Features:

- Chip size from 0201 to 2512
- Max. resistance value less than 3 milliohm for 0201 and 0402, less than 0.5 milliohm for all other sizes
- RoHS compliant, REACH compliant, lead free, and halogen free
- AEC-Q200 compliant

Applications:

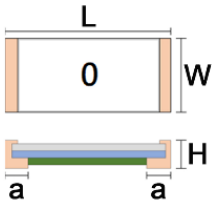
- Switching power supply
- Voltage regulation module
- DC-DC converter, adaptor, battery pack, charger
- PDA and cell phone
- Power and battery management applications

Electrical Specifications

Type/Code	Power Rating (W) @ 70°C	Current Rating (A)	Max Overload Current (A)	Operating Temperature Range	Maximum Resistance Value (Ω)
HCJ0201	0.1	5.8	14.5	-55ºC to +155°C	≤ 0.003
HCJ0402	0.125	6.5	16.2		≤ 0.003
HCJ0603	0.25	22.4	56.0		≤ 0.0005
HCJ0805	0.5	31.6	79.0		≤ 0.0005
HCJ1206	0.75	38.7	96.7		≤ 0.0005
HCJ2010	1	70.7	112.0		≤ 0.0002
HCJ2512	2	63.2	158.0		≤ 0.0005

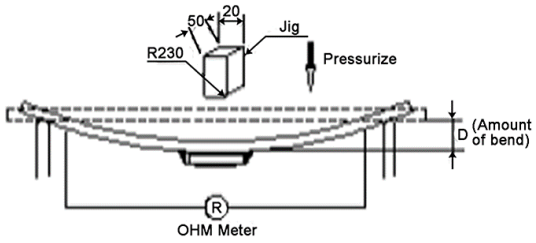
Power rating: $P=I^2*R$

Mechanical Specifications



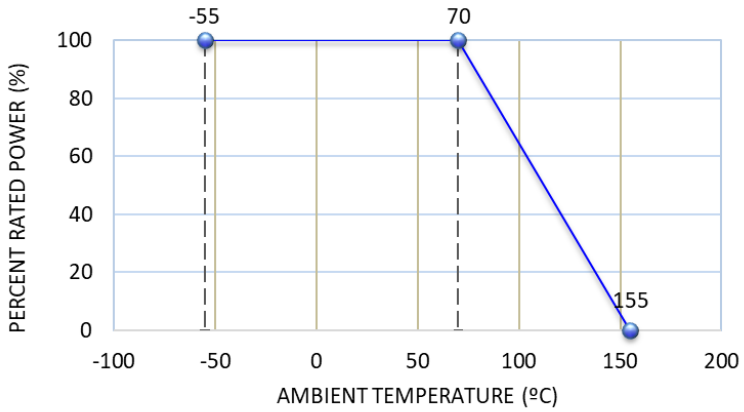
Type/Code	L	W	H	a	Unit
HCJ0201	0.024 ± 0.001 0.60 ± 0.03	0.012 ± 0.001 0.30 ± 0.03	0.010 ± 0.002 0.26 ± 0.05	0.006 ± 0.002 0.15 ± 0.05	inches mm
HCJ0402	0.039 ± 0.004 1.00 ± 0.10	0.020 ± 0.002 0.50 ± 0.05	0.016 ± 0.002 0.40 ± 0.05	0.012 ± 0.004 0.30 ± 0.10	inches mm
HCJ0603	0.063 ± 0.010 1.60 ± 0.25	0.031 ± 0.010 0.80 ± 0.25	0.020 ± 0.008 0.50 ± 0.20	0.016 ± 0.008 0.40 ± 0.20	inches mm
HCJ0805	0.079 ± 0.010 2.00 ± 0.25	0.047 ± 0.010 1.20 ± 0.25	0.026 ± 0.008 0.65 ± 0.20	0.022 ± 0.008 0.55 ± 0.20	inches mm
HCJ1206	0.126 ± 0.010 3.20 ± 0.25	0.063 ± 0.010 1.60 ± 0.25	0.026 ± 0.008 0.65 ± 0.20	0.031 ± 0.008 0.80 ± 0.20	inches mm
HCJ2010	0.200 ± 0.010 5.08 ± 0.25	0.100 ± 0.010 2.54 ± 0.25	0.026 ± 0.008 0.65 ± 0.20	0.083 ± 0.012 2.10 ± 0.30	inches mm
HCJ2512	0.252 ± 0.012 6.40 ± 0.30	0.126 ± 0.012 3.20 ± 0.30	0.026 ± 0.008 0.65 ± 0.20	0.037 ± 0.014 0.95 ± 0.35	inches mm

Parts are packaged resistor side down (white side up) to reduce the side termination effects on the effective resistance.
0201 and 0402 sizes are unmarked.

