# High Frequency Chip Inductor / CF TYPE

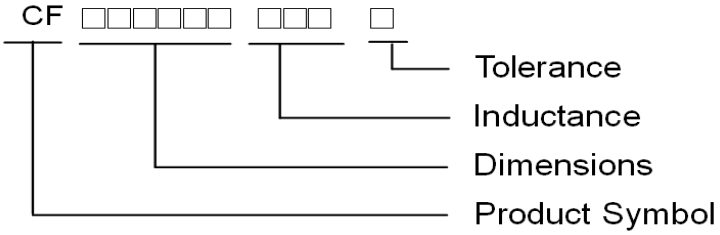
## .Features:

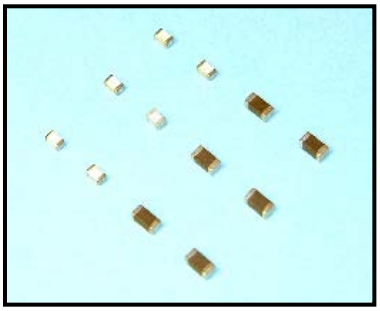
1.Closed magnetic circuit avoids crosstalk.
2.S.M.T. type.
3.Excellent solderability and heat resistance.
4.High realiability.
5.The products contain no lead and also support lead-free soldering.
6.Supports operating frequency up to 6GHz with nominal inductance values from 1.0nH to 470nH.

## .Applications:

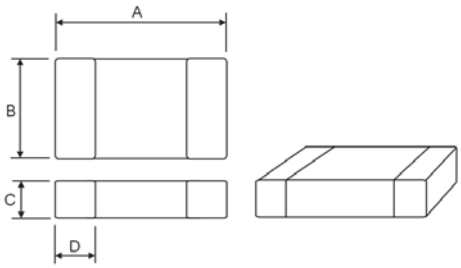
1.Prevention of electromagnetic interference to signals on the secondary side of electric equipment.
2.RF module of telecommunication products, personal handyphone systems, pagers, cellular phones, computer communications, etc…

## .Product Identification :

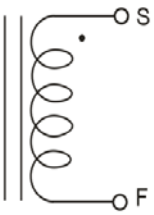


## .Shape and Dimension



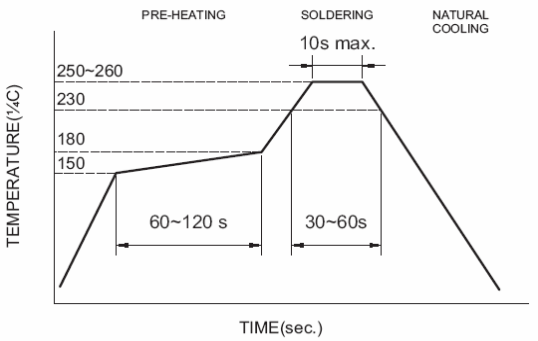

## .Schematic




Dimensions in mm

| TYPE | A(mm) | B(mm) | C(mm) | D(mm) |
|---|---|---|---|---|
| **CF100505** | 1.0±0.1 | 0.5±0.1 | 0.5±0.1 | 0.25±0.1 |
| **CF160808** | 1.6±0.15 | 0.8±0.15 | 0.8±0.15 | 0.3±0.2 |

