

CHIP CERAMIC INDUCTORS

Features

1. SMD type chip inductors utilizing monolithic structure provide highly reliable surface mount application.
2. Superior Q characteristics is guaranteed over wide frequency range for high frequency applications.
3. Excellent solder heat resistance for soldering.
4. Lead Free (RoHS Compliant)

Applications

1. RF module of telecommunication products.
– cellular phone, cordless telephone etc.
2. GSM phone, PCS phone.
3. Computer communications, Radar detectors.
4. Automotive electronics, Keyless remote.

Ordering Information

$\frac{CI}{(1)}$ - $\frac{B}{(2)}$ $\frac{1608}{(3)}$ - $\frac{120}{(4)}$ $\frac{K}{(5)}$ $\frac{J}{(6)}$ $\frac{T}{(7)}$

(1) Series

(2) Material & Design

(3) Dimensions

First two digits : length(mm)
Last two digits : width(mm)

(4) Inductance

First two digits are values.
Last digit is the number of zeros.
N : a decimal point placed between first two digits.

(5) Tolerance

S : $\pm 0,3nH$
J : $\pm 5\%$
K : $\pm 10\%$.

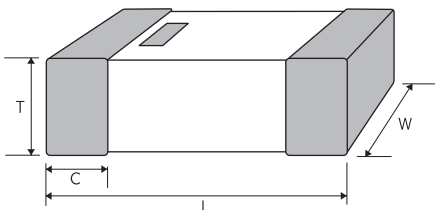
(6) Termination

J : Nickel barrier

(7) Packaging

B : Bulk Package
T : Tape & Reel (\varnothing 178mm [7 inches])
L : Tape & Reel (\varnothing 254mm [10 inches])

Shape and Dimensions



unit : mm[inches]

| Type | L | W | T | C |
|-----------|-------------------------------------|--------------------------------------|-------------------------------------|--------------------------------------|
| CI-□0603- | 0,6 \pm 0,03 [.024 \pm ,001] | 0,3 \pm 0,03 [.012 \pm ,001] | 0,3 \pm 0,03 [.012 \pm ,001] | 0,15 \pm 0,05 [.006 \pm ,002] |
| CI-□1005- | 1,0 \pm 0,10 [.039 \pm ,004] | 0,5 \pm 0,10 [.020 \pm ,004] | 0,5 \pm 0,10 [.020 \pm ,004] | 0,20 \pm 0,10 [.008 \pm ,004] |
| CI-□1608- | 1,6 \pm 0,15 [.063 \pm ,006] | 0,8 \pm 0,15 [.031 \pm ,006] | 0,8 \pm 0,15 [.031 \pm ,006] | 0,30 \pm 0,20 [.012 \pm ,008] |
| CI-□2012- | 2,0 \pm 0,20 [.079 \pm ,008] | 1,25 \pm 0,20 [.049 \pm ,008] | 1,0 \pm 0,20 [.039 \pm ,008] | 0,50 \pm 0,30 [.020 \pm ,012] |

※The polarity mark available upon request.

