Features:

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

Applications:

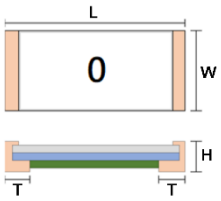
- Switching power supply
- Voltage regulation module
- DC-DC converter, adaptor, battery pack, charger
- PDA and cell phone
- Power and battery management applications

Electrical Specifications

Type / Code	Power Rating (W) @ 70 °C	Current Rating (A)	Max Overload Current (A)	Operating Temperature Range	Ohmic Range (Ω)
HCJ0402	0.125	6.5	14.2	-55ºC to +155°C	≤ 0.003
HCJ0603	0.25	22.4	56		≤ 0.0005
HCJ0805	0.5	31.6	79		≤ 0.0005
HCJ1206	0.75	38.7	96.7		≤ 0.0005
HCJ2512	2	63.2	158		≤ 0.0005

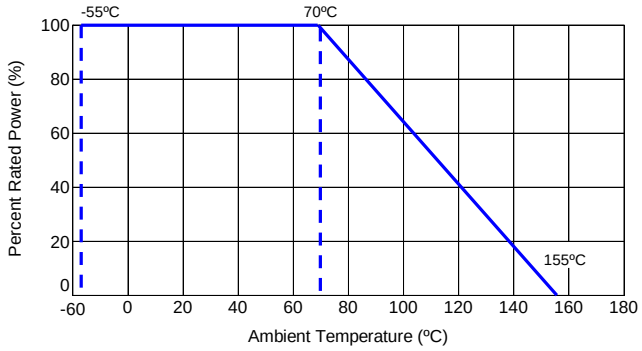
Power rating: $P=I^2*R$

Mechanical Specifications

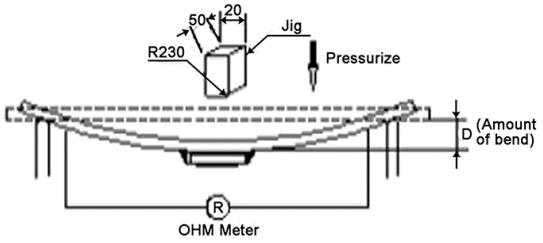


Type / Code	L	W	t	A	Unit
HCJ0402	0.039 ± 0.004 1.00 ± 0.10	0.020 ± 0.002 0.50 ± 0.05	0.016 ± 0.002 0.40 ± 0.05	0.012 ± 0.004 0.30 ± 0.10	inches mm
HCJ0603	0.063 ± 0.010 1.60 ± 0.25	0.031 ± 0.010 0.80 ± 0.25	0.020 ± 0.008 0.50 ± 0.20	0.016 ± 0.008 0.40 ± 0.20	inches mm
HCJ0805	0.079 ± 0.010 2.00 ± 0.25	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
HCJ2512	0.256 ± 0.008 6.50 ± 0.20	0.126 ± 0.008 3.20 ± 0.20	0.030 ± 0.004 0.75 ± 0.10	0.033 ± 0.010 0.85 ± 0.25	inches mm

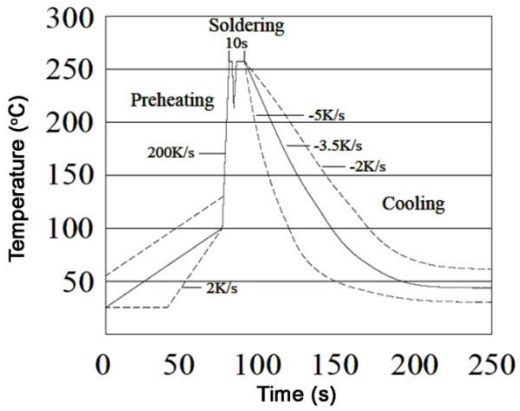
Power Derating Curve:



Performance Characteristics

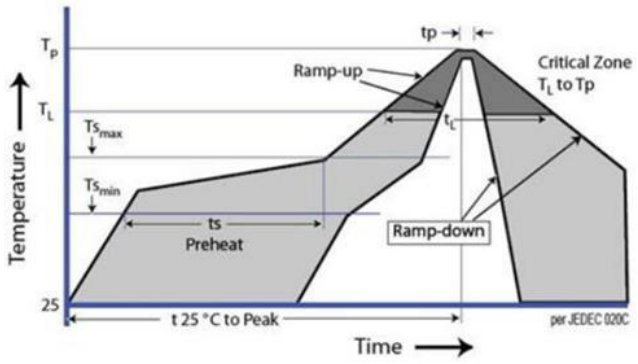
Test	Test Method	Test Specification	Test Condition
Short Time Overload	JIS C-5201-1 clause 4.13	For size 0402, max. 0.003 Ω All other sizes, max. 0.0005 Ω	2.5 times of rated current Rating power duration: 5 seconds
High Temperature Exposure	JIS C-5201-1 clause 4.23.2		1000 hours at 155 °C ± 2 °C
Low Temperature Storage	JIS C 5201-1 clause 4.23.4		1000 hours at -55 °C ± 2 °C
Resistance to Solder Heat	JIS C-5201-1 clause 4.18		The part shall be immersed into the flux specified in the solder bath 260 °C ± 5 °C for 10 ± 1 seconds
Moisture Load Life	JIS C-5201-1 clause 4.24		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	JIS C-5201-1 clause 4.19		-55 °C to +155 °C, 100 cycles
Load Life	JIS C-5201-1 clause 4.25		Apply rated power at 70 °C ± 2 °C for 1000 hours with 1.5 hours "ON" and 0.5 hour "OFF"
Mechanical Shock	JIS C-5202 clause 6.7		a = 50G, t = 11 ms, 5 times shock
Substrate Bending	JIS C-5201-1 clause 4.33		Span between fulcrums: 90mm Bend width: 2mm 
Solderability	JIS C-5201-1 clause 4.17	Solder shall cover 95% or more of the electrode area	245 ± 5 °C for 3 ± 0.5 seconds

Wave Solder Temperature Condition



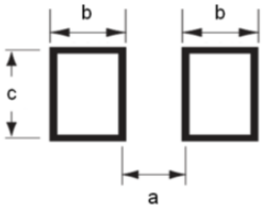
Preheating	100 °C ~ 130 °C, max. 100 seconds
Soldering	250 °C ~ 265 °C, max 10 seconds
Maximum Temperature	260 °C ± 5 °C, max 10 seconds

Solder Reflow Temperature Condition



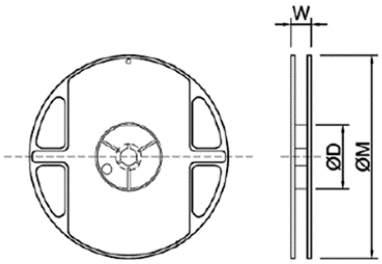
Profile Feature	Pb-Free Assembly
Average Ramp-up Rate (Ts_{max} to Tp)	3 °C / second max.
Preheat	
- Temperature Min (Ts_{min})	150 °C
- Temperature Max (Ts_{max})	200 °C
- Time (ts_{min} to ts_{max})	60-180 seconds
Time maintained	
- Temperature ($T_{L)}$	217 °C
- Time (t_L)	60-150 seconds
Peak Temperature (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.

Recommended Pad Layouts



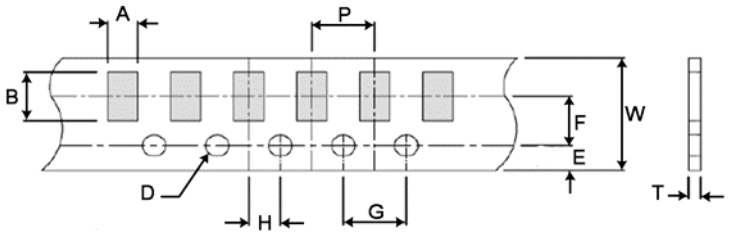
Type / Code	a	b	c	Unit
HCJ0402	0.016 0.40	0.020 0.50	0.024 0.60	inches mm
HCJ0603	0.024 0.60	0.051 1.30	0.039 1.00	inches mm
HCJ0805	0.031 0.80	0.055 1.40	0.055 1.40	inches mm
HCJ1206	0.047 1.20	0.071 1.80	0.071 1.80	inches mm
HCJ2512	0.150 3.80	0.083 2.10	0.134 3.40	inches mm

