



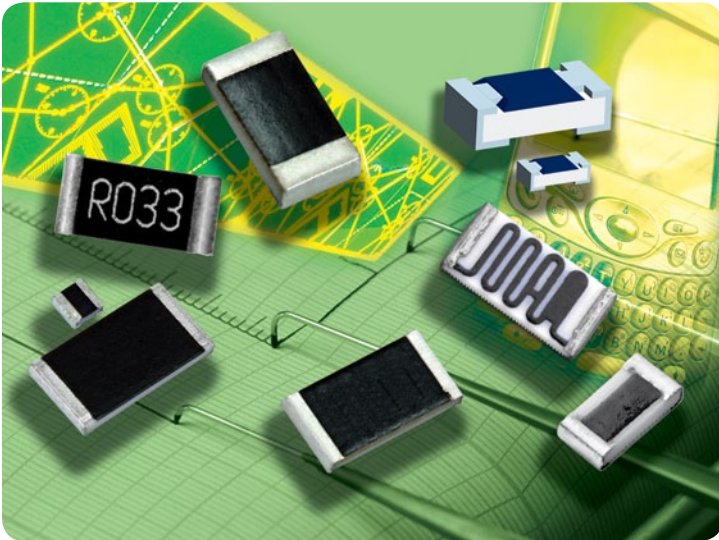
THICK FILM CHIP RESISTORS

Resistive Products



Resistors - Covering a Wide Resistance Range

An Overview of Vishay Thick Film Chip Resistors



CRHV	D/CRCW-IF	D/CRCW-P	RCHR
CRCW-HP	D AP, CRCW-AP	RC	RCWE
CRMV	D/CRCW-TR	RCA	RCWL
D/CRCW	D/CRCW-HR	RCL	RCWP

KEY BENEFITS

- A wide range of power ratings (0.04 W to 2 W)
- A wide resistance range (0.01 Ω to 50 GΩ)
- Low/high temperature performance (- 55 °C to + 155 °C)
- Tight tolerances (down to ± 0.25 %)
- Low temperature coefficients (down to ± 25 ppm/°C)
- Highly-stable thick film construction
- Anti-leaching nickel barrier termination

RESOURCES

- For technical questions on Dale/Techno Thick Film products, contact ff2aresistors@vishay.com
- For technical questions on Draloric Thick Film products, contact thickfilmchip@vishay.com

One of the World's Largest Manufacturers of Discrete Semiconductors and Passive Components



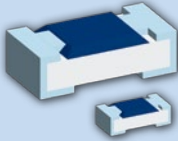


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Product	Model	Wattage Rating	Resistance Range	TCR (ppm/°C)	Tolerance (±)	Applications
D/CRCW 	CRCW0201	0.05	47 Ω to 1 MΩ 10 Ω to 1 MΩ	100 200	1 % 1 %, 5 %	<ul style="list-style-type: none"> Automotive (AEC-Q200 qualified) Industrial Avionics General Space Medical Telecommunications
	D10/CRCW0402	0.063	1 Ω to 10 MΩ 1 Ω to 10 MΩ	100 200	1 % 5 %	
	D11/CRCW0603	0.1	1 Ω to 10 MΩ 1 Ω to 10 MΩ	100 200	1 % 5 %	
	D12/CRCW0805	0.125	1 Ω to 10 MΩ 1 Ω to 10 MΩ	100 200	1 % 5 %	
	D25/CRCW1206	0.25	1 Ω to 10 MΩ 1 Ω to 10 MΩ	100 200	1 % 5 %	
	CRCW1210	0.5	1 Ω to 10 MΩ 1 Ω to 10 MΩ	100 200	1 % 5 %	
	CRCW1218	1.0	1 Ω to 10 MΩ 1 Ω to 10 MΩ	100 200	1 % 5 %	
	CRCW2010	0.75	1 Ω to 10 MΩ 1 Ω to 10 MΩ	100 200	1 % 5 %	
	CRCW2512	1.0	1 Ω to 10 MΩ 1 Ω to 10 MΩ	100 200	1 % 5 %	
	Special High-Value					
	D11/CRCW0603-HR	0.1	11 MΩ to 470 MΩ	500	5 %	<ul style="list-style-type: none"> Voltage dividers Test and measurement instrumentation Power supplies Sensors
	D12/CRCW0805-HR	0.125				
	D25/CRCW1206-HR	0.25				
Special Precision						
	D10/CRCW0402-P	0.063	10 Ω to 1 MΩ 100 Ω to 1 MΩ 1 kΩ to 10 kΩ	100 50 25	0.5 % 0.25 %, 0.5 %, 1 % 0.5 %, 1 %	<ul style="list-style-type: none"> Automotive (AEC-Q200 qualified) Industrial DC/DC converters Lighting supplies Test and measurement instrumentation Medical equipment
	D11/CRCW0603-P	0.1	200 Ω to 10 kΩ 10 Ω to 10 MΩ 100 Ω to 10 MΩ 100 Ω to 1 MΩ	25 100 50 50	0.25 %, 0.5 %, 1 % 0.5 % 0.5 %, 1 % 0.25%	
	D12/CRCW0805-P	0.125	150 Ω to 10 kΩ 10 Ω to 10 MΩ 100 Ω to 10 MΩ 100 Ω to 1 MΩ	25 100 50 50	0.25 %, 0.5 %, 1 % 0.5 % 0.5 %, 1 % 0.25%	
	D25/CRCW1206-P	0.25	150 Ω to 10 kΩ 10 Ω to 10 MΩ 100 Ω to 10 MΩ 100 Ω to 1 MΩ	25 100 50 50	0.25 %, 0.5 %, 1 % 0.5 % 0.5 %, 1 % 0.25%	
	CRCW1210-P	0.5	100 Ω to 1 MΩ 100 Ω to 1 MΩ	100 50	0.5 % 0.5 %, 1 %	
	CRCW1218-P	1.0	100 Ω to 2.2 MΩ 100 Ω to 2.2 MΩ	100 50	0.5 % 0.5 %, 1 %	
	CRCW2010-P	0.75	10 Ω to 10 MΩ 100 Ω to 10 MΩ	100 50	0.5 % 0.5 %, 1 %	
	CRCW2512-P	1.0	10 Ω to 10 MΩ 100 Ω to 10 MΩ	100 50	0.5 % 0.5 %, 1 %	


