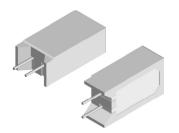


# **CPCC, CPCF High Volume**

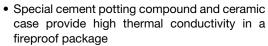
Vishay Dale

# Wirewound/Metal Oxide Resistors, Commercial Power, Vertical Mount



#### **FEATURES**

- Space saving
- · Direct mounting on printed circuit board
- High power to size ratio



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





RoHS COMPLIANT HALOGEN

FREE GREEN (5-2008)

STANDARD ELECTRICAL SPECIFICATIONS					
GLOBAL MODEL	POWER RATING  P <sub>40°C</sub> W	$\begin{array}{c} \text{RESISTANCE RANGE} \\ \Omega \\ \text{WIREWOUND} \end{array}$	$\begin{array}{c} \text{RESISTANCE RANGE} \\ \Omega \\ \text{METAL OXIDE} \end{array}$	TOLERANCE ± %	WEIGHT (typical) g
CPCC02	2	0.1 to 100	n/a	5, 10	4.7
CPCF02	2	n/a	101 to 50K	5, 10	4.7
CPCC03	3	0.1 to 100	n/a	5, 10	5.5
CPCF03	3	n/a	101 to 50K	5, 10	5.5
CPCC05	5	0.1 to 100	n/a	5, 10	6.9
CPCF05	5	n/a	101 to 50K	5, 10	6.9
CPCC07	7	0.1 to 100	n/a	5, 10	9.2
CPCF07	7	n/a	101 to 50K	5, 10	9.2
CPCC10	10	0.1 to 100	n/a	5, 10	14.3
CPCC1A	10	0.1 to 100	n/a	5, 10	13.2

TECHNICAL SPECIFICATIONS				
PARAMETER	UNIT	CPCC, CPCF HIGH VOLUME RESISTOR CHARACTERISTICS		
Temperature Coefficient	ppm/°C	± 400		
Short Time Overload	-	5 x rated power for 5 s		
Maximum Working Voltage	V	$(P \times R)^{1/2}$		
Operating Temperature Range	°C	-65 to +275 for wirewound, -65 to +225 for metal oxide		
Terminal Strength	lb	10 minimum		
Dielectric Withstanding Voltage	V <sub>AC</sub>	1000		

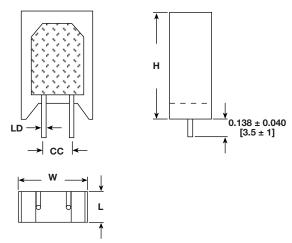
GLOBAL PART NUMBER INFORMATION						
Global Part Numbering Ex	Global Part Numbering Example: CPCC0515R00JE66					
C P C C 0 5 1 5 R 0 0 J E 6 6						
GLOBAL MODEL	VALUE	TOLERANCE	PACKAGING	SPECIAL		
(See Standard Electrical Specifications Global Model column for options)	R = decimal K = thousand R1500 = 0.15 Ω 1K500 = 1500 Ω	<b>J</b> = ± 5.0 % <b>K</b> = ± 10.0 %	E66 = lead (Pb)-free bulk pack	(Dash number) (Up to 3 digits) From <b>1 to 999</b> as applicable		



# **CPCC, CPCF High Volume**

Vishay Dale

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



#### **MATERIAL SPECIFICATIONS**

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

#### **CPCC**

Element: copper-nickel alloy or nickel-chrome alloy,

depending on resistance value

Core: alumina ceramic

Body: steatite ceramic case with cement potting compound

End Caps: tin plated steel
Terminals: tinned copper

#### **CPCF**

**Element:** nickel oxide **Core:** alumina ceramic

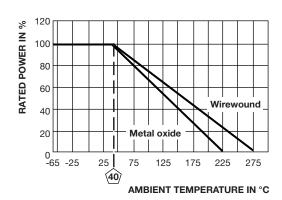
Body: steatite ceramic case with inorganic potting

compound

End Caps: brass alloy
Terminals: tinned copper

	DIMENSIONS in inches [millimeters]				
GLOBAL MODEL	H ± 0.060 [1.5]	W ± 0.040 [1.0]	L ± 0.040 [1.0]	LD ± 0.002 [0.05]	CC + 0.08 / - 0.04 [+ 2 / - 1]
CPCC02	0.787	0.433	0.138	0.031	0.197
	[20]	[11]	[3.5]	[0.8]	[5]
CPCF02	0.787	0.433	0.138	0.031	0.197
	[20]	[11]	[3.5]	[0.8]	[5]
CPCC03	0.984	0.472	0.315	0.031	0.197
	[25]	[12]	[8]	[0.8]	[5]
CPCF03	0.984	0.472	0.315	0.031	0.197
	[25]	[12]	[8]	[0.8]	[5]
CPCC05	0.984	0.512	0.354	0.031	0.197
	[25]	[13]	[9]	[0.8]	[5]
CPCF05	0.984	0.512	0.354	0.031	0.197
	[25]	[13]	[9]	[0.8]	[5]
CPCC07	1.535	0.512	0.354	0.031	0.197
	[39]	[13]	[9]	[0.8]	[5]
CPCF07	1.535	0.512	0.354	0.031	0.197
	[39]	[13]	[9]	[0.8]	[5]
CPCC10	1.378	0.630	0.472	0.031	0.295
	[35]	[16]	[12]	[0.8]	[7.5]
CPCC1A	2.008	0.512	0.394	0.029	0.197
	[51]	[13]	[10]	[0.75]	[5]

#### **DERATING**



PERFORMANCE				
TEST	CONDITIONS OF TEST	CPCC, CPCF TEST LIMITS		
Thermal Shock	-55 °C to +275 °C (+225 °C for metal oxide), 5 cycles, 30 min dwell time	$\pm$ (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		
Bias Humidity	75 °C, 90 % to 100 % RH, 240 h	$\pm$ (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 s to 10 s 10 pound pull test	± (2.0 % + 0.05 Ω) ΔR		
Resistance to Solder Heat	Terminal immersed 3.5 s in molten solder up to body	± (4.0 % + 0.05 Ω) ΔR		



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