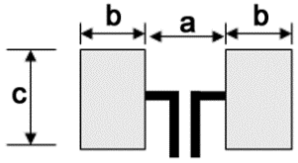
Performance Characteristics (per JIS-C 5201)		
Test	Test Condition	Test Specification
Short Time Overload	2.5 times rated current for 5 seconds, for all sizes except 2010. For 2010 size, 2.5 times rated power for 5 seconds.	For size 0402, max. 0.003 Ω All other sizes, max. 0.0005 Ω
High Temperature Exposure	1000 hours at 155°C ± 2°C	
Low Temperature Storage	1000 hours at -55°C ± 2°C	
Resistance to Solder Heat	The part shall be immersed into the flux specified in the solder bath 260°C ± 5°C for 10 ± 1 seconds	
Moisture Load Life	Specimens shall be placed in a chamber and subject to a relative humidity of 90~95% and to a temperature of 40°C ± 2°C. Load with rated current 1.5 hours "ON", 0.5 hours "OFF", for the period of 1000 hours.	
Temperature cycling	-55°C to +155°C, 100 cycles	
Load Life	Apply rated power at 70°C ± 2°C for 1000 hours with 1.5 hours "ON" and 0.5 hour "OFF"	
Mechanical Shock	a = 50 G, t = 11 ms, 5 times shock	
Substrate Bending	Span between fulcrums: 90mm Bend width: 2mm 	
Solderability	245ºC ± 5°C for 3 ± 0.5 seconds	Solder shall cover 95% or more of the electrode area

Operating temperature range is -55°C to 155°C

Power Derating Curve:

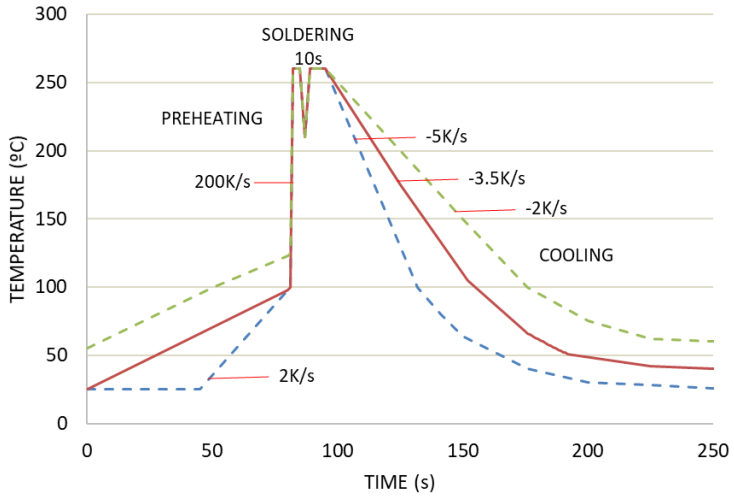


Recommended Pad Layout



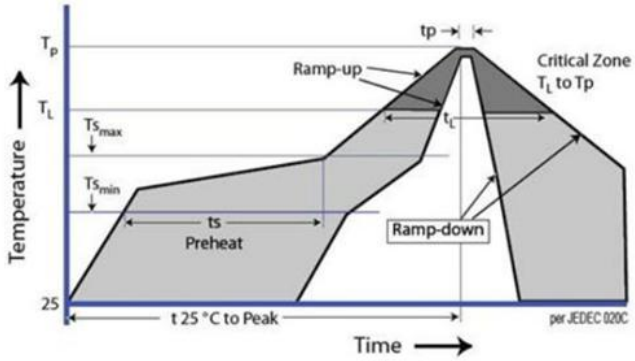
Type/Code	a	b	c	Unit
HCJ0201	0.010 0.25	0.012 0.30	0.014 0.35	inches mm
HCJ0402	0.016 0.40	0.020 0.50	0.024 0.60	inches mm
HCJ0603	0.024 0.60	0.051 1.30	0.036 0.92	inches mm
HCJ0805	0.031 0.80	0.055 1.40	0.057 1.44	inches mm
HCJ1206	0.047 1.20	0.071 1.80	0.072 1.84	inches mm
HCJ2010	0.028 0.70	0.144 3.65	0.113 2.88	inches mm
HCJ2512	0.150 3.80	0.083 2.10	0.134 3.40	inches mm

Wave Solder Temperature Condition



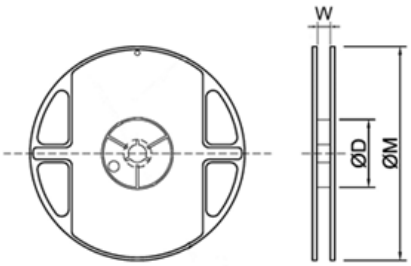
Preheating	100°C ~ 130°C, max. 100 seconds
Soldering	250°C ~ 265°C, max. 10 seconds
Maximum Temperature	260°C ± 5°C, max. 10 seconds

Solder Reflow Temperature Condition



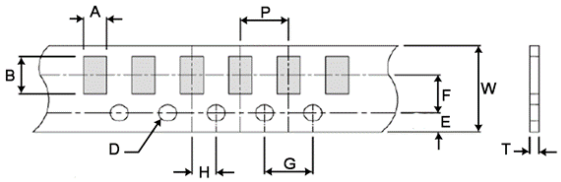
Profile Feature	Pb-Free Assembly
Average Ramp-up Rate (Ts_{max} to Tp)	3°C / second max.
Preheat	
- Temperature Min (Ts_{min})	150°C
- Temperature Max (Ts_{max})	200°C
- Time (ts_{min} to ts_{max})	60 - 180 seconds
Time maintained	
- Temperature ($T_{L)}$	217°C
- Time (t_L)	60 - 150 seconds
Peak Temperature (T_p)	260 + 0°C
Time within 5°C of actual peak	
Temperature (tp)	20 - 40 seconds
Ramp-Down Rate	6°C / second max.
Time 25°C to Peak Temperature	8 minutes max.

