

Wire-Wound Chip Inductor 0603 (1608FT) Series

1. Scope

This specification applies Ferrite Chip Inductance BCCWH-160808FT Series to be delivered to user.

2. Product Identification

BCCWH- 160808FT - R82 □

(1) (2) (3) (4)

(1) Product name

(2) Shapes and dimensions

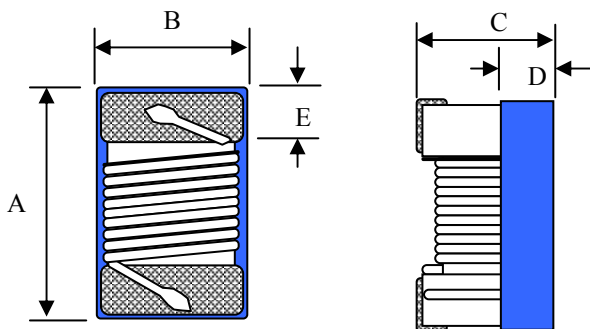
(3) Inductance

R82 : 0.82 uH

(4) Tolerance

J=±5% , K=±10%

3. Shapes and Dimensions



A max. : 1.80 mm

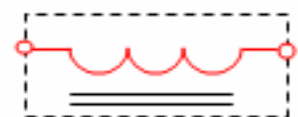
B max. : 1.20 mm

C max. : 1.10 mm

D ref. : 0.45 mm

E : 0.33 ± 0.1 mm

Equivalent circuit



No Polarity

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4. Electrical Characteristics

CCS Part Number	Inductance (μ H)/MHz	Inductance Tolerance	Q/MHz Min.	SRF(Min.) (MHz)	Rdc (Ω)Max.	Idc Max. (mA)	Irms Typ. (mA)	Color Coding
BCCWH-160808FT-47N□	0.047/7.9	K	12/7.9	2000	0.075	1800	1600	White
BCCWH-160808FT-51N□	0.051/7.9	J	12/7.9	1500	0.075	1800	1500	Violet
BCCWH-160808FT-68N□	0.068/7.9	K	10/7.9	1500	0.12	1800	1400	Gray
BCCWH-160808FT-72N□	0.072/7.9	K	12/7.9	1500	0.12	1800	1400	Brown
BCCWH-160808FT-R10□	0.10/7.9	K	12/7.9	1150	0.13	1700	1300	Black
BCCWH-160808FT-R12□	0.12/7.9	J	12/7.9	1100	0.15	1700	1300	Orange
		K						
BCCWH-160808FT-R15□	0.15/7.9	J	15/7.9	1050	0.15	1600	1200	Brown
		K						
BCCWH-160808FT-R18□	0.18/7.9	J	15/7.9	950	0.15	1500	1100	Green
		K						
BCCWH-160808FT-R22□	0.22/7.9	J	15/7.9	900	0.30	1200	940	Red
		K						
BCCWH-160808FT-R24□	0.24/7.9	J	15/7.9	850	0.16	1460	1000	Green
		K						
BCCWH-160808FT-R27□	0.27/7.9	J	15/7.9	835	0.30	1460	950	Yellow
		K						
BCCWH-160808FT-R33□	0.33/7.9	J	15/7.9	725	0.40	1420	940	Orange
		K						
BCCWH-160808FT-R39□	0.39/7.9	J	15/7.9	680	0.41	1400	860	Blue
		K						
BCCWH-160808FT-R47□	0.47/7.9	J	15/7.9	640	0.43	1400	820	Black
		K						
BCCWH-160808FT-R56□	0.56/7.9	J	15/7.9	630	0.44	1400	770	Brown
		K						
BCCWH-160808FT-R68□	0.68/7.9	J	15/7.9	510	0.52	1340	730	Red
		K						
BCCWH-160808FT-R78□	0.78/7.9	J	15/7.9	465	0.63	1300	730	Orange
		K						
BCCWH-160808FT-R82□	0.82/7.9	J	15/7.9	460	0.69	1200	660	Yellow
		K						
BCCWH-160808FT-1R0□	1.0/7.9	J	15/7.9	320	0.81	1100	630	Green
		K						

