

Thick Film Chip Resistors, Industrial



FEATURES

- Same materials and construction as MIL-PRF-55342 chip resistors
- Construction is sulfur impervious against a high sulfur environment (ASTM B 809-95 test method)
- Termination: Tin/lead wraparound termination over nickel barrier. Also available with lead (Pb)-free wraparound terminations
- Capability to develop specific reliability programs designed to customer requirements
- Size, value, packaging and materials can be customized for special customer requirements
- Operating temperature range: - 55 °C to + 150 °C
- For zero ohm jumpers, see Vishay Dale's RCWP Jumper datasheet
- Compliant to RoHS directive 2002/95/EC
- Halogen-free according to IEC 61249-2-21 definition



RoHS*
COMPLIANT
HALOGEN FREE

MECHANICAL SPECIFICATIONS	
Resistive element	Ruthenium oxide
Encapsulation	Epoxy
Substrate	96 % alumina
Termination	Solder-coated nickel barrier
Solder finish	Pure tin or tin/lead solder alloy

STANDARD ELECTRICAL SPECIFICATIONS							
GLOBAL MODEL	HISTORICAL MODEL	CASE SIZE	POWER RATING ⁽¹⁾ <i>P</i> _{70 °C} W	MAXIMUM WORKING VOLTAGE ⁽²⁾ V	RESISTANCE RANGE Ω	TOLERANCE ± %	TEMPERATURE COEFFICIENT ± ppm/°C
RCWP0201	RCWP-0201	0201	0.05	30	10 to 46	5, 10	300
					47 to 1M	1, 2, 5, 10	100, 300
RCWP0502	RCWP-0502	0502	0.05	40	1 to 9.1	2, 5, 10	300
					10 to 22M	1, 2, 5, 10	100, 300
RCWP0302	RCWP-0302	0302	0.04	15	1 to 9.1	2, 5, 10	300
					10 to 22M	1, 2, 5, 10	100, 300
RCWP0402	RCWP-0402	0402	0.05	30	1 to 9.1	2, 5, 10	300
					10 to 22M	1, 2, 5, 10	100, 300
RCWP0603	RCWP-0603	0603	0.10	50	1 to 5.6	2, 5, 10	300
					5.62 to 22M	1, 2, 5, 10	100, 300
RCWP0540	RCWP-540	0504	0.08	40	1 to 9.1	2, 5, 10	300
					10 to 22M	1, 2, 5, 10	100, 300
RCWP0550	RCWP-550	0505	0.125	50	1 to 9.1	2, 5, 10	300
					10 to 22M	1, 2, 5, 10	100, 300
RCWP0575	RCWP-575	0705 ⁽³⁾	0.15	70	1 to 5.6	2, 5, 10	300
					5.62 to 22M	1, 2, 5, 10	100, 300
RCWP5100	RCWP-5100	1005	0.20	100	1 to 5.6	2, 5, 10	300
					5.62 to 22M	1, 2, 5, 10	100, 300
RCWP1206	RCWP-1206	1206	0.25	100	1 to 5.6	2, 5, 10	300
					5.62 to 22M	1, 2, 5, 10	100, 300
RCWP5150	RCWP-5150	1505	0.35	125	1 to 5.6	2, 5, 10	300
					5.62 to 22M	1, 2, 5, 10	100, 300
RCWP1100	RCWP-1100	1010	0.50	100	1 to 5.6	2, 5, 10	300
					5.62 to 22M	1, 2, 5, 10	100, 300
RCWP7225	RCWP-7225	2208	0.60	200	1 to 5.6	2, 5, 10	300
					5.62 to 22M	1, 2, 5, 10	100, 300
RCWP2010	RCWP-2010	2010	0.80	200	1 to 5.6	2, 5, 10	300
					5.62 to 22M	1, 2, 5, 10	100, 300
RCWP2512	RCWP-2512	2512	1.0	200	1 to 5.6	2, 5, 10	300
					5.62 to 22M	1, 2, 5, 10	100, 300

Notes

- Consult factory for extended resistance range.
- ⁽¹⁾ Power rating depends on the maximum temperature at the solder point, the component placement density and the substrate material.
- ⁽²⁾ Continuous working voltage shall be $\sqrt{P \times R}$ or maximum working voltage, whichever is less.
- ⁽³⁾ MIL case size 0705 and EIA case size 0805 are dimensionally the same.

