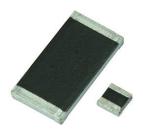
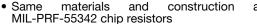


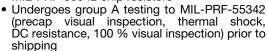
Thick Film Chip Resistors, Industrial / High Reliability



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

FEATURES







 Construction is sulfur impervious against a high sulfur environment (ASTM B 809-95 test method)

Available
HALOGEN

 Termination: tin / lead wraparound termination over nickel barrier. Also available with (Pb)-free wraparound terminations

lead

- 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: -65 °C to +155 °C
- For zero ohm jumpers, see Vishay Dale's RCWP Jumper datasheet (<u>www.vishay.com/doc?31017</u>)
- Material categorization: for definitions of compliance please see <u>www.vishay.com/doc?99912</u>

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

STANDAR	STANDARD ELECTRICAL SPECIFICATIONS						
GLOBAL MODEL	HISTORICAL MODEL	CASE SIZE	POWER RATING (1) P70 °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
NCWP0201	NCVVF-0201	0201	0.05	30	47 to 1M	1, 2, 5, 10	100, 200, 300
					1 to 9.1	2, 5, 10	200, 300
RCWP0502	RCWP-0502	0502	0.05	40	10 to 22M	1, 2, 5, 10	100, 200, 300
					10 to 10M	0.5	100, 200, 300
			0.04	15	1 to 9.1	2, 5, 10	200, 300
RCWP0302	RCWP-0302	0302			10 to 22M	1, 2, 5, 10	100, 200, 300
					10 to 10M	0.5	100, 200, 300
			0.05	30	1 to 9.1	2, 5, 10	200, 300
RCWP0402	RCWP-0402	0402			10 to 22M	1, 2, 5, 10	100, 200, 300
					10 to 10M	0.5	100, 200, 300
		0603	0.10	50	1 to 5.1	2, 5, 10	200, 300
RCWP0603	RCWP-0603				5.6 to 22M	1, 2, 5, 10	100, 200, 300
					5.62 to 10M	0.5	100, 200, 300
RCWP0540 F		0504	0.08	40	1 to 9.1	2, 5, 10	200, 300
	RCWP-540				10 to 22M	1, 2, 5, 10	100, 200, 300
					10 to 10M	0.5	100, 200, 300
	RCWP-550	0505	0.125	50	1 to 9.1	2, 5, 10	200, 300
RCWP0550					10 to 22M	1, 2, 5, 10	100, 200, 300
					10 to 10M	0.5	100, 200, 300
		0705 ⁽³⁾	0.15	70	1 to 5.1	2, 5, 10	200, 300
RCWP0575	RCWP-575				5.6 to 22M	1, 2, 5, 10	100, 200, 300
					5.62 to 10M	0.5	100, 200, 300
	RCWP-5100	1005	0.20	100	1 to 5.1	2, 5, 10	200, 300
RCWP5100					5.6 to 22M	1, 2, 5, 10	100, 200, 300
					5.62 to 10M	0.5	100, 200, 300
					1 to 5.1	2, 5, 10	200, 300
RCWP1206	RCWP-1206	1206	0.25	100	5.6 to 22M	1, 2, 5, 10	100, 200, 300
					5.62 to 10M	0.5	100, 200, 300



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STANDARD ELECTRICAL SPECIFICATIONS							
GLOBAL MODEL	HISTORICAL MODEL	CASE SIZE	POWER RATING (1) P70°C W	MAXIMUM WORKING VOLTAGE ⁽²⁾ V	RESISTANCE RANGE Ω	TOLERANCE ± %	TEMPERATURE COEFFICIENT ± ppm/°C
					1 to 5.1	2, 5, 10	200, 300
RCWP5150	RCWP-5150	1505	0.35	125	5.6 to 22M	1, 2, 5, 10	100, 200, 300
					5.62 to 10M	0.5	100, 200, 300
					1 to 5.1	2, 5, 10	200, 300
RCWP1100	RCWP-1100	1010	0.50	100	5.6 to 22M	1, 2, 5, 10	100, 200, 300
					5.62 to 10M	0.5	100, 200, 300
					1 to 5.1	2, 5, 10	200, 300
RCWP1210	RCWP-1210	1210	0.50	200	5.6 to 22M	1, 2, 5, 10	100, 200, 300
					5.62 to 10M	0.5	100, 200, 300
					1 to 5.1	2, 5, 10	200, 300
RCWP7225	RCWP-7225	2208	0.60	200	5.6 to 22M	1, 2, 5, 10	100, 200, 300
					5.62 to 10M	0.5	100, 200, 300
					1 to 5.1	2, 5, 10	200, 300
RCWP2010	RCWP-2010	2010	0.80	200	5.6 to 22M	1, 2, 5, 10	100, 200, 300
					5.62 to 10M	0.5	100, 200, 300
					1 to 5.1	2, 5, 10	200, 300
RCWP2512	RCWP-2512	2512	1.0	200	5.6 to 22M	1, 2, 5, 10	100, 200, 300
					5.62 to 10M	0.5	100, 200, 300