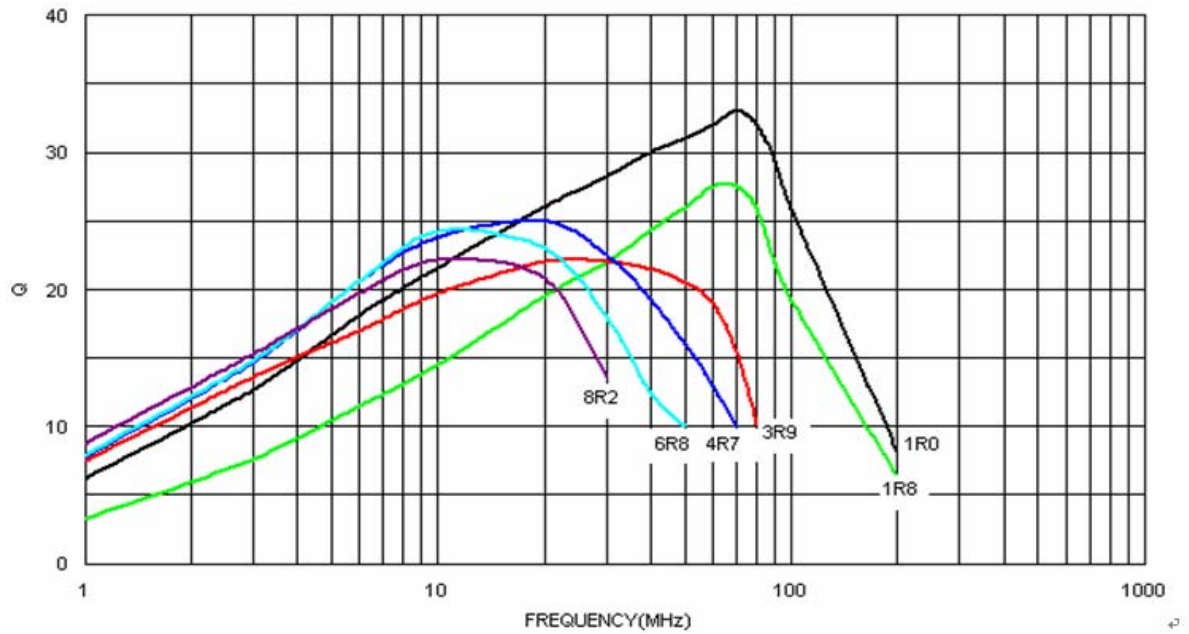
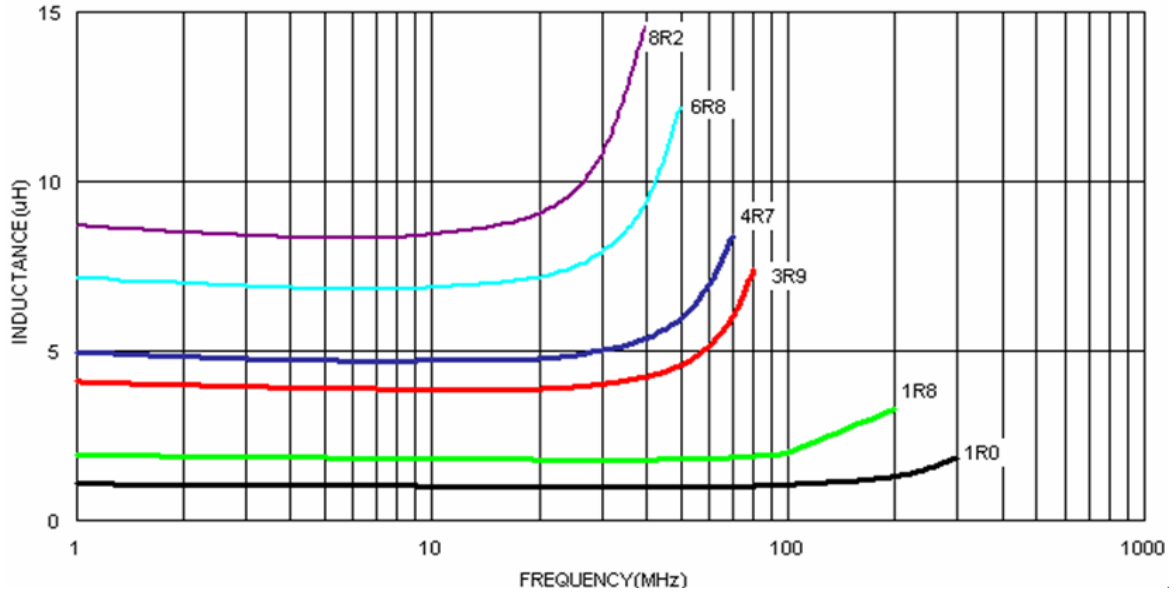
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4. Electrical Characteristics