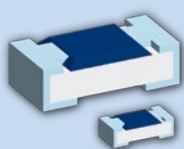
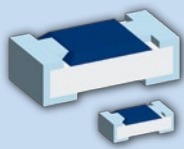


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RCA 	RCA0402	0.063	100 Ω to 1 MΩ 10 Ω to 1 MΩ 10 Ω to 10 MΩ 1 Ω to 9.76 Ω 1 Ω to 10 MΩ	50 100 100 200 200	0.5 %, 1 % 0.5 % 1 % 1 % 5 %	<ul style="list-style-type: none"> Automotive (AEC-Q200 qualified) Industrial Against sulfuric atmosphere
	RCA0603	0.1	100 Ω to 10 MΩ 10 Ω to 10 MΩ 1 Ω to 10 MΩ 1 Ω to 10 MΩ	50 100 100 200	0.5 %, 1 % 0.5 % 1 % 5 %	
	RCA0805	0.125	100 Ω to 10 MΩ 10 Ω to 10 MΩ 1 Ω to 10 MΩ 1 Ω to 10 MΩ	50 100 100 200	0.5 %, 1 % 0.5 % 1 % 5 %	
	RCA1206	0.25	100 Ω to 1 MΩ 10 Ω to 10 MΩ 1 Ω to 10 MΩ 1 Ω to 10 MΩ	50 100 100 200	0.5 %, 1 % 0.5 % 1 % 5 %	
	RCA1210	0.5	100 Ω to 1 MΩ 10 Ω to 1 MΩ 1 Ω to 10 MΩ 1 Ω to 10 MΩ	50 100 100 200	0.5 %, 1 % 0.5 % 1 % 5 %	
	RCA1218	1	100 Ω to 2.2 MΩ 100 Ω to 2.2 MΩ 1 Ω to 2.2 MΩ 1 Ω to 2.2 MΩ	50 100 100 200	0.5 %, 1 % 0.5 % 1 % 5 %	
	RCA2010	0.75	100 Ω to 10 MΩ 10 Ω to 10 MΩ 1 Ω to 10 MΩ 1 Ω to 10 MΩ	50 100 100 200	0.5 %, 1 % 0.5 % 1 % 5 %	
	RCA2512	1	100 Ω to 10 MΩ 10 Ω to 10 MΩ 1 Ω to 10 MΩ 1 Ω to 10 MΩ	50 100 100 200	0.5 %, 1 % 0.5 % 1 % 5 %	
D/CRCW-IF 	D10/CRCW0402-IF	0.063	1 Ω to 100 kΩ	200	5 %, 10 %	<ul style="list-style-type: none"> Automotive (AEC-Q200 qualified) Industrial High and repetitive pulse loading HID headlight AFL charge and discharge Lighting supplies Medical equipment
	D11/CRCW0603-IF	0.1	1 Ω to 100 kΩ	200	5 %, 10 %	
	D12/CRCW0805-IF	0.125	1 Ω to 100 kΩ	200	5 %, 10 %	
	D25/CRCW1206-IF	0.25	1 Ω to 100 kΩ	200	5 %, 10 %	
CRCW-HP 	CRCW0402-HP	0.125	1 Ω to 1 MΩ 1 Ω to 1 MΩ	100 200	1 % 5 %	<ul style="list-style-type: none"> Automotive (AEC-Q200 qualified) Industrial High and repetitive surge High power dissipation Pulse loading Densely populated PCBs Ignition/switching circuits AC mains protection
	CRCW0603-HP	0.25	1 Ω to 1 MΩ 1 Ω to 1 MΩ	100 200	1 % 5 %	
	CRCW0805-HP	0.33	1 Ω to 1 MΩ 1 Ω to 1 MΩ	100 200	1 % 5 %	
	CRCW1206-HP	0.5	1 Ω to 1 MΩ 1 Ω to 1 MΩ	100 200	1 % 5 %	



