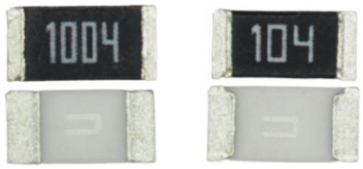
Features:

- Special material and design for high working voltage
- Meets IEC-62368 (75KΩ to 27MΩ)
- Anti-sulfur per ASTM-B-809-95
- RoHS compliant, REACH compliant, and halogen free
- AEC-Q200 compliant

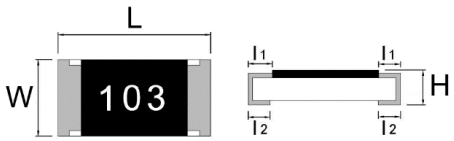


Electrical Specifications

Type/Code	Power Rating (W) @ 70ºC	Maximum Working Voltage (1) (V)	Maximum Overload Voltage (V)	VCR (ppm/V)	TCR (ppm/ºC)	Ohmic Range (Ω) and Tolerance		
						0.5%	1%	5%
RVCU1206	0.33	800	1000	1KΩ - 3MΩ: ± 25 >3MΩ - 30MΩ: ± 50	100	1K - 5.1M	1K - 30M	1K - 30M
RVCU2010	0.5	2000	3000	1KΩ - 3MΩ: ± 25 >3MΩ - 30MΩ: ± 50	100	1K - 5.1M	1K - 30M	1K - 30M
RVCU2512	1	3000	4000	1KΩ - 3MΩ: ± 25 >3MΩ - 30MΩ: ± 50	100	1K - 5.1M	1K - 30M	1K - 30M

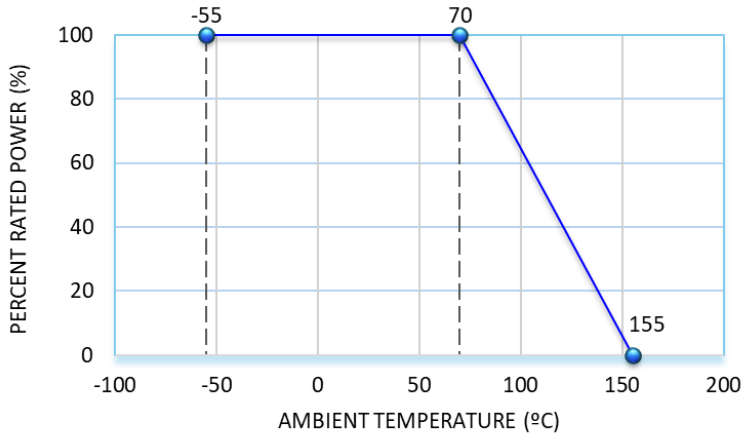
(1) Lesser of √P*R or maximum working voltage.
Operating Temperature Range: -55 ~ +155°C

Mechanical Specifications



Type/Code	L Body Length	W Body Width	H Body Height	I_1 Top Termination	I_2 Bottom Termination	Unit
RVCU1206	0.120 ± 0.004 3.05 ± 0.10	0.063 ± 0.004 1.60 ± 0.10	0.022 ± 0.004 0.55 ± 0.10	0.012 ± 0.008 0.30 ± 0.20	0.020 ± 0.004 0.50 ± 0.20	inches mm
RVCU2010	0.197 ± 0.004 5.00 ± 0.10	0.098 ± 0.006 2.50 ± 0.15	0.022 ± 0.004 0.55 ± 0.10	0.016 ± 0.006 0.40 ± 0.15	0.024 ± 0.004 0.60 ± 0.20	inches mm
RVCU2512	0.248 ± 0.004 6.30 ± 0.10	0.126 ± 0.006 3.20 ± 0.15	0.022 ± 0.004 0.55 ± 0.10	0.016 ± 0.008 0.40 ± 0.20	0.024 ± 0.004 0.60 ± 0.20	inches mm

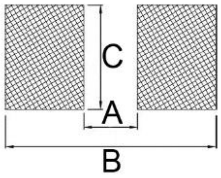
Power Derating Curve:



