

## BCCLH-1608E1 (0603) series

### Features

- For high frequency application
- Standard size – 0603 (0201), 1005 (0402), 1608 (0603)
- Lead-free specifications (Pass Green Policy)
- Tight tolerance physical dimensions
- Surface mounting applicability (Supports reflow soldering condition)
- Tight Inductance Tolerance, Excellent Q and Guaranteed SRF range
- High product quality and outstanding reliability. (Ceramic integrated structure)

### Application

- For high frequency application: cellular phone, WLAN, PHS, EMI countermeasure in high frequency circuits and computer communication etc.

### Part Number

**BCCLH** **1608** **E1** - **1N0** **S**  
 A            B            C            D            E

A: Product Code

B: Dimension Code

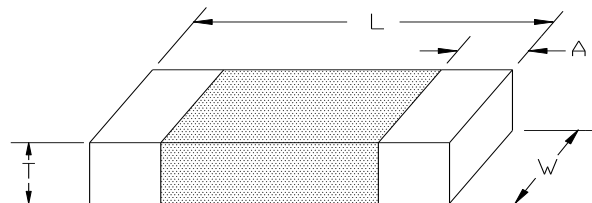
C: General Current

D: Inductance        1N0=1.0nH

E: Tolerance        B=±0.1nH, C=±0.2nH, S=±0.3nH

H=±3%, J=±5%

### Dimensions Specifications



Dimension Code (EIA Code)	L	W	T	A (Min/Max)	Unit
1608	1.60±0.15	0.80±0.15	0.80±0.15	0.30±0.20	mm
(0603)	1.65±0.15 (0.065±0.006)	(0.031±0.006)	(0.031±0.006)	(0.12±0.008)	(inch)

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### Electric Characteristic

Part Number	Inductance (nH)	Tolerance	Q (Min.)	L, Q Measuring Frequency (MHz)	SRF (MHz) Min.	DCR (Ω) Max.	Rated Current (mA) Max.	Thickness mm (inch)
BCCLH-1608E1-1N0□	1.0	S	8	100	10000	0.05	500	1.60±0.15 (0.063±0.006)
BCCLH-1608E1-1N2□	1.2	S	8	100	10000	0.05	500	
BCCLH-1608E1-1N5□	1.5	S	8	100	6000	0.10	500	
BCCLH-1608E1-1N8□	1.8	S	8	100	6000	0.10	500	
BCCLH-1608E1-2N2□	2.2	S	8	100	6000	0.10	500	
BCCLH-1608E1-2N7□	2.7	S	10	100	6000	0.12	500	
BCCLH-1608E1-3N3□	3.3	S	10	100	6000	0.15	500	
BCCLH-1608E1-3N9□	3.9	S	10	100	6000	0.16	500	
BCCLH-1608E1-4N7□	4.7	S	10	100	6000	0.20	500	
BCCLH-1608E1-5N6□	5.6	S	10	100	5000	0.25	500	
BCCLH-1608E1-6N8□	6.8	H,J	10	100	5000	0.30	500	
BCCLH-1608E1-8N2□	8.2	H,J	10	100	4500	0.35	500	
BCCLH-1608E1-10N□	10	H,J	12	100	3500	0.40	300	
BCCLH-1608E1-12N□	12	H,J	12	100	3000	0.45	300	
BCCLH-1608E1-15N□	15	H,J	12	100	2300	0.50	300	
BCCLH-1608E1-18N□	18	H,J	12	100	2200	0.55	300	
BCCLH-1608E1-22N□	22	H,J	12	100	2000	0.60	300	
BCCLH-1608E1-27N□	27	H,J	12	100	1700	0.65	300	
BCCLH-1608E1-33N□	33	H,J	12	100	1500	0.70	300	
BCCLH-1608E1-39N□	39	H,J	12	100	1400	0.70	300	
BCCLH-1608E1-47N□	47	H,J	12	100	1200	0.70	300	
BCCLH-1608E1-56N□	56	H,J	12	100	1100	0.75	300	
BCCLH-1608E1-68N□	68	H,J	12	100	900	0.85	300	
BCCLH-1608E1-82N□	82	H,J	8	100	800	1.00	300	
BCCLH-1608E1-R10□	100	H,J	8	100	700	1.20	300	
BCCLH-1608E1-R12□	120	H,J	8	50	600	1.40	200	
BCCLH-1608E1-R15□	150	H,J	8	50	500	1.60	200	
BCCLH-1608E1-R18□	180	H,J	8	50	400	1.90	200	
BCCLH-1608E1-R22□	220	H,J	8	50	350	2.40	200	
BCCLH-1608E1-R27□	270	H,J	8	50	350	2.60	150	
BCCLH-1608E1-R33□	330	H,J	8	50	350	2.80	150	
BCCLH-1608E1-R39□	390	H,J	8	50	300	3.20	150	
BCCLH-1608E1-R43□	430	H,J	8	50	280	3.40	150	
BCCLH-1608E1-R47□	470	H,J	8	50	250	3.60	150	
BCCLH-1608E1-R56□	560	H,J	8	50	250	4.00	100	
BCCLH-1608E1-R68□	680	H,J	8	50	250	4.00	100	

