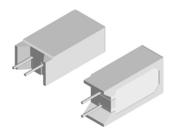


www.vishay.com

Vishay Dale

Wirewound/Metal Oxide Resistors, Commercial Power, Vertical Mount



FEATURES

- Space saving
- · Direct mounting on printed circuit board
- High power to size ratio
- Special cement potting compound and ceramic case provide high thermal conductivity in a fireproof package
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912



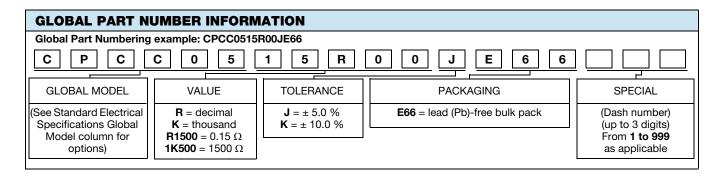


ROHS COMPLIANT

FREE GREEN (5-2008)

STANDARD ELECTRICAL SPECIFICATIONS						
GLOBAL MODEL	POWER RATING P _{40 °C} W	RESISTANCE RANGE Ω WIREWOUND	RESISTANCE RANGE Ω METAL OXIDE	TOLERANCE ± %	WEIGHT (typical) g	
CPCC02	2	0.1 to 100	n/a	5, 10	4.7	
CPCF02	2	NA	101 to 50K	5, 10	4.7	
CPCC03	3	0.1 to 100	n/a	5, 10	5.5	
CPCF03	3	NA	101 to 50K	5, 10	5.5	
CPCC05	5	0.1 to 100	n/a	5, 10	6.9	
CPCF05	5	NA	101 to 50K	5, 10	6.9	
CPCC07	7	0.1 to 100	n/a	5, 10	9.2	
CPCF07	7	NA	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	

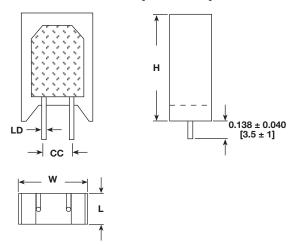
TECHNICAL SPECIFICATIONS						
PARAMETER	UNIT	CPCC, CPCF HIGH VOLUME RESISTOR CHARACTERISTICS				
Temperature Coefficient	ppm/°C	± 400				
Short Time Overload	-	5 x rated power for 5 s				
Maximum Working Voltage	V	(P x R) ^{1/2}				
Operating Temperature Range	°C	-65 to +275 for wirewound, -65 to +225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



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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

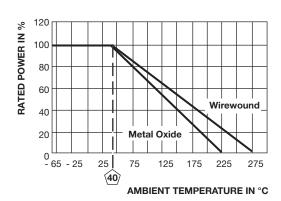
Body: steatite ceramic case with inorganic potting

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]

DEARATING



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 _{RMS} for 1 min	\pm (2.0 % + 0.05 Ω) ΔR				
Low Temperature Operation	-65 °C, full rated working voltage for 45 min	\pm (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"	$\pm (10.0 \% + 0.05 \Omega) \Delta R$				
Terminal Strength	5 s to 10 s 10 pound pull test	\pm (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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Vishay

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