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

GLOBAL PART NUMBER INFORMATION

New Global Part Numbering: RCWP510010K0GMWB (preferred part numbering format)

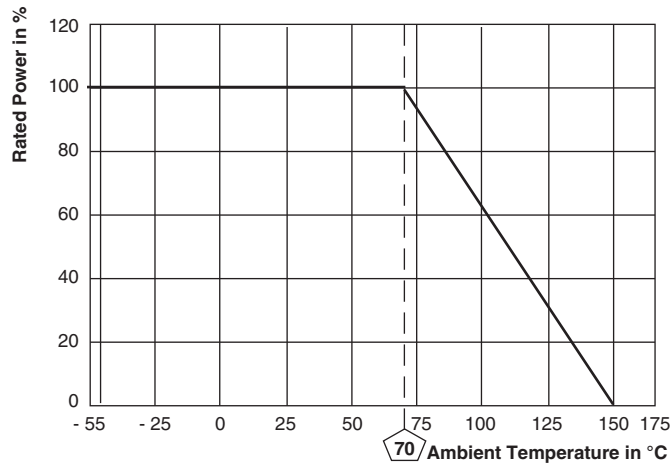
R **C** **W** **P** **5** **1** **0** **0** **1** **0** **K** **0** **G** **M** **W** **B**

GLOBAL MODEL	RESISTANCE VALUE	TOLERANCE CODE	TEMPERATURE COEFFICIENT	PACKAGING CODE	SPECIAL
(See Standard Electrical Specifications table)	R = Ω K = k Ω M = M Ω 10R0 = 10 Ω 1K30 = 1.3 k Ω 1M00 = 1.0 M Ω 0000 = 0 Ω Jumper	F = $\pm 1\%$ G = $\pm 2\%$ J = $\pm 5\%$ K = $\pm 10\%$ Z = 0 Ω Jumper	K = 100 ppm M = 300 ppm S = Special, 0 Ω Jumper	TP = Tin/lead, T/R (full) S3 = Tin/lead, T/R (1000 pieces) WB = Tin/lead, tray S2 = Tin/lead, T/R (500 pieces) S6 = Tin/lead, T/R (300 pieces) EA = Lead (Pb)-free, T/R (full) EB = Lead (Pb)-free, T/R (1000 pieces) ET = Lead (Pb)-free, tray EC = Lead (Pb)-free, T/R (500 pieces) ED = Lead (Pb)-free, T/R (300 pieces)	Blank = Standard (Dash number) (Up to 2 digits) From 1 to 99 as applicable 99 = 0 Ω Jumper

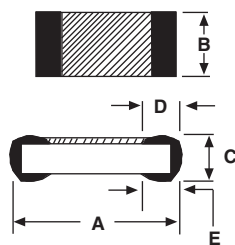
Historical Part Number: RCWP-5100103G (will continue to be accepted)

RCWP-5100	103	G	T03
HISTORICAL MODEL	RESISTANCE VALUE	TOLERANCE CODE	PACKAGING CODE

DERATING CURVE



DIMENSIONS in inches (millimeters)