Notes

(3)

- Consult factory for extended resistance range
- Power rating depends on the maximum temperature at the solder point, the component placement density and the substrate material.
- Continuous working voltage shall be $\sqrt{P \times R}$ or maximum working voltage, whichever is less

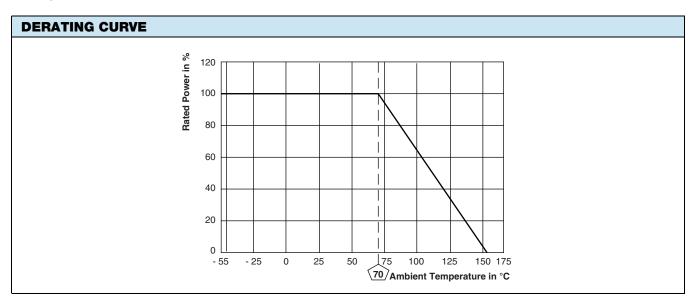
MIL case size 0705 and EIA case size 0805 are dimensionally the same

GLOBAL PART NUMBER INFORMATION New Global Part Numbering: RCWP510010K0GMWB (preferred part numbering format) G В R С 5 0 1 0 Κ **GLOBAL** RESISTANCE TOLERANCE **TEMPERATURE** PACKAGING CODE (1) **SPECIAL MODEL VALUE** CODE COEFFICIENT $D = \pm 0.5 \%$ (see Standard $R = \Omega$ K = 100 ppmTP = tin / lead, T/R, plastic tape Blank = standard $F = \pm 1 \%$ $G = \pm 2 \%$ (full reel; all except 0201 and 1210) \$3 = tin / lead, T/R, plastic tape Electrical $K = k\Omega$ N = 200 ppm(dash number) Specifications $M = M\Omega$ $\mathbf{M} = 300 \text{ ppm}$ (up to 2 digits) table) **10R0** = 10 Ω $J = \pm 5 \%$ **S** = Special, (1000 pieces; all except 0201 and 1210) from 1 to 99 as **WB** = tin / lead, waffle tray **S2** = tin / lead, T/R, plastic tape 0 Ω jumper **1K30** = 1.3 kΩ $K = \pm 10 \%$ applicable 99 = 0Ω jumper **1M00** = 1.0 MΩ $\mathbf{Z} = 0 \Omega$ jumper $0000 = 0 \Omega$ jumper (500 pieces; all except 0201 and 1210) **S6** = tin / lead, T/R, plastic tape (300 pieces; all except 0201 and 1210) UA = tin / lead, T/R, paper tape (full reel; 0201 and 1210 only) **UD** = tin / lead, T/R, paper tape (1000 pieces; 0201 and 1210 only) UC = tin / lead, T/R, paper tape (500 pieces; 0201 and 1210 only) **UB** = tin / lead, T/R, paper tape (300 pieces; 0201 and 1210 only) **EA** = lead (Pb)-free, T/R (full) EB = lead (Pb)-free, T/R (1000 pieces) ET = lead (Pb)-free, waffle tray EC = lead (Pb)-free, T/R (500 pieces) ED = lead (Pb)-free, T/R (300 pieces) Historical Part Number: RCWP-5100103G (will continue to be accepted) **RCWP-5100** 103 G T03 HISTORICAL MODEL RESISTANCE VALUE **TOLERANCE CODE** PACKAGING CODE

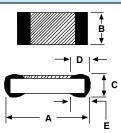
Notes

- For additional information on packaging, refer to the Surface Mount Resistor Packaging document (www.vishay.com/doc?31543)
 Tape and reel packaging with plastic tape standard for all case sizes except 0201 and 1210. For the 0201 and 1210 case sizes, the product is only offered in tape and reel packaging with paper tape





DIMENSIONS in inches (millimeters)