Performance Characteristics			
Test	Test Method	Test Specification	Test Condition
Temperature Coefficient of Resistance (TCR)	JIS C-5201-1 4.8 IEC-60115-1 4.8	Refer to Electrical Specifications table	At 25°C / +155°C, 25°C is the reference temperature
Short Time Overload	JIS-C-5201-1 4.13 IEC-60115-1 4.13	± 2%	2.5 times RCWV or max. overload voltage, whichever is less for 5 seconds
Leaching	JIS-C-5201-1 4.18 IEC-60068-2-58 8.2.1	Individual leaching area ≤ 5% Total leaching area ≤ 10%	260 ± 5°C for 30 seconds
Resistance to Soldering Heat	JIS-C-5201-1 4.18 IEC-60115-1 4.18	± 1%	260 ± 5°C for 10 seconds
Insulation Resistance	JIS-C-5201-1 4.6 IEC-60115-1 4.6	≥ 10GΩ	Apply 100 VDC for 1 minute
Temperature Cycling	JESD22 Method JA-104	± 2%	1000 cycles (-55°C to +125°C) Measurement at 24 ± 4 hours after test conclusion. 30 minutes max. dwell time at each temperature extreme.
Resistance to Solvent	MIL-STD-202 Method 215	± 1%	Add aqueous wash chemical - OKEM clean or equivalent
Biased Humidity	MIL-STD-202 Method 103	± 3%	1000 hours; 85°C / 85% RH, 10% of operating power. Measurement at 24 ± 4 hours after test conclusion.
High Temperature Exposure (Storage)	MIL-STD-202 Method 108	± 2%	1000 hours at T=155°C. Unpowered. Measurement at 24 ± 4 hours after test conclusion.
Operational Life	MIL-STD-202 Method 108	± 1%	Condition D Steady State TA=125°C at derated power. Measurement at 24 ± 4 hours after test conclusion.
External Visual	MIL-STD-883 Method 2009	-	Electrical test not required. Inspect device construction, marking and workmanship.
Vibration	MIL-STD-202 Method 204	± 2%	5 g for 20 minutes, 12 cycles each of 3 orientations. Note: test from 10-2000 Hz
ESD	AEC-Q200-002 or ISO/DIS 10605	± 3%	Human body model: 2KV
Solderability	J-STD-002	± 1%	(1) 4 hours, 155 dry heat (2) 245 ± 5°C, 3 seconds
Damp Heat with Load	JIS-C-5201-1 4.24 IEC-60115-1 4.24	± 3%	40 ± 2°C, 90~95% RH, RCWV or max. working voltage whichever is less for 1000 hours, with 1.5 hours "ON" and 0.5 hour "OFF".
Load Life (Endurance)	JIS-C-5201-1 4.25 IEC-60115-1 4.25.1	Limit: ± 2% Typical: ± 0.75%	70 ± 2°C, RCWV or max. working voltage whichever is less for 1000 hours, with 1.5 hours "ON" and 0.5 hour "OFF"
Terminal Strenght (SMD)	AEC-Q200-006	No breakage	Pressurizing force for 60 seconds: 17.7 N
Bending Strength	JIS-C-5201-1 4.33 IEC-60115-1 4.33	± 1%	Bending once for 5 seconds 1206 = 3 mm and 2010/2512 = 2 mm
Sulfur Test	ASTM-B-809-95	± 1%	60 ± 2°C, no rating power for 1000 hours
VCR (Voltage Coefficient of Resistance)	IEC 60115-1, 4.11	As per specification	Measure at 10% rated voltage and 100% rated voltage or max. working voltage, whichever is less

Recommended storate temperature is 25 ± 5°C. Humidity: 60 ± 20% RH (valid for one year from date of delivery)

