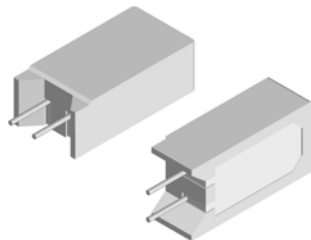




Wirewound/Metal Oxide Resistors, Commercial Power, Vertical Mount



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
HALOGEN
FREE
GREEN
(5-2008)

STANDARD ELECTRICAL SPECIFICATIONS

GLOBAL MODEL	POWER RATING $P_{40^{\circ}\text{C}}$ W	RESISTANCE RANGE Ω WIREWOUND	RESISTANCE RANGE Ω METAL OXIDE	TOLERANCE $\pm \%$	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

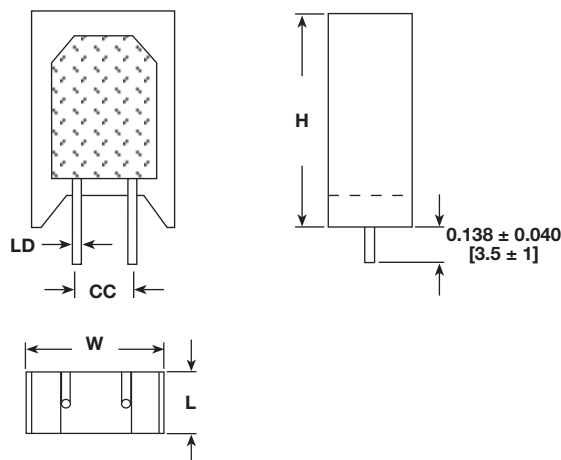
TECHNICAL SPECIFICATIONS

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

GLOBAL PART NUMBER INFORMATION

Global Part Numbering example: CPCC0515R00JE66

C	P	C	C	0	5	1	5	R	0	0	J	E	6	6			
GLOBAL MODEL (See Standard Electrical Specifications Global Model column for options)				VALUE R = decimal K = thousand R1500 = 0.15 Ω 1K500 = 1500 Ω				TOLERANCE J = $\pm 5.0 \%$ K = $\pm 10.0 \%$		PACKAGING E66 = lead (Pb)-free bulk pack				SPECIAL (Dash number) (up to 3 digits) From 1 to 999 as applicable			

**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

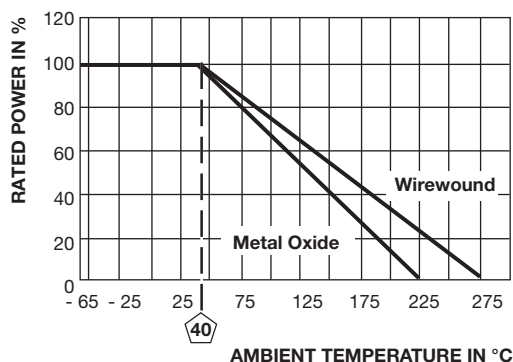
Core: alumina ceramic

Body: steatite ceramic case with inorganic potting compound

End Caps: brass alloy

Terminals: tinned copper

GLOBAL MODEL	DIMENSIONS in inches [millimeters]				
	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 [20]	0.433 [11]	0.138 [3.5]	0.031 [0.8]	0.197 [5]
CPCF02	0.787 [20]	0.433 [11]	0.138 [3.5]	0.031 [0.8]	0.197 [5]
CPCC03	0.984 [25]	0.472 [12]	0.315 [8]	0.031 [0.8]	0.197 [5]
CPCF03	0.984 [25]	0.472 [12]	0.315 [8]	0.031 [0.8]	0.197 [5]
CPCC05	0.984 [25]	0.512 [13]	0.354 [9]	0.031 [0.8]	0.197 [5]
CPCF05	0.984 [25]	0.512 [13]	0.354 [9]	0.031 [0.8]	0.197 [5]
CPCC07	1.535 [39]	0.512 [13]	0.354 [9]	0.031 [0.8]	0.197 [5]
CPCF07	1.535 [39]	0.512 [13]	0.354 [9]	0.031 [0.8]	0.197 [5]
CPCC10	1.378 [35]	0.630 [16]	0.472 [12]	0.031 [0.8]	0.295 [7.5]
CPCC1A	2.008 [51]	0.512 [13]	0.394 [10]	0.029 [0.75]	0.197 [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	± (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	± (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	± (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



Disclaimer

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "Vishay"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained in any datasheet or in any other disclosure relating to any product.

Vishay makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product. To the maximum extent permitted by applicable law, Vishay disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on Vishay's knowledge of typical requirements that are often placed on Vishay products in generic applications. Such statements are not binding statements about the suitability of products for a particular application. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and / or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer's technical experts. Product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein.

Except as expressly indicated in writing, Vishay products are not designed for use in medical, life-saving, or life-sustaining applications or for any other application in which the failure of the Vishay product could result in personal injury or death. Customers using or selling Vishay products not expressly indicated for use in such applications do so at their own risk. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay. Product names and markings noted herein may be trademarks of their respective owners.