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CRCW-HP 	CRCW1210-HP	0.75	1 Ω to 1 MΩ 1 Ω to 1 MΩ	100 200	1% 5%	<ul style="list-style-type: none"> Automotive (AEC-Q200 qualified) Industrial High and repetitive surge High power dissipation Pulse loading Densely populated PCBs Ignition/switching circuits AC mains protection
	CRCW1218-HP	1.5	1 Ω to 1 MΩ 1 Ω to 1 MΩ	100 200	1% 5%	
	CRCW2010-HP	1	1 Ω to 1 MΩ 1 Ω to 1 MΩ	100 200	1% 5%	
	CRCW2512-HP	1.5	1 Ω to 1 MΩ 1 Ω to 1 MΩ	100 200	1% 5%	
D AP, CRCW-AP 	D10 AP	0.063	100 Ω to 10 MΩ 10 Ω to 10 MΩ	100 200	1% 5%	<ul style="list-style-type: none"> Automotive - ECU, brakes, sensors (AEC-Q200 qualified) High-temperature environments
	D11 AP	0.1	18 Ω to 10 MΩ 3.6 Ω to 10 MΩ	100 200	1% 5%	
	D12 AP	0.125	18 Ω to 10 MΩ 3.6 Ω to 10 MΩ	100 200	1% 5%	
	D25 AP	0.25	18 Ω to 10 MΩ 3.6 Ω to 10 MΩ	100 200	1% 5%	
	CRCW1210-AP	0.5	18 Ω to 10 MΩ 3.6 Ω to 10 MΩ	100 200	1% 5%	
	CRCW1218-AP	1	18 Ω to 10 MΩ 3.6 Ω to 10 MΩ	100 200	1% 5%	
	CRCW2010-AP	0.75	18 Ω to 10 MΩ 3.6 Ω to 10 MΩ	100 200	1% 5%	
	CRCW2512-AP	1	18 Ω to 10 MΩ 3.6 Ω to 10 MΩ	100 200	1% 5%	
D/CRCW-TR 	D10/CRCW0402-TR	0.063	10 Ω - 10 MΩ 0.47 Ω - 10 MΩ	100 200	10 % 15 % 20 % + 0 / - 10 % + 0 / - 20 % + 0 / - 30 %	<ul style="list-style-type: none"> Precision circuitry DC/DC converters
	D11/CRCW0603-TR	0.1	10 Ω - 10 MΩ 0.47 Ω - 10 MΩ	100 200		
	D12/CRCW0805-TR	0.125	10 Ω - 10 MΩ 0.47 Ω - 10 MΩ	100 200		
	D25/CRCW1206-TR	0.25	10 Ω - 10 MΩ 0.47 Ω - 10 MΩ	100 200		
	CRCW1210-TR	0.5	10 Ω - 4.7 MΩ 10 Ω - 4.7 MΩ	100 200		
	CRCW2010-TR	0.75	10 Ω - 4.7 MΩ 10 Ω - 4.7 MΩ	100 200		
	CRCW2512-TR	1	10 Ω - 4.7 MΩ 10 Ω - 4.7 MΩ	100 200		



