# Chip Inductor; CIH Series
## High Frequency Type

CIH series has dielectric material and 100% Ag as an internal conductor
Therefore, it has high Q and |Z| at high frequency
It is possible to use for high frequency over 100 MHz

## General Features

- Lowest value of DC Resistance, Good Property of **Q** and high **SRF**
- Possible to use at the range over 100 MHz
- Monolithic structure for high reliability

## Applications

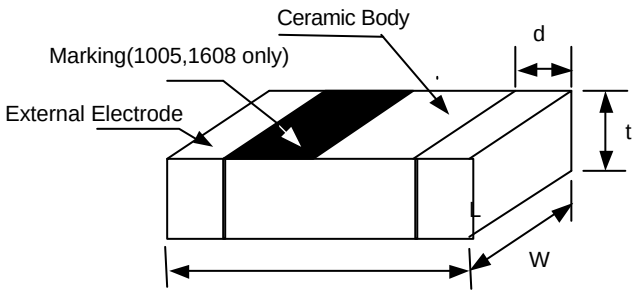
- Mobile Communication systems, noise suppression at high frequency and impedance matching

## Part Numbering

| **CI** | **H** | **21** | **T** | **12N** | **J** | **N** | **E** |
|---|---|---|---|---|---|---|---|
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |

(1) Chip Inductor
(2) H: High frequency type
(3) Dimensions
(4) Material Code(T,B:Dielectric material)
(5) Inductance(4N7:47nH; 10N 10nH; R10: 100nH)
(6) Tolerance(S: ± 0.3nH; J: ±5%; K: ± 10% )
(7) Thickness option(N:Standard, A:Thinner than standard, B: Thicker than standard)
(8) Package Style(C:paper tape, 7" reel; E: embossed tape, 7" reel)

## Dimensions




Unit : mm

| SIZE CODE | L | W | t | d |
|---|---|---|---|---|
| 05 | 1.0 ± 0.05 | 0.5 ± 0.05 | 0.5 ± 0.05 | 0.25 ± 0.1 |
| 10 | 1.6 ± 0.15 | 0.8 ± 0.15 | 0.8 ± 0.15 | 0.3 ± 0.2 |
| 21 | 2.0 ± 0.2 | 1.25 ± 0.2 | 0.9 ± 0.2 | 0.5+0.2,-0.3 |

## CIH 1005(0402) Type

| Ordering code | Inductance [nH] | Q min. | | | Self-resonant Frequency [MHz] min. | DC. resistance [W] max. | Rated current [mA]max. |
|---|---|---|---|---|---|---|---|
| | | 100MHz | 800MHz | 1800MHz | | | |
| CIH 05T 1N0 S | 1.0 ± 0.3 nH | 8 | 20 | 30 | 10000 | 0.12 | 300 |