Packaging Specifications



Type/Code	ØD	W	ØM	Unit
0201 - 1206	2.362 ± 0.079 60.00 ± 2.00	0.354 ± 0.039 9.00 ± 1.00	7.008 ± 0.197 178.00 ± 5.00	inches mm
2010 and 2512	2.362 ± 0.079 60.00 ± 2.00	0.512 ± 0.039 13.00 ± 1.00	7.008 ± 0.197 178.00 ± 5.00	inches mm

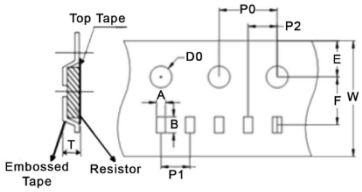
Taping Specifications – Paper Tape



Type/Code	A	B	E	F	W	Unit
HCJ0201	0.018 ± 0.004 0.45 ± 0.10	0.030 ± 0.004 0.75 ± 0.10	0.069 ± 0.004 1.75 ± 0.10	0.138 ± 0.002 3.50 ± 0.05	0.315 ± 0.008 8.00 ± 0.20	inches mm
HCJ0402	0.028 ± 0.002 0.70 ± 0.05	0.047 ± 0.002 1.20 ± 0.05				inches mm
HCJ0603	0.046 ± 0.008 1.18 ± 0.20	0.078 ± 0.008 1.98 ± 0.20		0.138 ± 0.004 3.50 ± 0.10	0.315 ± 0.012 8.00 ± 0.30	inches mm
HCJ0805	0.066 ± 0.008 1.68 ± 0.20	0.094 ± 0.008 2.38 ± 0.20				inches mm
HCJ1206	0.081 ± 0.008 2.05 ± 0.20	0.144 ± 0.008 3.65 ± 0.20				inches mm

Type/Code	G	P	H	D	T	Unit
HCJ0201	0.157 ± 0.004 4.00 ± 0.10	0.157 ± 0.004 4.00 ± 0.10	0.079 ± 0.004 2.00 ± 0.10	0.059 +0.004/-0.00 1.50 +0.10/-0.00	0.014 ± 0.004 0.35 ± 0.10	inches mm
HCJ0402					0.018 ± 0.004 0.45 ± 0.10	inches mm
HCJ0603					0.030 ± 0.008 0.75 ± 0.20	inches mm
HCJ0805					0.034 ± 0.008 0.87 ± 0.20	inches mm
HCJ1206					0.034 ± 0.008 0.87 ± 0.20	inches mm

Taping Specifications – Embossed Plastic Tape

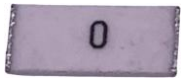


Type/Code	A	B	E	F	W	Unit
HCJ2010	0.112 ± 0.008 2.85 ± 0.20	0.215 ± 0.008 5.45 ± 0.20	0.069 ± 0.004 1.75 ± 0.10	0.217 ± 0.002 5.50 ± 0.05	0.472 ± 0.012 12.00 ± 0.30	inches mm
HCJ2512	0.134 ± 0.008 3.40 ± 0.20	0.266 ± 0.008 6.75 ± 0.20				inches mm

Type/Code	P0	P1	P2	D0	T	Unit
HCJ2010	0.157 ± 0.004 4.00 ± 0.10	0.157 ± 0.004 4.00 ± 0.10	0.079 ± 0.004 2.00 ± 0.10	0.059 +0.004/-0.00 1.50 +0.10/-0.00	0.031 ± 0.008 0.80 ± 0.20	inches mm
HCJ2512						inches mm

Part Marking Instructions

1. The nominal resistance is marked with the use of **one character marking: "0"**



Zero ohm

2. 0201 and 0402 sizes are **unmarked**.


no marking

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)
HCJ	Molded Metal Plate Sensing 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. (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

H	C	J	0	6	0	3	Z	T	0	R	0	0

Product Series	
HCJ	SM High Current Jumper Chip

Size	A
0201	5.8
0402	6.5
0603	22.4
0805	31.6
1206	38.7
2010	70.7
2512	63.2

Code	Tol	Size	Value (Ω)
Z	Zero Ohm	0402	≤ 0.003
		0603	≤ 0.0005
		0805	
		1206	
		2512	

Code	Description	Size	Quantity
T	Paper Tape	0201, 0402	10000
		0603, 0805, 1206	5000
	Embossed Plastic	2010, 2512	4000

Resistance Value
Four characters with the multiplier used as the decimal holder.
0 ohm = 0R00