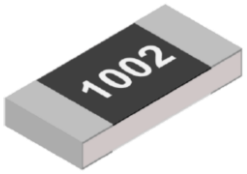
Features:

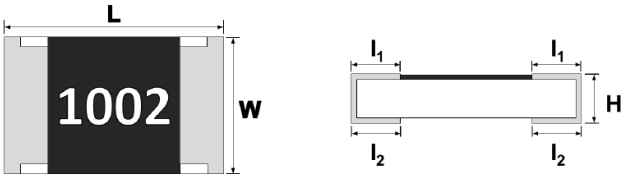
- Improved power rating
- Anti-sulfur per ASTM-B-809
- RoHS compliant, REACH compliant, lead free, and halogen free
- AEC-Q200 compliant



Electrical Specifications

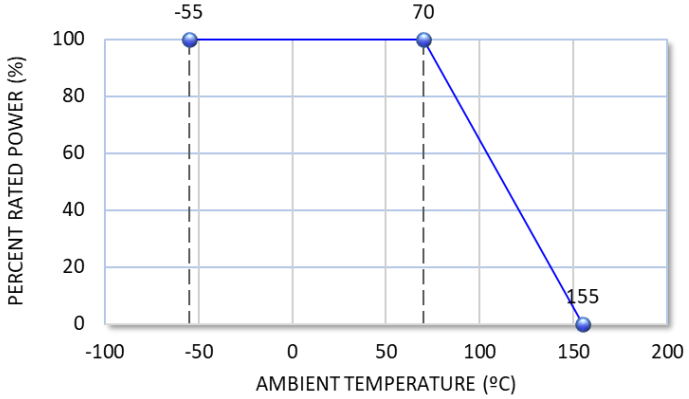
Type/Code	Power Rating (W) @ 70ºC	Max Working Voltage	Max Overload Voltage	TCR (ppm/ºC)	Ohmic Range (Ω) and Tolerance
					0.1%, 0.25%, 0.5%, 1%
RNCU1206	1	200	400	± 10 ± 15 ± 25 ± 50	10 - 100K

Mechanical Specifications



Type/Code	L Body Length	W Body Width	H Body Height	I_1 Top Termination	I_2 Bottom Termination	Unit
RNCU1206	0.122 ± 0.012 3.10 ± 0.30	0.063 ± 0.008 1.60 ± 0.20	0.022 ± 0.004 0.55 ± 0.10	0.018 ± 0.010 0.45 ± 0.25	0.043 ± 0.008 1.10 ± 0.20	inches mm

Power Derating Curve:



The Operating Temperature Range is -55 ~ +155°C
Power rating is based on continuous full-load at ambient temperature of 70°C. For operation at ambient temperature above 70°C, the load should be derated in accordance with Power Derating Curve.

Rated Voltage
Resistance Range: ≥ 1 Ω
Rated Voltage: The resistor shall have a DC continuous working voltage or an RMS AC continuous working voltage at commercial-line frequency and wave form corresponding to the power rating, as per formula below:

