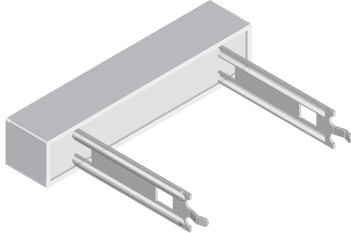


## Wirewound/Metal Oxide Resistors, Commercial Power, Radial Terminals



### FEATURES

- Direct mounting on printed circuit board
- Circuit board lock-in mounting tabs
- High performance for low cost
- Special inorganic potting compound and ceramic case provide high thermal conductivity in a fireproof package
- Compliant to RoHS Directive 2002/95/EC



STANDARD ELECTRICAL SPECIFICATIONS					
GLOBAL MODEL <sup>(1)</sup>	POWER RATING $P_{40\text{ }^\circ\text{C}}$ W	RESISTANCE RANGE $\Omega$ WIREWOUND	RESISTANCE RANGE $\Omega$ METAL OXIDE	TOLERANCE $\pm$ %	WEIGHT (typical) g
CPR03...xx	3	0.1 to 100	101 to 30K	5, 10	5.5
CPR05...xx	5	0.1 to 100	101 to 33K	5, 10	6.5
CPR07...xx	7	0.5 to 100	101 to 50K	5, 10	9.5
CPR10...xx	10	0.5 to 100	101 to 50K	5, 10	10
CPR15...xx	15	1.0 to 100	101 to 50K	5, 10	20.3
CPR20...xx	20	1.0 to 100	101 to 50K	5, 10	25.5

### Note

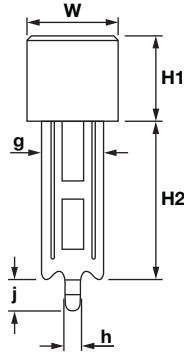
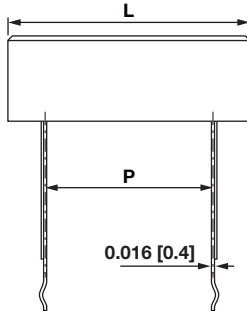
<sup>(1)</sup> The xx is for the two digit “special” number as specified in Global Part Number Information section. Standard part number without the two digit “special” is 10.5 mm length (15 mm for CPR20), 1 pin terminals.

TECHNICAL SPECIFICATIONS		
PARAMETER	UNIT	CPR HIGH VOLUME RESISTOR CHARACTERISTICS
Temperature Coefficient	ppm/°C	$\pm$ 400
Short Time Overload	-	5 x rated power for 5 s
Maximum Working Voltage	V	$(P \times R)^{1/2}$
Terminal Strength	lb	10 minimum
Operating Temperature Range	°C	- 65 to + 275 for wirewound, - 65 to + 225 for metal oxide

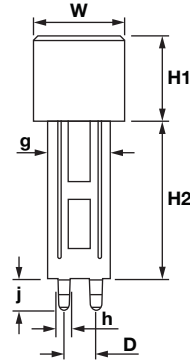
GLOBAL PART NUMBER INFORMATION															
Global Part Numbering example: CPR05100R0JE6630															
C	P	R	0	5	1	0	0	R	0	J	E	6	6	3	0
GLOBAL MODEL			VALUE			TOLERANCE			PACKAGING			SPECIAL			
CPR03 CPR05 CPR07 CPR10 CPR15 CPR20			R = Decimal K = Thousand R1500 = 0.15 $\Omega$ 1K500 = 1500 $\Omega$			J = $\pm$ 5.0 % K = $\pm$ 10.0 %			E66 = Lead (Pb)-free, bulk			Blank = Short, 1 pin CPRxx...30 = Long, 1 pin CPRxx...31 = Short, 2 pin CPRxx...32 = Long, 2 pin			

\*\* Please see document “Vishay Material Category Policy”: [www.vishay.com/doc?99902](http://www.vishay.com/doc?99902)

### DIMENSIONS in inches [millimeters]



Terminal style 1 (Single Pin)



Terminal style 2 (Double Pin)