## .Recommended Reflow



# High Frequency Chip Inductor / CF TYPE

## . Electrical Characteristics（CF100505 TYPE）

| Part No. | Inductance (nH) | Tolerance (±) | L,Q Test Freq. (MHz) | Q Min | SRF (MHz)Typ. | DCR (Ω) Max | Rated Current (mA) Max |
|---|---|---|---|---|---|---|---|
| CF100505T-0N2□ | 0.2 | 0.3nH | 100 MHz,200 mV | 8 | 10000 | 0.1 | 400 |
| CF100505T-0N3□ | 0.3 | 0.3nH | 100 MHz,200 mV | 8 | 10000 | 0.1 | 400 |
| CF100505T-0N4□ | 0.4 | 0.3nH | 100 MHz,200 mV | 8 | 10000 | 0.1 | 400 |
| CF100505T-0N5□ | 0.5 | 0.3nH | 100 MHz,200 mV | 8 | 10000 | 0.1 | 400 |
| CF100505T-0N6□ | 0.6 | 0.3nH | 100 MHz,200 mV | 8 | 10000 | 0.1 | 400 |
| CF100505T-0N7□ | 0.7 | 0.3nH | 100 MHz,200 mV | 8 | 10000 | 0.1 | 400 |
| CF100505T-0N8□ | 0.8 | 0.3nH | 100 MHz,200 mV | 8 | 10000 | 0.1 | 400 |
| CF100505T-1N0□ | 1 | 0.3nH | 100 MHz,200 mV | 8 | 10000 | 0.1 | 400 |
| CF100505T-1N2□ | 1.2 | 0.3nH | 100 MHz,200 mV | 8 | 10000 | 0.1 | 400 |
| CF100505T-1N3□ | 1.3 | 0.3nH | 100 MHz,200 mV | 8 | 9000 | 0.1 | 400 |
| CF100505T-1N5□ | 1.5 | 0.3nH | 100 MHz,200 mV | 8 | 9000 | 0.1 | 400 |
| CF100505T-1N8□ | 1.8 | 0.3nH | 100 MHz,200 mV | 8 | 8700 | 0.1 | 400 |
| CF100505T-2N0□ | 2 | 0.3nH | 100 MHz,200 mV | 8 | 8100 | 0.15 | 400 |
| CF100505T-2N2□ | 2.2 | 0.3nH | 100 MHz,200 mV | 8 | 8100 | 0.15 | 400 |
| CF100505T-2N4□ | 2.4 | 0.3nH | 100 MHz,200 mV | 8 | 7700 | 0.15 | 400 |
| CF100505T-2N7□ | 2.7 | 0.3nH | 100 MHz,200 mV | 8 | 7700 | 0.15 | 400 |
| CF100505T-3N0□ | 3 | 0.3nH | 100 MHz,200 mV | 8 | 6300 | 0.15 | 400 |
| CF100505T-3N3□ | 3.3 | 0.3nH,10% | 100 MHz,200 mV | 8 | 6300 | 0.15 | 400 |
