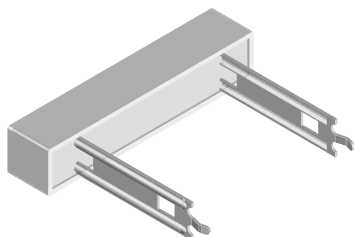




Wirewound Resistors, Commercial Power, Radial Terminals



Please reference the Vishay Dale closest equivalent: CPR High Volume (www.vishay.com/doc?30261).

Notes

- There may be slight differences between the CPR product and the CPR High Volume product.
- See the cross-reference file for a complete list of differences and part number crosses: www.vishay.net/files/Cross-Reference%20Data-without%20PCN%20-%20%20PCN-DR-020-2015%20Rev%200.pdf.

FEATURES

- Direct mounting on printed circuit board
- Circuit board lock-in mounting tabs
- High performance for low cost
- Meets or exceeds requirements of EIA Standard RS-344
- Special inorganic 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



Note

* This datasheet provides information about parts that are RoHS-compliant and / or parts that are non-RoHS-compliant. For example, parts with lead (Pb) terminations are not RoHS-compliant. Please see the information / tables in this datasheet for details.

| STANDARD ELECTRICAL SPECIFICATIONS | | | | | |
|------------------------------------|------------------|---|------------------------------|-----------------------|-----------------------|
| GLOBAL MODEL | HISTORICAL MODEL | POWER RATING $P_{40\text{ }^\circ\text{C}}$ W | RESISTANCE RANGE Ω | TOLERANCE $\pm \%$ | WEIGHT (typical) g |
| CPR03 | CPR-3 | 3 | 0.1 to 1K | 5, 10 | 5.6 |
| CPR05 | CPR-5 | 5 | 0.1 to 1K | 5, 10 | 6.6 |
| CPR07 | CPR-7 | 7 | 0.1 to 1.429K | 5, 10 | 9.4 |
| CPR10 | CPR-10 | 10 | 0.1 to 2K | 5, 10 | 10.0 |
| CPR15 | CPR-15 | 15 | 0.1 to 2K | 5, 10 | 20.3 |
| CPR20 | CPR-20 | 20 | 0.15 to 2.855K | 5, 10 | 25.6 |

| TECHNICAL SPECIFICATIONS | | |
|---------------------------------|----------|--|
| PARAMETER | UNIT | CPR RESISTOR CHARACTERISTICS |
| Temperature Coefficient | ppm/°C | ± 300 for 1.0 Ω and above; ± 600 for less than 1.0 Ω |
| Short Time Overload | - | 5 x rated power for 5 s |
| Terminal Strength | lb | 10 minimum |
| Dielectric Withstanding Voltage | V_{AC} | 1000 |
| Maximum Working Voltage | V | $(P \times R)^{1/2}$ |
| Operating Temperature Range | °C | -65 to +275 |

Note

- Wirewound CPR resistors can reliably function as a fuse and as a resistor. Such components involve compromise between fusing and resistive functions; therefore, each design should be tailored to the application to ensure optimum performance. Contact factory by using the e-mail address at the bottom of this page for design assistance.

GLOBAL PART NUMBER INFORMATION

Global Part Numbering example: **CPR0515R00JE14**

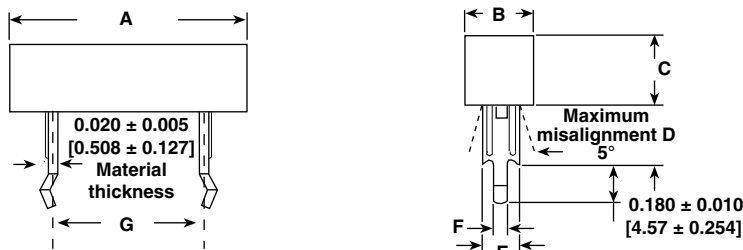
| | | | | | | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|--|---|---|---|---|---|--|--|--|
| C | P | R | 0 | 5 | 1 | 5 | R | 0 | 0 | J | E | 1 | 4 | | | |
| GLOBAL MODEL | | | VALUE | | | TOLERANCE | | PACKAGING | | | | SPECIAL | | | | |
| CPR03 CPR05 CPR07 CPR10 CPR15 CPR20 | | | R = decimal K = thousand R1500 = 0.15 Ω 1K500 = 1500 Ω | | | H = $\pm 3.0 \%$ J = $\pm 5.0 \%$ K = $\pm 10.0 \%$ | | E14 = lead (Pb)-free bulk ⁽¹⁾ E31 = lead (Pb)-free four layer bulk ⁽¹⁾ E10 = lead (Pb)-free foam pack B14 = tin/lead bulk ⁽¹⁾ B31 = tin/lead four layer bulk ⁽¹⁾ F10 = tin/lead foam pack | | | | (dash number) (up to 3 digits) from 1 to 999 as applicable | | | | |
| Historical Part Numbering example: CPR-5 15 Ω 5 % B14 | | | | | | | | | | | | | | | | |
| CPR-5 | | | 15 Ω | | | 5 % | | B14 | | | | | | | | |
| HISTORICAL MODEL | | | RESISTANCE VALUE | | | TOLERANCE CODE | | PACKAGING | | | | | | | | |