Specifications

CI0603

| Part No. | Inductance | | Q(min.) | Q(typ.) | | | | SRF(MHz) | DCR (mΩ) max | Rated Current (mA) max. |
|--------------|------------|-----------|---------|---------|--------|--------|---------|----------|-----------------|-------------------------------|
| | nH | Tolerance | | 100MHz | 100MHz | 800MHz | 1.8GHz | | | |
| CI-B0603-10N | 1,0 | ±0,3nH | 4 | 5 | 15 | 25 | > 13000 | > 13000 | 200 | 300 |
| CI-B0603-12N | 1,2 | | 4 | 5 | 15 | 25 | > 13000 | > 13000 | 200 | 300 |
| CI-B0603-15N | 1,5 | | 4 | 5 | 15 | 25 | > 13000 | > 13000 | 300 | 300 |
| CI-B0603-18N | 1,8 | | 4 | 5 | 15 | 25 | > 13000 | > 13000 | 300 | 300 |
| CI-B0603-22N | 2,2 | | 4 | 5 | 17 | 25 | 12500 | 12500 | 350 | 300 |
| CI-B0603-27N | 2,7 | | 4 | 5 | 17 | 25 | 11000 | 11000 | 400 | 300 |
| CI-B0603-33N | 3,3 | | 4 | 5 | 17 | 26 | 9600 | 9600 | 450 | 300 |
| CI-B0603-39N | 3,9 | | 4 | 5 | 17 | 26 | 8600 | 8600 | 500 | 300 |
| CI-B0603-47N | 4,7 | | 4 | 5 | 17 | 26 | 7600 | 7600 | 550 | 300 |
| CI-B0603-56N | 5,6 | | 4 | 5 | 17 | 26 | 6600 | 6600 | 600 | 300 |
| CI-B0603-68N | 6,8 | ± 5% | 4 | 6 | 18 | 25 | 5600 | 5600 | 700 | 250 |
| CI-B0603-82N | 8,2 | | 4 | 6 | 18 | 25 | 4900 | 4900 | 800 | 250 |
| CI-B0603-100 | 10 | | 4 | 6 | 18 | 25 | 4200 | 4200 | 900 | 250 |
| CI-B0603-120 | 12 | | 4 | 6 | 20 | - | 3000 | 3000 | 1100 | 250 |
| CI-B0603-150 | 15 | | 4 | 6 | 20 | - | 2700 | 2700 | 1200 | 250 |
| CI-B0603-180 | 18 | | 4 | 6 | 20 | - | 2400 | 2400 | 1400 | 200 |
| CI-B0603-220 | 22 | | 4 | 6 | 20 | - | 2000 | 2000 | 1700 | 200 |

Test Equipment & Fixture

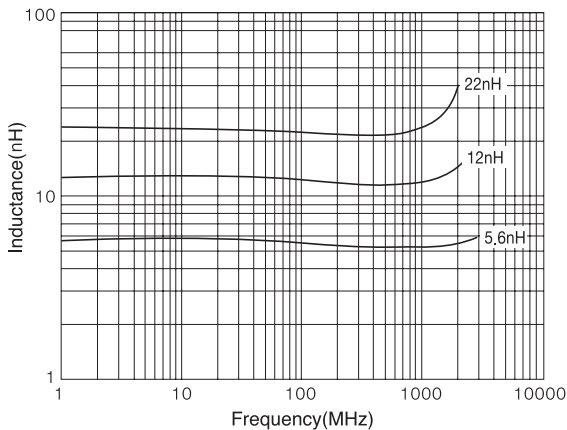
L, Q : RF Impedance Analyzer 4991A(Agilent), Test Fixture 16196C(Agilent)