| CF100505T-3N6□ | 3.6 | 0.3nH,10% | 100 MHz,200 mV | 8 | 6100 | 0.15 | 400 |
| CF100505T-3N9□ | 3.9 | 0.3nH,10% | 100 MHz,200 mV | 8 | 6100 | 0.2 | 400 |
| CF100505T-4N3□ | 4.3 | 0.3nH,10% | 100 MHz,200 mV | 8 | 5400 | 0.2 | 400 |
| CF100505T-4N7□ | 4.7 | 0.3nH,10% | 100 MHz,200 mV | 8 | 5400 | 0.2 | 400 |
| CF100505T-5N0□ | 5 | 0.3nH,10% | 100 MHz,200 mV | 8 | 5100 | 0.2 | 400 |
| CF100505T-5N1□ | 5.1 | 0.3nH,10% | 100 MHz,200 mV | 8 | 5100 | 0.2 | 400 |
| CF100505T-5N6□ | 5.6 | 0.3nH,10% | 100 MHz,200 mV | 8 | 5100 | 0.2 | 400 |
| CF100505T-6N0□ | 6 | 0.3nH,10% | 100 MHz,200 mV | 8 | 4550 | 0.25 | 400 |
| CF100505T-6N2□ | 6.2 | 5%,10% | 100 MHz,200 mV | 8 | 4550 | 0.25 | 400 |
| CF100505T-6N8□ | 6.8 | 5%,10% | 100 MHz,200 mV | 8 | 4550 | 0.25 | 400 |
| CF100505T-7N5□ | 7.5 | 5%,10% | 100 MHz,200 mV | 8 | 4300 | 0.25 | 400 |
| CF100505T-8N0□ | 8 | 5%,10% | 100 MHz,200 mV | 8 | 4100 | 0.3 | 300 |
| CF100505T-8N2□ | 8.2 | 5%,10% | 100 MHz,200 mV | 8 | 4100 | 0.3 | 300 |
| CF100505T-9N1□ | 9.1 | 5%,10% | 100 MHz,200 mV | 8 | 3900 | 0.35 | 300 |
| CF100505T-10N□ | 10 | 5%,10% | 100 MHz,200 mV | 8 | 3900 | 0.35 | 300 |
| CF100505T-12N□ | 12 | 5%,10% | 100 MHz,200 mV | 8 | 3000 | 0.4 | 300 |
| CF100505T-15N□ | 15 | 5%,10% | 100 MHz,200 mV | 8 | 2600 | 0.5 | 300 |
| CF100505T-18N□ | 18 | 5%,10% | 100 MHz,200 mV | 8 | 2350 | 0.55 | 300 |
| CF100505T-22N□ | 22 | 5%,10% | 100 MHz,200 mV | 8 | 2000 | 0.7 | 300 |
| CF100505T-27N□ | 27 | 5%,10% | 100 MHz,200 mV | 8 | 1900 | 0.8 | 300 |
| CF100505T-33N□ | 33 | 5%,10% | 100 MHz,200 mV | 8 | 1700 | 1 | 200 |