Our Product Part Number	Inductance (uH)/MHz	Inductance Tolerance	Q/MHz Min.	SRF(Min.) (MHz)	Rdc (Ω)Max.	Idc Max. (mA)	Irms Typ. (mA)	Color Coding
BCCWH-160808FT-1R2□	1.2/7.9	J K	15/7.9	270	0.87	1000	540	Blue
BCCWH-160808FT-1R5□	1.5/7.9	J K	15/7.9	230	0.96	920	560	Violet
BCCWH-160808FT-1R8□	1.8/7.9	J K	15/7.9	210	1.10	900	500	Gray
BCCWH-160808FT-2R2□	2.2/7.9	J K	15/7.9	115	1.20	740	500	White
BCCWH-160808FT-2R7□	2.7/7.9	J K	15/7.9	100	1.38	700	460	Black
BCCWH-160808FT-3R0□	3.0/7.9	J K	15/7.9	90	1.45	680	430	Black
BCCWH-160808FT-3R3□	3.3/7.9	J K	15/7.9	84	1.50	680	420	Brown
BCCWH-160808FT-3R9□	3.9/7.9	J K	15/7.9	75	1.50	600	400	Red
BCCWH-160808FT-4R7□	4.7/7.9	J K	15/7.9	67	2.10	580	350	Orange
BCCWH-160808FT-5R6□	5.6/7.9	J K	15/7.9	55	2.37	540	340	Yellow
BCCWH-160808FT-6R8□	6.8/7.9	J K	15/7.9	48	3.10	500	330	Green
BCCWH-160808FT-7R8□	7.8/7.9	J K	15/7.9	40	3.35	460	320	Blue
BCCWH-160808FT-8R2□	8.2/7.9	J K	15/7.9	38	3.50	440	300	Violet
BCCWH-160808FT-100□	10/7.9	J K	15/7.9	32	4.46	400	250	Gray

- When ordering, please specify tolerance and packaging codes. Ex: LCF0603-1R0J-T
Tolerance : J = ±5% , K = ±10%
Packaging : Clear tape and reel { standard }.
- L , Q 、 SRF : Agilent/HP E4991A+ Agilent/HP16197A
(The electrical specification test by the smallest gap position) or HP16193A
- Rdc : DIGITAL MILLIOHM METER Chroma 16502, or equivalent.
- Idc for Inductance drop 10% from its value without current.
- Operating temperature range from -25°C to 85°C.
- Irms For 25°C rise form 25°C ambient.