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RCL 	RCL0612	0.5	1 Ω - 1 MΩ	100 200	1% 5%	<ul style="list-style-type: none"> Automotive (AEC-Q200 qualified) Industrial High power General telecommunications
	RCL1218	1	1 Ω - 2.2 MΩ	100 200	1% 5%	
CRHV 	CRHV1206	0.3	2 MΩ - 1 GΩ 1.1 GΩ - 8 GΩ	± 100	1 %, 2 %, 5 %, 10 %, 20 % 2 %, 5 %, 10 %, 20 %	<ul style="list-style-type: none"> High-voltage applications Power meters Circuit breakers and circuit protection Wire bonding/conductive epoxy flip chip processes
	CRHV1210	0.45	4 MΩ - 1 GΩ 1.1 GΩ - 10 GΩ		1 %, 2 %, 5 %, 10 %, 20 % 2 %, 5 %, 10 %, 20 %	
	CRHV2010	0.5	6 MΩ - 1 GΩ 1.1 GΩ - 10 GΩ 11 GΩ - 35 GΩ		1 %, 2 %, 5 %, 10 %, 20 % 2 %, 5 %, 10 %, 20 % 5 %, 10 %, 20 %	
	CRHV2510	0.6	10 MΩ - 1 GΩ 1.1 GΩ - 10 GΩ 11 GΩ - 40 GΩ		1 %, 2 %, 5 %, 10 %, 20 % 2 %, 5 %, 10 %, 20 % 5 %, 10 %, 20 %	
	CRHV2512	1.0	12 MΩ - 1 GΩ 1.1 GΩ - 10 GΩ 11 GΩ - 50 GΩ		1 %, 2 %, 5 %, 10 %, 20 % 2 %, 5 %, 10 %, 20 % 5 %, 10 %, 20 %	
CRMV 	CRMV1206	0.25	150 Ω - 15 MΩ	± 150	1 %, 2 %, 5 %, 10 %, 20 %	<ul style="list-style-type: none"> Medium-voltage applications Power meters Circuit breakers and circuit protection Wire bonding/conductive epoxy flip chip processes
	CRMV1210	0.3	300 Ω - 20 MΩ			
	CRMV2010	0.4	500 Ω - 40 MΩ			
	CRMV2510	0.45	1 kΩ - 60 MΩ			
	CRMV2512	0.5	1 kΩ - 75 MΩ			
RC 	RC0540	0.1	10 Ω - 500 kΩ	± 100	1 %, 2 %, 5 %, 10 %, 20 %	<ul style="list-style-type: none"> Wire bonding/conductive epoxy flip chip processes Industrial applications Non-magnetic applications
	RC0550	0.1	10 Ω - 500 kΩ			
	RC0575	0.2	10 Ω - 1 MΩ			
	RC5100	0.25	10 Ω - 1 MΩ			
	RC1100	0.45	10 Ω - 1 MΩ			
	RC1206	0.3	10 Ω - 1 MΩ			
	RC5150	0.325	10 Ω - 1 MΩ			
	RC7225	0.525	10 Ω - 1 MΩ			
RC2010	0.575	10 Ω - 1 MΩ				

