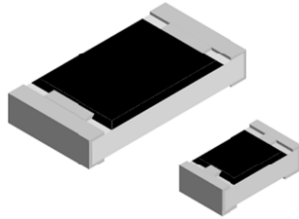


## Thick Film Surface Mount Chip Resistors, Wraparound, Extremely Low Value (0.01 Ω to 0.976 Ω)



### 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](http://www.vishay.com/doc?99912)



**RoHS**  
COMPLIANT  
**HALOGEN**  
**FREE**

STANDARD ELECTRICAL SPECIFICATIONS						
GLOBAL MODEL	CASE SIZE	POWER RATING $P_{70^\circ\text{C}}$ W	TEMPERATURE COEFFICIENT $\pm$ ppm/ $^\circ\text{C}$	RESISTANCE RANGE $\Omega$	TOLERANCE $\pm$ %	E-SERIES <sup>(2)</sup>
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 <sup>(1)</sup>	

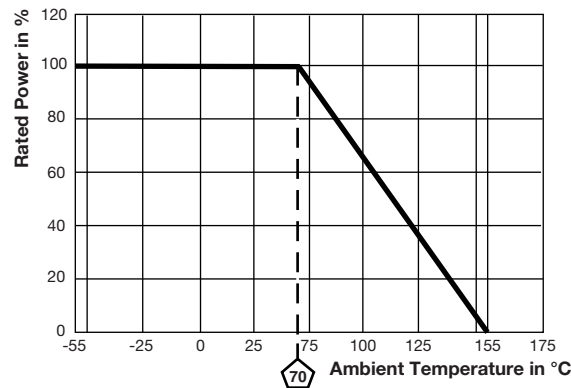
### Notes

- 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](http://www.vishay.com/doc?20020))
- <sup>(1)</sup> Tight tolerance of 0.5 % is available for resistance values above 0.200 Ω
- <sup>(2)</sup> 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](http://www.vishay.com/doc?31001))

GLOBAL PART NUMBER INFORMATION															
Global Part Numbering example: <b>RCWH0805R499FKEA</b> (visit <a href="http://www.vishay.net">www.vishay.net</a> Vishay Dale parts numbering manual for all options)															
<b>R</b>	<b>C</b>	<b>W</b>	<b>H</b>	<b>0</b>	<b>8</b>	<b>0</b>	<b>5</b>	<b>R</b>	<b>4</b>	<b>9</b>	<b>9</b>	<b>F</b>	<b>K</b>	<b>E</b>	<b>A</b>
GLOBAL MODEL (8 digits)		VALUE (4 digits)				TOLERANCE (1 digit)			TCR (1 digit)			PACKAGING (2 digits)			
<b>RCWH0805</b>		L = mΩ * R = decimal 10L0 = 0.01 Ω R470 = 0.47 Ω Note: * Use "L" for resistance values < 0.1 Ω				D = ± 0.5 % F = ± 1.0 % G = ± 2.0 % J = ± 5.0 %			K = ± 100 ppm/ $^\circ\text{C}$ N = ± 200 ppm/ $^\circ\text{C}$ M = ± 300 ppm/ $^\circ\text{C}$ Q = ± 400 ppm/ $^\circ\text{C}$ P = ± 500 ppm/ $^\circ\text{C}$ T = ± 600 ppm/ $^\circ\text{C}$ G = ± 700 ppm/ $^\circ\text{C}$			EA = lead (Pb)-free, tape / reel			

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

DIMENSIONS									
RCWH0805									
MODEL	DIMENSIONS in millimeters						SOLDER PAD DIMENSIONS in millimeters		
	RESISTANCE RANGE $\Omega$	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		1.0

**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 $\Omega$ )
Short time overload	2 x rated power; duration according the model	± (0.5 % + 0.0005 $\Omega$ )
High temperature exposure	MIL-STD-202, method 108, 1000 h at T = 125 °C, 0 % power	± (2.0 % + 0.0005 $\Omega$ )
Temperature cycling	JESD 22, method JA-104, 1000 cycles (-55 °C to +125 °C)	± (2.0 % + 0.0005 $\Omega$ )
Biased humidity	MIL-STD-202, method 103, 1000 h 85 °C/85 % RH, 10 % x (P x R) <sup>1/2</sup>	± (2.0 % + 0.0005 $\Omega$ )
Mechanical shock	MIL-STD-202, method 213, condition C, 10 g's, 6 ms (half sine), 3 directions	± (1.0 % + 0.0005 $\Omega$ )
Vibration	MIL-STD-202, method 204, 5 g's, 20 min, 12 cycles, 3 directions, 10 Hz to 2000 Hz	± (1.0 % + 0.0005 $\Omega$ )
Operational life	MIL-STD-202, method 108, 1000 h at T = 125 °C at rated power	± (2.0 % + 0.0005 $\Omega$ )
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 $\Omega$ )
Moisture resistance	MIL-STD-202, method 106, 0 % power, 7a and 7b not required	± (2.0 % + 0.0005 $\Omega$ )

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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