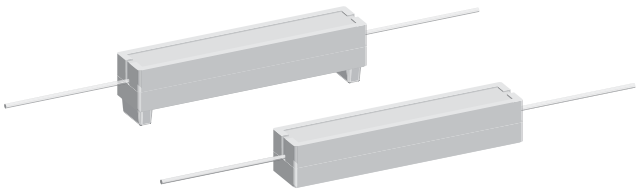
Wirewound Resistors, Commercial Power, Axial Lead, Low Value



FEATURES

- High power to size ratio
- Low inductance, less than 5 nH
- 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
- Compliant to RoHS Directive 2002/95/EC

Pb-free Available

RoHS* COMPLIANT

GREEN (5-2008)** Available

STANDARD ELECTRICAL SPECIFICATIONS

GLOBAL MODEL	HISTORICAL MODEL	POWER RATING $P_{40\,°C}$ W	RESISTANCE RANGE (1) Ω	TOLERANCE ± %	WEIGHT (typical) g
CPL03	CPL-3	3	0.01 to 0.10	1, 3, 5, 10	3.4
CPL03...3	CPL-3-3	3	0.01 to 0.10	1, 3, 5, 10	3.6
CPL05	CPL-5	5	0.01 to 0.10	1, 3, 5, 10	4.8
CPL05...3	CPL-5-3	5	0.01 to 0.10	1, 3, 5, 10	5.0
CPL07	CPL-7	7	0.01 to 0.10	1, 3, 5, 10	6.8
CPL07...3	CPL-7-3	7	0.01 to 0.10	1, 3, 5, 10	7.0
CPL10	CPL-10	10	0.01 to 0.10	1, 3, 5, 10	9.5
CPL10...3	CPL-10-3	10	0.01 to 0.10	1, 3, 5, 10	9.9
CPL15	CPL-15	15	0.01 to 0.10	1, 3, 5, 10	16.8
CPL15...3	CPL-15-3	15	0.01 to 0.10	1, 3, 5, 10	17.4

Note

(1) Resistance is measured 3/8" [9.52 mm] from resistor body.

TECHNICAL SPECIFICATIONS

PARAMETER	UNIT	CPL RESISTOR CHARACTERISTICS
Temperature Coefficient	ppm/°C	± 300
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
Terminal Strength	lb	10 minimum
Dielectric Withstanding Voltage	V_{AC}	1000

GLOBAL PART NUMBER INFORMATION

Global Part Numbering example: CPL05R0500JB143

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 Ω	**F** = ± 1.0 % **G** = ± 2.0 % **H** = ± 3.0 % **J** = ± 5.0 % **K** = ± 10.0 %	**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 to 999** as applicable

Historical Part Numbering example: CPL-5-3 0.05 Ω 5 % B14

CPL-5-3	0.05 Ω	5 %	B14
HISTORICAL MODEL	RESISTANCE VALUE	TOLERANCE CODE	PACKAGING

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

** Please see document "Vishay Material Category Policy": www.vishay.com/doc?99902

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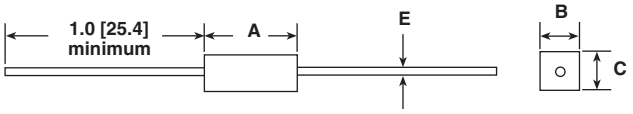
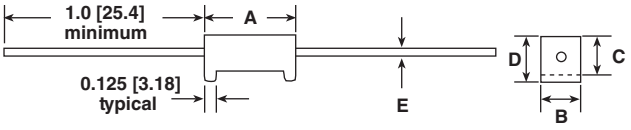
DIMENSIONS in inches [millimeters]

CPLxx



CPLxx...3



GLOBAL MODEL	DIMENSIONS in inches [millimeters]				
	A [1] ± 0.031 [0.794]	B ± 0.031 [0.794]	C ± 0.031 [0.794]	D ± 0.031 [0.794]	E ± 0.001 [0.025]
CPL03	0.875 [22.22]	0.313 [7.94]	0.313 [7.94]	-	0.036 [0.914]
CPL03...3	0.875 [22.22]	0.313 [7.94]	0.313 [7.94]	0.375 [9.52]	0.036 [0.914]
CPL05	0.875 [22.22]	0.375 [9.52]	0.344 [8.73]	-	0.036 [0.914]
CPL05...3	0.875 [22.22]	0.375 [9.52]	0.344 [8.73]	0.406 [10.32]	0.036 [0.914]
CPL07	1.391 [35.32]	0.375 [9.52]	0.344 [8.73]	-	0.036 [0.914]
CPL07...3	1.391 [35.32]	0.375 [9.52]	0.344 [8.73]	0.469 [11.91]	0.036 [0.914]
CPL10	1.875 [47.62]	0.375 [9.52]	0.344 [8.73]	-	0.036 [0.914]
CPL10...3	1.875 [47.62]	0.375 [9.52]	0.344 [8.73]	0.469 [11.91]	0.036 [0.914]
CPL15	1.875 [47.62]	0.500 [12.70]	0.500 [12.70]	-	0.036 [0.914]
CPL15...3	1.875 [47.62]	0.500 [12.70]	0.500 [12.70]	0.625 [15.87]	0.036 [0.914]

Note
(1) Potting compound may extend outside of ceramic case up to 0.060 [1.52] maximum per side.

MATERIAL SPECIFICATIONS

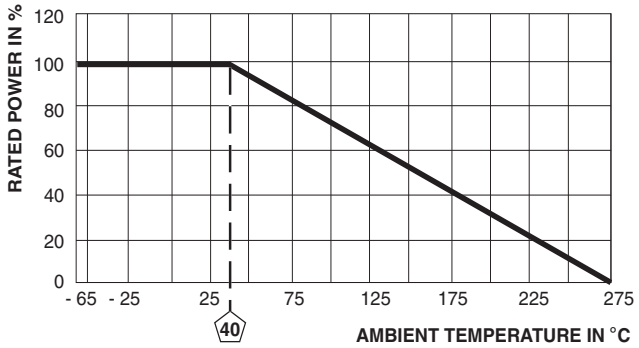
Element: Self-supporting copper-nickel alloy or nickel-chrome alloy, depending on resistance range

Body: Steatite ceramic case with inorganic potting compound

Terminals: Tinned copper

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	± (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, + 40 °C, 1.5 h “ON”, 0.5 h “OFF”	± (5.0 % + 0.05 Ω) ΔR
Terminal Strength	5 s to 10 s 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 s in molten solder at 1/8" to 3/16" from body	± (1.0 % + 0.05 Ω) ΔR

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