SRF : Network Analyzer 8722ES (Agilent),

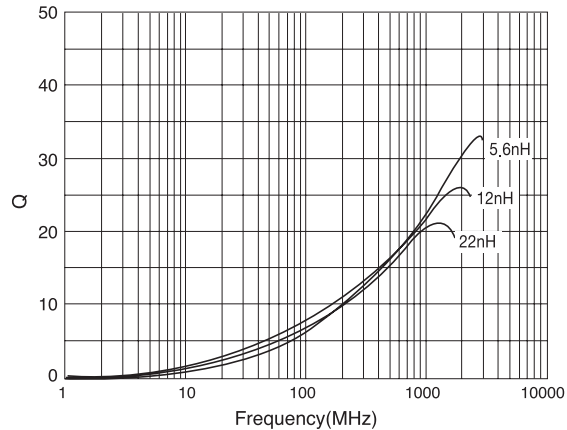
Rdc : TWA-161A, B

Electrical Characteristics

Inductance Characteristics



Q Characteristics



Specifications

CI1005

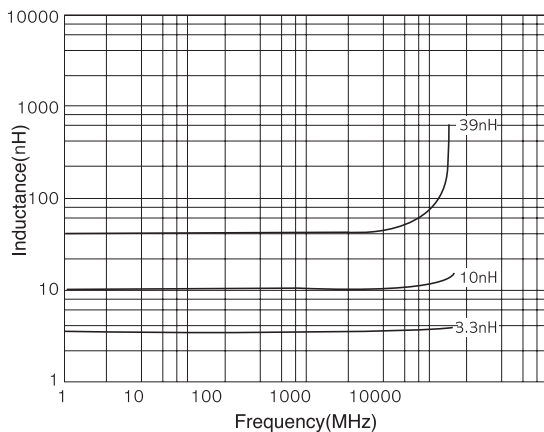
| Part No. | Inductance | | Q 100MHz min. | Q 800MHz min. | Q 1.8GHz min. | SRF(MHz) | | DCR (mΩ) max | Rated Current (mA) max. |
|-----------------|------------|-----------|---------------------|---------------------|---------------------|----------|-------|-----------------|-------------------------------|
| | nH | Tolerance | | | | min. | typ. | | |
| CI-B1005-10N□□□ | 1.0 | ±0.3nH | 8 | 20 | 26 | 6000 | 13000 | 100 | 300 |
| CI-B1005-12N□□□ | 1.2 | | 8 | 20 | 26 | 6000 | 10000 | 120 | 300 |
| CI-B1005-15N□□□ | 1.5 | | 8 | 20 | 30 | 6000 | 10000 | 120 | 300 |
| CI-B1005-18N□□□ | 1.8 | | 8 | 22 | 35 | 6000 | 9500 | 140 | 300 |
| CI-B1005-22N□□□ | 2.2 | | 8 | 22 | 35 | 6000 | 9000 | 160 | 300 |
| CI-B1005-27N□□□ | 2.7 | | 8 | 22 | 35 | 6000 | 9000 | 200 | 300 |
| CI-B1005-33N□□□ | 3.3 | | 8 | 22 | 35 | 6000 | 8000 | 220 | 300 |
| CI-B1005-39N□□□ | 3.9 | | 8 | 22 | 30 | 4000 | 6500 | 250 | 300 |
| CI-B1005-47N□□□ | 4.7 | | 8 | 22 | 30 | 4000 | 5000 | 280 | 300 |
| CI-B1005-56N□□□ | 5.6 | | 8 | 22 | 28 | 4000 | 5000 | 300 | 300 |
| CI-B1005-68N□□□ | 6.8 | ± 5% | 8 | 22 | 28 | 3900 | 4400 | 350 | 300 |
| CI-B1005-82N□□□ | 8.2 | | 8 | 20 | 28 | 3600 | 4000 | 400 | 250 |
| CI-B1005-100□□□ | 10 | | 8 | 20 | 24 | 3200 | 3500 | 450 | 250 |
| CI-B1005-120□□□ | 12 | | 8 | 20 | 24 | 2700 | 3500 | 500 | 200 |
| CI-B1005-150□□□ | 15 | | 8 | 20 | 20 | 2300 | 3000 | 550 | 200 |
| CI-B1005-180□□□ | 18 | | 8 | 20 | 15 | 2100 | 2600 | 650 | 200 |
| CI-B1005-220□□□ | 22 | | 8 | 20 | 13 | 1900 | 2200 | 800 | 200 |
| CI-B1005-270□□□ | 27 | | 8 | 17 | - | 1600 | 1900 | 900 | 200 |
| CI-B1005-330□□□ | 33 | | 8 | 16 | - | 1300 | 1700 | 1100 | 200 |
| CI-B1005-390□□□ | 39 | | 8 | 16 | - | 1200 | 1600 | 1200 | 100 |
| CI-B1005-470□□□ | 47 | | 8 | 10 | - | 1000 | 1300 | 1300 | 100 |
| CI-B1005-560□□□ | 56 | | 8 | - | - | 750 | 900 | 1400 | 100 |
| CI-B1005-680□□□ | 68 | | 8 | - | - | 700 | 800 | 1400 | 100 |
| CI-B1005-820□□□ | 82 | | 8 | - | - | 600 | 700 | 1600 | 100 |
| CI-B1005-101□□□ | 100 | | 8 | - | - | 350 | 650 | 2000 | 100 |

· SRF : Self-Resonant Frequency.