1. □ Tolerance: B=±0.1nH, C=±0.2nH, S=±0.3nH, H=±3%, J=±5%

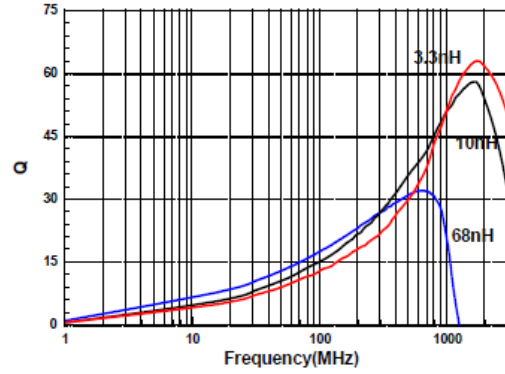
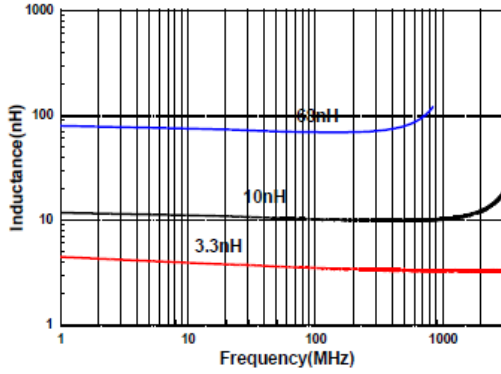
2. Measuring Equipment: HP4291B+16192A

3. Measuring Temperature: 25±3°C

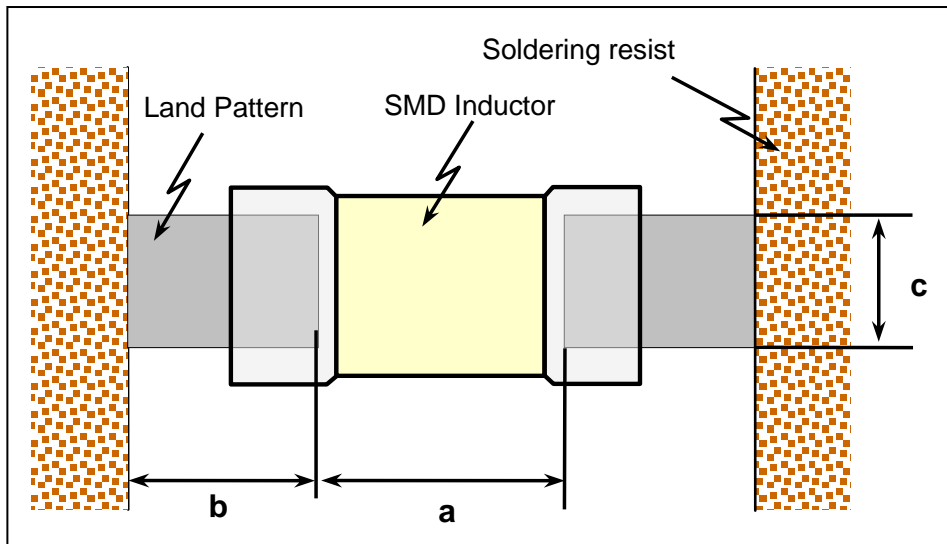
4. Operating Temperature Range: -40°C ~ +125°C

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### Typical Electrical Characteristics