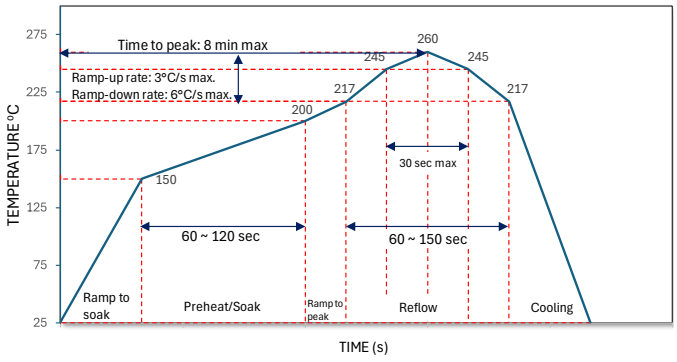
$$V = \sqrt{(P*R)}$$

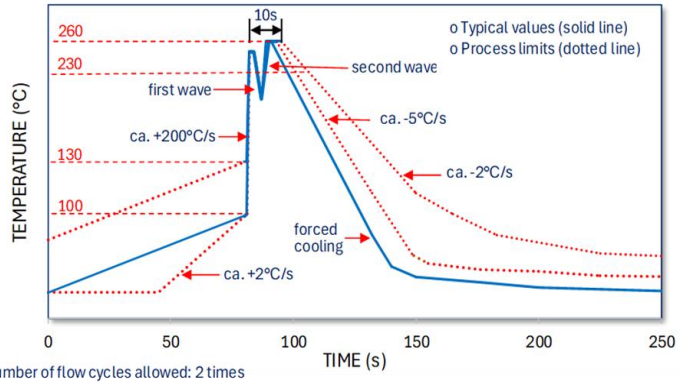
V = Rated voltage (V)
P = Rated power (W)
R = Nominal resistance (Ω)

Performance Characteristics			
Test Item	Test Method	Test Condition	Test Limits
Temperature Coefficient of Resistance (TCR)	JIS C-5201-1 4.8 IEC-60115-1 4.8	At 25°C / -55°C and 25°C / +125°C, 25°C is the reference temperature	Refer to Electrical Specifications table
Short Time Overload	JIS C-5201-1 4.13 IEC-60115-1 4.13	2.5 times RCWV or max. overload voltage, whichever is less for 5 seconds	± (1% + 0.001Ω)
Insulation Resistance	JIS C-5201-1 4.6 IEC-60115-1 4.6	Applied 100 VDC for 1 minute	≥ 10GΩ
Dielectric Withstanding Voltage	JIS C-5201-1 4.7 IEC-60115-1 4.7	Applied 500 VAC for 1 minute	No short or burned on the appearance
Solderability	JIS C-5201-1 4.17 IEC-60115-1 4.17	245 ± 5°C for 3 seconds	>95% coverage no visual damage
Resistance to Soldering Heat	JIS C-5201-1 4.18 IEC-60115-1 4.18	260 ± 5°C for 10 seconds	± (0.25% + 0.05Ω) No visual damage
Leaching	JIS C5201-1 4.18 IEC-60068-2-58 8.2.1	260 ± 5°C for 30 seconds	>95% coverage no visual damage
Rapid Change of Temperature	JIS C-5201-1 4.19 IEC-60115-1 4.19	-55 to +125°C, 1000 cycles	± (0.25% + 0.05Ω) No visual damage
High Temperature Exposure	JIS-C5201-1 4.25 IEC 60068-2-2	At 155 ± 5°C for 1000 hours.	±(0.25% + 0.05Ω)
Resistance to Solvent	JIS C-5201-1 4.29	The tested resistor will be immersed into isopropyl alcohol of 20 ~ 25°C for 60 seconds. Then the resistor is left in room for 48 hours	± (0.25% + 0.05Ω) No visual damage
Damp Heat with Load	JIS C-5201-1 4.24 IEC-60115-1 4.24	40 ± 2°C, 90 ~ 95% R.H., RCWV or max. working current whichever is less for 1000 hours with 1.5 hours "ON" and 0.5 hour "OFF"	± (0.25% + 0.05Ω)
Biased Humidity	MIL-STD-202 Method 103	1000 hours; 85°C/85% RH, 10% of operating power. Measurement at 24 ± 4 hours after test conclusion.	± (0.25% + 0.05Ω)
Load Life (Endurance)	JIS C-5201-1 4.25 IEC-60115-1 4.25.1	70 ± 2°C, rated power or max. working current whichever is less for 1000 hours with 1.5 hours "ON" and 0.5 hours "OFF"	± (0.25% + 0.05Ω)
Bending Strength	JIS C-5201-1 4.33 IEC-60115-1 4.33	Bending once for 5 seconds. D: 1206 = 3mm	± (0.25% + 0.05Ω) No visual damage
Sulfur Test	ASTM-B-809-95 Modified	105 ± 2°C no power rating for 750 hours	Δ R ± 1%

RCWV (Rated continuous working voltage) = √(P*R) or Max. Operating Voltage whichever is lower.
Recommended storage temperature is 15~28°C and humidity < 80% RH

Recommended Resistor Reflow Profile



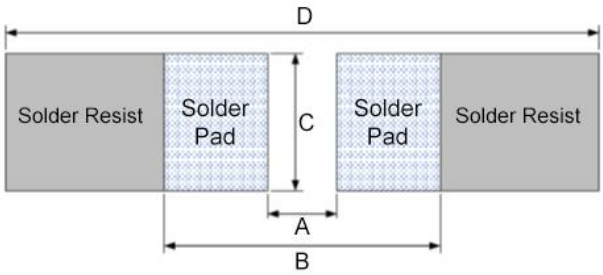


Number of flow cycles allowed: 2 times

Rework temperature (hot air equipment): 350°C, 3 to 5 seconds.