GLOBAL MODEL	TERMINAL STYLE	DIMENSIONS in inches [millimeters]								
		L ± 0.059 [1.5]	W ± 0.039 [1.0]	H1 ± 0.039 [1.0]	H2 ± 0.039 [1.0]	D ± 0.005 [0.13]	P ± 0.059 [1.5]	G ± 0.008 [0.2]	H ± 0.008 [0.2]	J ± 0.039 [1.0]
CPR03	1	0.944 [24]	0.354 [9.0]	0.354 [9.0]	0.413 [10.5]	-	0.492 [12.5]	0.197 [5.0]	0.059 [1.5]	0.193 [4.9]
CPR03...30	1	0.944 [24]	0.354 [9.0]	0.354 [9.0]	0.984 [25.0]	-	0.492 [12.5]	0.287 [7.3]	0.059 [1.5]	0.193 [4.9]
CPR03...31	2	0.944 [24]	0.354 [9.0]	0.354 [9.0]	0.472 [12.0]	0.197 [5.0]	0.492 [12.5]	0.287 [7.3]	0.059 [1.5]	0.193 [4.9]
CPR03...32	2	0.944 [24]	0.354 [9.0]	0.354 [9.0]	0.984 [25.0]	0.197 [5.0]	0.492 [12.5]	0.287 [7.3]	0.059 [1.5]	0.193 [4.9]
CPR05	1	1.10 [28]	0.394 [10.0]	0.394 [10.0]	0.413 [10.5]	-	0.590 [15.0]	0.197 [5.0]	0.059 [1.5]	0.193 [4.9]
CPR05...30	1	1.10 [28]	0.394 [10.0]	0.394 [10.0]	0.984 [25.0]	-	0.590 [15.0]	0.287 [7.3]	0.059 [1.5]	0.193 [4.9]
CPR05...31	2	1.10 [28]	0.394 [10.0]	0.394 [10.0]	0.472 [12.0]	0.197 [5.0]	0.590 [15.0]	0.287 [7.3]	0.059 [1.5]	0.193 [4.9]
CPR05...32	2	1.10 [28]	0.394 [10.0]	0.394 [10.0]	0.984 [25.0]	0.197 [5.0]	0.590 [15.0]	0.287 [7.3]	0.059 [1.5]	0.193 [4.9]
CPR07	1	1.42 [36]	0.394 [10.0]	0.394 [10.0]	0.413 [10.5]	-	0.787 [20.0]	0.197 [5.0]	0.059 [1.5]	0.193 [4.9]
CPR07...30	1	1.42 [36]	0.394 [10.0]	0.394 [10.0]	0.984 [25.0]	-	0.787 [20.0]	0.287 [7.3]	0.059 [1.5]	0.193 [4.9]
CPR07...31	2	1.42 [36]	0.394 [10.0]	0.394 [10.0]	0.472 [12.0]	0.197 [5.0]	0.787 [20.0]	0.287 [7.3]	0.059 [1.5]	0.193 [4.9]
CPR07...32	2	1.42 [36]	0.394 [10.0]	0.394 [10.0]	0.984 [25.0]	0.197 [5.0]	0.787 [20.0]	0.287 [7.3]	0.059 [1.5]	0.193 [4.9]
CPR10	1	1.89 [48]	0.394 [10.0]	0.394 [10.0]	0.413 [10.5]	-	1.26 [32.0]	0.197 [5.0]	0.059 [1.5]	0.193 [4.9]
CPR10...30	1	1.89 [48]	0.394 [10.0]	0.394 [10.0]	0.984 [25.0]	-	1.26 [32.0]	0.287 [7.3]	0.059 [1.5]	0.193 [4.9]
CPR10...31	2	1.89 [48]	0.394 [10.0]	0.394 [10.0]	0.472 [12.0]	0.197 [5.0]	1.26 [32.0]	0.287 [7.3]	0.059 [1.5]	0.193 [4.9]
CPR10...32	2	1.89 [48]	0.394 [10.0]	0.394 [10.0]	0.984 [25.0]	0.197 [5.0]	1.26 [32.0]	0.287 [7.3]	0.059 [1.5]	0.193 [4.9]
CPR15	1	1.89 [48]	0.492 [12.5]	0.472 [12.0]	0.413 [10.5]	-	1.26 [32.0]	0.197 [5.0]	0.059 [1.5]	0.193 [4.9]
CPR15...30	1	1.89 [48]	0.492 [12.5]	0.472 [12.0]	0.984 [25.0]	-	1.26 [32.0]	0.287 [7.3]	0.059 [1.5]	0.199 [5.1]
CPR15...32	2	1.89 [48]	0.492 [12.5]	0.472 [12.0]	1.18 [30.0]	0.197 [5.0]	1.26 [32.0]	0.394 [10.0]	0.069 [1.75]	0.199 [5.1]
CPR20	1	2.36 [60]	0.591 [15.0]	0.512 [13.0]	0.591 [15.0]	-	1.65 [42.0]	0.394 [10.0]	0.106 [2.7]	0.193 [4.9]
CPR20...30	1	2.36 [60]	0.591 [15.0]	0.512 [13.0]	0.984 [25.0]	-	1.65 [42.0]	0.394 [10.0]	0.106 [2.7]	0.193 [4.9]
CPR20...32	2	2.36 [60]	0.591 [15.0]	0.512 [13.0]	1.18 [30.0]	0.197 [5.0]	1.65 [42.0]	0.394 [10.0]	0.069 [1.75]	0.199 [5.1]

## MATERIAL SPECIFICATIONS

### Element:

Wirewound = Copper-nickel alloy or nickel-chrome alloy, depending on resistance value

Metal Oxide = High temperature fired Metal Oxide film

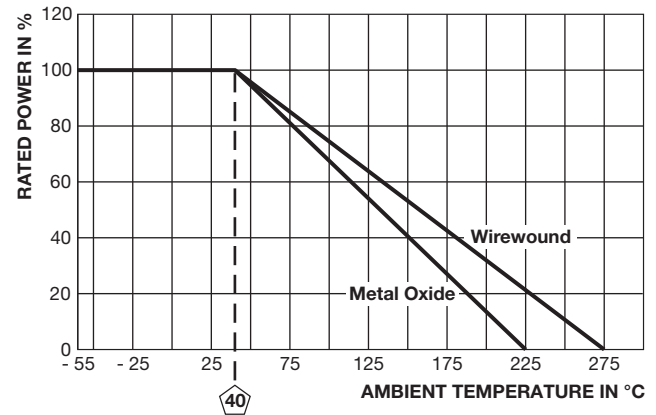
**Core:** Ceramic

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

**Terminals:** Tin plated steel

**Part Marking:** DALE, model, wattage, value, tolerance, date code

## DERATING



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



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