| CIH 05T 1N2 S | 1.2 ± 0.3 nH | 8 | 20 | 28 | 10000 | 0.12 | 300 |
| CIH 05T 1N5 S | 1.5 ± 0.3 nH | 8 | 22 | 35 | 6000 | 0.13 | 300 |
| CIH 05T 1N8 S | 1.8 ± 0.3nH | 8 | 22 | 35 | 6000 | 0.14 | 300 |
| CIH 05T 2N2 S | 2.2 ± 0.3nH | 8 | 22 | 35 | 6000 | 0.16 | 300 |
| CIH 05T 2N7 S | 2.7 ± 0.3nH | 8 | 22 | 35 | 6000 | 0.17 | 300 |
| CIH 05T 3N3 ☐ | 3.3 ± 10%. 0.3nH | 8 | 22 | 35 | 6000 | 0.19 | 300 |
| CIH 05T 3N9 ☐ | 3.9 ± 10%, 0.3nH | 8 | 22 | 32 | 4000 | 0.22 | 300 |
| CIH 05T 4N7 ☐ | 4.7 ± 10%, 0.3nH | 8 | 22 | 32 | 4000 | 0.24 | 300 |
| CIH 05T 5N6 ☐ | 5.6 ± 10%, 0.3nH | 8 | 22 | 29 | 4000 | 0.27 | 300 |
| CIH 05T 6N8 ☐ | 6.8 ± 5%,10% | 8 | 21 | 29 | 3900 | 0.32 | 250 |
| CIH 05T 8N2 ☐ | 8.2 ± 5%,10% | 8 | 21 | 29 | 3600 | 0.37 | 250 |
| CIH 05T 10N ☐ | 10.0 ± 5%,10% | 8 | 21 | 28 | 3200 | 0.42 | 250 |
| CIH 05T 12N ☐ | 12.0 ± 5%,10% | 8 | 20 | 27 | 2700 | 0.50 | 250 |
| CIH 05T 15N ☐ | 15.0 ± 5%,10% | 8 | 20 | 21 | 2300 | 0.55 | 250 |
| CIH 05T 18N ☐ | 18.0 ± 5%,10% | 8 | 20 | 15 | 2100 | 0.65 | 200 |
| CIH 05T 22N ☐ | 22.0 ± 5%,10% | 8 | 20 | 13 | 1900 | 0.80 | 200 |
| CIH 05T 27N ☐ | 27.0 ± 5%,10% | 8 | 17 | - | 1600 | 0.90 | 200 |
| CIH 05T 33N ☐ | 33.0 ± 5%,10% | 8 | 17 | - | 1300 | 1.00 | 200 |
| CIH 05T 39N ☐ | 39.0 ± 5%,10% | 8 | 16 | - | 1200 | 1.20 | 150 |
| CIH 05T 47N ☐ | 47.0 ± 5%,10% | 8 | 15 | - | 1000 | 1.30 | 150 |
| CIH 05T 56N ☐ | 56.0 ± 5%,10% | 8 | - | - | 750 | 1.40 | 150 |
| CIH 05T 68N ☐ | 68.0 ± 5%,10% | 8 | - | - | 750 | 1.40 | 150 |
| CIH 05T 82N ☐ | 82.0 ± 5%,10% | 8 | - | - | 600 | 1.60 | 100 |
| CIH 05T R10 ☐ | 100.0 ± 5%,10% | 8 | - | - | 600 | 1.60 | 100 |