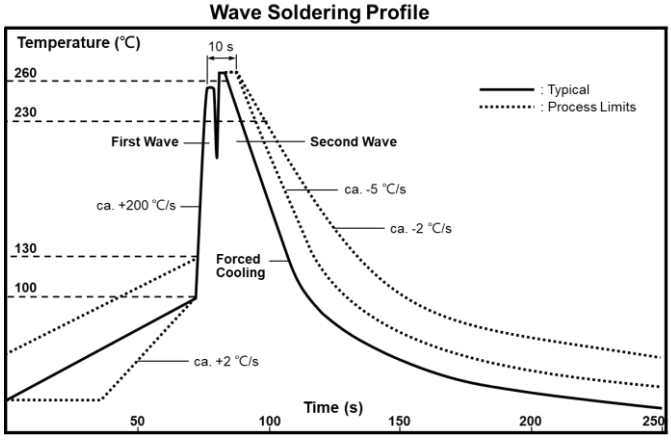
Recommended Pad Layout



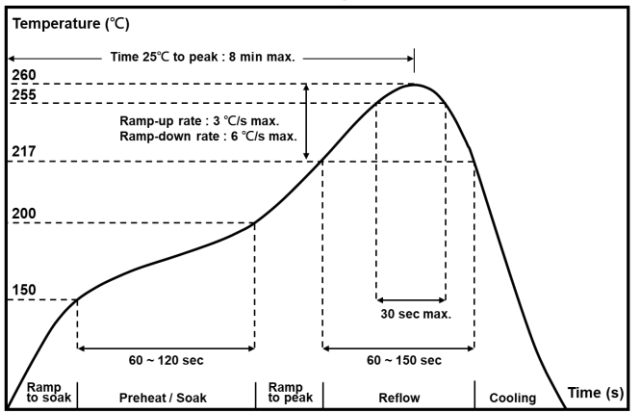
Type/Code	A	B	C	Unit
RVCU1206	0.087 2.20	0.201 5.10	0.079 2.00	inches mm
RVCU2010	0.150 3.80	0.272 6.90	0.114 2.90	inches mm
RVCU2512	0.189 4.80	0.323 8.20	0.144 3.65	inches mm

Recommended Resistor Reflow Profile

Wave Soldering Profile

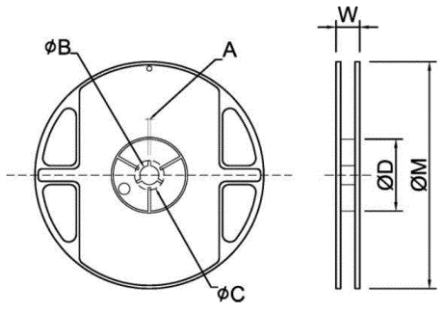


Reflow Soldering Profile



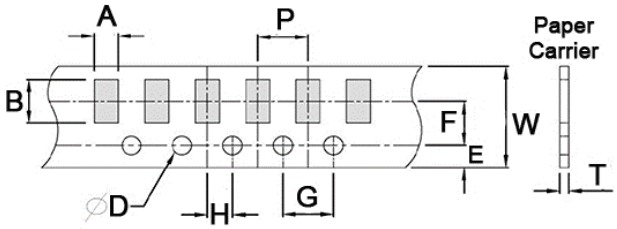
Rework temperature (hot air equipment): 350°C, 3 ~ 5 seconds
Recommended reflow methods:
IR, vapor phase oven, hot air oven.
If reflow temperatures exceed the recommended profile, devices may not meet the performance requirements.

Reel Specifications



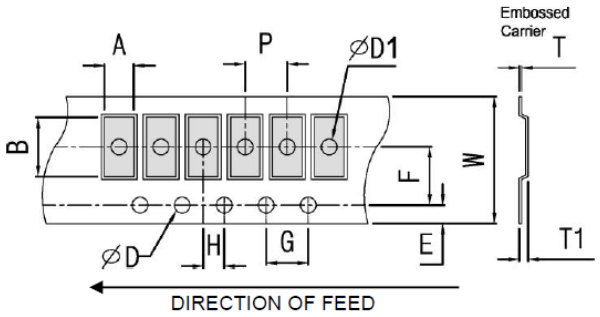
Type/Code	Size	A	B	C	D	W	M	Unit
RVCU1206	7" - 5K/Reel	0.079 ± 0.020 2.00 ± 0.50	0.531 ± 0.039 13.50 ± 1.00	0.827 ± 0.039 21.00 ± 1.00	2.362 ± 0.039 60.00 ± 1.00	0.453 ± 0.004 11.50 ± 2.00	7.008 ± 0.004 178.00 ± 2.00	inches mm
RVCU2010 RVCU2512	7" - 4K/Reel	0.079 ± 0.020 2.00 ± 0.50	0.531 ± 0.039 13.50 ± 1.00	0.827 ± 0.039 21.00 ± 1.00	2.362 ± 0.039 60.00 ± 1.00	0.630 ± 0.004 16.00 ± 2.00	7.008 ± 0.004 178.00 ± 2.00	inches mm

Packaging Specifications - Paper Tape



Size	A	B	W	E	F	Unit
RVCU1206	0.075 ± 0.008 1.90 ± 0.20	0.138 ± 0.008 3.50 ± 0.20	0.315 ± 0.008 8.00 ± 0.20	0.069 ± 0.004 1.75 ± 0.10	0.138 ± 0.002 3.50 ± 0.05	inches mm
	G	H	T	ØD	P	Unit
	0.157 ± 0.004 4.00 ± 0.10	0.079 ± 0.002 2.00 ± 0.05	0.030 ± 0.004 0.75 ± 0.10	0.059 +0.004/-0 1.50 +0.10/-0	0.157 ± 0.004 4.00 ± 0.10	inches mm

