

6121 Baker Road,  
Suite 108  
Minnetonka, MN 55345

[www.chtechnology.com](http://www.chtechnology.com)



Phone (952) 933-6190  
Fax (952) 933-6223

**1-800-274-4284**

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Please contact the C&H Technology team for the following questions -

Technical

Application

Assembly

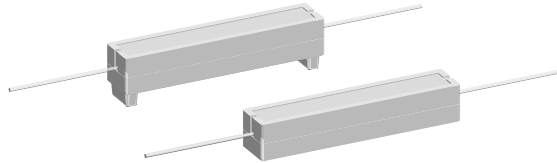
Availability

Pricing

Phone – 1-800-274-4284

E-Mail – [sales@chtechnology.com](mailto:sales@chtechnology.com)

## Wirewound/Metal Oxide Resistors, Commercial Power, Axial Lead



### FEATURES

- High performance for low cost
- High power to size ratio
- Ceramic cases are available with circuit board stand-offs (designated with a ...3 model ending)
- Special cement potting compound and ceramic case provide high thermal conductivity in a fireproof package



**RoHS**  
COMPLIANT

### STANDARD ELECTRICAL SPECIFICATIONS

GLOBAL MODEL	POWER RATING $P_{40^{\circ}\text{C}}$ W	RESISTANCE RANGE $\Omega$ $\pm 5\%, \pm 10\%$		WEIGHT (Typical) g
		WIREWOUND	METAL OXIDE	
CP0002	2	0.1 - 82	83 - 30 k	2.0
CP0003	3	0.1 - 180	181 - 33 k	3.4
CP0005	5	0.1 - 180	181 - 50 k	3.6
CP0005...3	5	0.1 - 180	181 - 50 k	4.8
CP0007	7	0.1 - 430	431 - 50 k	5.0
CP0007...3	7	0.1 - 430	431 - 50 k	6.8
CP0010	10	0.1 - 470	471 - 50 k	9.5
CP0010...3	10	0.1 - 470	471 - 50 k	9.9
CP0015	15	0.5 - 600	601 - 50 k	16.8
CP0020	20	0.5 - 1 k	1.1 k - 50 k	22.8

### TECHNICAL SPECIFICATIONS

PARAMETER	UNIT	WIREWOUND CHARACTERISTICS
Temperature Coefficient	ppm/ $^{\circ}\text{C}$	$\pm 400$
Short Time Overload	-	5 x rated power for 5 seconds
Terminal Strength	lb	10 minimum
Operating Temperature Range	$^{\circ}\text{C}$	- 65/+ 275
Dielectric Withstanding Voltage	$V_{AC}$	1000
Maximum Working Voltage	V	$(P \times R)^{1/2}$
METAL OXIDE CHARACTERISTICS		
Temperature Coefficient	ppm/ $^{\circ}\text{C}$	$\pm 400$
Short Time Overload	-	5 x rated power for 5 seconds
Terminal Strength	lb	10 minimum
Operating Temperature Range	$^{\circ}\text{C}$	- 65/+ 225
Dielectric Withstanding Voltage	$V_{AC}$	1000
Maximum Working Voltage	V	$(P \times R)^{1/2}$

### GLOBAL PART NUMBER INFORMATION

Global Part Numbering Example: CP000515R00JE663

C P 0 0 0 5 1 5 R 0 0 J E 6 6 3

**GLOBAL MODEL**  
(See Standard Electrical Specifications Global Model column for options)

**VALUE**  
R = Decimal  
K = Thousand  
R1500 = 0.15  $\Omega$   
1K500 = 1500  $\Omega$

**TOLERANCE**  
J =  $\pm 5.0\%$   
K =  $\pm 10\%$

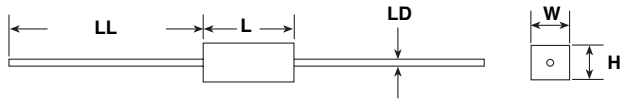
**PACKAGING**  
E66 = Lead (Pb)-free, bulk