☐ : Tolerance (S: ± 0.3nH; J: ±5%; K: ± 10%)

✱Test equipment : HP4291A + HP16192A

## CIH 1608(0603) Type

| Part No. | Product's thickness [mm] | Inductance [nH] @100MHz | Q Min | | Self-Resonant Frequency [MHz] min. | DC resistance [W] )max. | Rated Current [mA] max. |
|---|---|---|---|---|---|---|---|
| | | | 100MHz | 800MHz | | | |
| CIH 10T 1N0 S | 0.80±0.15 | 1.0±0.3nH | 8 | 20 | 10000 | 0.05 | 300 |
| CIH 10T 1N2 S | 0.80±0.15 | 1.2±0.3nH | 8 | 20 | 10000 | 0.05 | 300 |
| CIH 10T 1N5 S | 0.80±0.15 | 1.5±0.3nH | 8 | 20 | 6000 | 0.10 | 300 |
| CIH 10T 1N8 S | 0.80±0.15 | 1.8±0.3nH | 8 | 20 | 6000 | 0.10 | 300 |
| CIH 10T 2N2 S | 0.80±0.15 | 2.2±0.3nH | 8 | 20 | 6000 | 0.10 | 300 |
| CIH 10T 2N7 S | 0.80±0.15 | 2.7±0.3nH | 10 | 25 | 6000 | 0.10 | 300 |
| CIH 10T 3N3 □ | 0.80±0.15 | 3.3±0.3nH,10% | 10 | 25 | 6000 | 0.12 | 300 |
| CIH 10T 3N9 □ | 0.80±0.15 | 3.9±0.3nH,10% | 10 | 27 | 6000 | 0.14 | 300 |
| CIH 10T 4N7 □ | 0.80±0.15 | 4.7±0.3nH,10% | 10 | 27 | 4000 | 0.16 | 300 |
| CIH 10T 5N6 □ | 0.80±0.15 | 5.6±0.3nH,10% | 10 | 27 | 4000 | 0.18 | 300 |
| CIH 10T 6N8 □ | 0.80±0.15 | 6.8±10%,5% | 10 | 27 | 4000 | 0.22 | 300 |
| CIH 10T 8N2 □ | 0.80±0.15 | 8.2±10%,5% | 10 | 26 | 3500 | 0.24 | 300 |
| CIH 10T 10N □ | 0.80±0.15 | 10.0±10%,5% | 12 | 26 | 3400 | 0.26 | 300 |
| CIH 10T 12N □ | 0.80±0.15 | 12.0±10%,5% | 12 | 24 | 2600 | 0.28 | 300 |
| CIH 10T 15N □ | 0.80±0.15 | 15.0±10%,5% | 12 | 24 | 2300 | 0.32 | 300 |
| CIH 10T 18N □ | 0.80±0.15 | 18.0±10%,5% | 12 | 24 | 2000 | 0.35 | 300 |
| CIH 10T 22N □ | 0.80±0.15 | 22.0±10%,5% | 12 | 25 | 1600 | 0.40 | 300 |
| CIH 10T 27N □ | 0.80±0.15 | 27.0±10%,5% | 12 | 25 | 1400 | 0.45 | 300 |
| CIH 10T 33N □ | 0.80±0.15 | 33.0±10%,5% | 12 | 24 | 1200 | 0.55 | 300 |
| CIH 10T 39N □ | 0.80±0.15 | 39.0±10%,5% | 12 | 20 | 1100 | 0.60 | 300 |
| CIH 10T 47N □ | 0.80±0.15 | 47.0±10%,5% | 12 | 20 | 900 | 0.77 | 300 |
| CIH 10T 56N □ | 0.80±0.15 | 56.0±10%,5% | 12 | 20 | 900 | 0.75 | 300 |
| CIH 10T 68N □ | 0.80±0.15 | 68.0±10%,5% | 12 | (1)20 | 700 | 0.85 | 300 |
| CIH 10T 82N □ | 0.80±0.15 | 82.0±10%,5% | 12 | (1)20 | 600 | 0.95 | 300 |
| CIH 10T R10 □ | 0.80±0.15 | 100.0 ±10%,5% | 12 | (1)20 | 600 | 1.00 | 300 |
| CIH 10T R12 □ | 0.80±0.15 | 120.0 ±10%,5% | (2)8 | - | 500 | 1.20 | 300 |
| CIH 10T R15 □ | 0.80±0.15 | 150.0 ±10%,5% | (2)8 | - | 500 | 1.20 | 300 |
| CIH 10T R18 □ | 0.80±0.15 | 180.0 ±10%,5% | (2)8 | - | 400 | 1.30 | 300 |
| CIH 10T R22 □ | 0.80±0.15 | 220.0 ±10%,5% | (2)8 | - | 400 | 1.50 | 300 |
| CIH 10T R27 □ | 0.80±0.15 | 270.0 ±10%,5% | (2)8 | - | 400 | 1.50 | 300 |

□ : Tolerance (S: ± 0.3nH; J: ±5%; K: ± 10%)