GLOBAL MODEL	A (LENGTH)	B (WIDTH)	C (HEIGHT)	D (TOP TERM)	E (BOTTOM TERM)
RCWP0201	0.024 ± 0.002 (0.61 ± 0.05)	0.012 ± 0.002 (0.30 ± 0.05)	0.009 ± 0.002 (0.23 ± 0.05)	0.006 ± 0.003 (0.15 ± 0.08)	0.006 + 0.002 - 0.004 (0.15 + 0.05 - 0.10)
RCWP0302	0.034 ± 0.004 (0.86 ± 0.10)	0.021 ± 0.003 (0.53 ± 0.08)	0.013 ± 0.003 (0.33 ± 0.08)	0.007 ± 0.005 (0.18 ± 0.13)	0.008 ± 0.005 (0.20 ± 0.13)
RCWP0402	0.039 ± 0.003 (0.99 ± 0.08)	0.020 ± 0.003 (0.51 ± 0.08)	0.013 ± 0.003 (0.33 ± 0.08)	0.010 ± 0.005 (0.25 ± 0.13)	0.010 ± 0.005 (0.25 ± 0.13)
RCWP0502	0.055 ± 0.005 (1.40 ± 0.13)	0.023 ± 0.003 (0.58 ± 0.08)	0.015 ± 0.003 (0.38 ± 0.08)	0.010 ± 0.005 (0.25 ± 0.13)	0.015 ± 0.005 (0.38 ± 0.13)
RCWP0540	0.055 ± 0.005 (1.40 ± 0.13)	0.040 ± 0.005 (1.02 ± 0.13)	0.020 ± 0.005 (0.51 ± 0.13)	0.010 ± 0.005 (0.25 ± 0.13)	0.010 ± 0.005 (0.25 ± 0.13)
RCWP0550	0.055 ± 0.005 (1.40 ± 0.13)	0.050 ± 0.005 (1.27 ± 0.13)	0.020 ± 0.005 (0.51 ± 0.13)	0.010 ± 0.005 (0.25 ± 0.13)	0.015 ± 0.005 (0.38 ± 0.13)
RCWP0575	0.080 ± 0.005 (2.03 ± 0.13)	0.050 ± 0.005 (1.27 ± 0.13)	0.020 ± 0.005 (0.51 ± 0.13)	0.016 ± 0.008 (0.41 ± 0.20)	0.015 ± 0.005 (0.38 ± 0.13)
RCWP0603	0.063 ± 0.005 (1.60 ± 0.13)	0.032 ± 0.005 (0.81 ± 0.13)	0.018 ± 0.005 (0.46 ± 0.13)	0.012 ± 0.005 (0.30 ± 0.13)	0.015 ± 0.005 (0.38 ± 0.13)
RCWP1100	0.105 ± 0.005 (2.67 ± 0.13)	0.100 ± 0.005 (2.54 ± 0.13)	0.020 ± 0.005 (0.51 ± 0.13)	0.015 ± 0.005 (0.38 ± 0.13)	0.015 ± 0.005 (0.38 ± 0.13)
RCWP1206	0.125 ± 0.005 (3.18 ± 0.13)	0.063 ± 0.005 (1.60 ± 0.13)	0.020 ± 0.005 (0.51 ± 0.13)	0.015 ± 0.005 (0.38 ± 0.13)	0.015 ± 0.005 (0.38 ± 0.13)
RCWP2010	0.197 ± 0.006 (5.00 ± 0.15)	0.098 ± 0.005 (2.49 ± 0.13)	0.020 ± 0.005 (0.51 ± 0.13)	0.020 ± 0.005 (0.51 ± 0.13)	0.020 ± 0.005 (0.51 ± 0.13)
RCWP2512	0.250 ± 0.006 (6.35 ± 0.15)	0.124 ± 0.005 (3.15 ± 0.13)	0.020 ± 0.005 (0.51 ± 0.13)	0.020 ± 0.005 (0.51 ± 0.13)	0.020 ± 0.005 (0.51 ± 0.13)
RCWP5100	0.105 ± 0.005 (2.67 ± 0.13)	0.050 ± 0.005 (1.27 ± 0.13)	0.020 ± 0.005 (0.51 ± 0.13)	0.015 ± 0.005 (0.38 ± 0.13)	0.015 ± 0.005 (0.38 ± 0.13)
RCWP5150	0.155 ± 0.005 (3.94 ± 0.13)	0.050 ± 0.005 (1.27 ± 0.13)	0.020 ± 0.005 (0.51 ± 0.13)	0.015 ± 0.005 (0.38 ± 0.13)	0.015 ± 0.005 (0.38 ± 0.13)
RCWP7225	0.230 ± 0.005 (5.84 ± 0.13)	0.075 ± 0.005 (1.91 ± 0.13)	0.020 ± 0.005 (0.51 ± 0.13)	0.020 ± 0.005 (0.51 ± 0.13)	0.020 ± 0.005 (0.51 ± 0.13)



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