

- 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 management applications

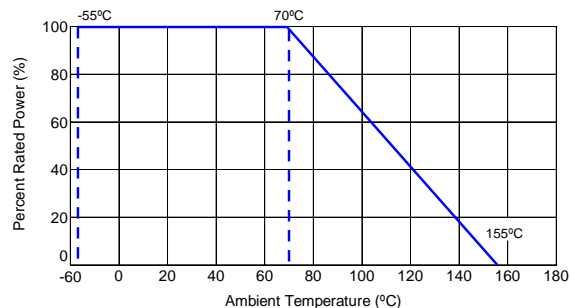


Electrical Specifications					
Type / Code	Current Rating (A)	Power Rating (W)	Max Overload Current (A)	Operating Temperature Range	Ohmic Range (Ω)
HCJ0402	6.5	0.125	14.2	-55°C to +155°C	≤ 0.003
HCJ0603	22.4	0.25	56		
HCJ0805	31.6	0.5	79		
HCJ1206	38.7	0.75	96.7		
HCJ2512	63.2	2	158		

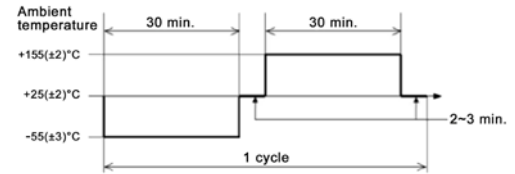
Power rating: $P=I^2 \cdot R$

Mechanical Specifications					
Type / Code	L	W	t	A	Unit
HCJ0402	0.039 ± 0.004	0.020 ± 0.002	0.016 ± 0.002	0.012 ± 0.004	inches
	1.00 ± 0.10	0.50 ± 0.05	0.40 ± 0.05	0.30 ± 0.10	mm
HCJ0603	0.061 ± 0.004	0.031 ± 0.004	0.018 ± 0.004	0.014 ± 0.008	inches
	1.55 ± 0.10	0.80 ± 0.10	0.45 ± 0.10	0.35 ± 0.20	mm
HCJ0805	0.083 ± 0.006	0.053 ± 0.006	0.028 ± 0.004	0.022 ± 0.008	inches
	2.10 ± 0.15	1.35 ± 0.15	0.70 ± 0.10	0.55 ± 0.20	mm
HCJ1206	0.122 ± 0.008	0.061 ± 0.004	0.028 ± 0.004	0.031 ± 0.008	inches
	3.10 ± 0.20	1.55 ± 0.10	0.70 ± 0.10	0.80 ± 0.20	mm
HCJ2512	0.256 ± 0.008	0.126 ± 0.008	0.030 ± 0.004	0.033 ± 0.010	inches
	6.50 ± 0.20	3.20 ± 0.20	0.75 ± 0.10	0.85 ± 0.25	mm

Power Derating Curve:

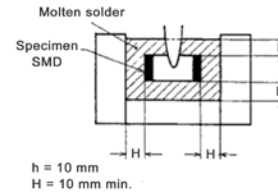
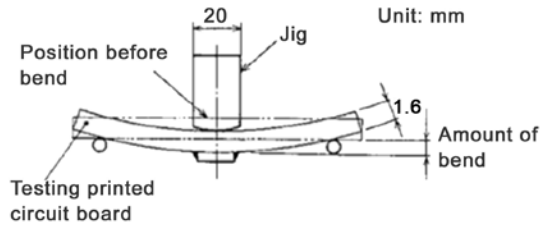


Environmental Performance Characteristics			
Test	Test Method	Test Specification	Test Condition
Short Time Overload	JIS-C5202-5.5	For 0402 size max. 0.003Ω All other sizes max. 0.0005Ω	2.5X rated current for 5 seconds
Damp Heat with Load	MIL-STD-202, Method 103		Specimens shall be placed in a chamber and subject to a relative humidity of 90~95% and to a temperature of 40°C ± 2°C for the period of 1000 hours
High Temperature Exposure	JIS-C5202-7.2		Part (mounted on board) is exposed in the heat chamber 125°C ± 3°C for 1000 hours
Load Life	JIS-C5202-7.10		Apply rated power at 70°C ± 2°C for 1000 hours with 1.5 hours ON and 0.5 hour OFF
Rapid Change of Temperature	JIS-C5202-7.4		Part (mounted on board) is exposed, -55°C ± 3°C (30 min.) / +155°C ± 2°C (30 minutes) for 5 cycles. The following conditions as per picture below.

