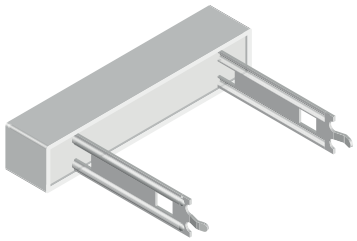
Wirewound Resistors, Commercial Power, Radial Terminals



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

Notes

- There may be slight differences between the CPR Special Terminals 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
- 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

Pb-free

e3

RoHS COMPLIANT

HALOGEN FREE GREEN (5-2008)

STANDARD ELECTRICAL SPECIFICATIONS

GLOBAL MODEL [1]	POWER RATING $P_{40\,°C}$ W	RESISTANCE RANGE Ω	TOLERANCE ± %	WEIGHT (typical) g
CPR03...xx	3	0.1 to 1K	5, 10	5.6
CPR05...xx	5	0.1 to 3.3K	5, 10	6.6
CPR07...xx	7	0.1 to 5.7K	5, 10	9.4
CPR10...xx	10	0.1 to 6.8K	5, 10	10.0
CPR15...xx	15	0.1 to 6.8K	5, 10	20.3
CPR20...xx	20	0.15 to 6.8K	5, 10	25.6

Note

[1] The xx is for the one or two digit "special" number as described in Global Part Number Information section.

TECHNICAL SPECIFIACTIONS

PARAMETER	UNIT	CPR RESISTOR CHARACTERISTICS
Temperature Coefficient	ppm/°C	± 300 1.0 Ω and above; ± 600 below 1.0 Ω
Short Time Overload	-	10 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

GLOBAL PART NUMBER INFORMATION

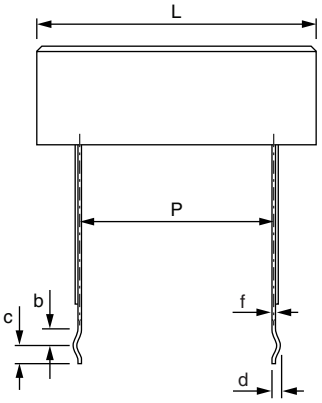
Global Part Numbering example: CPR0515R00JE5126

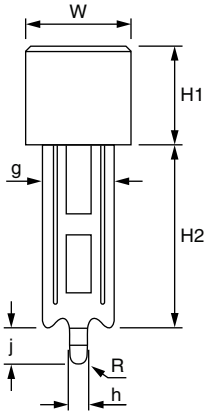
C	P	R	0	5	1	5	R	0	0	J	E	5	1	2	6	

GLOBAL MODEL	VALUE	TOLERANCE	PACKAGING	SPECIAL
CPR03 **CPR05** **CPR07** **CPR10** **CPR15** **CPR20**	**R** = decimal **K** = thousand **R1500** = 0.15 Ω **1K500** = 1500 Ω	**H** = ± 3.0 % **J** = ± 5.0 % **K** = ± 10.0 %	**E51** = lead (Pb)-free, bulk	CPRxx...**21** = 10 mm, 2 pin CPRxx...**26** = 25 mm, 2 pin CPR05...**20** = 25 mm, 1 pin CPR07...**13** = 10 mm, 1 pin CPR10...**13** = 10 mm, 1 pin CPR15...**13** = 10 mm, 1 pin CPR20...**3** = 10 mm, 1 pin

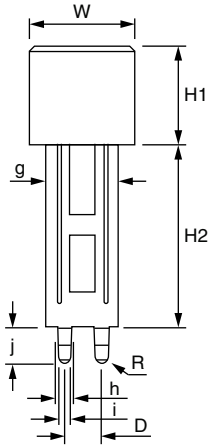
For technical questions, contact: ww2aresistors@vishay.com

DIMENSIONS in inches [millimeters]





TERMINAL STYLE 1 (SINGLE PIN)



TERMINAL STYLE 2 (DOUBLE PIN)

GLOBAL MODEL	TERMINAL STYLE	DIMENSIONS in inches [millimeters]						
		L ± 0.040 [1.02]	W ± 0.031 [0.787]	H1 ± 0.031 [0.787]	H2 + 0.080 [2.03] - 0.040 [1.02]	D ± 0.005 [0.13]	P ± 0.060 [1.52]	R
CPR03...21	2	0.906 [23.01]	0.375 [9.53]	0.375 [9.53]	0.394 [10.0]	0.197 [5.00]	0.500 [12.70]	0.03 [0.75] typ.
CPR03...26	2	0.906 [23.01]	0.375 [9.53]	0.375 [9.53]	0.984 [25.0]	0.197 [5.00]	0.500 [12.70]	
CPR05...20	1	1.060 [26.92]	0.375 [9.53]	0.360 [9.14]	0.984 [25.0]	-	0.590 [14.99]	
CPR05...21	2	1.060 [26.92]	0.375 [9.53]	0.360 [9.14]	0.394 [10.0]	0.197 [5.00]	0.590 [14.99]	
CPR05...26	2	1.060 [26.92]	0.375 [9.53]	0.360 [9.14]	0.984 [25.0]	0.197 [5.00]	0.590 [14.99]	
CPR07...13	1	1.398 [35.51]	0.375 [9.53]	0.360 [9.14]	0.394 [10.0]	-	0.886 [22.50]	
CPR07...21	2	1.398 [35.51]	0.375 [9.53]	0.360 [9.14]	0.394 [10.0]	0.197 [5.00]	0.886 [22.50]	
CPR07...26	2	1.398 [35.51]	0.375 [9.53]	0.360 [9.14]	0.984 [25.0]	0.197 [5.00]	0.886 [22.50]	
CPR10...13	1	1.888 [47.96]	0.375 [9.53]	0.360 [9.14]	0.394 [10.0]	-	1.380 [35.05]	
CPR10...21	2	1.888 [47.96]	0.375 [9.53]	0.360 [9.14]	0.394 [10.0]	0.197 [5.00]	1.380 [35.05]	
CPR10...26	2	1.888 [47.96]	0.375 [9.53]	0.360 [9.14]	0.984 [25.0]	0.197 [5.00]	1.380 [35.05]	
CPR15...13	1	1.888 [47.96]	0.500 [12.70]	0.500 [12.70]	0.394 + 0.080 - 0.130 [10.0 + 2.03 - 3.30]	-	1.280 [32.51]	
CPR15...21	2	1.888 [47.96]	0.500 [12.70]	0.500 [12.70]	0.394 + 0.080 - 0.130 [10.0 + 2.03 - 3.30]	0.197 [5.00]	1.280 [32.51]	
CPR15...26	2	1.888 [47.96]	0.500 [12.70]	0.500 [12.70]	1.181 [30.0]	0.197 [5.00]	1.280 [32.51]	
CPR20...3	1	2.498 [63.45]	0.500 [12.70]	0.500 [12.70]	0.300 + 0.080 - 0.130 [7.62 + 2.03 - 3.30]	-	1.870 [47.50]	
CPR20...21	2	2.498 [63.45]	0.500 [12.70]	0.500 [12.70]	0.300 + 0.080 - 0.130 [7.62 + 2.03 - 3.30]	0.197 [5.00]	1.870 [47.50]	
CPR20...26	2	2.498 [63.45]	0.500 [12.70]	0.500 [12.70]	1.181 [30.0]	0.197 [5.00]	1.870 [47.50]	

