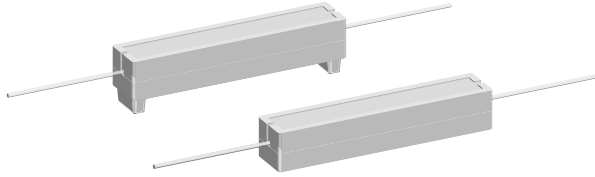


## Wirewound Resistors, Commercial Power, Axial Lead, Low Value



### FEATURES

- High power to size ratio
- Low inductance
- Ceramic cases are available with circuit board stand-offs (designated with a -3 model ending)
- Superior surge capability
- Extremely low resistance values
- Complete welded construction
- Special inorganic potting compound and ceramic case provide high thermal conductivity in a fireproof package



**RoHS\***  
COMPLIANT

### STANDARD ELECTRICAL SPECIFICATIONS

GLOBAL MODEL	HISTORICAL MODEL	POWER RATING $P_{40^\circ\text{C}}$ W	RESISTANCE RANGE** $\Omega$ $\pm 5\%$ Standard***	WEIGHT (Typical) g
CPL03	CPL-3	3	0.01 - 0.10	3.4
CPL03...3	CPL-3-3	3	0.01 - 0.10	3.6
CPL05	CPL-5	5	0.01 - 0.10	4.8
CPL05...3	CPL-5-3	5	0.01 - 0.10	5.0
CPL07	CPL-7	7	0.01 - 0.10	6.8
CPL07...3	CPL-7-3	7	0.01 - 0.10	7.0
CPL10	CPL-10	10	0.01 - 0.10	9.5
CPL10...3	CPL-10-3	10	0.01 - 0.10	9.9
CPL15	CPL-15	15	0.01 - 0.10	16.8
CPL15...3	CPL-15-3	15	0.01 - 0.10	17.4

\*\* Resistance is measured 3/8" [9.52 mm] from resistor body.

\*\*\*  $\pm 1\%$  and  $\pm 3\%$  available.

### TECHNICAL SPECIFICATIONS

PARAMETER	UNIT	CPL RESISTOR CHARACTERISTICS
Temperature Coefficient	ppm/ $^\circ\text{C}$	$\pm 300$
Short Time Overload	-	5 x rated power for 5 seconds
Maximum Working Voltage	V	$(P \times R)^{1/2}$
Operating Temperature Range	$^\circ\text{C}$	- 65/+ 275
Terminal Strength	lb	10 minimum
Dielectric Withstanding Voltage	V <sub>AC</sub>	1000

### GLOBAL PART NUMBER INFORMATION

New Global Part Numbering: CPL05R0500JB143 (preferred part numbering format)

C	P	L	0	5	R	0	5	0	0	J	B	1	4	3		
GLOBAL MODEL				VALUE			TOLERANCE			PACKAGING			SPECIAL			
CPL03 CPL05 CPL07 CPL10 CPL15				R = Decimal R1000 = 0.10 $\Omega$			F = $\pm 1.0\%$ G = $\pm 2.0\%$ H = $\pm 3.0\%$ J = $\pm 5.0\%$ K = $\pm 10\%$			E14 = Lead (Pb)-free bulk E31 = Lead (Pb)-free four layer bulk E01 = Lead (Pb)-free skin pack B14 = Tin/lead bulk B31 = Tin/lead four layer bulk J01 = Tin/lead skin pack			Dash Number) (up to 3 digits) From 1-999 as applicable			

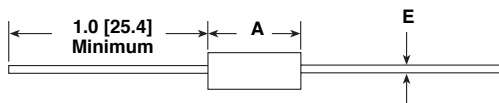
Historical Part Number example: CPL-5-3 0.05  $\Omega$  5% B14 (will continue to be accepted)

CPL-5-3	0.05 $\Omega$	5%	B14
HISTORICAL MODEL	RESISTANCE VALUE	TOLERANCE CODE	PACKAGING

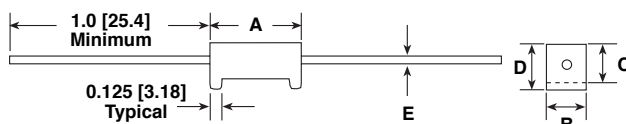
\* Pb containing terminations are not RoHS compliant, exemptions may apply