# High Frequency Chip Inductor / CF TYPE

## Electrical Characteristics（CF100505 TYPE）

| Part No. | Inductance (nH) | Tolerance (±) | L,Q Test Freq. (MHz) | Q Min | SRF (MHz)Typ. | DCR (Ω) Max | Rated Current (mA) Max |
|---|---|---|---|---|---|---|---|
| CF100505T-39N□ | 39 | 5%,10% | 100 MHz,200 mV | 8 | 1600 | 1.2 | 150 |
| CF100505T-47N□ | 47 | 5%,10% | 100 MHz,200 mV | 8 | 1300 | 1.3 | 150 |
| CF100505T-56N□ | 56 | 5%,10% | 100 MHz,200 mV | 8 | 1250 | 2 | 150 |
| CF100505T-68N□ | 68 | 5%,10% | 100 MHz,200 mV | 8 | 1000 | 2.2 | 100 |
| CF100505T-82N□ | 82 | 5%,10% | 100 MHz,200 mV | 8 | 900 | 2.5 | 100 |
| CF100505T-R10□ | 100 | 5%,10% | 100 MHz,200 mV | 8 | 850 | 2.5 | 100 |

## Electrical Characteristics（CF160808 TYPE）

| Part No. | Inductance (nH) | Tolerance (±) | L,Q Test Freq. (MHz) | Q Min | SRF (MHz)Typ. | DCR (Ω) Max | Rated Current (mA) Max |
|---|---|---|---|---|---|---|---|
| CF160808T-1N0□ | 1 | 0.3nH | 100 MHz,200 mV | 8 | 10000 | 0.1 | 600 |
| CF160808T-1N2□ | 1.2 | 0.3nH | 100 MHz,200 mV | 8 | 10000 | 0.1 | 600 |
| CF160808T-1N5□ | 1.5 | 0.3nH | 100 MHz,200 mV | 8 | 8000 | 0.1 | 600 |
| CF160808T-1N6□ | 1.6 | 0.2nH,0.3nH | 100 MHz,200 mV | 8 | 8000 | 0.1 | 600 |
| CF160808T-1N7□ | 1.7 | 0.2nH,0.3nH | 100 MHz,200 mV | 8 | 8000 | 0.1 | 600 |
| CF160808T-1N8□ | 1.8 | 0.3nH | 100 MHz,200 mV | 8 | 8000 | 0.1 | 600 |
| CF160808T-2N2□ | 2.2 | 0.3nH | 100 MHz,200 mV | 8 | 7200 | 0.1 | 600 |
| CF160808T-2N5□ | 2.5 | 0.2nH,0.3nH | 100 MHz,200 mV | 8 | 6200 | 0.1 | 600 |
| CF160808T-2N7□ | 2.7 | 0.3nH | 100 MHz,200 mV | 10 | 6200 | 0.1 | 600 |
| CF160808T-3N3□ | 3.3 | 0.3nH,10% | 100 MHz,200 mV | 10 | 5200 | 0.12 | 600 |
| CF160808T-3N9□ | 3.9 | 0.3nH,10% | 100 MHz,200 mV | 10 | 5000 | 0.14 | 600 |
| CF160808T-4N3□ | 4.3 | 0.3nH,10% | 100 MHz,200 mV | 10 | 4750 | 0.16 | 600 |
| CF160808T-4N7□ | 4.7 | 0.3nH,10% | 100 MHz,200 mV | 10 | 4750 | 0.16 | 600 |
| CF160808T-5N1□ | 5.1 | 0.3nH,10% | 100 MHz,200 mV | 10 | 4100 | 0.18 | 600 |
| CF160808T-5N4□ | 5.4 | 0.2nH,0.3nH | 100 MHz,200 mV | 8 | 4100 | 0.18 | 600 |
| CF160808T-5N6□ | 5.6 | 0.3nH,10% | 100 MHz,200 mV | 10 | 4100 | 0.18 | 600 |
| CF160808T-6N2□ | 6.2 | 5%,10% | 100 MHz,200 mV | 10 | 3750 | 0.22 | 600 |
| CF160808T-6N8□ | 6.8 | 5%,10% | 100 MHz,200 mV | 10 | 3750 | 0.22 | 600 |
| CF160808T-7N5□ | 7.5 | 5%,10% | 100 MHz,200 mV | 10 | 3300 | 0.24 | 600 |
| CF160808T-8N2□ | 8.2 | 5%,10% | 100 MHz,200 mV | 10 | 3300 | 0.24 | 600 |
| CF160808T-10N□ | 10 | 5%,10% | 100 MHz,200 mV | 12 | 3000 | 0.26 | 600 |
| CF160808T-11N5□ | 11.5 | 5%,10% | 100 MHz,200 mV | 8 | 2800 | 0.3 | 1000 |
| CF160808T-12N□ | 12 | 5%,10% | 100 MHz,200 mV | 12 | 2600 | 0.28 | 600 |
| CF160808T-15N□ | 15 | 5%,10% | 100 MHz,200 mV | 12 | 2500 | 0.32 | 600 |
| CF160808T-18N□ | 18 | 5%,10% | 100 MHz,200 mV | 12 | 2400 | 0.35 | 600 |
| CF160808T-22N□ | 22 | 5%,10% | 100 MHz,200 mV | 12 | 2000 | 0.4 | 500 |
| CF160808T-27N□ | 27 | 5%,10% | 100 MHz,200 mV | 12 | 1900 | 0.45 | 500 |
| CF160808T-33N□ | 33 | 5%,10% | 100 MHz,200 mV | 12 | 1600 | 0.55 | 400 |
| CF160808T-39N□ | 39 | 5%,10% | 100 MHz,200 mV | 12 | 1400 | 0.6 | 400 |
| CF160808T-47N□ | 47 | 5%,10% | 100 MHz,200 mV | 12 | 1300 | 0.7 | 400 |
| CF160808T-56N□ | 56 | 5%,10% | 100 MHz,200 mV | 12 | 1100 | 0.75 | 400 |