OTHER DIMENSIONS in inches [millimeters]

CPR05...20, CPRxx...13, CPR20...3		CPRxx...21, CPR03...26, CPR05...26, CPR07...26, CPR10...26		CPR15...26, CPR20...26	
b	0.09 ± 0.01 [2.3 ± 0.25]	**b**	0.06 ± 0.01 [1.5 ± 0.25]	**b**	0.06 ± 0.01 [1.5 ± 0.25]
c	0.09 ± 0.01 [2.3 ± 0.25]	**c**	0.06 ± 0.01 [1.5 ± 0.25]	**c**	0.06 ± 0.01 [1.5 ± 0.25]
d	0.053 ± 0.005 [1.35 ± 0.127]	**d**	0.045 ± 0.005 [1.14 ± 0.127]	**d**	0.045 ± 0.005 [1.14 ± 0.127]
f	0.020 ± 0.001 [0.51 ± 0.025]	**f**	0.020 ± 0.001 [0.50 ± 0.025]	**f**	0.020 ± 0.001 [0.50 ± 0.025]
g	0.287 ± 0.005 [7.30 ± 0.127]	**g**	0.287 ± 0.005 [7.30 ± 0.127]	**g**	0.394 ± 0.005 [10.0 ± 0.127]
h	0.055 ± 0.005 [1.40 ± 0.127]	**h**	0.078 ± 0.005 [2.0 ± 0.127]	**h**	0.078 ± 0.005 [2.0 ± 0.127]
j	0.18 ± 0.01 [4.5 ± 0.25]	**i**	0.059 ± 0.005 [1.50 ± 0.127]	**i**	0.059 ± 0.005 [1.50 ± 0.127]
		j	0.197 ± 0.01 [5.0 ± 0.25]	**j**	0.197 ± 0.01 [5.0 ± 0.25]

MATERIAL SPECIFICATIONS

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

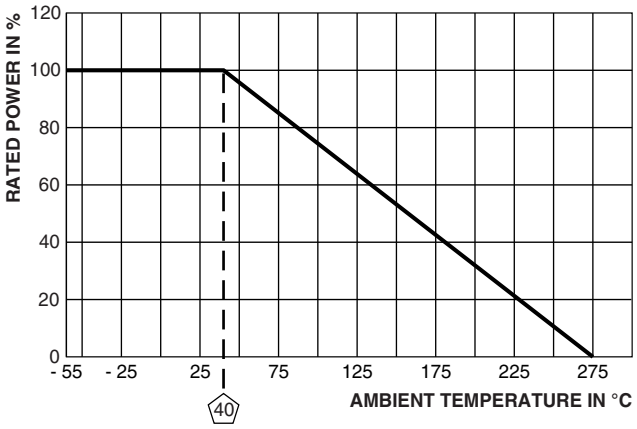
Core: woven fiberglass

Body: steatite ceramic case with inorganic potting compound

Terminals: tin plated CRS

Part Marking: Dale, model, wattage, value, tolerance, date code

DERATING



PERFORMANCE		
TEST	**CONDITIONS OF TEST**	**TEST LIMITS**
Thermal Shock	-25 °C to +155 °C, 5 cycles, 30 min dwell time	± (1.0 % + 0.05 Ω) Δ*R*
Short Time Overload	10 x rated power for 5 s	± (2.0 % + 0.05 Ω) Δ*R*
Dielectric Withstanding Voltage	1000 V_{RMS} for 1 min	± (2.0 % + 0.05 Ω) Δ*R*
Low Temperature Operation	-65 °C, full rated working voltage for 45 min	± (3.0 % + 0.05 Ω) Δ*R*
Humidity	75 °C, 90 % to 100 % RH, 240 h	± (5.0 % + 0.05 Ω) Δ*R*
Load Life	1000 h at rated power, +40 °C, 1.5 h “ON”, 0.5 h “OFF”	± (5.0 % + 0.05 Ω) Δ*R*
Terminal Strength	10 pounds in axial direction for 30 s	± (2.0 % + 0.05 Ω) Δ*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) Δ*R*

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