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5. Material list

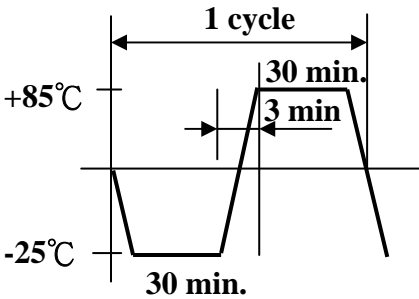
Item	Material
Core	Ferrite core
Wire	Copper wire
Epoxy	UV Epoxy

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6. Reliability Test

Item	Specifications	Test conditions
Solderability	The metalized area must have 90% minimum solder coverage.	Dip pads in flux and dip in solder pot(96.5 Sn/3.5 Ag solder) at 255°C ±5°C.
Resistance to soldering heat	There must be no case deformation or change in dimensions. Inductance must not change more than the stated tolerance.	Inductors shall be reflowed onto a PC board using 96.5 Sn/3.5 Ag solder paste. Solder process shall be at a maximum temperature of 260°C. For 96.5 Sn/3.5 Ag solder paste:>217°C for 90 seconds
Vibration	There must be no case deformation or change in dimensions. Inductance must not change more than the stated tolerance.	Solder specimen inductor on the test printed circuit board. Apply vibrations in each of the x,y and z directions for 2 house for a total of 6 hours. Frequency : 10~50 Hz Amplitude : 1.5mm
High temperature resistance	There must be no case deformation or change in dimensions. Inductance must not change more than the stated tolerance.	Inductors shall be subjected to temperature 85±2°C for 500±12 hours. Measure the test items after leaving the inductors at room temperature and humidity for 2 hours.
Static Humidity	Inductors must not have a shorted or openwinding.	Inductors shall be subjected to temperature 85±2°C and 90 to 95%RH. for ten 24-hours. Measure the test items after leaving the inductors at room temperature and humidity for 2 hours.
Component adhesion (push test)	Inductors shall be subjected to 0.45Kg	Inductors shall be reflow soldered (255°C ±5°C for 10 seconds) to a tinned copper substrate. A force gauge shall be applied to the side of the component. The device must withstand the stated force without a failure of the termination.

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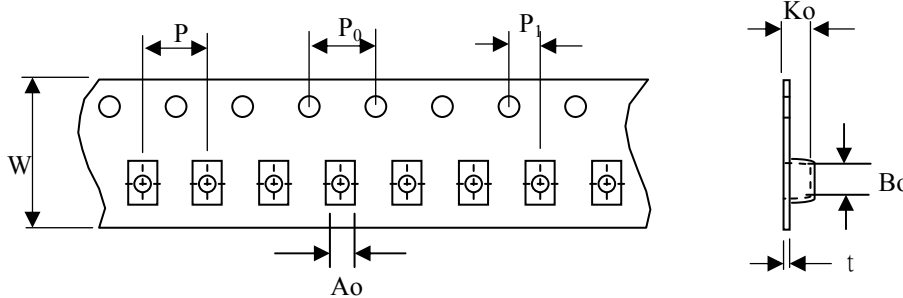
Item	Specifications	Test conditions
Low temperature resistance	There must be no case deformation or change in dimensions. Inductance must not change more than the stated tolerance.	Inductors shall be subjected to temperature $-25\pm 2^{\circ}\text{C}$ for 500 ± 12 hours. Measure the test items after leaving the inductors at room temperature and humidity for 1 to 2 hours.
Resistance to solvent	There must be no case deformation, change in dimensions, or obliteration of marking.	Inductors must withstand 6 minutes of alcohol or water.
Thermal Shock	There must be no case deformation or change in dimensions. Inductance must not change more than the stated tolerance.	Inductors shall be subjected to 10 cycles to the the following temperature cycle: <div style="text-align: center;">  <p>The diagram illustrates a temperature cycle. The vertical axis shows temperature with markers for $+85^{\circ}\text{C}$ and -25°C. A horizontal line represents the room temperature baseline. The cycle starts at room temperature, ramps down to -25°C (labeled '30 min.'), dwells at -25°C (labeled '30 min.'), ramps up to $+85^{\circ}\text{C}$ (labeled '3 min.'), dwells at $+85^{\circ}\text{C}$ (labeled '30 min.'), and then ramps back down to room temperature. A double-headed arrow above the cycle indicates the duration of '1 cycle'.</p> </div> Measure the test items after leaving the inductors at room temperature and humidity for 2 hours.

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7. Packaging

The packaging must be done not to receive any damage during transporting and storing.