## DIMENSIONS

CPLxx



CPLxx...3



GLOBAL MODEL	DIMENSIONS in inches [millimeters]				
	± 0.031 [0.794] A	± 0.031 [0.794] B	± 0.031 [0.794] C	± 0.031 [0.794] D	± 0.001 [0.025] E
CPL03	0.875 [22.22]	0.313 [7.94]	0.313 [7.94]	—	0.032 [0.813]
CPL03...3	0.875 [22.22]	0.313 [7.94]	0.313 [7.94]	0.375 [9.52]	0.032 [0.813]
CPL05	0.875 [22.22]	0.375 [9.52]	0.344 [8.73]	—	0.032 [0.813]
CPL05...3	0.875 [22.22]	0.375 [9.52]	0.344 [8.73]	0.406 [10.32]	0.032 [0.813]
CPL07	1.391 [35.32]	0.375 [9.52]	0.344 [8.73]	—	0.032 [0.813]
CPL07...3	1.391 [35.32]	0.375 [9.52]	0.344 [8.73]	0.469 [11.91]	0.032 [0.813]
CPL10	1.875 [47.62]	0.375 [9.52]	0.344 [8.73]	—	0.032 [0.813]
CPL10...3	1.875 [47.62]	0.375 [9.52]	0.344 [8.73]	0.469 [11.91]	0.032 [0.813]
CPL15	1.875 [47.62]	0.500 [12.70]	0.500 [12.70]	—	0.032 [0.813]
CPL15...3	1.875 [47.62]	0.500 [12.70]	0.500 [12.70]	0.625 [15.87]	0.032 [0.813]

\*Potting compound may extend outside of ceramic case up to 0.060 [1.52] maximum per side.

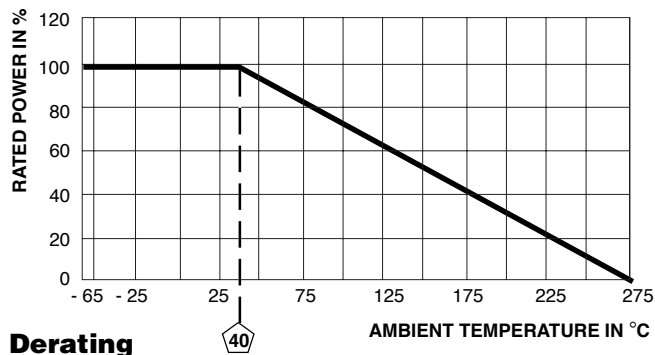
## MATERIAL SPECIFICATIONS

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

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

**Terminals:** Tinned copper

**Part Marking:** DALE, Model, Wattage, Value, Tolerance, Date Code



PERFORMANCE		
TEST	CONDITIONS OF TEST	TEST LIMITS (EIA RS-344)
Thermal Shock	- 55 °C to + 275 °C, 5 cycles, 30 minute dwell time	± (5.0 % + 0.05 Ω) ΔR
Short Time Overload	5 x rated power for 5 seconds	± (4.0 % + 0.05 Ω) ΔR
Dielectric Withstanding Voltage	1000 V <sub>rms</sub> for one minute	± (2.0 % + 0.05 Ω) ΔR
Low Temperature Operation	- 65 °C, full rated working voltage for 45 minutes	± (3.0 % + 0.05 Ω) ΔR
Bias Humidity	75 °C, 90 % - 100 % RH, 240 hours	± (5.0 % + 0.05 Ω) ΔR
Load Life	1000 hours at rated power, + 40 °C, 1.5 hours "ON", 0.5 hours "OFF"	± (5.0 % + 0.05 Ω) ΔR
Terminal Strength	5 to 10 second 10 pound pull test, torsion test - 3 alternating directions, 360° each	± (1.0 % + 0.05 Ω) ΔR
Resistance to Solder Heat	Terminal immersed 3.5 seconds in molten solder at 1/8" to 3/16" from body	± (1.0 % + 0.05 Ω) ΔR



### Disclaimer

All product specifications and data are subject to change without notice.

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 herein or in any other disclosure relating to any product.

Vishay disclaims any and all liability arising out of the use or application of any product described herein or of any information provided herein to the maximum extent permitted by law. The product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein, which apply to these products.

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.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications unless otherwise expressly indicated. Customers using or selling Vishay products not expressly indicated for use in such applications do so entirely at their own risk and agree to fully indemnify Vishay for any damages arising or resulting from such use or sale. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

Product names and markings noted herein may be trademarks of their respective owners.