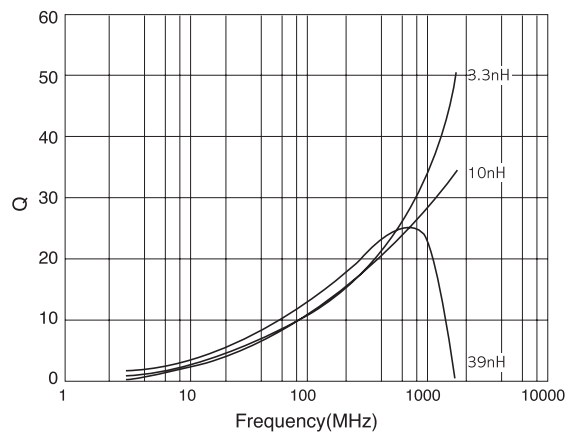
· DCR : DC Resistance

Electrical Characteristics

Inductance Characteristics



Q Characteristics



Specifications

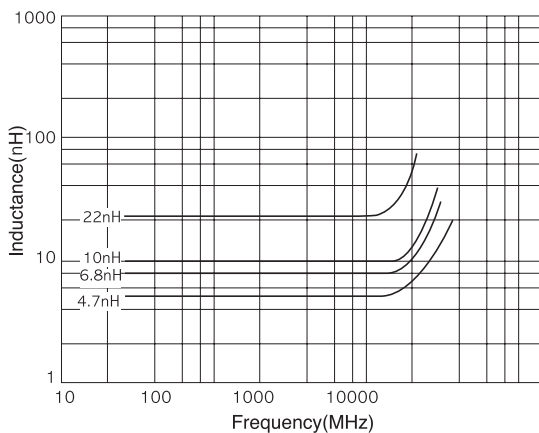
CI1608

| Part No. | Inductance | | Q min. | L,Q test frequency (MHz) | SRF(MHz) | | DCR (mΩ) max | Rated Current (mA) max. |
|-----------------|------------|---------------|--------|--------------------------|----------|-------|--------------|-------------------------|
| | nH | Tolerance | | | min. | typ. | | |
| CI-B1608-10N□□□ | 1.0 | ±0.3nH | 8 | 100 | 4000 | 13000 | 100 | 300 |
| CI-B1608-12N□□□ | 1.2 | | 8 | 100 | 4000 | 13000 | 100 | 300 |
| CI-B1608-15N□□□ | 1.5 | | 8 | 100 | 4000 | 10000 | 100 | 300 |
| CI-B1608-18N□□□ | 1.8 | | 8 | 100 | 3800 | 10000 | 120 | 300 |
| CI-B1608-22N□□□ | 2.2 | | 8 | 100 | 3600 | 10000 | 160 | 300 |
| CI-B1608-27N□□□ | 2.7 | | 8 | 100 | 3400 | 8000 | 200 | 300 |
| CI-B1608-33N□□□ | 3.3 | | 10 | 100 | 3200 | 6000 | 220 | 300 |
| CI-B1608-39N□□□ | 3.9 | | 10 | 100 | 3000 | 6000 | 250 | 300 |
| CI-B1608-47N□□□ | 4.7 | | 10 | 100 | 2800 | 5000 | 280 | 300 |
| CI-B1608-56N□□□ | 5.6 | | 10 | 100 | 2700 | 5000 | 290 | 300 |
| CI-B1608-68N□□□ | 6.8 | ± 5% ± 10% | 10 | 100 | 2600 | 4000 | 300 | 300 |
| CI-B1608-82N□□□ | 8.2 | | 10 | 100 | 2200 | 4000 | 330 | 300 |
| CI-B1608-100□□□ | 10 | | 10 | 100 | 1800 | 3000 | 350 | 300 |
| CI-B1608-120□□□ | 12 | | 10 | 100 | 1650 | 2500 | 400 | 300 |
| CI-B1608-150□□□ | 15 | | 10 | 100 | 1350 | 2000 | 450 | 300 |
| CI-B1608-180□□□ | 18 | | 10 | 100 | 1350 | 2000 | 500 | 300 |
| CI-B1608-220□□□ | 22 | | 10 | 100 | 1100 | 1800 | 550 | 300 |
| CI-B1608-270□□□ | 27 | | 10 | 100 | 1100 | 1600 | 600 | 300 |
| CI-B1608-330□□□ | 33 | | 10 | 100 | 1000 | 1400 | 650 | 300 |
| CI-B1608-390□□□ | 39 | | 10 | 100 | 900 | 1300 | 700 | 300 |
| CI-B1608-470□□□ | 47 | | 10 | 100 | 800 | 1300 | 900 | 300 |
| CI-B1608-560□□□ | 56 | | 10 | 100 | 700 | 1100 | 1000 | 300 |
| CI-B1608-680□□□ | 68 | | 10 | 100 | 650 | 1000 | 1200 | 300 |
| CI-B1608-820□□□ | 82 | | 10 | 100 | 600 | 850 | 1500 | 300 |
| CI-B1608-101□□□ | 100 | | 10 | 100 | 550 | 750 | 1700 | 300 |
| CI-B1608-121□□□ | 120 | | 8 | 50 | 500 | 650 | 2000 | 250 |
| CI-B1608-151□□□ | 150 | | 8 | 50 | 500 | 600 | 2400 | 200 |
| CI-B1608-181□□□ | 180 | | 8 | 50 | 400 | 500 | 2700 | 200 |
| CI-B1608-221□□□ | 220 | | 8 | 50 | 400 | 500 | 2800 | 200 |
| CI-B1608-271□□□ | 270 | | 8 | 50 | 350 | 450 | 3100 | 200 |