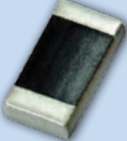




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RCHR 	RCHR0805	Contact factory	500 kΩ to 1 GΩ	± 500	5 %, 10 %, 25 %	<ul style="list-style-type: none"> High-value industrial applications
	RCHR1005		500 kΩ to 2 GΩ			
	RCHR1206		1 MΩ to 3 GΩ			
RCWE 	RCWE0402	0.125	0.033 Ω to 0.05 Ω 0.051 Ω to 0.18 Ω 0.2 Ω to 0.976 Ω	± 400 ± 200 ± 100	5 % 1 %, 5 % 1 %, 5 %	<ul style="list-style-type: none"> Shunt resistors Current sensing Power supplies Motor circuits
	RCWE0603	0.2	0.010 Ω to 0.018 Ω 0.02 Ω to 0.03 Ω 0.033 Ω to 0.1 Ω 0.11 Ω to 0.976 Ω	± 700 ± 400 ± 200 ± 100	5 % 1 %, 5 % 1 %, 5 % 1 %, 5 %	
	RCWE0805	0.25	0.010 Ω to 0.018 Ω 0.02 Ω to 0.03 Ω 0.033 Ω to 0.05 Ω 0.051 Ω to 0.976 Ω	± 400 ± 300 ± 200 ± 100	5 % 1 %, 5 % 1 %, 5 % 1 %, 5 %	
	RCWE1206	0.5	0.010 Ω to 0.018 Ω 0.02 Ω to 0.03 Ω 0.033 Ω to 0.05 Ω 0.051 Ω to 0.976 Ω	± 600 ± 300 ± 200 ± 100	5 % 1 %, 5 % 1 %, 5 % 1 %, 5 %	
	RCWE1210	1.0	0.010 Ω to 0.018 Ω 0.02 Ω to 0.03 Ω 0.033 Ω to 0.05 Ω 0.051 Ω to 0.976 Ω	± 500 ± 300 ± 200 ± 100	5 % 1 %, 5 % 1 %, 5 % 1 %, 5 %	
	RCWE2010	1.0	0.010 Ω to 0.018 Ω 0.02 Ω to 0.03 Ω 0.033 Ω to 0.05 Ω 0.051 Ω to 0.976 Ω	± 600 ± 300 ± 200 ± 100	5 % 1 %, 5 % 1 %, 5 % 1 %, 5 %	
	RCWE2512	2.0	0.010 Ω to 0.018 Ω 0.02 Ω to 0.03 Ω 0.033 Ω to 0.05 Ω 0.051 Ω to 0.976 Ω	± 600 ± 300 ± 200 ± 100	5 % 1 %, 5 % 1 %, 5 % 1 %, 5 %	
RCWL 	RCWL0402	0.063	0.22 Ω to 0.43 Ω 0.47 Ω to 0.91 Ω	± 600 ± 400	5 %	<ul style="list-style-type: none"> Shunt resistors Current sensing Power supplies Motor circuits
	RCWL0603	0.1	0.10 Ω to 0.43 Ω 0.47 Ω to 0.91 Ω	± 400 ± 200		
	RCWL0805	0.125	0.10 Ω to 0.43 Ω 0.47 Ω to 0.91 Ω	± 300 ± 200		
	RCWL1206	0.25	0.10 Ω to 0.43 Ω 0.47 Ω to 0.91 Ω	± 300 ± 200		
	RCWL1210	0.33	0.10 Ω to 0.91 Ω	± 200		
	RCWL1218	1.0	0.10 Ω to 0.91 Ω	± 200		
	RCWL2010	0.5	0.10 Ω to 0.91 Ω	± 200		
RCWL2512	1.0	0.10 Ω to 0.91 Ω	± 200			

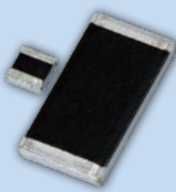


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RCWP 	RCWP0201	0.05	47 Ω to 1 MΩ 10 Ω to 1 MΩ	± 100, ± 200 ± 300	1 %, 2 %, 5 %, 10 % for 100 ppm/°C and 200 ppm/°C 2 %, 5 %, 10 % for 300 ppm/°C	<ul style="list-style-type: none"> • Custom design • Space systems • Satellites • Missiles • Medical • Avionics
	RCWP0302	0.04	10 Ω to 22 MΩ 1 Ω to 22 MΩ	± 100, ± 200 ± 300		
	RCWP0402	0.05	10 Ω to 22 MΩ 1 Ω to 22 MΩ	± 100, ± 200 ± 300		
	RCWP0502	0.05	10 Ω to 22 MΩ 1 Ω to 22 MΩ	± 100, ± 200 ± 300		
	RCWP0540	0.08	10 Ω to 22 MΩ 1 Ω to 22 MΩ	± 100, ± 200 ± 300		
	RCWP0550	0.125	10 Ω to 22 MΩ 1 Ω to 22 MΩ	± 100, ± 200 ± 300		
	RCWP0603	0.1	5.62 Ω to 22 MΩ 1 Ω to 22 MΩ	± 100, ± 200 ± 300		
	RCWP0575	0.15	5.62 Ω to 22 MΩ 1 Ω to 22 MΩ	± 100, ± 200 ± 300		
	RCWP5100	0.2	5.62 Ω to 22 MΩ 1 Ω to 22 MΩ	± 100, ± 200 ± 300		
	RCWP1100	0.5	5.62 Ω to 22 MΩ 1 Ω to 22 MΩ	± 100, ± 200 ± 300		
	RCWP1206	0.25	5.62 Ω to 22 MΩ 1 Ω to 22 MΩ	± 100, ± 200 ± 300		
	RCWP5150	0.35	5.62 Ω to 22 MΩ 1 Ω to 22 MΩ	± 100, ± 200 ± 300		
	RCWP2010	0.8	5.62 Ω to 22 MΩ 1 Ω to 22 MΩ	± 100, ± 200 ± 300		
	RCWP7225	0.6	5.62 Ω to 22 MΩ 1 Ω to 22 MΩ	± 100, ± 200 ± 300		
	RCWP2512	1.0	5.62 Ω to 22 MΩ 1 Ω to 22 MΩ	± 100, ± 200 ± 300		

For available military products (M55342 and D55342), consult Military Film SMD Resistors Selector Guide.



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