✸ Test equipment : HP4291A + HP16092A + in house made jig

"(1), (2)" in the table means below

(1):Test at 500 MHz; (2):Test at 50MHz

## CIH 2012(0805) Type

| Part No | Product's thickness [mm] | Inductance [nH] | Q Min | L,Q test Frequency [MHz] | Self-Resonant Frequency [MHz] min. | DC resistance [W] max. | Rated Current [mA] max. |
|---|---|---|---|---|---|---|---|
| CIH 21T 1N5 S | 0.85 ± 0.2 | 1.5 ± 0.3nH | 10 | 100 | 4000 | 0.10 | 300 |
| CIH 21T 1N8 S | 0.85 ± 0.2 | 1.8 ± 0.3nH | 10 | 100 | 4000 | 0.10 | 300 |
| CIH 21T 2N2 S | 0.85 ± 0.2 | 2.2 ± 0.3nH | 10 | 100 | 4000 | 0.10 | 300 |
| CIH 21T 2N7 S | 0.85 ± 0.2 | 2.7 ± 0.3nH | 12 | 100 | 4000 | 0.10 | 300 |
| CIH 21T 3N3 ☐ | 0.85 ± 0.2 | 3.3 ± 0.3nH,10% | 12 | 100 | 4000 | 0.13 | 300 |
| CIH 21T 3N9 ☐ | 0.85 ± 0.2 | 3.9 ± 0.3nH,10% | 12 | 100 | 4000 | 0.15 | 300 |
| CIH 21T 4N7 ☐ | 0.85 ± 0.2 | 4.7 ± 0.3nH,10% | 12 | 100 | 3500 | 0.20 | 300 |
| CIH 21T 5N6 ☐ | 0.85 ± 0.2 | 5.6 ± 0.3nH,10% | 15 | 100 | 3200 | 0.23 | 300 |
| CIH 21T 6N8 ☐ | 0.85 ± 0.2 | 6.8 ± 10%,5% | 15 | 100 | 2800 | 0.25 | 300 |
| CIH 21T 8N2 ☐ | 0.85 ± 0.2 | 8.2 ± 10%,5% | 15 | 100 | 2400 | 0.28 | 300 |
| CIH 21T 10N ☐ | 0.85 ± 0.2 | 10.0 ± 10%,5% | 15 | 100 | 2100 | 0.30 | 300 |
| CIH 21T 12N ☐ | 0.85 ± 0.2 | 12.0 ± 10%,5% | 15 | 100 | 1900 | 0.35 | 300 |
| CIH 21T 15N ☐ | 0.85 ± 0.2 | 15.0 ± 10%,5% | 15 | 100 | 1600 | 0.40 | 300 |
| CIH 21T 18N ☐ | 0.85 ± 0.2 | 18.0 ± 10%,5% | 15 | 100 | 1500 | 0.45 | 300 |
| CIH 21T 22N ☐ | 0.85 ± 0.2 | 22.0 ± 10%,5% | 18 | 100 | 1400 | 0.50 | 300 |
| CIH 21T 27N ☐ | 0.85 ± 0.2 | 27.0 ± 10%,5% | 18 | 100 | 1300 | 0.55 | 300 |
| CIH 21T 33N ☐ | 0.85 ± 0.2 | 33.0 ± 10%,5% | 18 | 100 | 1200 | 0.60 | 300 |
| CIH 21T 39N ☐ | 0.85 ± 0.2 | 39.0 ± 10%,5% | 18 | 100 | 1000 | 0.65 | 300 |
| CIH 21T 47N ☐ | 1.00 +0.2 -0.3 | 47.0 ± 10%,5% | 18 | 100 | 900 | 0.70 | 300 |
| CIH 21T 56N ☐ | 1.00 +0.2 -0.3 | 56.0 ± 10%,5% | 18 | 100 | 800 | 0.75 | 300 |
| CIH 21T 68N ☐ | 1.00 +0.2 -0.3 | 68.0 ± 10%,5% | 18 | 100 | 700 | 0.80 | 300 |
| CIH 21T 82N ☐ | 1.00 +0.2 -0.3 | 82.0 ± 10%,5% | 18 | 100 | 600 | 0.90 | 300 |
| CIH 21T R10 ☐ | 1.00 +0.2 -0.3 | 100.0 ± 10%,5% | 18 | 100 | 600 | 0.90 | 300 |
| CIH 21T R12 ☐ | 1.00 +0.2 -0.3 | 120.0 ± 10%,5% | 13 | 50 | 500 | 0.95 | 300 |
| CIH 21T R15 ☐ | 1.00 +0.2 -0.3 | 150.0 ± 10%,5% | 13 | 50 | 500 | 1.00 | 300 |
| CIH 21T R18 ☐ | 1.00 +0.2 -0.3 | 180.0 ± 10%,5% | 13 | 50 | 400 | 1.00 | 300 |
| CIH 21T R22 ☐ | 1.00 +0.2 -0.3 | 220.0 ± 10%,5% | 12 | 50 | 350 | 1.20 | 300 |
| CIH 21T R27 ☐ | 1.00 +0.2 -0.3 | 270.0 ± 10%,5% | 12 | 50 | 300 | 1.30 | 300 |
| CIH 21T R33 ☐ | 1.00 +0.2 -0.3 | 330.0 ± 10%,5% | 12 | 50 | 250 | 1.40 | 300 |
| CIH 21T R39 ☐ | 1.00 +0.2 -0.3 | 390.0 ± 10%,5% | 10 | 50 | 250 | 1.50 | 300 |
| CIH 21T R47 ☐ | 1.00 +0.2 -0.3 | 470.0 ± 10%,5% | 10 | 50 | 200 | 1.50 | 300 |

☐ : Tolerance (S: ± 0.3nH; J: ± 5%; K: ± 10%)

✸ Test equipment : HP4291A + HP16092A + in house made jig