per inch), 350 ohm, $\pm 10\%$ axial leaded unit is designated as shown. Total wattage of unit is 6 watts (4 watts per inch x 1.50 inch).

DIMENSIONS

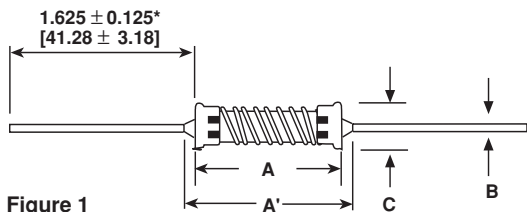


Figure 1

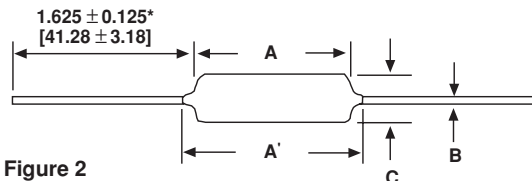


Figure 2

*On some standard reel pack methods, the leads may be trimmed to a shorter length than shown.

MATERIAL SPECIFICATIONS

Element: Copper-nickel alloy or nickel-chrome alloy, depending on resistance value

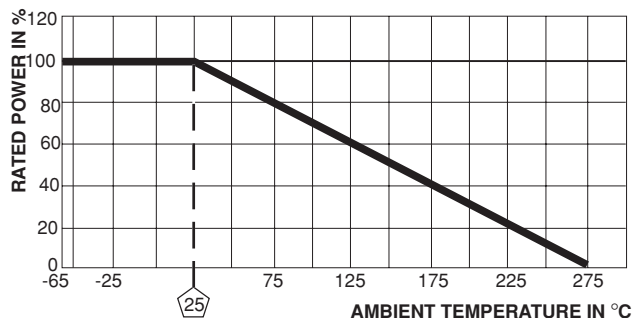
Core: Woven fiberglass

Coating: Special high temperature silicone (CA-4000 series is not coated)

Terminals: Tin/lead electroplated copper

End Caps: Tin plated steel

Part Marking: CA-1 and CA-2 are marked with Value and Tolerance; CA-4000 and CA-5000 are not marked



Derating

MODEL	DIMENSIONS in inches [millimeters]				Figure
	A ± 0.031 [0.794]	A' (Maximum)	B ± 0.001 [0.025]	C	
CA-1	0.400 [10.16]	0.460 [11.68]	0.032 [0.813]	0.170 maximum [4.32 maximum]	2
CA-2	0.570 [14.48]	0.630 [16.00]	0.032 [0.831]	0.170 maximum [4.32 maximum]	2
CA-4050	0.500 [12.70]	0.594 [15.09]	0.032 [0.813]	0.140 ± 0.031 [3.56 ± 0.794]	1
CA-4055	0.550 [13.97]	0.644 [16.36]	0.032 [0.813]	0.140 ± 0.031 [3.56 ± 0.794]	1
CA-4060	0.600 [15.24]	0.694 [17.63]	0.032 [0.813]	0.140 ± 0.031 [3.56 ± 0.794]	1
CA-4070	0.700 [17.78]	0.794 [20.17]	0.032 [0.813]	0.140 ± 0.031 [3.56 ± 0.794]	1
CA-4080	0.800 [20.32]	0.894 [22.71]	0.032 [0.831]	0.140 ± 0.031 [3.56 ± 0.794]	1
CA-4090	0.900 [22.86]	0.994 [25.25]	0.032 [0.813]	0.140 ± 0.031 [3.56 ± 0.794]	1
CA-4100	1.00 [25.40]	1.094 [27.79]	0.032 [0.813]	0.140 ± 0.031 [3.56 ± 0.794]	1
CA-4150	1.50 [38.10]	1.594 [40.49]	0.032 [0.813]	0.140 ± 0.031 [3.56 ± 0.794]	1
CA-4200	2.00 [50.80]	2.094 [53.19]	0.032 [0.813]	0.140 ± 0.031 [3.56 ± 0.794]	1
CA-4220	2.20 [55.88]	2.294 [58.27]	0.032 [0.813]	0.140 ± 0.031 [3.56 ± 0.794]	1
CA-5050	0.500 [12.70]	0.625 [15.88]	0.036 [0.914]	0.170 ± 0.031 [4.32 ± 0.794]	2
CA-5055	0.550 [13.97]	0.675 [17.15]	0.036 [0.914]	0.170 ± 0.031 [4.32 ± 0.794]	2
CA-5060	0.600 [15.24]	0.725 [18.42]	0.036 [0.914]	0.170 ± 0.031 [4.32 ± 0.794]	2
CA-5070	0.700 [17.78]	0.825 [20.96]	0.036 [0.914]	0.170 ± 0.031 [4.32 ± 0.794]	2
CA-5080	0.800 [20.32]	0.925 [23.50]	0.036 [0.914]	0.170 ± 0.031 [4.32 ± 0.794]	2
CA-5090	0.900 [22.86]	1.025 [26.04]	0.036 [0.914]	0.170 ± 0.031 [4.32 ± 0.794]	2
CA-5100	1.00 [25.40]	1.125 [28.58]	0.036 [0.914]	0.170 ± 0.031 [4.32 ± 0.794]	2
CA-5150	1.50 [38.10]	1.625 [41.28]	0.036 [0.914]	0.170 ± 0.031 [4.32 ± 0.794]	2
CA-5200	2.00 [50.80]	2.125 [53.98]	0.036 [0.914]	0.170 ± 0.031 [4.32 ± 0.794]	2
CA-5220	2.20 [55.88]	2.325 [59.06]	0.036 [0.914]	0.170 ± 0.031 [4.32 ± 0.794]	2

PERFORMANCE		
TEST	CONDITIONS OF TEST	TEST LIMITS (EIA RS-344)
Thermal Shock	-55°C to + 275°C, 5 cycles, 30 minute dwell time	± (5.0% + 0.05Ω)ΔR
Short Time Overload	5 x rated power for 5 seconds	± (4.0% + 0.05Ω)ΔR
Dielectric Withstanding Voltage	600V _{ac} (CA-1, CA-2) for one minute	± (2.0% + 0.05Ω)ΔR
Low Temperature Operation	- 65°C, full rated working voltage for 45 minutes	± (3.0% + 0.05Ω)ΔR
Humidity	75°C, 90% - 100% RH, 240 hours	± (5.0% + 0.05Ω)ΔR
Load Life	1000 hours at rated power, + 25°C, 1.5 hours "ON", 0.5 hours "OFF"	± (10.0% + 0.05Ω)ΔR
Terminal Strength	10 pounds for 30 seconds; body twisted about axis, 3 360° rotations	± (2.0% + 0.05Ω)ΔR
Resistance to Solder Heat	Terminal immersed 3.5 seconds in molten solder at 1/8" to 3/16" from body	± (4.0% + 0.05Ω)ΔR