



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



Contact us

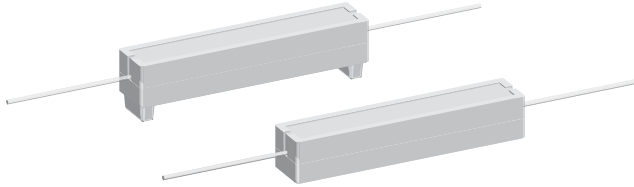
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Wirewound Resistors, Commercial Power, Axial Lead, Low Value



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



| STANDARD ELECTRICAL SPECIFICATIONS | | | | | |
|------------------------------------|------------------|---|---|-----------------------|-----------------------|
| GLOBAL MODEL | HISTORICAL MODEL | POWER RATING $P_{40^\circ\text{C}}$ W | RESISTANCE RANGE ⁽¹⁾ Ω | TOLERANCE $\pm \%$ | 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.

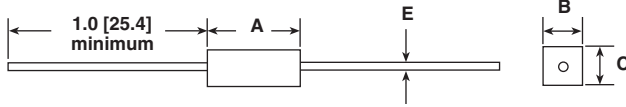
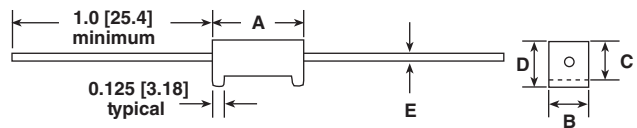
| TECHNICAL SPECIFICATIONS | | |
|---------------------------------|-----------------------|------------------------------|
| PARAMETER | UNIT | CPL RESISTOR CHARACTERISTICS |
| Temperature Coefficient | ppm/ $^\circ\text{C}$ | ± 300 |
| Short Time Overload | - | 5 x rated power for 5 s |
| Maximum Working Voltage | V | $(P \times R)^{1/2}$ |
| Operating Temperature Range | $^\circ\text{C}$ | - 65 to + 275 |
| 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 = $\pm 1.0 \%$ G = $\pm 2.0 \%$ H = $\pm 3.0 \%$ J = $\pm 5.0 \%$ K = $\pm 10.0 \%$ | | 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

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

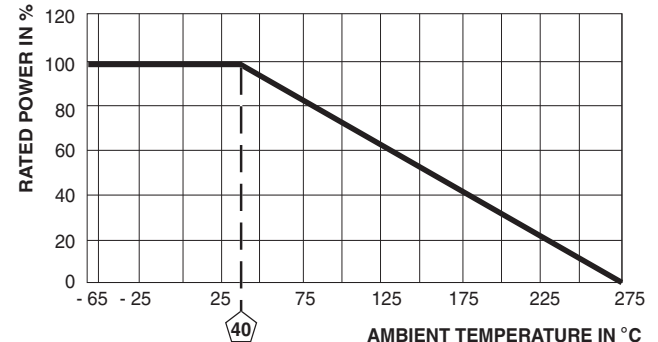
(1) Potting compound may extend outside of ceramic case up to 0.060 [1.52] maximum per side.

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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