

Thick Film Chip Resistors, Industrial, Moisture Resistant



FEATURES

**HALOGEN
FREE**

- Manufactured to the DSCC drawings for military moisture resistant chip resistor products
- Designed to be resistant to the degrading effects of moisture while under power
- Construction is sulfur impervious against a high sulfur environment (ASTM B 809-95 test method)
- Same materials and construction as MIL-PRF-55342 chip resistors
- Termination: tin / lead wraparound termination over nickel barrier
- Operating temperature range: -65 °C to +155 °C
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

STANDARD ELECTRICAL SPECIFICATIONS

GLOBAL MODEL	DSCC DRAWING NUMBER	CASE SIZE	POWER RATING ⁽¹⁾ $P_{70\text{ }^{\circ}\text{C}}$ W	MAXIMUM WORKING VOLTAGE ⁽²⁾ V	RESISTANCE RANGE Ω	TOLERANCE $\pm \%$	TEMPERATURE COEFFICIENT $\pm \text{ppm}/^{\circ}\text{C}$
RCWP0201..69	07010	0201	0.05	30	10 to 47	5, 10	300
					47.5 to 1M	1, 2, 5, 10	100, 200, 300
RCWP0302..69	04007	0302	0.04	15	1 to 9.1	2, 5, 10	300
					10 to 22M	1, 2, 5, 10	100, 200, 300
RCWP0402..69	04008	0402	0.05	30	1 to 9.1	2, 5, 10	300
					10 to 22M	1, 2, 5, 10	100, 200, 300
RCWP0502..69	94025	0502	0.05	40	1 to 9.1	2, 5, 10	300
					10 to 22M	1, 2, 5, 10	100, 200, 300
RCWP0603..69	04009	0603	0.10	50	1 to 5.6	2, 5, 10	300
					5.62 to 22M	1, 2, 5, 10	100, 200, 300
RCWP0550..69	94012	0505	0.125	40	1 to 9.1	2, 5, 10	300
					10 to 22M	1, 2, 5, 10	100, 200, 300
RCWP0575..69	94015	0705 ⁽³⁾	0.15	50	1 to 5.6	2, 5, 10	300
					5.62 to 22M	1, 2, 5, 10	100, 200, 300
RCWP5100..69	94013	1005	0.20	75	1 to 5.6	2, 5, 10	300
					5.62 to 22M	1, 2, 5, 10	100, 200, 300
RCWP1206..69	94016	1206	0.25	100	1 to 5.6	2, 5, 10	300
					5.62 to 22M	1, 2, 5, 10	100, 200, 300
RCWP5150..69	94026	1505	0.35	125	1 to 5.6	2, 5, 10	300
					5.62 to 22M	1, 2, 5, 10	100, 200, 300
RCWP1100..69	94019	1010	0.50	75	1 to 5.6	2, 5, 10	300
					5.62 to 22M	1, 2, 5, 10	100, 200, 300
RCWP7225..69	94014	2208	0.60	175	1 to 5.6	2, 5, 10	300
					5.62 to 22M	1, 2, 5, 10	100, 200, 300
RCWP2010..69	94017	2010	0.80	150	1 to 5.6	2, 5, 10	300
					5.62 to 22M	1, 2, 5, 10	100, 200, 300
RCWP2512..69	94018	2512	1.00	200	1 to 5.6	2, 5, 10	300
					5.62 to 22M	1, 2, 5, 10	100, 200, 300

Notes

- Consult factory for extended resistance range
- These drawings can be viewed at: www.landandmaritime.dla.mil/Programs/MilSpec/ListDwgs.aspx?DocTYPE=DSCCdwg
- ⁽¹⁾ Power rating depends on max. temperature at the solder joint, 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



GLOBAL PART NUMBER INFORMATION

Global Part Numbering: RCWP510010K0GMB69 (preferred part numbering format)

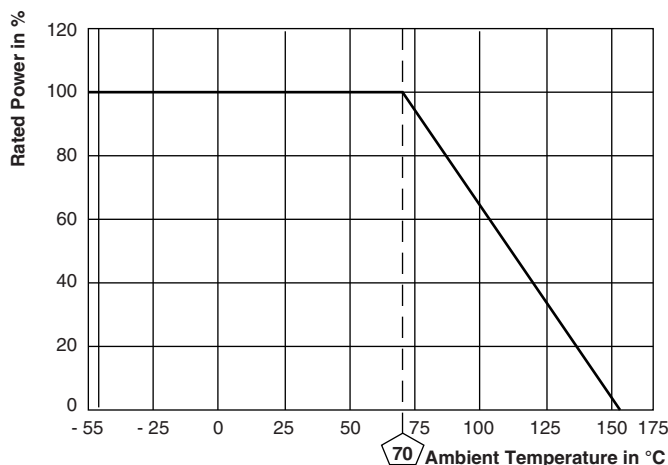
R	C	W	P	5	1	0	0	1	0	K	0	G	M	W	B	6	9
GLOBAL MODEL		RESISTANCE VALUE			TOLERANCE CODE			TEMPERATURE COEFFICIENT			PACKAGING CODE ⁽¹⁾				SPECIAL		
(see Standard Electrical Specifications table)		R = Ω K = $k\Omega$ M = $M\Omega$ 10R0 = 10 Ω 1K30 = 1.3 $k\Omega$ 1M00 = 1.0 $M\Omega$			F = $\pm 1\%$ G = $\pm 2\%$ J = $\pm 5\%$ K = $\pm 10\%$			K = 100 ppm N = 200 ppm M = 300 ppm			TP = tin / lead, T/R, plastic tape (full reel; all sizes except 0201) S3 = tin / lead, T/R, plastic tape (1000 pieces; all sizes except 0201) WB = tin / lead, waffle tray S2 = tin / lead, T/R, plastic tape (500 pieces; all sizes except 0201) S6 = tin / lead, T/R, plastic tape (300 pieces; all sizes except 0201) UA = tin / lead, T/R, paper tape (full reel; 0201 only) UD = tin / lead, T/R, paper tape (1000 pieces; 0201 only) UC = tin / lead, T/R, paper tape (500 pieces; 0201 only) UB = tin / lead, T/R, paper tape (300 pieces; 0201 only)				69 = moisture resistant		

Notes

- For additional information on packaging, refer to the Surface Mount Resistor Packaging document (www.vishay.com/doc?31543)

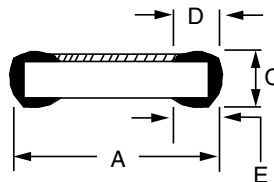
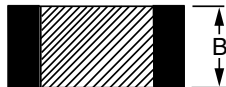
⁽¹⁾ Tape and reel packaging with plastic tape standard for all case sizes except 0201. For the 0201 case size, the product is only offered in tape and reel packaging with paper tape

DERATING CURVE



MATERIAL SPECIFICATIONS

Resistive element	Ruthenium oxide
Encapsulation	Epoxy
Substrate	96 % alumina
Termination	Solder-coated nickel barrier
Solder finish	Tin / lead solder alloy

DIMENSIONS in inches (millimeters)


GLOBAL MODEL	A (LENGTH)	B (WIDTH)	C (HEIGHT)	D (TOP TERM)	E (BOTTOM TERM)
RCWP0201...69	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...69	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...69	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...69	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)
RCWP0550...69	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...69	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...69	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...69	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...69	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...69	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...69	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...69	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...69	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...69	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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