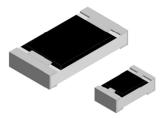


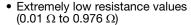
Thick Film Surface Mount Chip Resistors, Wraparound, Extremely Low Value (0.01 Ω to 0.976 Ω)



DESIGN SUPPORT TOOLS click logo to get started



FEATURES





RoHS

HALOGEN

FREE

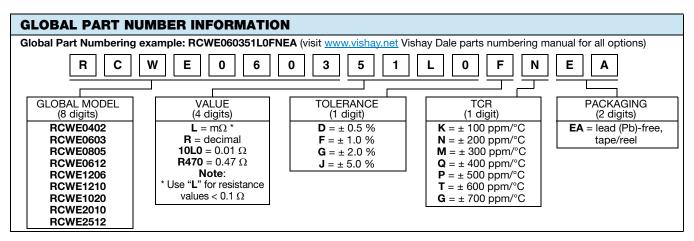
- Enhanced power rating due to long side terminal construction (0612, 1020 types)
- · Suitable for current sensing and shunts
- Metal glaze on high quality ceramic
- Protective overglaze
- Lead (Pb)-free solder contacts on Ni barrier layer
- AEC-Q200 qualified
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

STANDARD ELECTRICAL SPECIFICATIONS								
GLOBAL MODEL	CASE SIZE	POWER RATING P _{70 °C} W	TEMPERATURE COEFFICIENT ± ppm/°C	RESISTANCE RANGE Ω	TOLERANCE ± %	E-SERIES (2)		
			400	0.033 to 0.05	5.0	24		
RCWE0402	0402	0.125	200	0.051 to 0.18	1.0, 5.0	24: 96		
			100	0.2 to 0.976	0.5 ⁽¹⁾ , 1.0, 5.0	24; 96		
		0.2	700	0.010 to 0.018	5.0	24		
DOMESSO	0000		400	0.02 to 0.03	1.0, 5.0	1		
RCWE0603	0603		200	0.033 to 0.105	1.0, 5.0	24; 96		
			100	0.11 to 0.976	0.5 ⁽¹⁾ , 1.0, 5.0	1		
		0.25	400	0.010 to 0.018	5.0	24		
DOWEDOOF	0005		300	0.02 to 0.03	1.0, 5.0	24; 96		
RCWE0805	0805		200	0.033 to 0.05	1.0, 5.0			
			100	0.051 to 0.976	0.5 ⁽¹⁾ , 1.0, 5.0	1		
		1.0	300	0.010 to 0.016	2.0, 5.0	0.4		
RCWE0612	0612		200	0.018 to 0.2	2.0, 5.0	24		
			100	0.205 to 0.976	1.0, 5.0	24; 96		
	1206	0.5	600	0.010 to 0.018	5.0	24		
DOWE1000			300	0.02 to 0.03	1.0, 5.0	1		
RCWE1206			200	0.033 to 0.05	1.0, 5.0	24; 96		
			100	0.051 to 0.976	0.5 ⁽¹⁾ , 1.0, 5.0			
500051010	1210	1.0	500	0.010 to 0.018	5.0	24		
			300	0.02 to 0.03	1.0, 5.0	24; 96		
RCWE1210			200	0.033 to 0.05	1.0, 5.0			
			100	0.051 to 0.976	0.5 ⁽¹⁾ , 1.0, 5.0			
RCWE1020	1020	2.0	200	0.010 to 0.016	2.0, 5.0	24		
			100	0.0162 to 0.976	1.0, 5.0	24; 96		
RCWE2010	2010	1.0	600	0.010 to 0.018	5.0	24		
			300	0.02 to 0.03	1.0, 5.0			
			200	0.033 to 0.05	1.0, 5.0	24; 96		
			100	0.051 to 0.976	0.5 ⁽¹⁾ , 1.0, 5.0	1		
	2512	2.0	600	0.010 to 0.018	5.0	24		
DOWEDE10			300	0.02 to 0.03	1.0, 5.0			
RCWE2512			200	0.033 to 0.05	1.0, 5.0	24; 96		
			100	0.051 to 0.976	0.5 ⁽¹⁾ , 1.0, 5.0	7		