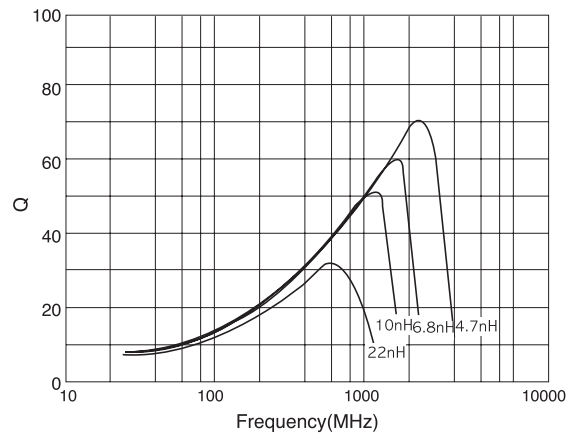
· SRF : Self-Resonant Frequency. · DCR : DC Resistance

Electrical Characteristics

Inductance Characteristics



Q Characteristics



Specifications

CI2012

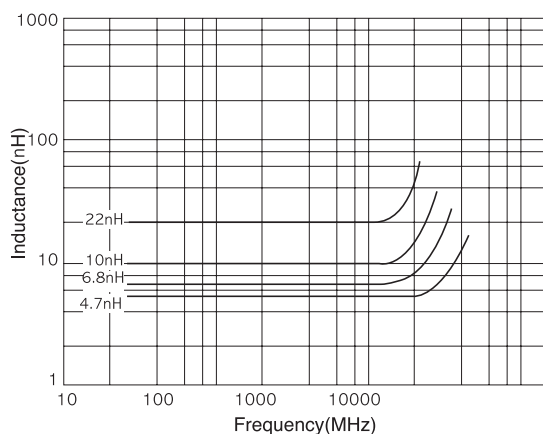
| Part No. | Inductance | | Q min. | L,Q test frequency (MHz) | SRF(MHz) | | DCR (mΩ) max | Rated Current (mA) max. |
|-----------------|------------|--------------|--------|--------------------------|----------|-------|--------------|-------------------------|
| | nH | Tolerance | | | min. | typ. | | |
| CI-B2012-10N□□□ | 1.0 | ±0,3nH | 10 | 100 | 4000 | 12000 | 100 | 300 |
| CI-B2012-12N□□□ | 1.2 | | 10 | 100 | 4000 | 10000 | 100 | 300 |
| CI-B2012-15N□□□ | 1.5 | | 10 | 100 | 4000 | 10000 | 100 | 300 |
| CI-B2012-18N□□□ | 1.8 | | 10 | 100 | 4000 | 8000 | 100 | 300 |
| CI-B2012-22N□□□ | 2.2 | | 10 | 100 | 3800 | 8000 | 100 | 300 |
| CI-B2012-27N□□□ | 2.7 | | 10 | 100 | 3600 | 6000 | 100 | 300 |
| CI-B2012-33N□□□ | 3.3 | | 10 | 100 | 3400 | 6000 | 130 | 300 |
| CI-B2012-39N□□□ | 3.9 | | 10 | 100 | 3200 | 5400 | 150 | 300 |
| CI-B2012-47N□□□ | 4.7 | | 10 | 100 | 3000 | 4500 | 200 | 300 |
| CI-B2012-56N□□□ | 5.6 | | 10 | 100 | 2800 | 4000 | 230 | 300 |
| CI-B2012-68N□□□ | 6.8 | ± 5% ±10% | 10 | 100 | 2600 | 3650 | 250 | 300 |
| CI-B2012-82N□□□ | 8.2 | | 10 | 100 | 2200 | 3000 | 280 | 300 |
| CI-B2012-100□□□ | 10 | | 10 | 100 | 1800 | 2500 | 300 | 300 |
| CI-B2012-120□□□ | 12 | | 10 | 100 | 1650 | 2450 | 350 | 300 |
