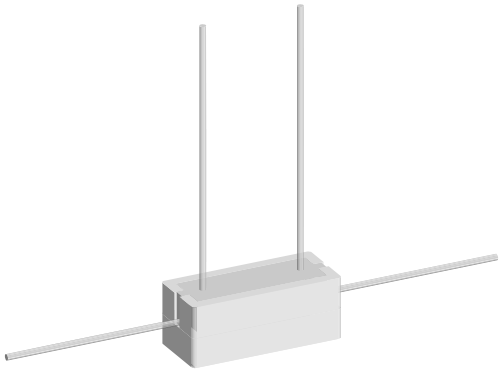
# Wirewound Resistors, Commercial Power, Four Terminal, Low Value



## FEATURES

- Low inductance
- Extremely low resistance values
- Current sensing
- Low temperature coefficients
- High power to size ratio
- Ceramic cases are available with circuit board stand-offs (designated with a -3 model ending)
- Superior surge capability
- 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

e3

RoHS* COMPLIANT

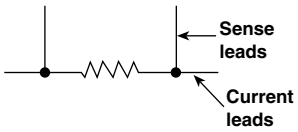
GREEN (5-2008)** Available

**Notes**

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

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

## SCHEMATIC




## STANDARD ELECTRICAL SPECIFICATIONS

| GLOBAL MODEL | HISTORICAL MODEL | POWER RATING $P_{40\,°C}$ W | RESISTANCE RANGE Ω | TOLERANCE ± % | WEIGHT (typical) g |
|---|---|---|---|---|---|
| CPSL03...5 | CPSL-3-5 | 3 | 0.01 to 0.10 | 1, 3, 5, 10 | 4.0 |
| CPSL03...3 | CPSL-3-3 | 3 | 0.01 to 0.10 | 1, 3, 5, 10 | 4.2 |
| CPSL05...5 | CPSL-5-5 | 5 | 0.01 to 0.10 | 1, 3, 5, 10 | 5.2 |
| CPSL05...3 | CPSL-5-3 | 5 | 0.01 to 0.10 | 1, 3, 5, 10 | 5.4 |
| CPSL07...5 | CPSL-7-5 | 7 | 0.01 to 0.10 | 1, 3, 5, 10 | 7.6 |
| CPSL10...5 | CPSL-10-5 | 10 | 0.01 to 0.10 | 1, 3, 5, 10 | 10.2 |
| CPSL15...5 | CPSL-15-5 | 15 | 0.01 to 0.10 | 1, 3, 5, 10 | 18.9 |

## TECHNICAL SPECIFICATIONS

| PARAMETER | UNIT | CPSL RESISTOR CHARACTERISTICS |
|---|---|---|
| Temperature Coefficient | ppm/°C | ± 100 maximum |
| 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: CPSL05R0500JB143**

| C | P | S | L | 0 | 5 | R | 0 | 5 | 0 | 0 | J | B | 1 | 4 | 3 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

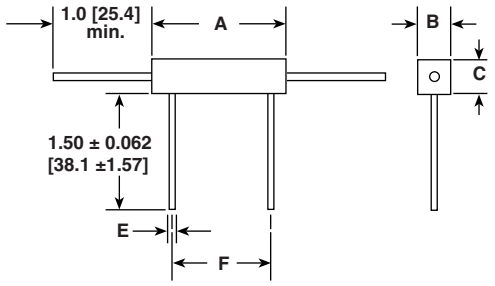
| GLOBAL MODEL | VALUE | TOLERANCE | PACKAGING | SPECIAL |
|---|---|---|---|---|
| **CPSL03**<br>**CPSL05**<br>**CPSL07**<br>**CPSL10**<br>**CPSL15** | **R** = Decimal<br>**R1000** = 0.10 Ω | **F** = ± 1.0 %<br>**G** = ± 2.0 %<br>**H** = ± 3.0 %<br>**J** = ± 5.0 %<br>**K** = ± 10.0 % | **E14** = Lead (Pb)-free bulk<br>**E31** = Lead (Pb)-free four layer bulk<br>**B14** = Tin/lead bulk<br>**B31** = Tin/lead four layer bulk | (Dash Number)<br>(up to 3 digits)<br>From **1 to 999**<br>as applicable |