### Recommended Pad Dimensions

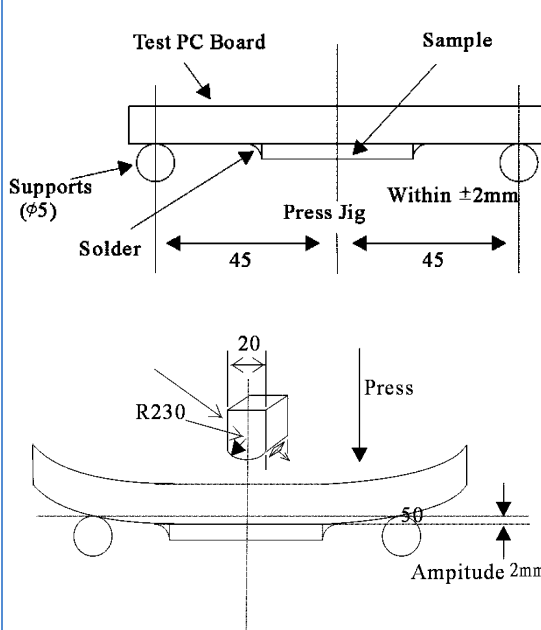


Size mm (EIA)	L x W	a	b	c
0603 (0201)	0.6 x 0.3	0.15 to 0.35	0.20 to 0.30	0.25 to 0.30
1005 (0402)	1.0 x 0.5	0.30 to 0.50	0.35 to 0.45	0.40 to 0.50
1608 (0603)	1.6 x 0.8	0.70 to 1.00	0.60 to 0.80	0.70 to 0.80

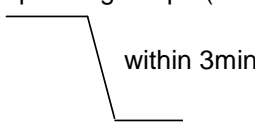
Unit: mm

## BCCLH-1608E1 (0603) series

### Testing Condition and Requirements

No.	Item	Test Condition	Requirements
1	Inductance	a. Temperature: 25+/- 3°C b. Relative Humidity: 45 to 75%RH c. Measuring equipment and fixture: 1608(0603) HP 4291+16192A 1005(0402) HP 4287+16193A 0603(0201) HP 4287+16196C	In Within specified tolerance.
2	Q Value	a. Temperature: 25+/- 3°C b. Relative Humidity: 45 to 75%RH c. Measuring equipment and fixture: 1608(0603) HP 4291+16192A 1005(0402) HP 4287+16193A 0603(0201) HP 4287+16196C	In accordance with electrical specification.
3	DC Resistance	a. Temperature: 25+/- 3°C b. Relative Humidity: 45 to 75%RH c. Measuring equipment: HP 4338	In accordance with electrical specification.
4	Appearance	Inductors shall be visually inspected for visible evidence of defect.	In accordance with specification.
5	Dimension	Dimension shall be measured with caliper or micrometer	In accordance with dimension specification.
6	Solder-ability	Immerse a test sample into a methanol solution containing rosin and immerse into molten solder of 230+/-5°C for 5+/-1 seconds.	More than 75% of the terminal electrode part shall be covered with fresh solder.
7	Bending Strength	<p>Solder the chip to test jig then apply a force in the direction shown in below. The soldering shall be done with the reflow method and shall be conducted with care so that the soldering is uniform and free of defects such as heat shock.</p> <p style="text-align: center;"><b>Mounting Samples</b></p> 	<ol style="list-style-type: none"> <li>1. No mechanical damage shall be observed.</li> <li>2. Rdc-value: to meet the initial Spec.</li> </ol>
8	Resistance to Soldering Heat	Immerse a test sample into a methanol solution containing resin, preheat it at 120 to 150°C for 1 minutes and immerse into molten solder of 270+/-5°C for 10+/-1 second so that both terminal electrodes are completely submerged.	No visible damage Inductance variation within 10% Q variation within 20%

