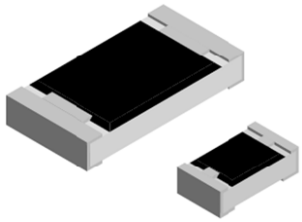
Thick Film Surface Mount Chip Resistors, Wraparound, Extremely Low Value (0.01 Ω to 0.976 Ω)



FEATURES

- Extremely low resistance values (0.01 Ω to 0.976 Ω)
- Suitable for current sensing and shunts
- Metal glaze on high quality ceramic
- Protective overglaze
- Lead (Pb)-free solder contacts on Ni barrier layer
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

Pb e3 RoHS COMPLIANT HALOGEN FREE

STANDARD ELECTRICAL SPECIFICATIONS

GLOBAL MODEL	CASE SIZE	POWER RATING $P_{70\,°C}$ W	TEMPERATURE COEFFICIENT ± ppm/°C	RESISTANCE RANGE Ω	TOLERANCE ± %	E-SERIES (2)
RCWH0805	0805	0.33	400	0.010 to 0.018	5.0	24
			300	0.02 to 0.03	1.0, 5.0	24; 96
			200	0.033 to 0.05	1.0, 5.0	
			100	0.051 to 0.976	0.5, 1.0, 5.0 (1)	

Notes

- Power rating depends on the max. temperature at the solder point, the component placement density and the substrate material
- Part marking: reference "Surface Mount Resistor Marking" (www.vishay.com/doc?20020)

(1) Tight tolerance of 0.5 % is available for resistance values above 0.200 Ω

(2) Use E24 decade values for 5.0 % tolerance parts and E96 decade values for 0.5 % and 1.0 %. Refer to "Standard Decade" table (www.vishay.com/doc?31001)

GLOBAL PART NUMBER INFORMATION

Global Part Numbering example: RCWH0805R499FKEA (visit www.vishay.net Vishay Dale parts numbering manual for all options)

R	C	W	H	0	8	0	5	R	4	9	9	F	K	E	A

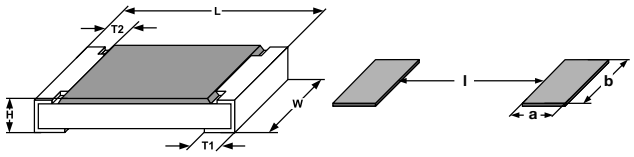
GLOBAL MODEL (8 digits)	VALUE (4 digits)	TOLERANCE (1 digit)	TCR (1 digit)	PACKAGING (2 digits)
RCWH0805	**L** = mΩ *	**D** = ± 0.5 %	**K** = ± 100 ppm/°C	**EA** = lead (Pb)-free, tape / reel
	R = decimal	**F** = ± 1.0 %	**N** = ± 200 ppm/°C	
	10L0 = 0.01 Ω	**G** = ± 2.0 %	**M** = ± 300 ppm/°C	
	R470 = 0.47 Ω	**J** = ± 5.0 %	**Q** = ± 400 ppm/°C	
	Note:		**P** = ± 500 ppm/°C	
	* Use "**L**" for resistance values < 0.1 Ω		**T** = ± 600 ppm/°C	
			G = ± 700 ppm/°C	

TECHNICAL SPECIFICATIONS

PARAMETER	UNIT	RCWH0805
Operating temperature range	°C	-55 to +155
Maximum operating voltage	V	$(P \times R)^{1/2}$
Insulation voltage U_{ins} (1 min)	V	> 200
Insulation resistance	Ω	> 10^9
Weight/1000 pieces (typical)	g	5.5

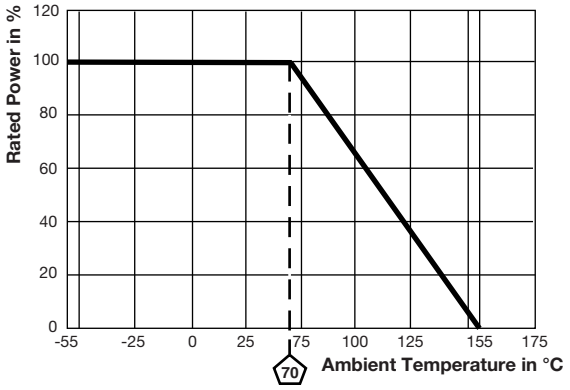
DIMENSIONS

RCWH0805



MODEL	DIMENSIONS in millimeters						SOLDER PAD DIMENSIONS in millimeters		
	RESISTANCE RANGE Ω	L	W	H	T1	T2	a	b	l
RCWH0805	0.01 to 0.03	2.0 ± 0.15	1.3 ± 0.1	0.55 ± 0.1	0.6 ± 0.2	0.35 ± 0.2	1.0	1.4	0.6
	0.033 to 0.976				0.4 ± 0.2		0.8	1.4	1.0

DERATING



PERFORMANCE

TEST	CONDITIONS OF TEST	TEST LIMITS
Thermal shock	MIL-STD-202, method 107, -55 °C to +125 °C, 300 cycles at each extreme	± (1.0 % + 0.0005 Ω)
Short time overload	2 x rated power; duration according the model	± (0.5 % + 0.0005 Ω)
High temperature exposure	MIL-STD-202, method 108, 1000 h at T = 125 °C, 0 % power	± (2.0 % + 0.0005 Ω)
Temperature cycling	JESD 22, method JA-104, 1000 cycles (-55 °C to +125 °C)	± (2.0 % + 0.0005 Ω)
Biased humidity	MIL-STD-202, method 103, 1000 h 85 °C/85 % RH, 10 % x $(P \times R)^{1/2}$	± (2.0 % + 0.0005 Ω)
Mechanical shock	MIL-STD-202, method 213, condition C, 10 *g*'s, 6 ms (half sine), 3 directions	± (1.0 % + 0.0005 Ω)
Vibration	MIL-STD-202, method 204, 5 *g*'s, 20 min, 12 cycles, 3 directions, 10 Hz to 2000 Hz	± (1.0 % + 0.0005 Ω)
Operational life	MIL-STD-202, method 108, 1000 h at T = 125 °C at rated power	± (2.0 % + 0.0005 Ω)
Resistance to solder heat	MIL-STD-202, method 210, +260 °C solder, 10 s to 12 s dwell, 25 mm/s emergence	± (1.0 % + 0.0005 Ω)
Moisture resistance	MIL-STD-202, method 106, 0 % power, 7a and 7b not required	± (2.0 % + 0.0005 Ω)

PACKAGING

MODEL	REEL				
	TAPE WIDTH	DIAMETER	PITCH	PIECES/REEL	CODE
RCWH0805	8 mm/punched paper	180 mm/7"	4 mm	5000	EA

Note

- Embossed carrier tape per EIA-481-1A

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