# High Frequency Chip Inductor / CF TYPE

## Electrical Characteristics（CF16080808 TYPE）

| Part No. | Inductance (nH) | Tolerance (±) | L,Q Test Freq. (MHz) | Q Min | SRF (MHz)Typ. | DCR (Ω) Max | Rated Current (mA) Max |
|---|---|---|---|---|---|---|---|
| CF160808T-62N□ | 62 | 5%,10% | 100 MHz,200 mV | 12 | 1050 | 0.85 | 400 |
| CF160808T-68N□ | 68 | 5%,10% | 100 MHz,200 mV | 12 | 1050 | 0.85 | 400 |
| CF160808T-75N□ | 75 | 5%,10% | 100 MHz,200 mV | 12 | 900 | 1 | 300 |
| CF160808T-82N□ | 82 | 5%,10% | 100 MHz,200 mV | 12 | 900 | 1 | 300 |
| CF160808T-R10□ | 100 | 5%,10% | 100 MHz,200 mV | 12 | 770 | 1.2 | 300 |
| CF160808T-R12□ | 120 | 5%,10% | 50 MHz,200 mV | 8 | 850 | 2.3 | 300 |
| CF160808T-R15□ | 150 | 5%,10% | 50 MHz,200 mV | 8 | 550 | 2.4 | 250 |
| CF160808T-R18□ | 180 | 5%,10% | 50 MHz,200 mV | 8 | 520 | 2.7 | 250 |
| CF160808T-R22□ | 220 | 5%,10% | 50 MHz,200 mV | 8 | 500 | 3 | 250 |

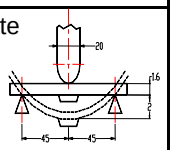
**NOTE:**

1. Operating temperature range －55℃～125℃
2. Rate Current： Applied the current to coils, the temperature rise shall not be more than 30℃
3. □Tolerance：C=±0.2nH；S=±0.3nH；J=±5％；K=±10％

# High Frequency Chip Inductor / CF TYPE

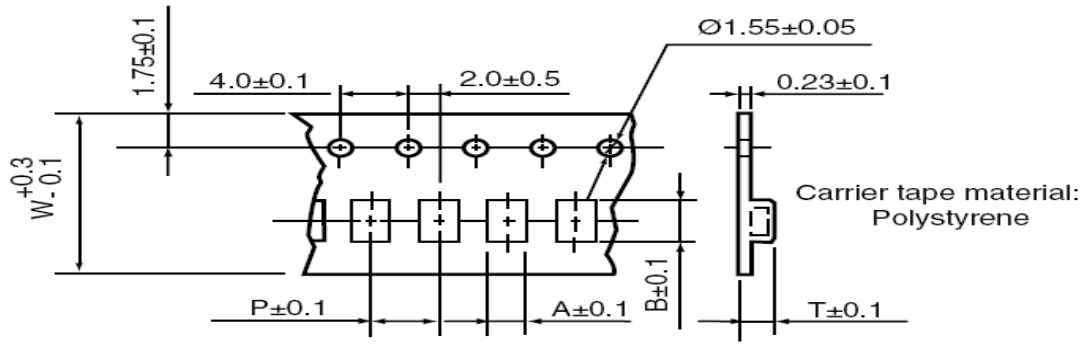
## . Reliability and Test Conditions(可靠性測試條件)