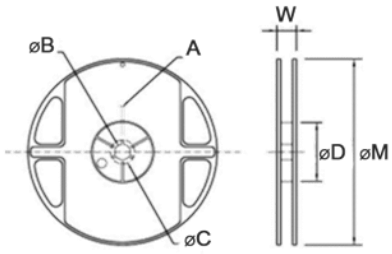
Recommended Reflow Methods
IR, vapor phase oven, hot air oven
If reflow temperatures exceed the recommended profile, devices may not meet the performance requirements.

Recommended Solder Pad



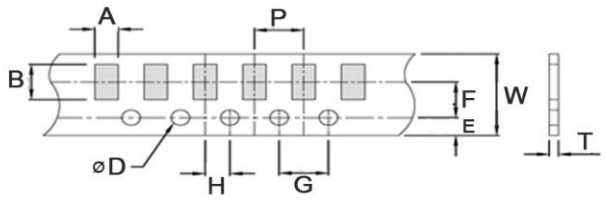
Type/Code	A	B	C	D	Unit
RNCU1206	0.026 0.65	0.177 4.50	0.071 1.80	1.063 27.00	inches mm

Reel Specifications



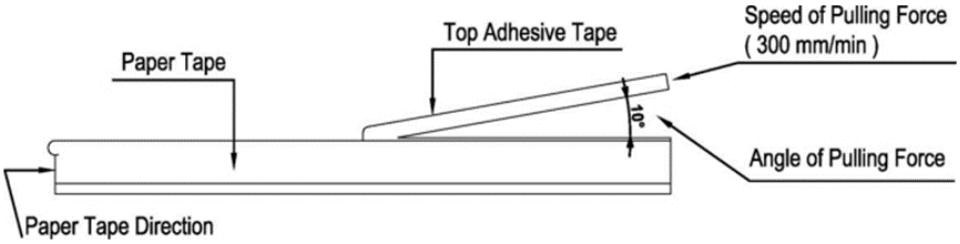
Type/Code	A	B	C	D	W	M	Unit
RNCU1206	0.079 ± 0.020 2.00 ± 0.50	0.531 ± 0.039 13.50 ± 1.00	0.827 ± 0.039 21.00 ± 1.00	2.362 ± 0.039 60.00 ± 1.00	0.453 ± 0.079 11.50 ± 2.00	7.008 ± 0.079 178.00 ± 2.00	inches mm

Taping Specifications - Paper Tape



Type/Code	A	B	W	E	F	Unit
RNCU1206	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	P	D	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	0.157 ± 0.004 4.00 ± 0.10	0.059 +0.004/-0 1.50 +0.10/-0	inches mm

Top Adhesive Peel Off



Top Adhesive Peel Off Strength: 10~70g

Part Marking Specifications

The nominal resistance is marked on the surface of the overcoating with the use of four-digit markings.

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)
RNCU	Ultra-high Power Thin Film Chip Resistor	SMD	YES	100% Matte Sn over Ni	Always	Always

"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. 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	N	C	U	1	2	0	6	F	T	T	1	0	R	0

Product Series

RNCU	Ultra-high Power Thin Film Chip Resistor

Size

1206

Tolerance

Code	Tol
B	0.1%
C	0.25%
D	0.5%
F	1%

Packaging

Code	Description	Size	Quantity
T	7" Reel Paper Tape	1206	5000

TCR

Code	ppm
T	10
S	15
E	25
C	50

Resistance Value

Four characters with the multiplier used as the decimal holder.

10 ohm = 10R0
100 ohm = 100R