Tape Specifications - Plastic Tape



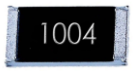
Size	A	B	W	E	F	G	Unit
RVCU2010	0.110 ± 0.008 2.80 ± 0.20	0.220 ± 0.008 5.60 ± 0.20	0.472 ± 0.004 12.00 ± 0.10	0.069 ± 0.004 1.75 ± 0.10	0.217 ± 0.002 5.50 ± 0.05	0.157 ± 0.004 4.00 ± 0.10	inches mm
RVCU2512	0.134 ± 0.008 3.40 ± 0.20	0.264 ± 0.008 6.70 ± 0.20	0.472 ± 0.004 12.00 ± 0.10	0.069 ± 0.004 1.75 ± 0.10	0.217 ± 0.002 5.50 ± 0.05	0.157 ± 0.004 4.00 ± 0.10	inches mm
Size	H	T	ØD	ØD1	T1	P	Unit
RVCU2010	0.079 ± 0.002 2.00 ± 0.05	0.009 ± 0.004 0.23 ± 0.10	0.059 +0.004/-0 1.50 +0.10/-0	0.059 ± 0.004 1.50 ± 0.10	0.033 ± 0.006 0.85 ± 0.15	0.157 ± 0.004 4.00 ± 0.10	inches mm
RVCU2512	0.079 ± 0.002 2.00 ± 0.05	0.009 ± 0.004 0.23 ± 0.10	0.059 +0.004/-0 1.50 +0.10/-0	0.059 ± 0.004 1.50 ± 0.10	0.033 ± 0.006 0.85 ± 0.15	0.157 ± 0.004 4.00 ± 0.10	inches mm

Marking Instructions

0.5% and 1% tolerances (E96 and E24 Values)

The nominal resistance is marked on the surface of the overcoating with the use of **four character markings**.

1.21KΩ



1MΩ

5% tolerance (E24 Values)

The nominal resistance is marked on the surface of the overcoating with the use of **three character markings**.

First and second digits are E24 code; third digit is the multiplier

1.2KΩ

120KΩ

E24 Code	10	11	12	13	15	16	18	20	22	24	27	30	33	36	39	43	47	51	56	62	68	75	82	91

RoHS Compliance

Stackpole Electronics has joined the worldwide effort to reduce the amount of lead in electronic components and to meet the various regulatory requirements now prevalent, such as the European Union's directive regarding "Restrictions on Hazardous Substances" (RoHS 3). As part of this ongoing program, we periodically update this document with the status regarding the availability of our compliant components. All our standard part numbers are compliant to EU Directive 2011/65/EU of the European Parliament as amended by Directive (EU) 2015/863/EU as regards the list of restricted substances.

RoHS Compliance Status

Standard Product Series	Description	Package / Termination Type	Standard Series RoHS Compliant	Lead-Free Termination Composition	Lead-Free Mfg. Effective Date (Std Product Series)	Lead-Free Effective Date Code (YY/WW)
RVCU	High Voltage Low VCR Chip Resistor	SMD	Yes(1)	100% Sn over Ni	Always	Always

(1) With RoHS exemption 7c-I

"Conflict Metals" Commitment

We at Stackpole Electronics, Inc. are joined with our industry in opposing the use of metals mined in the "conflict region" of the eastern Democratic Republic of the Congo (DRC) in our products. Recognizing that the supply chain for metals used in the electronics industry is very complex, we work closely with our own suppliers to verify to the extent possible that the materials and products we supply do not contain metals sourced from this conflict region. As such, we are in compliance with the requirements of Dodd-Frank Act regarding Conflict Minerals.

Compliance to "REACH"

We certify that all passive components supplied by Stackpole Electronics, Inc. are SVHC (Substances of Very High Concern) free and compliant with the requirements of EU Directive 1907/2006/EC, "The Registration, Evaluation, Authorization and Restriction of Chemicals", otherwise referred to as REACH. Contact us for complete list of REACH Substance Candidate List.

Environmental Policy

It is the policy of Stackpole Electronics, Inc. (SEI) to protect the environment in all localities in which we operate. We continually strive to improve our effect on the environment. We observe all applicable laws and regulations regarding the protection of our environment and all requests related to the environment to which we have agreed. We are committed to the prevention of all forms of pollution.

How to Order

R	V	C	U	1	2	0	6	F	T	1	K	0	0

Product Series	
Code	Description
RVCU	High Voltage Low VCR Chip Resistor

Rated Power	
Code	W
1206	0.33
2010	0.5
2512	1

Tolerance	
Code	Tol
D	0.5%
F	1%
J	5%

Packaging			
Code	Description	Size	Quantity
T	7" Reel Paper Tape	1206	5000
	7" Reel Plastic Tape	2010, 2512	4000

Resistance Value
Four characters with the multiplier used as the decimal holder.
1 Kohm = 1K00 10 Kohm = 10K0 1 Mohm = 1M00