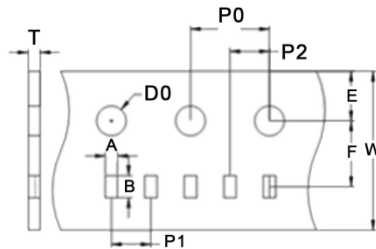


Note: Test board surface temperature shall not exceed 100°C when applying rated current.
Storage Conditions: 5°C ~ 35°C. RH: 40%-75%

Function Performance Characteristics			
Test	Test Method	Test Specification	Test Condition
Bending Strength	JIS-C5202-6.1	For 0402 size max. 0.003Ω All other sizes max. 0.0005Ω	Mount part to test substrate. Apply pressure in direction of arrow unit band width reaches 0.5mm (+0.2/-0mm)(illustrated in the figure below) and hold for 10 seconds ± 1 second.
Resistance to Solder Heat	MIL-STD-202, Method 210	For 0402 size max. 0.003Ω All other sizes max. 0.0005Ω	The part shall be immersed into the flux specified in the solder bath 260°C ± 5°C for 10 seconds ± 1 second
Solderability	JIS-C5 202-6.11	Solder shall be covered 95% or more of the electrode area	The part shall be immersed into the flux specified in the solder bath 235°C ± 5°C for 2 seconds ± 0.5 seconds. It shall be immersed to a point 10mm from its root. (Sn96.5/Ag3.0/Cu0.5)

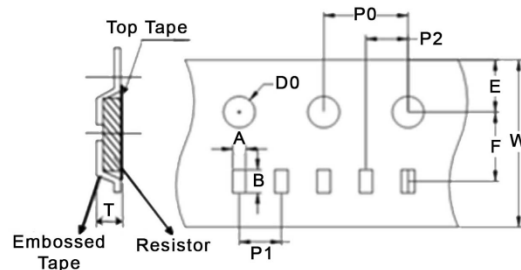


Taping Specifications – Paper Tape



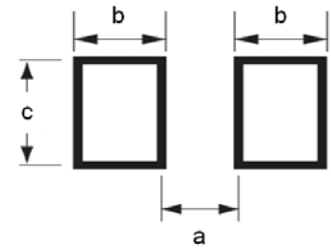
Type / Code	A	B	E	F	W	Unit
HCJ0402	0.028 ± 0.002	0.047 ± 0.002	0.069 ± 0.004	0.138 ± 0.002	0.315 ± 0.008	inches
	0.70 ± 0.05	1.20 ± 0.05	1.75 ± 0.10	3.50 ± 0.05	8.00 ± 0.20	mm
HCJ0603	0.043 ± 0.004	0.075 ± 0.004	0.069 ± 0.004	0.138 ± 0.002	0.315 ± 0.008	inches
	1.10 ± 0.10	1.90 ± 0.10	1.75 ± 0.10	3.50 ± 0.05	8.00 ± 0.20	mm
HCJ0805	0.063 ± 0.004	0.094 ± 0.004	0.069 ± 0.004	0.138 ± 0.002	0.315 ± 0.008	inches
	1.60 ± 0.10	2.40 ± 0.10	1.75 ± 0.10	3.50 ± 0.05	8.00 ± 0.20	mm
HCJ1206	0.079 ± 0.004	0.142 ± 0.004	0.069 ± 0.004	0.138 ± 0.002	0.315 ± 0.008	inches
	2.00 ± 0.10	3.60 ± 0.10	1.75 ± 0.10	3.50 ± 0.05	8.00 ± 0.20	mm
Type / Code	P0	P1	P2	D0	T	Unit
HCJ0402	0.157 ± 0.004	0.079 ± 0.004	0.079 ± 0.002	0.061 ± 0.002	0.018 ± 0.004	inches
	4.00 ± 0.10	2.00 ± 0.10	2.00 ± 0.05	1.55 ± 0.05	0.45 ± 0.10	mm
HCJ0603	0.157 ± 0.004	0.157 ± 0.004	0.079 ± 0.002	0.061 ± 0.002	0.025 ± 0.004	inches
	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.05	1.55 ± 0.05	0.64 ± 0.10	mm
HCJ0805	0.157 ± 0.004	0.157 ± 0.004	0.079 ± 0.002	0.061 ± 0.002	0.038 ± 0.004	inches
	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.05	1.55 ± 0.05	0.97 ± 0.10	mm
HCJ1206	0.157 ± 0.004	0.157 ± 0.004	0.079 ± 0.002	0.061 ± 0.002	0.038 ± 0.004	inches
	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.05	1.55 ± 0.05	0.97 ± 0.10	mm

