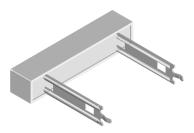


www.vishay.com

**CPR** 

Vishay Dale

# Wirewound Resistors, Commercial Power, Radial Terminals



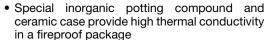
Please reference the Vishay Dale closest equivalent: CPR High Volume (www.vishay.com/doc?30261).

#### Notes

- There may be slight differences between the CPR product and the CPR High Volume product.
- See the cross-reference file for a complete list of differences and part number crosses:
  - . www.vishay.net/files/Cross-Reference%20Data-without%20PC N%20-%20%20PCN-DR-020-2015%20Rev%200.pdf.

#### **FEATURES**

- · Direct mounting on printed circuit board
- Circuit board lock-in mounting tabs
- High performance for low cost
- Meets or exceeds requirements of EIA Standard RS-344



• Material categorization: for definitions of compliance please see www.vishay.com/doc?99912







FREE **GREEN** 

# (5-2008)

Document Number: 30219

#### Note

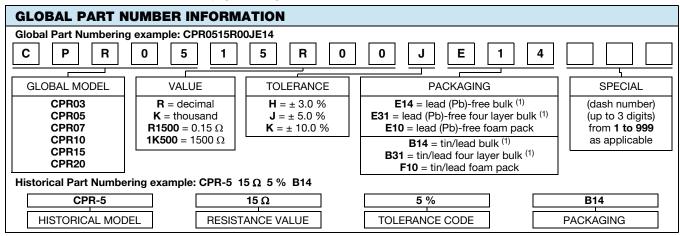
This datasheet provides information about parts that are RoHS-compliant and / or parts that are non-RoHS-compliant. For example, parts with lead (Pb) terminations are not RoHS-compliant. Please see the information / tables in this datasheet for details.

STANDARD ELECTRICAL SPECIFICATIONS					
GLOBAL MODEL	HISTORICAL MODEL	POWER RATING P <sub>40 °C</sub> W	RESISTANCE RANGE Ω	TOLERANCE ± %	WEIGHT (typical) g
CPR03	CPR-3	3	0.1 to 1K	5, 10	5.6
CPR05	CPR-5	5	0.1 to 1K	5, 10	6.6
CPR07	CPR-7	7	0.1 to 1.429K	5, 10	9.4
CPR10	CPR-10	10	0.1 to 2K	5, 10	10.0
CPR15	CPR-15	15	0.1 to 2K	5, 10	20.3
CPR20	CPR-20	20	0.15 to 2.855K	5, 10	25.6

TECHNICAL SPECIFICATIONS				
PARAMETER	UNIT	CPR RESISTOR CHARACTERISTICS		
Temperature Coefficient	ppm/°C	$\pm$ 300 for 1.0 $\Omega$ and above; $\pm$ 600 for less than 1.0 $\Omega$		
Short Time Overload	-	5 x rated power for 5 s		
Terminal Strength	lb	10 minimum		
Dielectric Withstanding Voltage	$V_{AC}$	1000		
Maximum Working Voltage	V	$(P \times R)^{1/2}$		
Operating Temperature Range	°C	-65 to +275		

#### Note

Wirewound CPR 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.



## Note

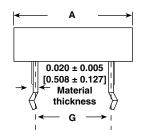
(1) Only for 3 W and 5 W sizes.

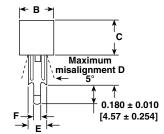
Revision: 11-Feb-16

**CPR** 

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## **DIMENSIONS** in inches [millimeters]





	DIMENSIONS in inches [millimeters]						
GLOBAL MODEL	A ± 0.040 [1.02]	B ± 0.031 [0.787]	C ± 0.031 [0.787]	D + 0.080 [2.03] - 0.040 [1.02]	E ± 0.012 [0.305]	F ± 0.008 [0.203]	G ± 0.060 [1.52]
CPR03	0.906	0.375	0.375	0.394	0.287	0.055	0.500
	[23.01]	[9.53]	[9.53]	[10.01]	[7.29]	[1.40]	[12.70]
CPR05	1.060	0.375	0.360	0.394	0.287	0.055	0.590
	[26.92]	[9.53]	[9.14]	[10.01]	[7.29]	[1.40]	[14.99]
CPR07	1.398	0.375	0.360	0.984	0.287	0.055	0.886
	[35.51]	[9.53]	[9.14]	[24.99]	[7.29]	[1.40]	[22.50]
CPR10	1.888	0.375	0.360	0.984	0.287	0.055	1.380
	[47.96]	[9.53]	[9.14]	[24.99]	[7.29]	[1.40]	[35.05]
CPR15	1.888	0.500	0.500	1.180	0.394	0.106	1.280
	[47.96]	[12.70]	[12.70]	[29.97]	[10.01]	[2.69]	[32.51]
CPR20	2.498	0.500	0.500	1.180	0.394	0.106	1.870
	[63.45]	[12.70]	[12.70]	[29.97]	[10.01]	[2.69]	[47.50]

## **MATERIAL SPECIFICATIONS**

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

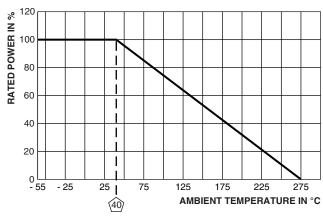
Core: woven fiberglass

**Body:** steatite ceramic case with inorganic potting compound

**Terminals:** tin/lead plated CRS (Lead (Pb)-free will be 100 % tin)

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

## DERATING



PERFORMANCE				
TEST	CONDITIONS OF TEST	TEST LIMITS (EIA RS-344)		
Thermal Shock	-55 °C to +275 °C, 5 cycles, 30 min dwell time	$\pm$ (5.0 % + 0.05 $\Omega$ ) $\Delta R$		
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	$\pm$ (3.0 % + 0.05 $\Omega$ ) $\Delta R$		
Humidity	75 °C, 90 % to 100 % RH, 240 h	$\pm$ (5.0 % + 0.05 Ω) ΔR		
Load Life	1000 h at rated power, +40 °C, 1.5 h "ON", 0.5 h "OFF"	± (10.0 % + 0.05 Ω) ΔR		
Terminal Strength	10 pounds in axial direction for 30 s	± (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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