### 1-1.Mechanical Performance

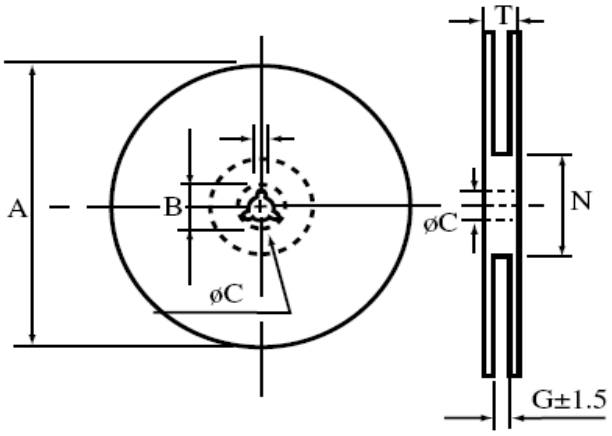
<table>
<tr><th>Item</th><th>Specification</th><th>Test Method</th></tr>
<tr><td>Flexure Strength</td><td rowspan="2">The forces applied on the right conditions must not damage the terminal electrode and the ferrite</td><td>Test device shall be soldered on the substrate<br>Substrate Dimension: 100x40x1.6mm<br>Deflection: 2.0mm<br>Keeping Time: 30sec<br>*For 100505, substrate dimension is 100x40x0.8mm<br>  </td></tr>
<tr><td>Vibration</td><td>Test device shall be soldered on the substrate<br>Oscillation Frequency: 10 to 55 to 10Hz for 1min<br>Amplitude: 1.5mm<br>Time: 2hrs for each axis (X, Y & Z), total 6hrs</td></tr>
<tr><td>Resistance to Soldering Heat</td><td>Appearance: No damage</td><td>Pre-heating: 150℃, 1min<br>Solder Composition: Sn/Pb = 63/37<br>Solder Composition: Sn/Ag3.0/Cu0.5(Pb-Free)<br>Solder Temperature: 260±5℃<br>Immersion Time: 10±1sec</td></tr>
<tr><td>Solder ability</td><td>The electrodes shall be at least 90% covered with new solder coating</td><td>Pre-heating: 150℃, 1min<br>Solder Composition: Sn/Pb = 63/37<br>Solder Temperature: 220±5℃<br>Solder Composition: Sn/Ag3.0/Cu0.5(Pb-Free)<br>Solder Temperature: 245±5℃(Pb-Free)<br>Immersion Time: 4±1sec</td></tr>
<tr><td>Temperature Cycle</td><td rowspan="4">Appearance: No damage<br>Inductance:within±10% of initial value<br>Q change:within±30% of initial value</td><td>One cycle:<br><table><tr><th>Step</th><th>Temperature (℃)</th><th>Time (min)</th></tr><tr><td>1</td><td>-55±3</td><td>30</td></tr><tr><td>2</td><td>25±2</td><td>3</td></tr><tr><td>3</td><td>125±3</td><td>30</td></tr><tr><td>4</td><td>25±2</td><td>3</td></tr></table>Total: 100cycles<br>Measured after exposure in the room condition for 24hrs</td></tr>
<tr><td>Humidity Resistance</td><td>Temperature: 40±2℃<br>Relative Humidity: 90 ~ 95% / Time: 1000hrs<br>Measured after exposure in the room condition for 24hrs</td></tr>
<tr><td>High Temperature Resistance</td><td>Temperature: 125±3℃<br>Relative Humidity: 20%<br>Applied Current: Rated Current / Time: 1000hrs<br>Measured after exposure in the room condition for 24hrs</td></tr>
<tr><td>Low Temperature Resistance</td><td>Temperature: -55±3℃<br>Relative Humidity: 0% / Time: 1000hrs<br>Measured after exposure in the room condition for 24hrs</td></tr>
</table>

# High Frequency Chip Inductor / CF TYPE

## .Packing Specifications




| TYPE | Packaging Quantity | | Tape Dimension | | | | |
|---|---|---|---|---|---|---|---|
| | Pcs / Reel | Inner box | A | B | W | P | T |
| **CF100505** | 10000 | 50000 | 0.65 | 1.12 | 8 | 2 | 0.60 |
| **CF160808** | 4000 | 20000 | 1.00 | 1.80 | 8 | 4 | 0.95 |




| TYPE | Reel Dimension | | | | | |
|---|---|---|---|---|---|---|
| | A | B | C | G | N | T |
| 8mm | 178±2 | 21.0±0.8 | 13.0±0.8 | 10 | 75 | 12.5 |