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

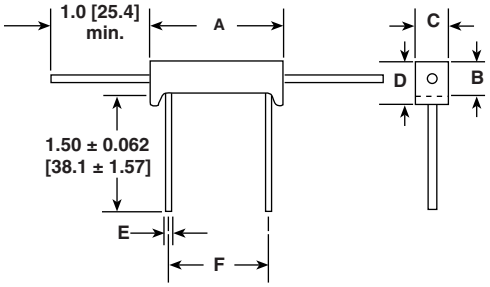
| CPSL-5-3 | 0.05 Ω | 5 % | B14 |
|---|---|---|---|
| HISTORICAL MODEL | RESISTANCE VALUE | TOLERANCE CODE | PACKAGING |

## DIMENSIONS in inches [millimeters]

CPSLxx...5




CPSLxx...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] | F ± 0.063 [1.59] |
| CPSL03...5 | 0.875 [22.22] | 0.313 [7.94] | 0.313 [7.94] | - | 0.036 [0.914] | 0.563 [14.30] |
| CPSL03...3 | 0.875 [22.22] | 0.313 [7.94] | 0.313 [7.94] | 0.375 [9.52] | 0.036 [0.914] | 0.563 [14.30] |
| CPSL05...5 | 0.875 [22.22] | 0.375 [9.52] | 0.344 [8.73] | - | 0.036 [0.914] | 0.563 [14.30] |
| CPSL05...3 | 0.875 [22.22] | 0.375 [9.52] | 0.344 [8.73] | 0.438 [11.11] | 0.036 [0.914] | 0.563 [14.30] |
| CPSL07...5 | 1.391 [35.32] | 0.375 [9.52] | 0.344 [8.73] | - | 0.036 [0.914] | 1.000 [25.40] |
| CPSL10...5 | 1.875 [47.62] | 0.375 [9.52] | 0.344 [8.73] | - | 0.036 [0.914] | 1.375 [34.93] |
| CPSL15...5 | 1.875 [47.62] | 0.500 [12.70] | 0.500 [12.70] | - | 0.036 [0.914] | 1.375 [34.93] |

**Note**

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

## MATERIAL SPECIFICATIONS

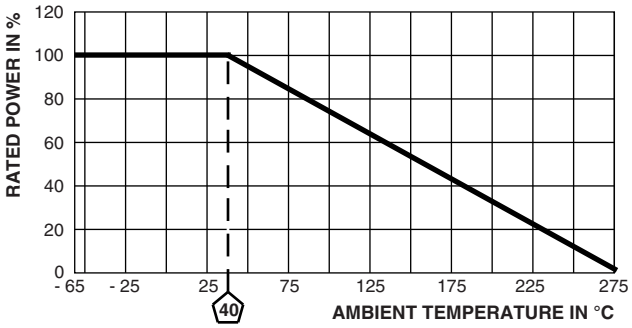
**Element:** Self-supporting copper-nickel alloy or nickel-chrome alloy, depending on resistance value

**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 |
| Thermal Shock | - 55 °C to + 275 °C, 5 cycles, 30 min dwell time | ± (5.0 % + 0.05 Ω) $\Delta R$ |
| Short Time Overload | 5 x rated power for 5 s | ± (4.0 % + 0.05 Ω) $\Delta R$ |
| Dielectric Withstanding Voltage | 1000 $V_{RMS}$ for 1 min | ± (2.0 % + 0.05 Ω) $\Delta R$ |
| Low Temperature Operation | - 65 °C, full rated working voltage for 45 min | ± (3.0 % + 0.05 Ω) $\Delta R$ |
| Bias Humidity | 75 °C, 90 % to 100 % RH, 240 h | ± (5.0 % + 0.05 Ω) $\Delta R$ |
| Load Life | 1000 h at rated power, + 40 °C, 1.5 h “ON”, 0.5 h “OFF” | ± (5.0 % + 0.05 Ω) $\Delta R$ |
| Terminal Strength | 5 s to 10 s 10 pound pull test, torsion test - 3 alternating directions, 360° each | ± (1.0 % + 0.05 Ω) $\Delta R$ |
| 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) $\Delta R$ |

# 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.

单击下面可查看定价，库存，交付和生命周期等信息

>>Vishay(威世)

>>点击查看相关商品