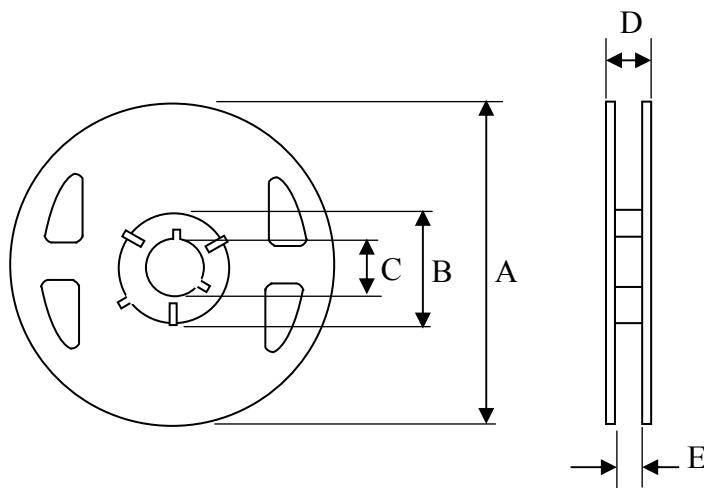
7-1 Tape dimensions



(Dimensions in mm; Tolerance : ± 0.1)

Symbol	W	P	P ₀	P ₁	A _o	B _o	K _o	t
Dimension	8	4	4	2	1.2	1.9	1	0.22

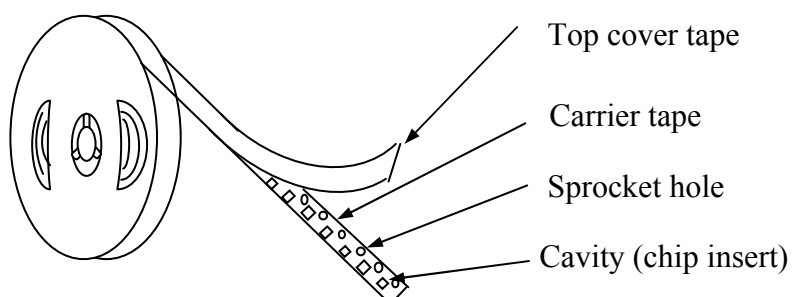
7-2 Reel dimensions



(Dimensions in mm)

Symbol	T
A	180
B	60
C	13
D	14.4
E	8.4

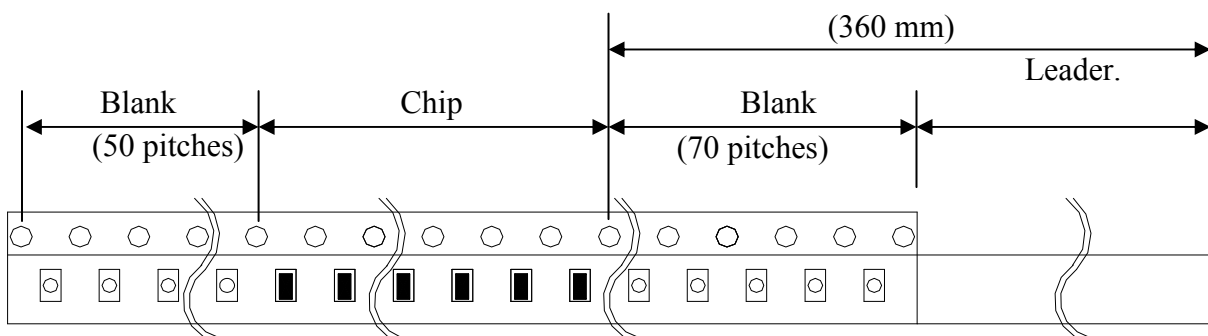
7-3 Tapping figure



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7-4 Packaging Form

There shall not continuation more than two vacancies of the product.