GLOBAL	A	B	C	D	E
MODEL	(LENGTH)	(WIDTH)	(HEIGHT)	(TOP TERM)	(BOTTOM TERM)
RCWP0201	0.024 ± 0.002	0.012 ± 0.002	0.009 ± 0.002	0.006 ± 0.003	0.006 + 0.002 - 0.004
	(0.61 ± 0.05)	(0.30 ± 0.05)	(0.23 ± 0.05)	(0.15 ± 0.08)	(0.15 + 0.05 - 0.10)
RCWP0302	0.034 ± 0.004	0.021 ± 0.003	0.013 ± 0.003	0.007 ± 0.005	0.008 ± 0.005
	(0.86 ± 0.10)	(0.53 ± 0.08)	(0.33 ± 0.08)	(0.18 ± 0.13)	(0.20 ± 0.13)
RCWP0402	0.039 ± 0.003	0.020 ± 0.003	0.013 ± 0.003	0.010 ± 0.005	0.010 ± 0.005
	(0.99 ± 0.08)	(0.51 ± 0.08)	(0.33 ± 0.08)	(0.25 ± 0.13)	(0.25 ± 0.13)
RCWP0502	0.055 ± 0.005	0.023 ± 0.003	0.015 ± 0.003	0.010 ± 0.005	0.015 ± 0.005
	(1.40 ± 0.13)	(0.58 ± 0.08)	(0.38 ± 0.08)	(0.25 ± 0.13)	(0.38 ± 0.13)
RCWP0540	0.055 ± 0.005	0.040 ± 0.005	0.020 ± 0.005	0.010 ± 0.005	0.010 ± 0.005
	(1.40 ± 0.13)	(1.02 ± 0.13)	(0.51 ± 0.13)	(0.25 ± 0.13)	(0.25 ± 0.13)
RCWP0550	0.055 ± 0.005	0.050 ± 0.005	0.020 ± 0.005	0.010 ± 0.005	0.015 ± 0.005
	(1.40 ± 0.13)	(1.27 ± 0.13)	(0.51 ± 0.13)	(0.25 ± 0.13)	(0.38 ± 0.13)
RCWP0575	0.080 ± 0.005	0.050 ± 0.005	0.020 ± 0.005	0.016 ± 0.008	0.015 ± 0.005
	(2.03 ± 0.13)	(1.27 ± 0.13)	(0.51 ± 0.13)	(0.41 ± 0.20)	(0.38 ± 0.13)
RCWP0603	0.063 ± 0.005	0.032 ± 0.005	0.018 ± 0.005	0.012 ± 0.005	0.015 ± 0.005
	(1.60 ± 0.13)	(0.81 ± 0.13)	(0.46 ± 0.13)	(0.30 ± 0.13)	(0.38 ± 0.13)
RCWP1100	0.105 ± 0.005	0.100 ± 0.005	0.020 ± 0.005	0.015 ± 0.005	0.015 ± 0.005
	(2.67 ± 0.13)	(2.54 ± 0.13)	(0.51 ± 0.13)	(0.38 ± 0.13)	(0.38 ± 0.13)
RCWP1206	0.125 ± 0.005	0.063 ± 0.005	0.020 ± 0.005	0.015 ± 0.005	0.015 ± 0.005
	(3.18 ± 0.13)	(1.60 ± 0.13)	(0.51 ± 0.13)	(0.38 ± 0.13)	(0.38 ± 0.13)
RCWP1210	0.126 ± 0.008	0.098 ± 0.008	0.022 ± 0.002	0.016 ± 0.008	0.018 ± 0.008
	(3.20 ± 0.20)	(2.50 ± 0.20)	(0.55 ± 0.05)	(0.40 ± 0.20)	(0.45 ± 0.20)
RCWP2010	0.197 ± 0.006	0.098 ± 0.005	0.020 ± 0.005	0.020 ± 0.005	0.020 ± 0.005
	(5.00 ± 0.15)	(2.49 ± 0.13)	(0.51 ± 0.13)	(0.51 ± 0.13)	(0.51 ± 0.13)
RCWP2512	0.250 ± 0.006	0.124 ± 0.005	0.020 ± 0.005	0.020 ± 0.005	0.020 ± 0.005
	(6.35 ± 0.15)	(3.15 ± 0.13)	(0.51 ± 0.13)	(0.51 ± 0.13)	(0.51 ± 0.13)
RCWP5100	0.105 ± 0.005	0.050 ± 0.005	0.020 ± 0.005	0.015 ± 0.005	0.015 ± 0.005
	(2.67 ± 0.13)	(1.27 ± 0.13)	(0.51 ± 0.13)	(0.38 ± 0.13)	(0.38 ± 0.13)
RCWP5150	0.155 ± 0.005	0.050 ± 0.005	0.020 ± 0.005	0.015 ± 0.005	0.015 ± 0.005
	(3.94 ± 0.13)	(1.27 ± 0.13)	(0.51 ± 0.13)	(0.38 ± 0.13)	(0.38 ± 0.13)
RCWP7225	0.230 ± 0.005	0.075 ± 0.005	0.020 ± 0.005	0.020 ± 0.005	0.020 ± 0.005
	(5.84 ± 0.13)	(1.91 ± 0.13)	(0.51 ± 0.13)	(0.51 ± 0.13)	(0.51 ± 0.13)



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