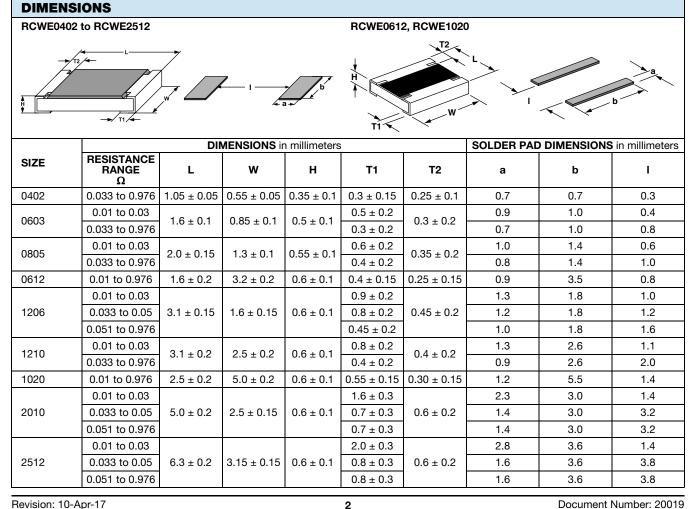
- Power rating depends on the max. temperature at the solder point, the component placement density and the substrate material Part marking: Reference "Surface Mount Resistor Marking" (www.vishay.com/doc?20020)
 Tight tolerance of 0.5 % is available for resistance values above 0.300 Ω (0402 size) and above 0.200 Ω (0603 to 2512 sizes)
 Use E24 decades only for 5.0 % tolerance. E24 or E96 decades are available for 0.5 % and 1.0 % tolerance. Refer to standard decade table (www.ishay.com/doc?4001) (www.vishay.com/doc?31001)

Revision: 10-Apr-17 Document Number: 20019

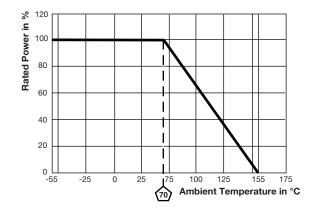




TECHNICAL SPECIFICATIONS										
PARAMETER	UNIT	0402	0603	0805	0612	1206	1210	1020	2010	2512
Operating temperature range	°C	-55 to +155								
Maximum operating voltage	V	$(P \times R)^{1/2}$								
Insulation voltage U _{ins} (1 min)	V	> 75	> 100	> 200	> 100	> 300	> 300	> 300	> 300	> 300
Insulation resistance	Ω	> 109								
Weight/1000 pieces (typical)	g	0.7	3	5.5	11.5	10.5	17.5	27.5	26	40.5







PERFORMANCE						
TEST	ST CONDITIONS OF TEST					
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	2x rated power; duration according the model	\pm 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 x R) ^{1/2}	\pm 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	\pm 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			
RCWE0402	8 mm/punched paper	180 mm/7"	2 mm	10 000	EA			
RCWE0603	8 mm/punched paper	180 mm/7"	4 mm	5000	EA			
RCWE0805	8 mm/punched paper	180 mm/7"	4 mm	5000	EA			
RCWE0612	8 mm/punched paper	180 mm/7"	4 mm	5000	EA			
RCWE1206	8 mm/punched paper	180 mm/7"	4 mm	5000	EA			
RCWE1210	8 mm/punched paper	180 mm/7"	4 mm	5000	EA			
RCWE1020	12 mm/embossed plastic	180 mm/7"	4 mm	4000	EA			
RCWE2010	12 mm/embossed plastic	180 mm/7"	4 mm	4000	EA			
RCWE2512	12 mm/embossed plastic	180 mm/7"	8 mm	2000	EA			

Note

• Embossed carrier tape per EIA-481-1A



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