**SPECIAL**  
(Dash Number)  
(up to 3 digits)  
From 1-999 as applicable

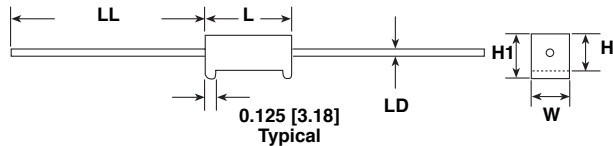


**DIMENSIONS**

CPxxxx



CPxxxx...3



GLOBAL MODEL	DIMENSIONS in millimeters [inches]					
	L* ± 1.5 [0.060]	W ± 1.0 [0.040]	H ± 1.0 [0.040]	H1 ± 1.5 [0.060]	LD ± 0.05 [0.002]	LL ± 3.0 [0.120]
CP0002	18 [0.71]	7 [0.276]	7 [0.276]	—	0.65 [0.0256]	35 [1.378]
CP0003	22 [0.87]	8 [0.315]	8 [0.315]	—	0.8 [0.031]	35 [1.378]
CP0005	22 [0.87]	10 [0.394]	9 [0.354]	—	0.8 [0.031]	35 [1.378]
CP0005...3	22 [0.87]	10 [0.394]	9 [0.354]	10.5 [0.413]	0.8 [0.031]	35 [1.378]
CP0007	35 [1.38]	10 [0.394]	9 [0.354]	—	0.8 [0.031]	35 [1.378]
CP0007...3	35 [1.38]	10 [0.394]	9 [0.354]	12 [0.472]	0.8 [0.031]	35 [1.378]
CP0010	48 [1.89]	10 [0.394]	9 [0.354]	—	0.8 [0.031]	35 [1.378]
CP0010...3	48 [1.89]	10 [0.394]	9 [0.354]	12 [0.472]	0.8 [0.031]	35 [1.378]
CP0015	48 [1.89]	12.5 [0.492]	11.5 [0.453]	—	0.8 [0.031]	35 [1.378]
CP0020	60 [2.36]	14 [0.551]	13.5 [0.531]	—	0.8 [0.031]	35 [1.378]

\* Potting compound may extend outside of ceramic case up to 1.52 mm [0.060"] maximum per side.

**MATERIAL SPECIFICATIONS**

**Element:** Wirewound = Copper-nickel alloy or nickel-chrome alloy, depending on resistance value  
Metal Oxide = High temperature fired Metal Oxide film

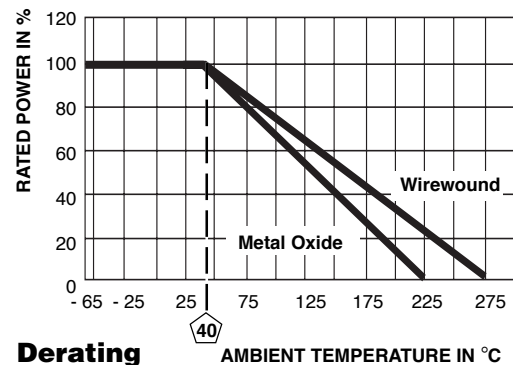
**Core:** Wirewound = Woven fiberglass  
Metal Oxide = Ceramic

**Body:** Steatite ceramic case with cement potting compound

**End Caps:** Tin plated steel

**Terminals:** Tinned copper

**Part Marking:** DALE, Model, Wattage, Value, Tolerance, Date Code



PERFORMANCE		
TEST	CONDITIONS OF TEST	TEST LIMITS
Thermal Shock	- 55 °C to + 275 °C (+ 225 °C for Metal Oxide), 5 cycles, 30 minute dwell time	± (5.0 % + 0.05 Ω) ΔR
Short Time Overload	5 x rated power for 5 seconds	± (4.0 % + 0.05 Ω) ΔR
Dielectric Withstanding Voltage	1000 V <sub>rms</sub> for one minute	± (2.0 % + 0.05 Ω) ΔR
Low Temperature Operation	- 65 °C, full rated working voltage for 45 minutes	± (3.0 % + 0.05 Ω) ΔR
Humidity	75 °C, 90 % - 100 % RH, 240 hours	± (5.0 % + 0.05 Ω) ΔR
Load Life	1000 hours at rated power, + 25 °C, 1.5 hours "ON", 0.5 hours "OFF"	± (10.0 % + 0.05 Ω) ΔR
Terminal Strength	5 pounds for 30 seconds; body twisted about axis, 3 360° rotations	± (2.0 % + 0.05 Ω) ΔR
Resistance to Solder Heat	Terminal immersed 3.5 seconds in molten solder at 1/8" to 3/16" from body	± (4.0 % + 0.05 Ω) ΔR