Reel Specifications



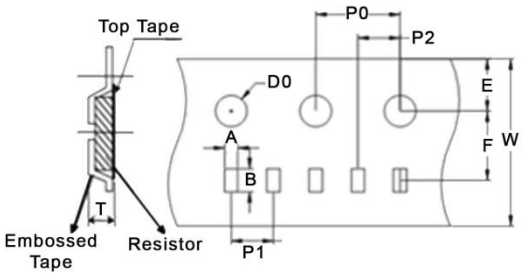
Type / Code	W	ØD	ØM	Unit
HCJ0402 / HCJ0603	2.362 ± 0.079	0.354 ± 0.039	7.008 ± 0.197	inches
HCJ0805 / HCJ1206	60.00 ± 2.00	9.00 ± 1.00	178.00 ± 5.00	mm

Taping Specifications – Paper Tape



Type / Code	A	B	E	F	W	Unit
HCJ0402	0.028 ± 0.002	0.047 ± 0.002	0.069 ± 0.004	0.138 ± 0.002	0.315 ± 0.008	inches
	0.70 ± 0.05	1.20 ± 0.05	1.75 ± 0.10	3.50 ± 0.05	8.00 ± 0.20	mm
HCJ0603	0.046 ± 0.008	0.078 ± 0.008	0.069 ± 0.004	0.138 ± 0.004	0.315 ± 0.012	inches
	1.18 ± 0.20	1.98 ± 0.20	1.75 ± 0.10	3.50 ± 0.10	8.00 ± 0.30	mm
HCJ0805	0.066 ± 0.008	0.094 ± 0.008	0.069 ± 0.004	0.138 ± 0.004	0.315 ± 0.012	inches
	1.68 ± 0.20	2.38 ± 0.20	1.75 ± 0.10	3.50 ± 0.10	8.00 ± 0.30	mm
HCJ1206	0.081 ± 0.008	0.144 ± 0.008	0.069 ± 0.004	0.138 ± 0.004	0.315 ± 0.012	inches
	2.05 ± 0.20	3.65 ± 0.20	1.75 ± 0.10	3.50 ± 0.10	8.00 ± 0.30	mm
Type / Code	G	P	H	D	T	Unit
HCJ0402	0.157 ± 0.004	0.079 ± 0.004	0.079 ± 0.004	0.059 +0.004/-0.00	0.018 ± 0.004	inches
	4.00 ± 0.10	2.00 ± 0.10	2.00 ± 0.10	1.50 +0.10/-0.00	0.45 ± 0.10	mm
HCJ0603	0.157 ± 0.004	0.157 ± 0.004	0.079 ± 0.004	0.059 +0.004/-0.00	0.030 ± 0.008	inches
	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.10	1.50 +0.10/-0.00	0.75 ± 0.20	mm
HCJ0805	0.157 ± 0.004	0.157 ± 0.004	0.079 ± 0.004	0.059 +0.004/-0.00	0.034 ± 0.008	inches
	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.10	1.50 +0.10/-0.00	0.87 ± 0.20	mm
HCJ1206	0.157 ± 0.004	0.157 ± 0.004	0.079 ± 0.004	0.059 +0.004/-0.00	0.034 ± 0.008	inches
	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.10	1.50 +0.10/-0.00	0.87 ± 0.20	mm

Taping Specifications – Embossed Plastic Tape



Type / Code	A	B	E	F	W	Unit
HCJ2512	0.138 ± 0.004 3.50 ± 0.10	0.268 ± 0.004 6.80 ± 0.10	0.069 ± 0.004 1.75 ± 0.10	0.217 ± 0.002 5.50 ± 0.05	0.472 ± 0.008 12.00 ± 0.20	inches mm
	P0	P1	P2	D0	T	Unit
	0.157 ± 0.002 4.00 ± 0.05	0.157 ± 0.004 4.00 ± 0.10	0.079 ± 0.002 2.00 ± 0.05	0.059 ± 0.004 1.50 ± 0.10	0.039 ± 0.008 1.00 ± 0.20	inches mm

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

1	2	3	4	5	6	7	8	9	10	11	12	13
H	**C**	**J**	**0**	**6**	**0**	**3**	**Z**	**T**	**0**	**R**	**0**	**0**

Product Series

HCJ

Size

Size	Rating Current
0402	6.5A
0603	22.4A
0805	31.6A
1206	38.7A
2512	63.2A

Tolerance

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

Packaging

Code	Description	Size	Quantity
T	Paper Tape	0402	10,000
		0603, 0805, 1206	5,000
	Embossed Plastic	2512	4,000

Resistance Value

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