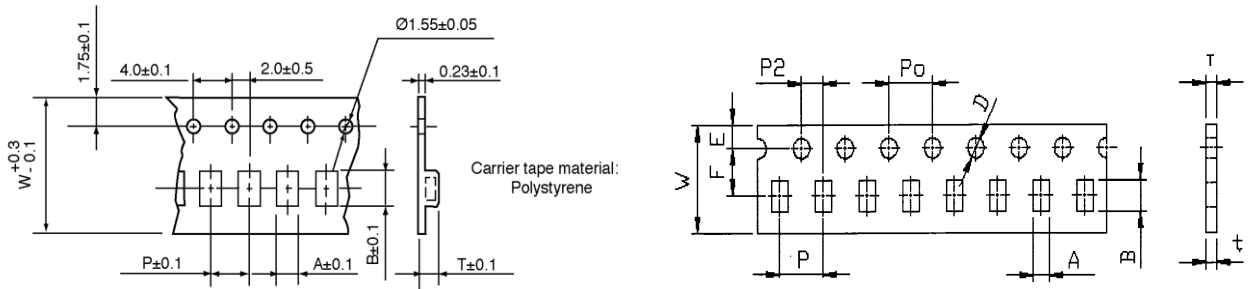
## BCCLH-1608E1 (0603) series

No.	Item	Test Condition	Requirements
9	Thermal Shock	<p>Solder a test sample to printed circuit board, and conduct 5 cycles of test under the conditions shown as below.</p> <p>0603 &amp; 1005 operating temp. range: -55~125°C 1608 operating temp. range: -40~85°C</p> <p>Cycle: Maximum operating temp. <math>\pm(30\pm 3\text{min})</math></p>  <p>Minimum operating temp. <math>(30\pm 3\text{min})</math></p>	<p>No visible damage Inductance variation within 10% Q variation within 20%</p>
10	High Humidity State Life Test	<p>Keep a test sample in an atmosphere with a temperature of <math>40\pm 2^\circ\text{C}</math>, 90~95%RH for 500<math>\pm</math>12 hours. After the removal from test chamber, 2 to 3 hours of recovery under standard condition, and measurement shall be made after 24<math>\pm</math>2 hrs of recovery under standard condition.</p>	<p>No visible damage. Inductance variation within 10%. Q variation within 20%.</p>
11	High Humidity Load Life Test	<p>Solder a test sample to printed circuit board then keep the test sample in an atmosphere with a temperature of <math>40\pm 2^\circ\text{C}</math>, 90~95%RH for 500<math>\pm</math>12 hours while supplying the rated current. After the removal from test chamber, 2 to 3 hours of recovery under standard condition, and measurement shall be made after 24<math>\pm</math>2 hrs of recovery under standard condition.</p>	<p>No visible damage. Inductance variation within 10%. Q variation within 20%.</p>
12	High Temperature State Life Test	<p>Keep a test sample in an atmosphere with a temperature of <math>85\pm 2^\circ\text{C}</math> for 500<math>\pm</math>12 hours. After the removal from test chamber, 2 to 3 hours of recovery under standard condition, and measurement shall be made after 24<math>\pm</math>2 hrs of recovery under standard condition.</p>	<p>No visible damage. Inductance variation within 10%. Q variation within 20%.</p>
13	High Temperature Load	<p>Solder a test sample to printed circuit board then keep the test sample in an atmosphere with a temperature of <math>85\pm 2^\circ\text{C}</math> for 500<math>\pm</math>12 hours while supplying the rated current. After the removal from test chamber, 2 to 3 hours of recovery under standard condition, and measurement shall be made after 24<math>\pm</math>2 hrs of recovery under standard condition.</p>	<p>No visible damage. Inductance variation within 10%. Q variation within 20%.</p>

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### Packaging Information

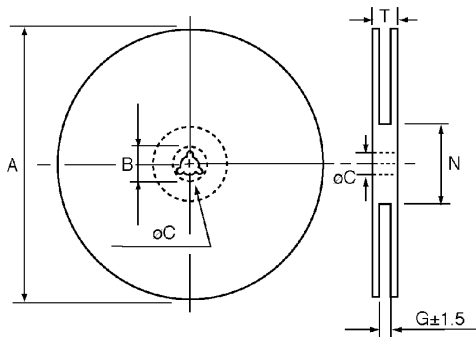
Tape dimensions and packaging quantities



Material: Paper ( Dimensions in mm)						
Series	A	B	W	P	T	Chips / Reel
1608	1.10	1.90	8	4	0.95	4,000

### Reel dimensions

Material: Paper, Plastic



Part	8mm	12mm
A	178±2	178±2
B	21.0±0.8	21.0±0.8
C	13.0±0.8	13.0±0.8
G	10.0	14.0
N	75	75
T	12.5	16.5

Unit: mm