| CI-B2012-150□□□ | 15 | | 10 | 100 | 1350 | 2000 | 400 | 300 |
| CI-B2012-180□□□ | 18 | | 10 | 100 | 1350 | 1750 | 450 | 300 |
| CI-B2012-220□□□ | 22 | | 15 | 100 | 1100 | 1500 | 500 | 300 |
| CI-B2012-270□□□ | 27 | | 15 | 100 | 1100 | 1500 | 550 | 300 |
| CI-B2012-330□□□ | 33 | | 15 | 100 | 900 | 1200 | 600 | 300 |
| CI-B2012-390□□□ | 39 | | 15 | 100 | 900 | 1150 | 650 | 300 |
| CI-B2012-470□□□ | 47 | | 15 | 100 | 850 | 1050 | 700 | 300 |
| CI-B2012-560□□□ | 56 | | 15 | 100 | 750 | 1000 | 750 | 300 |
| CI-B2012-680□□□ | 68 | | 15 | 100 | 700 | 950 | 800 | 300 |
| CI-B2012-820□□□ | 82 | | 15 | 100 | 600 | 850 | 900 | 300 |
| CI-B2012-101□□□ | 100 | | 15 | 100 | 500 | 730 | 1000 | 300 |
| CI-B2012-121□□□ | 120 | | 15 | 50 | 450 | 630 | 1300 | 250 |
| CI-B2012-151□□□ | 150 | | 15 | 50 | 400 | 570 | 1500 | 250 |
| CI-B2012-181□□□ | 180 | | 15 | 50 | 350 | 510 | 1800 | 250 |
| CI-B2012-221□□□ | 220 | | 10 | 50 | 330 | 450 | 2000 | 250 |
| CI-B2012-271□□□ | 270 | | 10 | 50 | 300 | 410 | 2500 | 250 |
| CI-B2012-331□□□ | 330 | | 10 | 50 | 270 | 370 | 3000 | 250 |
| CI-B2012-391□□□ | 390 | | 10 | 50 | 220 | 330 | 3500 | 250 |
| CI-B2012-471□□□ | 470 | | 10 | 50 | 180 | 280 | 4000 | 250 |

· SRF : Self-Resonant Frequency.

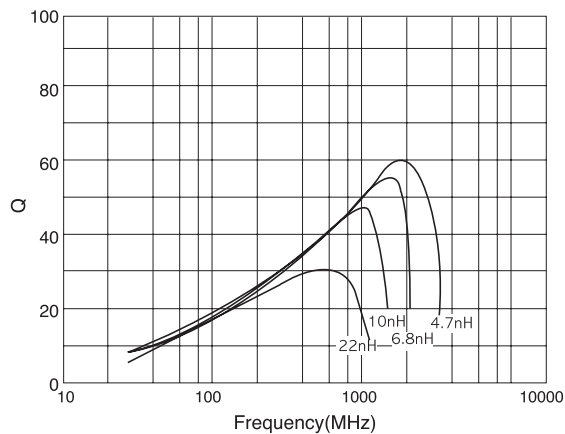
· DCR : DC Resistance

Electrical Characteristics

Inductance Characteristics



Q Characteristics



* All specifications are subject to change without notice