Note

⁽¹⁾ Only for 3 W and 5 W sizes.



DIMENSIONS in inches [millimeters]



| GLOBAL MODEL | DIMENSIONS in inches [millimeters] | | | | | | |
|--------------|------------------------------------|-------------------------|-------------------------|---------------------------------------|-------------------------|-------------------------|------------------------|
| | A ± 0.040 [1.02] | B ± 0.031 [0.787] | C ± 0.031 [0.787] | D + 0.080 [2.03] - 0.040 [1.02] | E ± 0.012 [0.305] | F ± 0.008 [0.203] | G ± 0.060 [1.52] |
| CPR03 | 0.906 [23.01] | 0.375 [9.53] | 0.375 [9.53] | 0.394 [10.01] | 0.287 [7.29] | 0.055 [1.40] | 0.500 [12.70] |
| CPR05 | 1.060 [26.92] | 0.375 [9.53] | 0.360 [9.14] | 0.394 [10.01] | 0.287 [7.29] | 0.055 [1.40] | 0.590 [14.99] |
| CPR07 | 1.398 [35.51] | 0.375 [9.53] | 0.360 [9.14] | 0.984 [24.99] | 0.287 [7.29] | 0.055 [1.40] | 0.886 [22.50] |
| CPR10 | 1.888 [47.96] | 0.375 [9.53] | 0.360 [9.14] | 0.984 [24.99] | 0.287 [7.29] | 0.055 [1.40] | 1.380 [35.05] |
| CPR15 | 1.888 [47.96] | 0.500 [12.70] | 0.500 [12.70] | 1.180 [29.97] | 0.394 [10.01] | 0.106 [2.69] | 1.280 [32.51] |
| CPR20 | 2.498 [63.45] | 0.500 [12.70] | 0.500 [12.70] | 1.180 [29.97] | 0.394 [10.01] | 0.106 [2.69] | 1.870 [47.50] |

MATERIAL SPECIFICATIONS

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

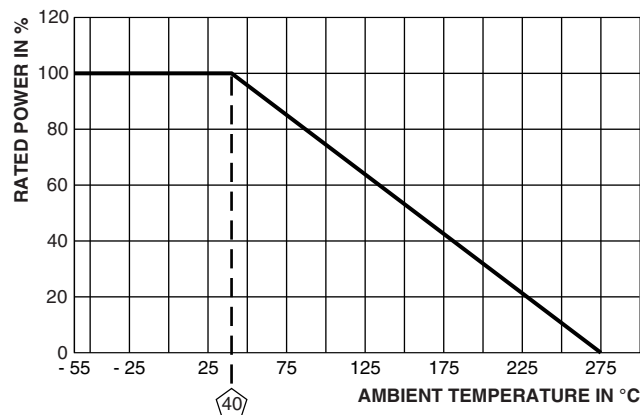
Core: woven fiberglass

Body: steatite ceramic case with inorganic potting compound

Terminals: tin/lead plated CRS (Lead (Pb)-free will be 100 % tin)

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 |
| 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" | ± (10.0 % + 0.05 Ω) ΔR |
| Terminal Strength | 10 pounds in axial direction for 30 s | ± (2.0 % + 0.05 Ω) ΔR |
| Resistance to Solder Heat | Terminal immersed 3.5 s in molten solder at 1/8" to 3/16" from body | ± (4.0 % + 0.05 Ω) ΔR |



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