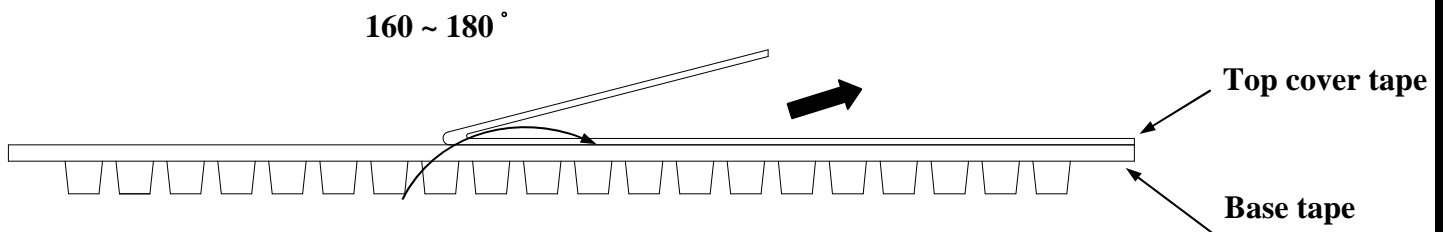
7-5 Cover Tape Peel Strength

The force for tearing off cover tape is 0.1~0.6(N) in the arrow direction at the following conditions:

Temperature : 5 ~ 35°C

Humidity : 45 ~ 85%

Atmospheric pressure : 860 ~ 1060 hpa



7-6 Packing Quantity

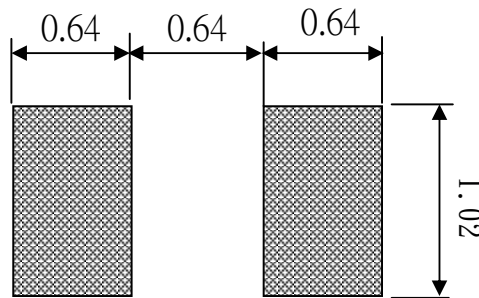
φ180 mm reel type : 4,000 pcs./reel

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8. Recommended Soldering Conditions

(Please use this product by reflow soldering)

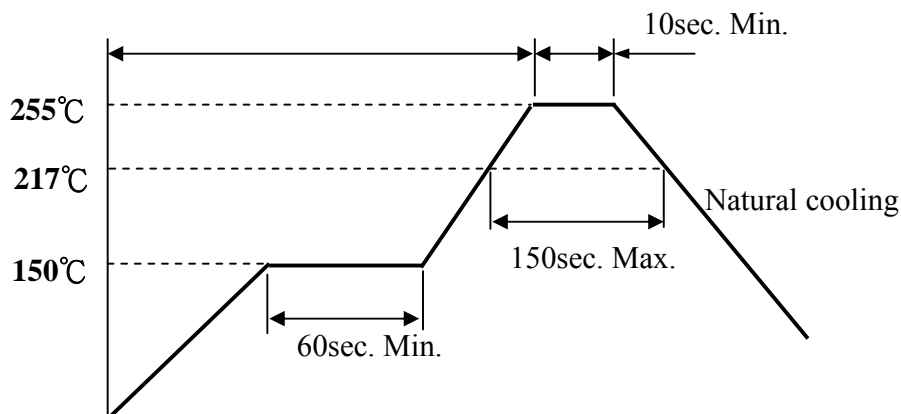
8-1 Recommended Footprint



Unit: mm

8-2 Recommended Reflow Pattern

Reflow : until two times



8-3 Iron Soldering

Use a solder iron of less than 30W when soldering ,do not allow the soldering iron to directly touch the Ceramic body outside of terminal electrode.

5 seconds max. at 260°C.

9. Attention in Case of Using

In case of using product ,please avoid following matters:

Splashing water or salt water

Dew condenses

Toxic gas (Hydrogen sulfide, Sulfurous acid ,Chlorine, Ammo

Vibrations or shocks which exceed the specified condition

Please be careful for the stress to this product by board flexure or something after the mounting.

10. Others

10-1 Operating temperature range : Ferrite Series :-25~+85°C

10-2 Storage condition : Temperature 20°~25°C , Relative Humidity 40%~60%

10-3 Recommended wire wound inductors should be used within 6 months from the time of delivery.