Taping Specifications – Embossed Plastic Tape



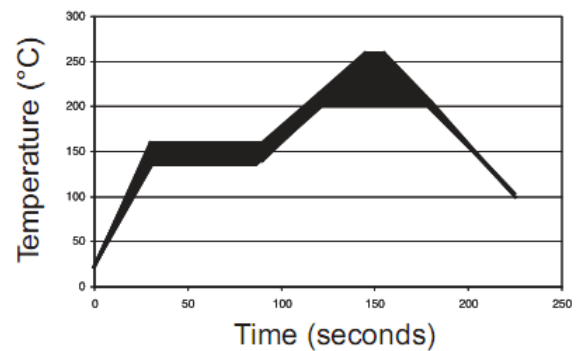
Type / Code	A	B	E	F	W	Unit
HCJ2512	0.138 ± 0.004	0.268 ± 0.004	0.069 ± 0.004	0.217 ± 0.002	0.472 ± 0.008	inches
	3.50 ± 0.10	6.80 ± 0.10	1.75 ± 0.10	5.50 ± 0.05	12.00 ± 0.20	mm
Type / Code	P0	P1	P2	D0	T	Unit
HCJ2512	0.157 ± 0.002	0.157 ± 0.004	0.079 ± 0.002	0.059 ± 0.004	0.039 ± 0.008	inches
	4.00 ±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

Recommended Pad Layout				
Type / Code	a	b	c	Unit
HCJ0402	0.016	0.020	0.024	inches
	0.40	0.50	0.60	mm
HCJ0603	0.035	0.028	0.039	inches
	0.90	0.70	1.00	mm
HCJ0805	0.047	0.047	0.055	inches
	1.20	1.20	1.40	mm
HCJ1206	0.079	0.051	0.071	inches
	2.00	1.30	1.80	mm
HCJ2512	0.150	0.083	0.134	inches
	3.80	2.10	3.40	mm



Soldering Recommendations:

- Peak reflow temperatures and durations
 - ✓ IR Reflow Peak = 260°C max for 10 seconds
 - ✓ Wave Solder = 260°C max for 10 seconds
- Compatible with lead and lead-free solder reflow processes
- Recommended IR reflow profile:



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 2). 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.

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	Size	Rating Current	Tolerance				Packaging				Resistance Value
HCJ	0402	6.5A	Code	Tol	Size	Value (Ω)	Code	Description	Size	Quantity	Four characters with the multiplier used as the decimal holder. 0 ohm = 0R00
	0603	22.4A	Z	Zero Ohm	0402	<0.003	T	Paper Tape	0402	10,000	
	0805	31.6A			0603	<0.0005			0603, 0805, 1206	5,000	
	1206	38.7A			0805			2512	4,000		
	2512	63.2A			1206						
					2512						